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Research in Psychology of Education

A TREND REPORT

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1. INTRODUCTION

A Brief History

Educational psychology dates back to the 5th century BC, when Democritus first emphasized the role of family in the education and training of children. Aristotle emphasized the cognitive development of children and there was emphasis on the development of faculty psychology, each faculty requiring training for its development. For centuries this kind of thinking prevailed.

In the 17th century the concept of faculty psychology and Descartes' theories of instincts and reflexes were attacked by British empiricists like John Locke, who held that a child's mind is a *tabula rasa*, a blank surface, upon which experiences write. Experiences are given shape on the basis of similarity, contrast and contiguity. As a result, we find two ideas prevalent in the field of educational psychology by the beginning of 15th century: *faculty psychology* and *associationism*. At the end of 19th century, these two viewpoints were separated in the discussions of James Sally's *Outlines of Psychology with special reference to Education* (1884) and Ben's *Education as a Science* (1879). The former was a discussion on faculty psychology and the latter a treatise on associationism. Hall's *Teacher* was published in 1883 and L.P. Hupkin's *Educational Psychology* in 1886. The application of psychology to education was the central theme of these books. Edward Brook's *Mental Science and Modern Culture* published in 1883 discussed various forms of teacher training.

In the 19th century, teacher training in the USA and UK was patterned after the theory of mental discipline. Even associationistic theories were not aloof from this practice.

There was, of course, some opposition to the theory of formal discipline and training of faculties. The renowned Swiss sociologist, Pestolozzie, and Froebel of Germany stated, for the first time, that education should be child-centred and should be based on the aptitudes and abilities of children. The philosopher, Herbart, emphasized sensory and perceptual processes and thereby supported Pestolozzie and Froebel. This was the beginning of child-centred education which has now been greatly emphasized in our National Policy on Education (1986). By the end of 19th century, the role of heredity and environment became a theme of discussion in psychology and education. Francis Galton, Stanley Hall and Herman Ebbinghaus began to conduct research on various aspects of education.

The history of scientific educational psychology started in 1860, with Stanley Hall as the founder and William James, J.M. Cattell and E.L. Thorndike as prominent contributors to the rapid growth of the field. In 1866, the first department of educational psychology was established at Indian University and later a second at the University of North Carolina, both in the USA. The year 1890 marked the beginning of research on the development of an intelligence test by Alfred Binet in France. Thorndike (1874-1949) appeared on the educational psychology scene in the beginning of the 20th century. By 1910, learning, motivation, emotion, heredity, personality, and individual difference were being studied as the subject matter of educational psychology. Even though John Dewey (1859-1952) was not an educational psychologist, his contribution to the progressive education movement was of prime importance for the development of educational psychology, which

was very much in the air by 1940.

After the first and second World Wars, three factors contributed to the development of educational psychology: psychoanalysis, Gestalt psychology, and educational measurement. Early experience and its contribution to the educability of children was emphasized by psychoanalysts. Insight and understanding were stressed by Gestalt psychologists, and the use of Intelligence tests became quite prominent. Individual differences came to light. Around 1950, educational psychological principles were applied to classroom situations. Research activities increased both in number and quality. By 1963, teaching-learning models had been devised. After 1965, educational psychologists received wide recognition in the western world and after 1970, they have played decisive roles in educational planning. Planning for the education of children has been extensively done in the USA, the UK, Europe and Japan on the basis of measurement of intelligence, personality, interest, etc. School psychologists have been appointed in each school or for a cluster of schools in these countries. Compensatory education and enrichment programmes have given educational psychologists a special status in the educational system. Educational technology, programmed instruction, computerized instruction, instructional designs, and elucidation of the nature of cognitive development, as outlined by Piaget, Bruner and other developmental psychologists, have revolutionized the field of education and all these contributed squarely to progress in educational psychology.

The Indian Scene

In India, educational psychology had a late beginning. In 1915, the Calcutta University started a psychology department, the first in India. Even though educational psychology was included in the curriculum, it did not have a special status either in Calcutta or in Madras University, which had also set up a department. Since 1961, educational psychology is being taught as a compulsory subject in the Calcutta and Lucknow Universities. It is being taught now in various universities and 'Centres of Advanced Studies in Education and Psychology', but it has not yet become a separate department anywhere in our country. The reasons are many and varied. The NCERT has a full-fledged department of educational psychology, the largest in the country. Since 1973, it has been a specialized centre for instruction at the master's degree level in psychology.

Educational psychology has been included in all teacher training curricula in India. Its use in qualitative improvement in education, improvement of the cognitive functioning of children, and selection of curriculum is becoming increasingly widespread. Buch (1972) made the pioneering attempt at a comprehensive review of all researches in educational psychology done in India. Most of the studies he reviewed were replications and adaptations; very few dealt with Indian ecology relevant to educational practice in India. Further, educational psychology as is being taught under teacher-training curricula in departments of psychology are entirely different in approach and emphasis, which rather retards the progress of the discipline. Consistent, coordinated research in the area is what is missing. Under these conditions, one has to look into the progress in educational psychology in India.

Backdrop

Psychology of education is an independent discipline primarily devoted to the understanding of the teaching-learning processes, pupil-teacher characteristics, individual differences, measurement and evaluation of learning outcomes, mental health, learning and cognition, development of personality, behaviour and motivation, classroom organization, curricular planning, learning environments and other related areas. There is a growing body of literature that has contributed to the development of this discipline in our country during the past three decades. The present report traces the trends in this development, raises issues and outlines future directions.

The coverage of this review includes a brief overview of the earlier trend reports and doctoral dissertations, project reports and reported research in the area so that, while reading the present report, researchers will be exposed to the frames of reference of the earlier publications so that they may better appreciate the nature and quantum of progress in the field. The main thrust has been to present major highlights.

II. THE 1970s

In recent years educational psychology has significantly contributed to theory development and influenced educational practice. Significant attempts have been made at the individual (Krishnan, 1961; Sukhia *et al.*, 1963; Deo, 1968; Kuppuswamy, 1968; Pareek, 1968; Buch,

1972) and at institutional level (NCERT, 1966a, 1966b, 1968a) to collate and disseminate the findings of educational psychology researches done in India. The review article by Buch (1972) presented a comprehensive coverage of research in different areas of educational psychology as it was generally conceived prior to the 1970s. The review identified major trends as well as gaps in research and suggested future research directions based on doctoral, pre-doctoral research and published research articles up to 1970.

Since the review by Buch (1972) was the first systematic attempt to present trends in educational psychology, it is considered necessary that certain of its highlights should be mentioned here to provide continuity and indicate growth. In the areas of attitude measurement, studies have related attitudes towards school subjects, achievement in those subjects, attitudes towards teacher, discipline system and achievement and teacher attitudes. Interventions for change and development of attitudes are conspicuously absent in the literature. Quite a few studies analysed adjustment processes of high school and college students in relation to sex, SES, needs, anxiety, insecurity, etc., but studies on how pupils at different levels of schooling cope with frustrations have received only fragmented attention. A large number of studies during the decade ending 1970 concentrated on development and standardization of achievement tests, intelligence tests, aptitude tests, and personality inventories (NCERT, 1966b, 1968c). As regards research on achievement testing, as Buch (1972) has rightly stated, 'The studies cover different aspects of the problem, no doubt; but most of them are repetitive or confirmatory in nature and their quality is also doubtful since many of these studies suffer from limited samples and faulty designs'. Research in the area of psycho-motor development and education of the disabled are extremely limited and much remains to be done. Not much work has been done to improve the efficacy of a large number of training programmes for guidance workers. No studies are available on the theoretical foundations of guidance and counselling, vocational adjustment and development. Tools for assessing various capabilities have remained at an embryonic stage. Research on characteristics of educational personnel is largely unknown. However, several studies have painstakingly concentrated upon the identification of attributes of teaching effectiveness and/or teaching aptitudes. The researches have failed to emerge from a sound theory of teaching (Mitra, 1970). No serious attempt has been made to understand school learning that constitutes the core of educational psychology. Academic achievement has been analysed in relation to cognitive, effective, ecological, and organismic variables, including personality characteristics, predominantly at the high school stage. Such researches have given rise to confusion due to the application of various tools of questionable validity on heterogeneous samples, inadequate control of variables, ill defined personality traits, use of diverse criteria for identifying over- and under- achievers and weakness in the tests of significance used. Buch (1972) commenting upon poor and good achievers remarked, 'Despite the availability of valuable lead from the studies already done lack of well-planned attempts is apparent'.

Research in the area of teaching methods included studies of programmed instruction and the use of audio-visual aids. Details on teaching methods are available in NCERT (1968b) but these studies are M.Ed. dissertations whose validity is doubtful. The efficacy of programmed learning has been demonstrated in a limited number of studies. Research in the use of AV aids has failed to attract researchers, which in fact affects the process of teaching vitally.

Even at the cost of being repetitive, it seems worth quoting Buch's (1972) views against the background of which the progress of research can be judged after 1970. He has stated:

> ... With the paucity of research institutions and still greater paucity of research workers, the present low output of research is not surprising. The situation causes greater concern in view of the the fact that, even with the limited number of institutions and research workers, there is duplication and overlapping in research efforts at many places. One of the reasons for this state of affairs is that planning and coordination of research has neither been taken up by any voluntary organization of professional workers nor by sponsored agencies of the Union Government.

III. CURRENT RESEARCH TRENDS

Learner Characteristics

The importance of characteristics of learners in relation to instructional effectiveness has been a major theme in educational psychology (Corno & Snow, 1986). Rather than identifying static traits, current research emphasizes a more dynamic, process-oriented

approach to learner characteristics (Brown, *et al.*, 1983; Snow & Lohman, 1984). How do researches conducted in India contribute to this trend of thinking? Although there are varieties of characteristics the present review has looked at the major characteristics.

Personality and Self-Concept

In the field of school learning, personality factors are quite significantly influential. Personality factors were in fact late being recognized compared to cognitive factors determining achievement and related behaviour. The present section summarizes studies relating to personality, its correlates and antecedent conditions, and finally its effect on behaviour.

Mathew (1969) analysed the personality profiles of students reading in different fields of science, humanities, commerce, engineering, medicine, law, agriculture, etc. and observed significant differences in value patterns and vocational interests for males and females. Conformity behaviour was studied in relation to certain basic personality traits and was found to have had a negative relationship with extraversion and authoritarianism (Prasad, 1971). Flexibility and rigidity among Indian students was studied by Ansari (1974) using 400 college students. Rigidity was not related to sex, parental occupational goals, type of education or regional differences. Personality differences using Junior and Senior HSPQ were observed among normal, vagabond and delinquent children (Lahri, 1977). Incidental sampling delimits the scope of the generalizations obtained. Self-disclosure, self-acceptance, and anxiety were investigated using 300 college students under a stratified random selection procedure. Self-disclosure and self-acceptance were related except for undergraduate boys. Self-disclosure had no significant relationship with anxiety while self-acceptance had a negative relationship with anxiety. Girls tended to be more self-accepting than boys (Malik, 1978). Sharma (1981) made a comparative study of neuroticism, extraversion, achievement motivation and adjustment of tribal, rural and urban youths of Himachal Pradesh in relation to sex. Significant main effects were obtained for area (urban/rural) and sex.

Sex role attitudes constitute a specific personality dimension in terms of sex role identifications. Narinderbal (1981), selecting a sample from Chandigarh and Punjab measured sex role attitudes using standard tools and techniques. Quite a few significant conclusions emerged on formation of sex role attitudes, especially for females. Conservatism, anxiety level, ego strength, need for achievement appeared, among others, to be significant correlates. In a subsequent study of Chaube (1982), high-school girls appeared more critical and showed lower mental capacity in solving problems than boys. Similarly, students who participated in sports were of different types to non-sportsmen (Johnson, 1982).

The personality of arts, science and agriculture students at the +2 stage was analysed, using purposive and incidental sampling (Chatterji, 1983), and group differences were noticed in extraversion, neuroticism, intelligence, and achievement motivation. These findings must be viewed with caution because of the nature of the sampling. Similarly, personality differences were observed between over- and under-achievers (Gupta, 1983) and according to a sociometric index (Pandey, 1985).

Age did not affect self-concept, a finding which contradicts earlier reports whereas it did influence n-ach. SES was related positively to self-concept and achievement motivation (Bharathi, 1984). Personality is a product of socio-cultural factors (Singh, 1985) but the author should have used more rigorous statistical analysis.

A series of studies related to understanding the personality characteristics of the superior children (Arya, 1984; Singh, S.D., 1983; Patil, 1982; Singh, K.K., 1985; Verma, 1983), mentally retarded children (Savitri, 1986), school dropouts (Singh, G.,1984). Personality and adjustments of emotionally disturbed adolescents have been studied in relation to home and school environment (Rawal, 1984); psychodynamic background (Singhal, 1984), students belonging to different academic disciplines (Sharma, S., 1982; Jahan, 1985); political affiliations (Tripathy, 1982); creative writers (Tiwana, 1982); unemployed and employed youth (Tiwari, 1986); sportsmen and non-sportsmen (Sharma, D.V., 1984); Yogis (Vishal, 1985); male and female adolescents (Srivastava, 1982).

The next aspect is analysis of trends regarding antecedents and correlates of personality traits.

Jain (1974) examined extreme response style as a personality factor. In a well-designed study, the author made it explicit that ERS operated more consistently in females than in males. In a subsequent investigation, rigidity was related to dominance, introversion and neuroticism (Ansari, 1974). Role of sex and creativity among young adults was examined on their adjustment *vs.* anxiety, introversion *vs.* extraversion, pathemia *vs.* cortestia, subduedness *vs.* independence. Age and sex

had significant effects but the study suffers from post-facto comparisons (Gupta, 1975). Self-ideal discrepancy was studied in relation to personality typology by Harigopal (1975) using 333 postgraduate students without specifying any sampling procedure. Several conclusions were drawn by reanalysing data and finding out relationship using simple correlations. Improved study design and analysis would have contributed towards deriving meaningful conclusions.

Parental deprivation is an antecedent condition for personality development. This was demonstrated in the case of denotified tribes (Khan, 1976) using stratified cluster sampling. Parental acceptance and rejection have a significant relation with personality of children (Sandhu, 1986). Controversial conclusions were drawn on the problem in another investigation (Agarwal, 1981).

Personality correlates of religious beliefs, and materialism–spiritualism orientations of students of Kerala were studied by Krishnan (1981). About 500 secondary school and 700 undergraduate students constituted the sample of the study stratified on the basis of residence, sex and type of school. No clear-cut conclusion was observed. On the other hand, Pramanick (1981) very clearly demonstrated the influence of child rearing practices upon the personality of adults.

While no sex difference was observed in self-concept, family and school contributed to its development in a consistent manner (Kale, 1982). According to Prasad (1982), anxiety, insecurity, self-role, incongruence and self-satisfactors were the factors that stabilized self-concept. The relationship between self-concept adjustment, values, academic achievement, SES and sex were examined at high school level (Sarswat, 1982). A differential pattern of relationship was observed for boys and girls based on multiple regression analysis.

Caste membership, age, sex, education, occupation and political affiliation did not influence achievement responsibility but income level of the family did (Pandey, 1983). Alienated students had different personality profiles (Pattanaik, 1983; Joginder, 1984). Social conformity as a trait was not related to affiliation, need achievement, extraversion, dominance, and anxiety (Singh, 1983). Self-concept, dependency, and adjustment patterns of institutionalised pre-adolescents were related to each other (Gupta, 1984). Personality differences were observed among adolescent girls as a function of sociometric status (Malik, 1984).

Family structure, ordinal position and grand-parents did not influence the social competence of pre-school children but reward and punishment did. With age, social competence increased (Shukla, 1984). Attitudes as a process and product influence and are influenced by personality (Bhardwaj, 1985). Disproportionate sampling and a faulty measure of moral development were responsible for lack of significant differences in personality patterns of morally developed and non-developed adolescents (Agarwal, 1985). Academic achievement is a significant correlate of self-concept, self-disclosure, and feeling of self (Panwar, 1986). Attribution of success and failure in school has multiple antecedents (Sharma, 1986). Recently, Beharwal (1987) used locus of control and attribution of responsibility for success and failure upon students (CA 14–16) of varying SES, n-ach, sex, in a factorial study and observed family environment and self-confidence as the more important determinants rather than task difficulty.

The next categories of studies deal with effect of personality upon behaviour and/or inter-relationships between different traits. Bhusan (1968) demonstrated a significant relationship between personality factors and preference for authoritarian or democratic leadership behaviour using standard personality inventories on 400 college undergraduates. The relationship between personality factors (16 PF) and creativity was explored in relation to sex and age, but statistically inadequate analysis procedures used by the author (Chauhan, 1978) failed to bring the observed relationships and/or differences into focus. Personality factors affected interest patterns of adolescents (Sharma, 1982). Anxiety affected interest, independent of sex.

Personality characteristics underwent significant changes as a result of training in physical education (Banga, 1983), sex education (Desai, 1985), and among children who were brought up by working and non-working mothers (Kale, 1986).

Interrelationships among creativity, ego-strength, and extraversion were empirically studied on 252 college students and were reported (Kundu, 1984).

Personality as revealed in terms of basic need structure and self-concept had a significant bearing on adjustment (Pandit, 1985), but had the investigator used random sampling and selected subjects over a wider age range than 15-18, the findings would have received greater recognition and acceptance. Self-image, self-disclosure and self-observation of the behaviour pattern among socially advantaged and disadvantaged school-going adolescents were reported by Tripathi (1986) using multi-stage random sampling techniques.

The studies in general have been confined to surveys

of certain stereotyped traits, using incidental sampling and inadequate data analysis. The findings must, therefore, to be interpreted with caution. However, subcultural differences as indexed by SES was seen without much of in-depth analysis. The trend of being repetitive, drawing equivocal conclusions, and using disproportionate samples are present in most of these studies. Parental child rearing variables were more emphasized than organismic variables such as age, sex, education, occupation, political affiliation, family structure, and ordinal position as personality correlates. Measurements of effects of personality on other kinds of behaviour have yet remained in an embryonic stage and suffer from weak conceptual foundations. They only reflect the interplay of random variables in problem formulation, with but a few exceptions, as already indicated.

Motivation

Previous reviews by Rao, Mehta and Rao (1979) indicate growing interest in achievement-motivation research covering the period 1967-75. The research has primarily concentrated on the antecedents of n-ach, n-ach and achievement relationships, development of n-ach measures, and motivation training. The intervention studies to enhance n-ach among school children are a remarkable feature of research on the Indian scene. As the authors stated, 'viewed broadly, researches on motivation in general and achievement motivation in particular seem to be developing fast, touching many new areas'.

Studies reported during the period under review also take three different directions: assessment of n-ach, correlates of n-ach, and effects of n-ach on achievement.

Bhagyavathy (1983) found highly self-actualized students to be more internal and flexible as measured by a standardized self-actualization inventory, the I-E scale, the flexibility rigidity scale, goals and aspirations. Students differed according to academic streams, level of education, peer-group culture and economic status, but instead of using a X^2 analysis for testing each factor, a multiple-regression analysis would have yielded more accurate findings. A similar finding was obtained by Harmeet (1984), parental behaviour as shown in terms of mother's love, affection, father's permissiveness and love were related to n-ach. Rejection was negatively related to n-ach. Family size and social class were related curvilinearly and negatively with n-ach (Ojha, 1973). Birth-order and n-ach were not related even when the relationships were analysed in relation to SES, family size, and class differences (Mishra, 1974). Child-rearing and personality factors were found to be antecedent variables as revealed in a factorial study that involved experimental manipulations of success–failure dimensions (Sinha, B.P., 1976). Achievement motivation and intelligence were related. N-ach emerged as a complex achievement measure in both males and females but with loadings of entirely different sets of factors (Jerath, 1979).

McClelland's affection-arousal model of motivation was tested in male university students (CA 18–25). N-ach was significant in all achievement-related words, statements and GSR (Khanna, 1982) measures. N-achievement and perceived parental behaviour relationships were found in the case of tribal and non-tribal secondary school students (Lalitha, 1982). Prolonged deprivation had negative effects on the achievement and level of aspiration (Singh, R.D., 1983). Several factors contributing to development of levels of aspiration were identified (Prakash, 1984) in well-designed factorial study involving area, sex, caste, risk-taking, and locus of control. The N-ach and achievement relationship is an established finding which was simply corroborated by Reddy (1983). Frustration reactions are also influenced by the level of n-ach (Gyanoni, 1984).

In another study, Ahluwalia (1985) found no relationship between sex, age, birth order, economic status, size of family, father's occupation and organizational climate on the one hand and n-ach on the other.

Similar studies have been undertaken (Mansari, 1986; Tripathy, 1986) to identify psycho-social factors underlying n-ach. Prejudices influenced achievement motivation in a negative way (Sinha, J., 1986). Level of achievement motivation determined the level of concept acquisition when intelligence was controlled (Jain, S., 1983).

Achievement motivation is a complex area in terms of concept and measurement. However, the studies mentioned above attempted quite reliably to measure its nature, correlates and effects on behaviour. Studies relating to training for enhancing achievement motivation are very rare (Raghava, 1985).

Intelligence

From the researches conducted during 1971–76 it seems that there is shift in emphasis from the conventional approach to intelligence to identification of the information-processing variables underlying intellectual abilities. Normative and status studies are in the

process of being weaned out.

The post-1976 studies are more concerned with finding out the relationship of intelligence with other personality variables (Gupta, V.K., 1976; Gupta, O.V., 1977; Sahai, 1985; Singh, R., 1986; Sharma, K., 1981; Prakash, 1986; Kumari, S., 1982). These studies are correlational in nature. They have tried to show that intelligence is not related to an extreme response style (Gupta, V.K., 1977) and is differentially present among differnt sociometric groups of students (Kumari, S., 1982). Intelligence was related to n-ach, extraversion–introversion, socio-cultural status, academic achievement (Singh, R., 1986; Prakash, 1986) and self-identity (Sahai, S.K., 1985). The conclusions drawn on the basis of simple correlations need further partialling out of the confounding and contributing variables to the observed relationships. Further, absence of group differences should not be construed as the presence of relationships in a straightforward way. In any case, these studies failed to demonstrate any invocative character or new relationships found in the literature.

It seems research on intelligence has been revitalised by cognitive approaches.

Attitudes, Interests, and Aspirations

Pupil and teacher attitude studies are quite common in behavioural science. The earlier period was also characterized by measurement of attitudes to various socio-educational issues—primarily survey type in character. Similar was the trend with regard to assessment of interest and vocational aspirations.

The period under review is not strikingly different from the earlier one (Sinha, S.K., 1977) reported negative attitudes towards the present examination system using a Likert-type questionnaire among university students, teachers and guardians. Jayakumari (1981) assessed communal and inter-ethnic attitudes among postgraduate students representing different groups and demonstrated the presence of prejudice towards other communities. Prasad (1983) factor-analysed the attitude scales of nationalism, religiosity, and demonstrated personality differentials in attitude components. Dani (1984) measured scientific attitudes a sample of 1265 students based on stratified cluster sampling as well as purposive sampling, along with their cognitive styles. In general, a large majority of students possessed positive scientific attitudes and certain correlates were identified using regression analysis. Attitudes of students towards alcoholism, communalism, corruption, dowry and poverty were measured in relation to sex, educational level, SES, using random sampling procedures (Agarwal, 1984). Attitudes score distributions on all issues were non-normal. It was more an opinion study than an attitude measurement, as revealed by the nature of the test and analysis procedures. Family life attitudes of educated women and girl students were compared (Sinha, M., 1985).

A series of studies dealt with attitudes towards physical education programmes in school (Desai, 1986; Grewal, 1986). Sex and educational level differences did not differentiate attitudes but rural-urban differences were seen (Desai, 1986) and SES differences were reported in the latter study (Grewal, 1986).

Attitudes towards the students union among undergraduates was analysed and correlates were identified (family background, SES, self-concept, political affiliation, etc.). Personality correlates of attitudes and attitude change have been identified (Akhtar, 1970).

Upadhyaya (1984) reported a comparative study of attitudes, values, and motivation of pupil-teachers between Sanskrit and Hindi universities but the sampling and rationale cause concern for the validity of the findings.

In general, the studies reveal a lack of seriousness in thinking, procedure and analysis. There is a tendency to develop an attitude scale using inadequately rigorous procedures and use it in surveys. No attempt has been made to study/bring about attitude changes and use experimental procedures which would raise studies on attitudes to a much higher level of sophistication.

The relation between range and depth of interest of 46 teacher-trainees was analysed on the basis of teacher's rating (Das, 1974). The study by Joshi (1983) analysed interest of higher secondary students in relation to parents education, SES, location, emotional stability and self-sufficiency using standardized scales on each measure in a factorially designed study. Differences in interest patterns were attributed to psycho-social variables. Jain (1984) made a developmental analysis in a normative study of interests of school students as related to certain demographic (age, rural–urban, SES, streams of education) and personality variables (extraversion–introversion). Multiple regression analysis demonstrated the magnitude of contribution of each of the variables. Family and peer group did influence vocational interests of adolescent students studying in different types of schools (Sharma, S., 1986). Personality and motivation–level significantly influenced the range of activities of students (Das Gupta, 1986). Inter-

est patterns of professionals and civil servants are also different (Sharma, H.L., 1986) as analysed in a factorial study. Her study included 150 engineers and 150 civil servants. Intelligence level was also related to interest (Kumar, K., 1966).

An observation of most of these studies reveals a sincere attempt to identify the correlates of interests in different samples which would provide the basis for designing intervention. At the same time, a few others, as mentioned here, do not have scientific rigor.

Aspirations, especially occupational aspirations, have been studied in relation to motivational determinants (Kumar, *et al.*, 1986; Dabir, 1986), intelligence, creativity and SES (Bharadwaj, 1978), residential background, SES (Mehta, Mathur, & Pant, 1985) and effects of vocational interests on job satisfaction (Kakkar, 1983). The factors underlying the motivation of B.Ed correspondence course students have been very exhaustively and intensively studied by Kumar, *et al.* (1986) were in the positive direction in terms of increasing professional competence of in-service teachers. Dabir's study (1986) was in another direction. Vocational aspirations were not consistent with aptitudes but with SES/n-ach vocational aspirations were highly related. These conclusions were based on multiple regression and cluster analysis. Regarding the role of intelligence, creativity, SES, status with vocational interests of college students, the study of Bharadwaj (1978) is one of the pioneering attempts, but the findings are so specific that generalizations are hard to make. On the other hand, Mehta, Mathur and Pant (1985) made very candid observations: Residential status and intelligence did not influence level of occupational aspiration of adolescents. There was a strong evidence of sex differences on level of occupational aspiration in favour of girls in a semi-urban set-up. For boys, scholastic achievement predicted occupational aspiration level but not SES, intelligence, and personality, whereas it was true for girls. Vocational interests determined job satisfaction (Kakkar, 1983).

The nature of studies under this group reveals very clearly the same trend as that of attitudes and interests, i.e. understanding the correlates and background factors behind occupational aspirations is the major thrust in these researches.

Values and Moral Development

Value education occupies a central place in the new curriculum under the National Policy on Education and is very much emphasized. A few studies have been reported on development of values, moral development, antecedent conditions and their interrelationship with personality characteristics.

Bandopadhyaya (1981) enunciated the growth and development of moral judgement in children, following the Piagetian tradition, and indicated linear progression as a function of age. Age, sex, and educational-level differences in moral judgement were observed by Prahallada (1982). Paul (1986) factor-analysed value orientations and observed group differences in values among rural/urban, boys and girls, and with level of schooling. The study was based on analysis of independent and interactive effects. Religious, moral and social values were studied among rural/urban, higher secondary pupils (Zaman, 1982). Rural children were significantly at a higher level than the urban sample in these values. Moral concepts and values develop at a differential rate among first and second generation learners (Kothari, 1983). The study further confirmed better inter-personal relationships among parents and children as a prelude to moral development. The study design and tests used warrant the generalizations. Annamma (1984) analysed values, aspirations and adjustments of college students in Kerala. The study was based on stratified random sampling and yielded conformity as the single important value without any rebellious tendencies. Younger students were more spiritual. In each caste-group, girls had better value systems than boys (Soni, 1984).

The structure of values among the deviants are strikingly different and are influenced by a host of unrelated factors like creativity and age (Roy, A., 1982). In a philosophical-historical study, Sharma, R.P. (1985) outlined the nature and development of human personality in ancient Indian thought. College students showed a distinctive set of social values and aspirations in a study-reported by Annamma (1984).

The second line of research in the area of value and moral judgement has been on identification of antecedents.

Maternal disciplinary practices and their contribution to moral development/judgement was studied (Saraswathi, 1978). Maternal power assertion was negatively related to moral development, whereas maternal induction was positively related. Differential effects were seen with respect to boys and girls. The findings of Bandopadhyaya (1981) are distinctly similar to the above generalization regarding the role of maternal disciplinary practices and value development. Garg's

(1983) study which looked at parental disciplinary practices and their relation to the development of personality, needs, and moral judgement and problem-solving ability was a methodologically weak, *ex post facto* study with a small sample (N=27) using simply a correlational technique. Parental attitudes and prolonged deprivational level had significant influence on value development. Type of school and positive parental attitudes affected moral judgement in a positive manner, whereas prolonged deprivation had a negative impact on development of values (Singh, R.S., 1983). Annamma (1984) did not obtain a significant relation between father's education and occupation and value development among college students, but size of family was positively related. Values also are outcomes of subculture and are responsible for creating sub-cultures at a college level (Sharma, R., 1985). Bhargava (1986) analysed the development of values in a concrete and formal operational period and related it to home and educational environment. There is a developmental trend in value development, and home environment is a positive contributing factor for its acceleration, including teaching methods and co-curricular activities.

Finding out the relationship between patterns of values and other personality traits such as intelligence, creativity and adjustment, has been another way of looking at values. Kumari (1975) did not find such relationships among adolescents, excepting values and adjustment patterns. Use of one simple correlation procedure has confounded the results. Bandopadhyaya (1981) reported a significant positive relationship between values and intelligence, irrespective of age, sex, and type of school. Gandhian values were studied (Bhargava, 1981) and a significant relationship between Gandhian values and achievement was observed among other measures. Prahallada (1982) used stratified random sampling techniques in drawing samples from science, arts and commerce colleges. While differences in moral judgement were attributed to sex, level of education and age, moral values were related positively to SES and personality adjustment. Social, religious, and moral values influenced personality characteristics of adolescents unevenly (Zaman, 1982). Kulshreshtha (1983) observed that value orientations affected the concept of self in adolescence in both male and female students of varying interest patterns. A normative study (Patni, 1983) outlines the value-pattern of college girls in relation to their academic disciplines.

At various levels of SES, an attempt was made to interrelate values, adjustment and attitudes of pupil-teachers (Rao, 1986). The factors which emerged as of significant commonality were; adjustment, attitude, citizenship, aesthetics, health and hedonistic values among significant others.

Panda, A. (1985) made a comprehensive analysis of value patterns, aspirations, perception of self and society by women teachers and trainees coming from tribal and scheduled-caste communities and drew implications for inculcating such values among children. The studies indicate the use of sophisticated methodology and appropriate value measures.

Correlates of Achievement[1]

Anand and Dave (1979) reviewed the literature on correlates of achievement over 1972-78. The trend report was organized according to general correlates, SES, personality, curriculum organization, and over- and under-achievement. Intelligence, n-ach, parental encouragement, emotional climate and educational facilities in the home were related to academic achievement. Most of the studies on SES and academic achievement are replications or repetitions, establishing the same functional relationship between SES and achievement as earlier reported in the *Survey of Research in Educational Psychology* (Buch, 1972). Personality studies identified certain values, motives, and non-cognitive traits influencing achievement. While n-achievement was found to be a prerequisite to high academic achievement, manifest anxiety and extraversion were found to be negatively related to achievment. Anand and Dave (1979) observed some clear trends in research in this area. Research on correlates of academic achievement is fairly extensive, developmental and trait-oriented, but replicate western studies, constitute post-facto analyses and are curriculum-oriented. Horizontal research also characterizes Indian research studies in this area. More in-depth studies was a felt need.

Cognitive Growth and Processes

Much more emphasis has been laid on the cognitive functioning of children in school learning than upon effective processes. Several studies have been reported in the *Third Survey of Research in Education* (Buch, 1986)

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[1] Studies in this area are discussed elsewhere in this volume—*Editor.*

and *Second Survey in Psychology* (Pareek, 1980). The present set of studies have been classified under six broad areas: Cognitive Processing, Cognitive Development, Antecedents of Cognitive Processes, Language Development, Creativity, and Cognitive Style.

Naidu (1973) investigated the relationship between perception, learning and memory as they occurred within the same individual under taboo, low taboo and non-taboo conditions. The children were assigned randomly to the three conditions and the method of minimal changes was followed. Evidence for this reciprocal facilitation and impairment was found in all the three processes. Perception, reasoning and learning of primary school children studying in different types of schools were studied by Banga (1980) in relation to their personality characteristics. The results revealed significant differences in cognitive processing attributed to differences in school atmosphere (English and Hindi medium). Malhotra (1982) experimentally studied internal representations in the reasoning process in children in solving linear syllogistic reasoning problems and analogy problems. Ability and reasoning measures were related. Age and sex did not differentiate but SES did influence the reasoning process.

Persistence is another dimension of cognitive processing which was measured by using a highly reliable questionnaire covering striving, adhering, continuing and completing a task despite failures and obstacles. Persistence was significantly and positively related to need for achievement, level of aspiration, and negatively with anxiety. Both Ausubel's advance organizer model and Bruner's instructional model were found superior to traditional teaching strategy for teaching concepts to higher secondary school pupils so far as knowledge transfer and heuristic transfer of the concept were concerned. However, Bruner's and Ausubel's models are differentially effective and superior to one another, depending upon the nature of the learning situation.

Walia (1983) analysed the processing of information under verbal and non-verbal cues concerning object colours, using postgraduate students and the experimental method. In a similar line, information integration analysis was done in analysing social perception in relation to age and nature of task (Srivastava, 1984) in a series of three experiments. Cognitive algebra for prediction of task performance varied as a function of the nature of the task and developmental level of the subjects. Integration rules were also changed according to age. Decision-making under conditions of uncertainty was investigated experimentally using 192 children (CA 10-16) varying in SES and type of school in which they were studying. Decision-making under conditions of risk and under conditions of uncertainty was found to be different. SES, age and sex intervened in the process of decision-making. Risk-taking behaviour among deviant adolescents was earlier reported by Kumari (1981) where high risk-taking behaviour was associated with high aspiration and positive self-esteem and by Sharma, G. (1982) as a function of group structure and personal relevance.

The information-processing approach was studied under differential reinforcement conditions. Using an experimental design with children (CA 10-12), the study revealed differential perceptual organization as a function of reward and punishment. Positive reinforcement was more effective in perceptual search compared to negative reinforcement. However, reinforcement was not a condition for perceptual learning (Harjinder Kour, 1986).

The structure of cognitive processing abilities in tribal and non-tribal children was studied by using a series of cognitive tests and four processes were identified: simultaneous, successive, attention concentration and speed. Differences in processing habits were attributed to age, SES, and tribal/non-tribal variations (Das, 1984). Kulkarni (1987) identified the ability for decision making in social situations among adolescents.

The experimental investigations reported here revealed use of adequate control over design, procedure, conceptual base and test materials, as well as data analysis. In short, the studies are highly sophisticated and valid and there is consistency in approach to understanding cognitive processing habits among children, adolescents, and postgraduate students, indicating an improvement over the earlier period.

The second set of studies dealt with cognitive development among children. Based on DAT data on schoolchildren, the study by Sharma, N. (1980) revealed that, with advance in age, verbal ability grew more rapidly than others in both boys and girls. Sex affected the growth and development of abilities. Anand Laxmy (1982) reported a very intensive study on cognitive competence in infancy. The major findings were: The psychomotor development index was different in various age and SES groups; it was not related to nutritional status; maternal cognitive stimulation and the child's cognitive competence were related. Several other antecedent conditions were also recognized.

Variations in cognitive abilities were also reported among a discrete genetic population (Chhotu Ram, 1985). Level-I and Level-II abilities were different among Harijans and Brahmins, the differences being more prominent in Level-II.

Two studies examined schooling *vs.* non-schooling on the development of memory and categorization skills (Padhee, 1985) and Piagetian conservation of scientific and social concepts (Padhee, 1986). The studies demonstrated the positive effect of schooling and instruction in the development of cognitive abilities.

Several factors influence cognitive processing. Deprivation has a detrimental effect (Mukerjee, 1978). SES is highly and positively related to conservation of number (Nilima Kumari, 1984). Motivational and cognitive factors were identified in the differences of person perception (Krishnan, 1985) and problem-solving was related positively to intelligence and negatively to social deprivation (Verma, 1986). Anxiety, sex, and task complexity were found to be significant variables influencing problem-solving.

Language development was studied in children in only one study (Sharma, C., 1982) in the age-group of 2½ to 4 years, in relation to mother's language among other factors. Language development was related to age and mother's language, the elaborated language being favourable for language development. Creativity was associated with certain psycho-cultural variables. (Chauhan, 1984).

Cognitive style constitutes another dimension of the information-processing variable. Science students at the university level were more field-independent than arts/commerce students. Language students were field-dependent (Kumar, 1984). High creatives were field-independent and low creatives were field-dependent (Vasesi, 1985). Cognitive style was related to age, achievement, home environment and social-class membership (Paul, 1986). Scanning strategies training could bring higher field-independence scores and, correspondingly higher achievement and its persistence over a period of time (Dash, 1982) as observed in elementary schoolchildren.

The studies reviewed here illustrate an attempt to look at cognitive processing in terms of nature, varieties, its interrelationship with other information-processing habits, nature of cognitive growth and antecedents, risk-taking behaviour, correlates of cognitive processing, creativity and cognitive style in children and adults. The basic designs of studies and analysis procedure warrant the conclusions drawn.

Learning Process

Learning is hard-core area in educational psychology. It is therfore expected that research will be more in this area. But during 1972-78 there have been eighteen (only 18) doctoral works and six projects on this subject. The major areas covered in these researches are: bilingualism, language learning, reasoning and problem-solving, understanding, culture and learning, verbal and motor learning as related to knowledge of results, concept learning, personality factors associated with learning, cognitive processes and learning, cognitive learning and logical thinking. The studies have been extensively reviewed earlier by Rao, Mehta, and Rao (1979). The trend of research focus has apparently been on language learning and concept acquisition, experimental studies on learning, and general studies. The findings could be considered as more theoretical-experimental rather than educationally meaningful, except for the fact that samples were drawn from school situations. Implications from concept learning research could be drawn, however, for curriculum development.

Learning research has been little disappointing in terms of number during the post 1980 period but has been of increasing classroom relevance. Pandian (1983) demonstrated the relationship among learner characteristics, cognitive style, learning style and preference to teaching strategy, using adequate sample tests, and analysis techniques, Panda, N. (1985) studied the effects of cognitive style and adjunct questions, on learning from connected discourse, using a repeated-measure factorial design. Learning outcomes were studied using analysis of variance and tests for specific effects. The results, based on a series of studies, revealed that field-independent students learnt and retained prose significantly more than field-dependent students. Students who read the text with adjunct questions learnt faster and retained longer than those who used the traditional reading style, without any interspersed question. Post-adjunct questions produced better learning and retention scores than pre-adjunct questions in prose learning. Specific adjunct post questions produced significantly better learning and retention than general adjunct post questions. Level-I (simple recall, knowledge level), and level-II (paraphrase, conceptual, etc.) questions led to significantly better retention than the level-III (higher order, presuppositional) adjunct post questions. Delayed retention scores were significantly more than immediate retention scores, which was also evident for field-independent studies. Field-

independent students proved to be significantly superior to field-dependent students in processing and comprehending scientific textual materials, at all levels of questions, and at both the retention tests. Panda and Mohanty (1981) also tested the effectiveness of adjunct questioning and cognitive style with varying linguistic structure.

Nagpal (1979) studied the effect of punishment procedures in the discrimination-learning of the mentally retarded (IQ 45-52). Punishment contingency had its effects in trial to criterion and percentage of errors. Studying effects of personality aspects of the trainable category appears irrelevant as learning capacity of this group is extremely limited. Chatterjee (1973) demonstrated the problem of labelling in the attainment of conservation concepts by providing relevant cues. Rewards and punishment differentially influenced self-perception during learning situations (Teraiya, 1981). Manjula (1984) and Parmer (1986) studied concept learning. In the study by Manjula (1984), using two (caste groups) × 3 SES, a difference in concept learning was observed as a function of caste membership and level of SES, including interactions. This study suffers from being of repetitive (Das, 1980). Parmar (1986) studied Piagetian concept attainment in schoolchildren (CA 11+ to 16+) and their groupings, the findings of which followed similar Piagetian stage-specific trends.

Learning and instruction were the dimensions of the study reported by Pillai (1987). The study examined the validity of Gagne's model of learning and drew implications for change in the cognitive preference of the learner. Experimental and control groups were used. The findings confirmed Gagne's instructional strategy as valid for classroom instruction. However, it needs to be further tested for different levels of skills.

The next three studies dealt with the role of personality factors in learning (Jain, 1974; Nirmaladevi, 1984; Purandare, 1984). Jain (1974) examined the modality of transfer effects. Intelligence and introversion were significant factors, whereas intolerance for ambiguity and rigidity failed to affect inter-sensory transfer. The sample in the case of the study by Nirmaladevi (1984), included 128 5th-year students in the postgraduate classes. The effects of authoritarianism, rigidity and anxiety were demonstrated in varying degrees on verbal paired associate learning using an experimental procedure. Anxiety and strategy effects were examined in relation to serial learning by Purandare (1984), using undergraduate women students belonging to 40 high- and 40 low-anxiety groups. Low anxiety resulted in better serial learning than high anxiety conditions. Experimenter- and subject-introduced strategies made significant differences in learning.

Learning studies reflect control over design, conceptual basis, procedure, and data analysis and have implications for classroom practice.

Classroom Management

Research in this area has a distinct ecological flavour (Doyle, 1986; Shulman, 1986). The central assumption of this process-product approach is that classrooms are characterized by certain features of group setting, regardless of the particular teachers and students. Classroom research provides the context for the application of psychology to instruction.

Classroom Climate

Classroom climate is a significant determinant of pupils' learning. Sustained research in the area began in 1970 with the pioneering work of Buch and his associates. Several studies have emerged from this tradition with increasing methodological sophistication over the years; the earlier studies, being more of the descriptive and survey type. Buch and Santhanam (1970) have given a description of such studies. However, the studies aimed at identifying salient features of teaching behaviour in different situations and under different conditions. Faroqi (1981) has presented a systematic review of studies reported during 1971-76 and analysed the studies linking (a) presage and process variables, (b) process and product variables, (c) use of feedback on teacher behaviour under the general rubric of communication and influence processes. Positive effects of feedback from interaction analysis in changing teacher behaviour in terms of use of praise, encouragement, questions, acceptance of pupils' ideas, etc., are reported in Santhanam and Susan (1976). At the pre-service level, micro-teaching has been found to provide confirmatory evidence of modifying behaviour of pupil-teachers. Faroqi (1981) emphasized the need for more control studies to uncover the relationships between relatively more subtle variables like teacher's personality and attitudinal characteristics, instructional objectives, instructional constraints, pupil characteristics and intra-teacher differences. A beginning has however been made in construing research based on theory.

Studies of classroom organizational climate have

been exhaustively reviewed recently by Panda (1988). The author has concluded that the studies are of the survey type and are correlational in character. Input-output research can be planned, he suggests, to find out the effectiveness of a particular type of leadership on classroom performance and student activities:

> The studies are based on perceptions of teachers and pupils of classroom happenings which are subjective. Since these factors are flexible reliability of perceptions is also difficult to obtain. Lack of reproducibility of the factors makes it difficult to obtain valid conclusions. The inter-twined factors make it difficult to exercise controls and the lack of a comprehensive tool of measurement creates further barriers. While a strictly controlled experimental study is not possible, studies with lesser control that will not affect the natural functioning of the classroom may be revealing.

Sense of deprivation was observed among students belonging to different institutions with differing environments (Upadhyaya, 1982). Student morale as an indicator of educational environment in each school was studied. Sharma, R. (1983) compared student morale in government single-shift, government double-shift, private single-shift and government single-shift schools in a rural area. The schools differed significantly in all the seven areas of educational environment measured in terms of student morale. Academic motivation and its relationship with classroom climate was investigated at the high-school level (Kumar, 1984) and high positive relationships between most of dimensions of both variables were obtained, analysis being based on multiple correlations and regression. Classroom climate and its effect upon the pupils' personality and achievement were observed using 30 classes and 1279 students. Classroom climate differed significantly. A classroom with high classroom climate had high people psyche and achievement (Doctor, 1984). A study of the learning environment of an achieving class was reported by Singh, R. P. (1984). Pupils' achievement was related to type of management.

Dholakia (1985) developed a standard measure of climate scale and used it in measuring the relationship between classroom climate and pupil growth assessed in terms of motivation, anxiety, adjustment, and feeling of fulfilment. Humour in the classroom helped teachers to remove classroom tensions, depression, anger and aggression (Bharadwaj, 1984). Convent, corporation, and slum schools contributed to differences in incidence of psychological problems of learners which provided a social work perspective (Shariff, 1985). The social structure of a school did contribute to incidence of dropouts and maladjustment among students (Rather, 1985).

Rao (1986) defined classroom climate as the 'general academic and psychological atmosphere that prevails in the classroom as an outcome of the behaviours of the teachers and the pupils and their interactions'. The studies cited above reveal the consciousness of researchers regarding this dimension as a contributing factor to morale, achievement, and development of several psychological characteristics among pupils. The studies are based mostly on comparative and correlational analysis rather than on controlled experimental set-ups.

Teacher Characteristics

Variable teacher characteristics is one of the significant dimensions in the teaching-learning process. Several studies have contributed to an understanding of desirable teacher behaviour and dispositions. Among these, Kaul (1977) made an early attempt and differentiated most-accepted and least-accepted secondary school female teachers with regard to their personality, values, and interests. The samples were matched on the basis of age, academic qualifications and training. Reservedness, intelligence and conscientiousness were associated with high acceptance, whereas values were not. Malik (1978) made an analysis of personality correlates of ideal and real self-concept discrepancies of pupil-teachers, but the findings need to be approached with caution since the self is also a personality demension. A similar study was reported by Tripathi (1983) who tried to explicate the personality and creativity relationship of pupil-teachers under different SES. Female teacher-trainees were high on abstract thinking, conscientiousness, tender-mindedness, imaginativeness and radicalism, and were somewhat less frustrated than male teacher-trainees. Innovative and non-innovative primary teachers were also differentiated on personality traits based on sociometry, principal's rating and self rating, and using the 16 PF Personality Questionnaire and Mehdi's Test of Non-verbal Creativity.

Teachers' personality patterns were also realistically studied by using 16 PF (Tripathi, 1984); Eysenck's and Welson's Personality Inventory (Som, 1984); a series of personality tests standardized and developed in Kerala (Radha, 1984) on teacher-trainees. Other studies are on personality patterns of successful high school teachers (Khanna, 1985); n-ach, anxiety, and value orientation of creative teachers (Sharma, 1985); and adjustment

patterns of teacher-trainees (Dongra, 1987).

A few other studies tried to look at relationships between certain specific personality traits, e.g., self-concept and adjustment (Chadda, 1985); change in attitude of teacher-trainees and their personality (Mehta, 1985); competence of college teachers and their personality (Sathyagirirajan, 1985).

These few studies reveal that personality characteristics have been stressed but the viability of the conclusions drawn are limited because of the samples being invariably teacher-trainees and the limitations of the analysis procedures adopted.

Teacher Behaviour

Padma (1979), while reviewing the literature on teacher behaviour, drew attention to the remark made by Mitra (1972) that one has to look into the problems and processes of teaching if we want to improve pupils' learning outcomes. Against this framework, analysis of teachers behaviour and its effects are quite significant. Jangira and Sharma (Buch, 1978) had also reported a similar review which included a limited number of studies. It seems that up to 1978 there were 38 reported studies on teacher behaviour. Of these, nearly a third dealt with presage-process variables, the classroom interaction process, and developing tools to measure teacher behaviour. Process–product studies were a felt need during the period under review. It was believed that a science of teaching could be evolved around systematic investigations in the area.

A few studies contribute to this kind of thinking (Jain, 1977; Chaturvedi, 1981; Garg, 1983; Gupta; 1983; La'verne, 1985; Shobha, 1985). Intelligence and creativity influenced proficiency in teaching of 160 teachers drawn by multi-stage random sampling (Jain, 1977). Using a 2 (Cognitive style) $\times$2 (state–trait anxiety) factorial design, Chaturvedi (1981) demonstrated effectiveness to be associated with field independence and low state-trait anxiety. Interactions between cognitive style and anxiety-type was not obtained in most cases. Pachauri (1983) analysed teaching efficiency as a function of personality and frustration–aggression behaviour using 160 teachers (80 male and 80 female) teaching at undergraduate level. Aggressive, reserved, relaxed, adjusted and controlled teachers were more effective and proficient than teachers who were outgoing, tense, highly anxious, etc. Further *post hoc* comparisons were made.

Administrative style and organizational climate are two other factors that would influence professional competence and sense of responsibility of secondary school teachers (Garg, 1983). Using large samples, linkages between administrative style and teaching effectiveness, and organizational climate and teaching effectiveness were established. Simulated teaching situations generated more effective performance. Both indicate classroom communication (Gupta, 1983); the findings are not clear-cut.

That competency of student-teachers was based on certain personality factors, as observed by using 16PF and multivariate personality inventory (La'verne, 1985). Shobha's (1985) study was an information integration analysis regarding achievement judgements. These studies have used rigorous procedures and data analysis. They confirm that teaching effectiveness is related to personality factors.

Teacher Expectancy

Labelling has a stigmatizing effect. It manifests in the form of teachers expectancy. Studies have experimentally demonstrated the effects of teacher expectancy and shown that teachers can and do make a difference in the direction of self-fulfilling prophecy. The studies emanated from the tradition of Rosenthal and Jacobson (1968), 'The Pygmalion in the Classroom'. In our country, a few researches have been reported (Panda and Dash, 1980; Halem, 1984). Panda (1988) has also reviewed published literature in the area and has concluded that as a general rule, teacher expectancy influences pupil's learning and teacher's behaviour, as well as assessment of pupil performance. In fact, teachers did show differential attitudes towards students varying in creativity and intelligence. Panda and Dash (1980) investigated the effects of simulated information on evaluation of pupil's classroom performance in arithmetic, social studies and English under two expectancy conditions (positive and negative), two question types objective and essay) and two systems of evaluation (marks and grades). Identical answer-scripts were given to each of the 120 teachers along with a confidential report containing multiple cues for inducing expectancy which was read before evaluation of the scripts. Equal numbers of teachers were randomly assigned to the positive and negative expectancy conditions. The findings revealed significant main effects for expectancy, question type and curriculum areas. Evaluation scores were high for positive expectancy, objective questions and arithmetic compared to the scores obtained for negative expectancy, essay questions,

Social studies and English. Overall rating of performance revealed a strong expectancy effect. Effectiveness of simulated information containing multiple cues for inducing expectancy and its consequent effect on evaluation of pupil performance thus received strong experimental support.

Student Activism and Leadership Behaviour

Student activism and leadership behaviour is not a recent area of research focus. It has been an area of concern since 1960. An exhaustive review on the subject has appeared on the subject by Panda (1988) who wrote:

> Ideological politics play a relatively small role in the Indian student movement. The demoralisation of Indian students may be clearly traced to the states of the colleges and universities.... Today we have schools and homes without discipline, parents and teachers without authority, education without knowledge, and examinations without justice. Hence, student indiscipline is a cultural, economic, sociological and educational problem.... Student disturbances in India are a part of the larger problem of restlessness.

Besides these observations three doctoral dissertations have also been reported (Kumar, P., 1964; Kalia, P., 1986; Mulla, 1986). Kumar (1964) compared 50 student leaders with 50 non-leaders and found that age, caste and length of stay in the university were related to leadership behaviour. Leaders are more anxious for change and have higher social and economic values than non-leaders. Kalia (1986) studied 200 students drawn equally from activist and non-activist groups from four universities. They were given 12 different psychological tests relating to personality and a scale of SES and also observed personality. It is surprising that the study used several scales measuring more or less similar traits, with the result that it suffers from test, instrumentation, testing instrument interaction which affects the internal validity of the study. In the study by Mulla (1986), science students, girls showed greater leadership behaviour whereas SES did not influence leadership. Intelligence did relate to leadership qualities.

Stress Management in Schools

Life stress and burnout and consequent coping behaviours influence teachers behaviour, teaching styles, and related activities in schools. Teacher's stress and anxiety have become a major concern while planning for teacher effectiveness.

Stress studies are post-1980 phenomena. Nayak (1982) analysed job-satisfaction and adjustment of married and unmarried women teachers. Job-satisfication was high among all teachers but unmarried women teachers/married women lectureres had problems of adjustment. The study was an uncontrolled survey. Mistry (1985) explored job-satisfaction, job-involvement and n-achievement as outcome variables of locus of control, motivational climate, participation in academic climate and various types of role stress. Multiple regression analysis revealed that inter-role distance, role stagnation, role ambiguity, role overload, role inadequacy, and role stress were negatively related to all except the social relation dimensions of job-satisfaction. The study thuse shows that job-satisfaction of teachers has significant influence on pupil achievement and their own behaviour.

Stress has become a basic characteristic with teachers and burnout becomes their apparent reactions (Misra, 1986). The sample comprised 345 teachers selected from 15 secondary schools and the in-service teachers attending the three training colleges in Calcutta. The problem was investigated in depth. Teachers experienced stress which varied according to age but they did not express burnout so early in their careers.

Stress is also experienced by students (Agrawal, 1985). The sample consisted of 657 university postgraduate students. Simple stress score was a powerful predictor of strain. Stresses emanating from interaction with family and study environment were also important contributors to strain. Stress scores were higher in males than females, in Muslims than in Hindus, in rural rather than urban students, in students living in a hostel compared to those living in homes.

Stress has been studied among unemployed graduate and postgraduate students (Chakrapani, 1985) belonging to arts and science faculties. Age, intermittent job experience, higher education of mothers, caste and friendship appeared as correlates of stress.

Taken together, the studies reveal that students and teachers are experiencing stress and strain in the present educational system. The studies were rather exploratory and of the status type, just trying to assess stress and relate it to job-satisfaction variables, without analysing how they manage in such situations. This line of research is obviously an innovative way of looking at the

problem which has been taken over from industrial situations to educational settings and clientele.

Mental Health and Adjustment

Studies on mental health of pupils and teachers are equally important since they affect classroom learning and development of desirable behaviour. There seems to be increasing interest in research relating to mental health. In the early 1970s an isolated study (Baral, 1969) using a clinical comparative approach, reported social maladjustment among high school students. Two studies analysed adjustment problems of adolescents (Veereshawar, 1979, Tripathi, 1981). In the latter study, adjustment problems of undergraduates were studied in relation to SES, rural-urban differences and intelligence. The study identified environment and economic and personal adjustment problems among boys. The problems among girls were related to use of leisure and school environment. The study was characterized by under-analysis of data. Adolescent problems were further studied using more controlled techniques (Mankad, 1982). Attitudes and personality characteristics were studied among adolescent students who were drawn from tribal backgrounds and were compared with non-tribals. Similarly ill-adjustment was observed among boys but not among girls. Differences between boys and girls within groups were not seen (Singh, H.B., 1982). Measures used in the study and analysis procedures were fairly appropriate.

There were several psychoanalytic studies of neurotic behaviour (Singh, S.B., 1982) and the genesis of values among the deviants (Mathur, 1982). The concentration has been on studies on adolescent girls (Dabas, 1984). High and low achievers have differential adjustment patterns (Prasana, 1984). Students having psychotic, neurotic and normal behavioural trends as measured by MMPI differed on 16 PF and intelligence test scores (Dubey, 1984). Pareek (1984) studied the problem bahaviour of undergraduate adolescent girls with special reference to self-concept, home environment and attitudes towards freedom, but a multiple regression analysis would have resulted in clear-cut findings.

Adolescents who were subjected to assertive discipline, children reared in nuclear families single children and firstborn children appeared to possess aggressive behaviour (Kafiluddin, 1980). Socio-psychiatric analysis of maladjustment was offered by Bhaskaran and Shukla (1981) in very significant and intensive study using 1450 students at Ranchi. Frustration among adolescent girls was found to be positively related to creativity and the type of studies they pursued (Saxena, 1983). School segregation produced historical and psycho-social adjustment among adolescent girls (Dabas, 1984), coeducation being a potent cause of problem. The design and analysis procedures warrant such a conclusion. A clinical study of deviants and non-deviants was reported by Tyagi (1984) in relation to their family settings which determined the development of atypical characteristics. The study using 150 adolescent students (CA 14-18) revealed that deviant behaviour was associated with pathological structuring and functioning of parenting. Delinquent and non-delinquent students differed significantly in respect of extraversion/introversion, social maladjustment and denial, favouring positive mental health among non-delinquent students (Sahney, 1984). Correlates were further highlighted in the case of delinquent children (Kabbur, 1987) in a tightly designed investigation. Discriminant functional analysis identified differences between delinquent/non-delinquent adolescents in intelligence, self-conflict, tough-mindedness, and fourteen different types of parent-child relationships.

Psychologial correlates of mental health status of college undergraduates in Kerala were analysed using a large number of significant variables. Of 25 variables, 23 showed significant relationships with the mental health status of students. Involvement in politics, need for new knowledge, and experience were not related. The factor structures of high/low mental health groups were different (Abraham, 1985). Intelligence and creativity were negatively related to indisciplined behaviour (Manaral, 1985). Values have a significant role in mental health and adjustment (Bhatia, 1984).

The absence of a sound study procedure raises doubts concerning the validity of the generalization that motor proficiency is related to adjustment processes of school and college students (Sunita, 1986). Membership in a high-caste and a small family background lead invariably to more frustration. Intelligence is not a cause of frustration (Jethwani, 1986).

The effect of academic and anxiety-related tension on academic achievement was examined (Manuel, 1982) using a correlational approach. Anxiety was negatively related to achievement. The impact of defence mechanisms used by boys and girls on their mental health and adjustment in school and home was studied by Gagandeep (1986) using a fairly representative sample. The study revealed that negative defence mechanisms lead to poor adjustment as is natural in both

cases, i.e. school and home.

Anand (1986) reported a study on mental health of school-teachers using a mental health scale and observed that fiftynine per cent of teachers were mentally healthy. The state of working bears no relation to mental health. While social values were positively related to mental health of teachers, religious values were negatively related.

An examination of these studies illustrates certain specific research trends in the areas of mental health and adjustment. Most of the studies have concentrated on the adolescence period and adolescent girls, including deviant groups. Methodologically, the studies need more refinement in design and procedure. A few studies which relate to finding out the correlates have stressed family and school environmental factors. Mostly, a comparative approach has been used and clinical groups and college student populations have been studied. The mental health and achievement relationship has been fairly illustrated in spite of limited studies. One would have noticed on going through this section the absence of coordinated thinking among Indian researchers directed towards looking at mental health in its totality, especially in relation to the classroom situation, before undertaking such academic exercises. Promotional studies for building mental health are unfortunately absent.

Ecology, Ethnicity, and Behaviour Development

Educational and developmental psychologists have been concerned over the last few decades with analysing and manipulating ecological variables, membership in a certain social class, ethnicity and parental attitudinal factors as potent variables underlying learning and behaviour development in children and adolescents. Panda (1988) has recently reviewed the literature and emphasized certain specific trends in research. A significant number of such studies (Bharadwaj, 1979; Dube & Sachdeva, 1983) have been only status studies. Making comparisons between scheduled caste membership and normal caste Hindus, Panda concludes that differences in personality, intelligence and achievement have often been the result of measurement artefacts and group-specific testing materials (Panda, 1988).

A significant study was conducted by Das (1980) on assessment of non-cognitive characteristics of scheduled caste children varying in sex and educational level. A series of tests were used to determine whether ecological background or environmental variations contributed to differences in behaviour. The results revealed superiority of class on verbal learning which was also persistent over educational level. Boys appeared to be significantly better than girls in quantitative work performance. Intellectual achievement responsibility appeared to be a patent variable in influencing academic achievement. So did cognitive style and self-concept of children. The study, in a sense, was comprehensive enough to examine a broad range of relationships without sacrificing test validity.

Panda, M.D. (1983) dealt more intensively on the process by which ecology and class membership affected behaviour development. Two hundred families of under-privileged children, 60 classroom teachers, 200 children drawn from these families and reading in Class IV and V were studied using a home environment and child rearing practices scale, the Intellectual Achievement Responsibility Scale (1969), Raven's Coloured Progressive Matrices, Teacher Ratings and academic achievement measures. There was a significant relationship between parents' income, occupation and education and parents' expectancy and life-style. It is probably for the first time that some *process* variables were identified which intervened in the development of behaviour instead of the traditional correlational approaches (Panda, K.C., 1974).

Belonging to a particular caste or group is important because the traditions established in homes are the experiential background instrumental in engineering later development which will influence school learning. Experimental validation of this notion has been stated in several investigations in our country. Pal (1984) established, on the basis of a comparative study between scheduled-caste and high-caste children, significant differences in personality characteristics but not in IQ. The scheduled-caste children appeared to suffer from a crisis of personality orientation (Gupta, 1979; Chitnis and Naidu, 1981). In the case of these children value conflict often came in the way of educational progress besides curriculum and instruction problems (Kulshreshtha, 1983). However, the pattern of values were converging with the rise of awareness and a progressive outlook in schooling.

Class membership and ecology imposed structural and functional constraints in the case of different groups of tribal children. School as a social institution is a comparatively new environment for tribal children. Research indicates that this is probably the single most important factor contributing to behaviour deficits among children of varying ethnic origin. The tribal

child starts with near zero linguistic information and conceptualization when he enters school (Panda, 1988).

Ethnicity in the form of tribal origin failed to bring differences in intellectual functioning as measured by intelligence tests (Sinha, R.R.P., 1964; Chaudhuri & Sinha, 1959) but rural and urban differences in the same ethnic group were predominant in intelligence and other adjustment behaviour (Sinha, R.R.P., 1964; Nomani, 1965). In a well-designed study (Singh, L.B., 1979) Santhal college students were found to possess high anxiety, low intelligence, low n-ach, lower academic achievement compared to non-tribals. Dutt (1983), while bringing out similar findings concerning tribals and non-tribals, failed to follow an appropriate design of study and both the internal and external validity of the results suffered because of biased selection and inadequate data analysis. The sample included high n-ach non-tribals, high n-ach tribals and low n-ach tribals. Even among the tribal community, inter-ethnic differences were observed in self-perception, vocational and occupational aspirations (Chand, 1958) of the three Naga tribes: Angami, Ao and Sema, which suggests a unique ecology in each of the sub-cultural groups.

Singh (1986) assessed achievement motivation, level of aspiration, and anxiety as correlates of creativity among denotified tribal (DT) children. The author compared 450 denotified tribe children and 450 students from ashram-type and general schools. In view of the lower level of functioning of DT children the author suggested formal education from the nursery stage for them; more of vocational and physical facilities, scope for inter-personal relationships, and psycho-educational guidance programmes. Admission of normal children to ashram schools would provide a cultural mix.

Fatmi (1986) corroborated the earlier findings in stating that racial background, sex, religious background, and caste status influenced achievement-related motivations favouring the non-tribals, girls, caste Hindus and forward-caste groups. Area of residence and SES were found to be important determinants of achievement related motivation. Within tribal populations Christian tribals had superior intelligence, better reasoning ability, and higher achievement motivation than non-Christian tribal children. Vocational aspirations were also higher in the case of tribals who were Christians. The study (Balakrishna, 1986) used 150 Christian and 150 non-Christian students reading in standards X and XI in Santhal Paraganas adopting the incidental method of sampling but measuring the variables with appropriate tests.

Considerable interest has been shown in impoverished environment and its effects on human behaviour, especially of school-children. Such studies have been classified under educational, cultural and nutritional deprivation and point to the necessity of substantial amount of change in the educational set-up. This has been visualized in the National Policy on Education, 1986. Exhaustive reviews have appeared with regard to impoverished environment and intelligence (Singh, A.K., 1976), perceptual and cognitive processes (Sinha, D., 1977; Sinha & Misra, 1982). Attitude change studies seem worth taking up in this area.

Ecological variables were studied by Mishra (1983). The sample consisted of urban, rural and tribal children drawn from socially disadvantaged and advantaged categories. The effects of disadvantage on achievement and adjustment were more prominent in the urban set-up than in the rural set-up, probably because the urban set-up is more advanced and complex.

The study of Tiwari (1984) was also in the same direction. Lal (1985) analysed the adjustment problems of SC students with reference to certain personality variables. Methodologically the study was valid enough to make the conclusions acceptable. The results confirmed the superiority of general category students over SC students in regard to personality factors, intelligence, ego strength, and group adherence *vs.* self-sufficiency. The differences were also established within the rural background.

Socio-psychological problems and personality patterns of the deprived children living in destitute homes have been studied (Nagar, 1985). The sample consisted of 200 deprived children living in destitute homes and 200 normal children equally representing the sex groups. They were equated in age and IQ. Both the survey and case study approach were followed.

The differences between institutional care and its consequent effects were prominent in depressing competencies and increasing personality problems among the deprived children. In each of the measures of intelligence, personality, self-concept, anxiety, academic interest, level of aspiration, n-ach, social-psychological problems, the deprived children in orphanages proved to be inferior, suggesting the need for better institutional care. These findings confirmed the earlier findings of Garhok (1973) whose study was based on a comparative analysis of the personality characteristics of 100 orphans and 100 non-orphans. Dhanger (1985) found

reading ability scores were higher among non-backward class students than backward class students. Roy (1986) did an extensive study by taking 200 rural and urban children reading in class V and varying in SES (privileged and under-privileged). The two groups differed in all the criterion measures used such as: achievement, intelligence, adjustment to school, adjustment to instructional programme, adjustment to peers in school, adjustment to personal hygiene rules in schools, language development, perceptual acuity, perception of forms, shape and size and perceptual distortion, nature of ego and super ego, perception of environment, anxiety, needs, conflicts, and defences, except relationship with siblings and parents. Similar findings were observed among low and high deprived students on verbal behaviour, concept formation, intelligence, level of aspiration, and self-concept (Pandey, 1985). Rural/urban differences in anxiety and frustration were significantly observed in Singh, B.K. (1984) and cognitive characteristics (Verma, 1975).

Parental attitudes did not influence social and emotional adjustment of normal and handicapped students (Lata, 1985). Significant differences between adjustment of normal and handicapped children were observed. This finding is not surprising. In an earlier study by Sultana (1983) normal children were found to have more intelligence and to be more socially competent. There was a significant difference in attitude of parents of handicapped/normal children. The fathers of the two groups were accepting whereas the mothers only accepted the normal group. The presence of handicapped children in a home had a definite impact.

The impact of rural background has also contributed to cultural-familial mental retardation with a relatively higher incidence because of deprivation of stimulating environment and low SES and low caste membership of parents. The sample is too small to warrant (N=8) the conclusions, but it certainly indicates a trend because of the intensive approach followed by the author (Paliwal, 1985). Slum residence, prolonged deprivation and emotional deprivation were also contributing factors to the higher incidence of cultural-familial retardation.

Inter-relationships were obtained between parents' personality, child-rearing attitudes and personality of children (Ara, 1986). Working and non-working mothers also had a differential effect on the personality and behaviour development of their children (Taori, 1986). Parental aspirations are significantly influential in determining the achievement of their children (Grover, 1979).

Academic achievement and adjustment were studied in a comparative inquiry of first generation learners matched with their counterparts in other situations belonging to same SES. The study revealed lower achievement and adjustment (Malik, 1984), for the former.

Fulfilment of sociogenic needs of children remained sensitive to parenting, parenting sex, and economic status of families. Khokhar (1983) based his conclusions on observation of a sample of 200 families drawn on the basis of the cluster sampling technique. Economic status appeared to be both as a boon and a hazard in procuring need satisfaction and need experience in children. Deviant parenting in families mostly took the form of faulty mothering and consequent role reversions. The educational pursuits and intelligence of students depended on caste membership and belonging to a high caste proved to be socially advantageous, but it had no effect on personality, n-ach (Kalpana Rao, 1984).

Studies reviewed in this section show quite convincingly the interest of Indian researchers in process-oriented research rather than in mere status reports. There have now been attempts to understand why and how behaviour developments are affected by different ethno-ecological backgrounds, impoverished conditions, rural environment, parental behaviour and psycho-social deprivation conditions. Researchers have stressed the need for creation of better school environment, change of parental attitudes, and creating enriched environment, especially in rural and socially disadvantaged ecological conditions, in order to help behaviour to develop and school readiness to ensue. With exceptions, there has been improvement in methodology used and conceptualizations.

Tests and Measurements[1]

Construction and standardization of tests had once been a popular area of activity for Indian educational psychologists and there have been several tests of varying credibility reported in the literature up to the late 1970's. But this interest has recently waned, primarily because adaptations and/or poorly constructed tests have failed to be practically meaningful.

Serious thinking has gone into developing tests in need-based areas and areas of relevance. Unques-

[1] Research in Tests and Measurements is reviewed elsewhere in this volume—*Editor.*

tionably, therefore, the studies undertaken indicate improvement in procedures, thinking, and avoidance of repetition, however few they may be in number.

Intervention Studies

There has been a steady increase in intervention studies since 1980. Educational psychologists have realized of late that, in order to have any impact on the life of pupils and society at large, behaviour change programmes are more imperative than status studies. Studies of the former have taken two directions: examination of the effects of training upon (a) learning, achievement and cognitive functioning, and (b) behaviour development.

Ray (1982) using a pre-test, post-test control group design demonstrated the effects of attribution training on the development of achievement responsibility, self-concept, achievement orientation, and academic achievement of socially disadvantaged children. The changes brought by interventions persisted over time. Advanced curriculum models and Piagetian games produced significant improvement in achievement of primary school children (Nagpal, 1983). Besides using change measures in children, guidance and counselling at the pre-adolescence and adolescene level brought improvements in academic achievement. The study design incorporated a pre-test, post-test control group design (Fernandes, 1984). The conclusions drawn in these cases (Ray, 1982; Fernandes, 1984) were based on covariance analysis and that of Nagpal (1983) on multiple regression analysis, thereby confirming the generalizations as valid.

Among others, elaboration of the encoding process as a strategy produced greater retention and retrieval, especially under recognition, than free recall (Kumar, 1984). Enriched environment in terms of facilities at home and school brought improvements in logical thinking abilities of elementary school children (Saxena, 1985). Methodologically, the study design and analysis using cannonical correlations and F-tests met the rigours of testing. While reinforcement produced greater transfer effects, positive reinforcement in the form of praise was effective for richer-class children, tangibles were more effective with poor children (Singh, R.P., 1985). This is not a new finding as such interacting effects were earlier obtained in several investigations (Stevenson & Zigler, 1966).

Entirely a different strategy was adopted by Mohanty (1985) who attempted reduction of anxiety through stories from the minds of elementary children and its consequent improvement of classroom learning using sophisticated test design and analysis of gains. Reduction of anxiety not only led to improved achievement but accelerated the process of adjustment in schools. In a subsequent study (Sharadarani. 1986) performance increased as a function of goal attainment, antecedent conditions in the form of motives, incentives and expectancy level. Padhy (1986) demonstrated the dramatic effect of schooling on the development of cognitive functioning, using Piagetian logical thinking tasks and personal social adjustment in a factorial study using schooling, ethnicity, and age as independent variables—especially significant at a time when deschooling is in the air. Advanced organizers produced greater cognitive subsumption in life science (Ghosh, 1986).

Learning environment is a significant factor in school achievement. But its effect on development of characteristics among pupils is a unique dimension on which Saxena (1985) designed his study, using a large sample of 1200 students reading in class XI. The results revealed varying degree of relationships, suggesting the need for further investigations. Interim tests enhanced school achievement, irrespective of mode of instruction (Bhadwal, 1984). Kamlanabhan (1987) produced significant change in personality and improvement in achievement using behavioural programmes which consisted of relaxation, and assertive and study skill training.

The second line of intervention relates mostly to changes in person perception as a function of information input (Nair, 1979); enhancement of self-concept and achievement motivation as a result of a psychologically meaningful education programme (Olivia, 1985), and play preferences and cognitive development in nursery school children (Narula, 1982). Physical fatigue is not a condition that affects mental process comprehension, retention and reasoning (Francis, 1983).

Semi-urban, caste Hindu and Kondh tribal children studying in Orissa were given conservation training (Choudhury, 1983). The study was well designed and it demonstrated that the trained group performed significantly better than the control group on the immediate and delayed tests of conservation of quantity and generalizations. Achievement-motivation training course improved n-ach of pupils at all SES levels (Raghava, 1985).

Positive social attitudes yielded self-control, alertness and awareness, much more among boys and girls,

than negative social attitudes (Singh, R.D., 1984). Varshney (1984) investigated the effects of psychological adjustment on behaviour development of adolescent girls. The results suggested the need for the introduction of sex education in schools. Self-concept is a developmental aspect of personality and it could be improved through improvement in academic achievement (Kamat, 1985).

An experimental study on the effectiveness of creative, value-oriented education was studied in relation to developing values among pupils using pre-test, post-test parallel matched group design but the gains could have been analysed by more robust test. The effect of training was, however, found to be pronounced (D'Lima and Puri, 1985).

A training course on cognitive, effective, and motor proficiency yielded a significant improvement in the academic achievement of lower secondary school students (Khanapuri, 1986).

The effectiveness of 'Creative Value-Oriented Education' on the value pattern of pupils was reported by D'Lima and Puri (1985) using a pre-test, post-test control group design. Logical communication was found to be more effective than emotional appeal (Bhagwat, 1976) in certain aspects of attitudinal change, whereas in other aspects the reverse was true.

Advanced organizer and operant conditioning models were used to teach educational psychology at B.Ed level. Both the methods equally yielded significant results in influencing student achievement than the traditional methods (Budhisagar, 1987).

With one exception (Kamat, 1985) the studies have used quality control approaches in study design and analysis as specified in Panda, K.C. (1985). The topics on which interventions have been designed represent progress in thinking and innovative steps to make educational psychology practically viable. There is, however, a need for more study of pre-school interventions, especially in the case of socially disadvantaged population.

Cross-cultural Studies

The range of studies in this area is quite wide although their number is limited. Basically, cross-cultural research in educational psychology seems predominantly a post-1980 phenomenon. The studies vary on a continuum of relevance to the field. They are of two types: (a) studies comparing two or more nationalities, one being the Indian, (b) studies dealing with another nationality by researchers working in Indian universities. Prasad (1980) made an analysis of dreams of students in India and compared the norms derived with those of American students. Differences were obtained in dream content, setting, symbolisation, and dream work between the two cultures based on content analysis. In another study 100 Tibetian girls and 90 East Pakistanis were compared regarding their personality structure (Basu, 1981). They were studying in classes I to IV; the former proved superior in intelligence and personality make-up to the latter. Socio-psychological correlates of mental health in students of India and Iran were analysed (Mohobali, 1982). The Indians had more scientific value in comparison with the Iranians, whereas Iranians had more traditionalism and venturesomeness. Aggressive behaviour was not culture-specific but age-related. Attitudes of Indian students towards social change was more progressive than those of the Iranians, which was also seen in another study that compared Indians with Bangladesh residents (Shahjahan, 1982). The need patterns of Bangladeshi and Indian students were different and there was a distinct pattern of masculinity and femininity patterns in need-structure between the two nationalities (Shahjahan, 1982). Culture emerged as a significant determinant of personality and achievement motivation (Giani, 1982). Naqui (1982) validated the Indian–Iranian personality structure differences using adolescents and adults from both countries.

Ugai (1983) made a comparison between Nigerian and Indian college students in relation to intelligence, n-achievement, and certain demographic variables using a factorial design. Nigerians were higher on modernity than Indians. An interactive relationship was obtained on culture, intelligence and n-ach orientation. Intelligence and modernity of the Nigerian and Indian samples were positively related. Several specific differences emerged between the two nationalities.

These studies are comparative and are not based on representative samples. However, they mark a beginning on which a further structure can be developed. One thing is prominent: that there are cultural universals and cultural diversities in behaviour. The n-ach of Indian children appeared to be low level compared to that of children from Japan, Germany and Brazil (Ojha, 1973). Indian students in general scored lower on neuroticism and manifest anxiety than foreign students (Harmeet, 1984).

The second set of studies related to a culture other than Indian, e.g. adjustment patterns of adolescents of Bangladesh (Sultana, 1983) and of Thailand

(Sirirassamee, 1983); effectiveness of an entrance test for teacher training in Thailand (Samart, 1983); social maturitry in Thai students (Pattramon, 1986), and achievement motivation of secondary schools students in Thailand (Kanchang Watthayu, 1985). Personality differentials were noticed among student-teachers and secondary school teachers in Bangladesh (Hossain, M.A., 1983). Attitudes towards functional literacy and the family life planning programme in Thailand were studied by a Likert type of questionnaire specifically developed for the purpose, with reliability around 0.88 and concurrent validity 0.71. Rural–urban, sex, farmer–labourer differences were observed, the attitudes being more favourable in the case of urban women and farmers than rural men and labourers (Puchong, 1985).

IV. EMERGING ISSUES

An overview of Indian researches in educational psychologyy has been provided based on an analysis of earlier trends and research studies during the last decade which in fact contributed to its current status.

A few general comments concerning major themes running through several diverse studies reported here raise two categories of issues:

(a) Conceptual Issues
(b) Methodological Issues

Research in the area of learner characteristics has been virtually traditional, failing to turn to changes in the process of understanding abilities. While educational psychological research has shifted towards an understanding of information processing, information integration, cognitive processing and development of skills, Indian educational research has only very recently shown signs of moving in line with the Western trend in conceptualization.

Even while surveying and/or assessing potentialities of children, adolescents and adults, one would hardly notice independent thinking or in-depth understanding. Identification and assessment of certain specific personality traits, motivation and attitudinal characteristics have been a major goal rather than validating these characteristics against behaviour change in schools, or even attempting to change these.

Classroom management studies deal with classroom climate, leadership styles, student activism and stress but are hardly inter-related. Of course, such a linkage may not be present among doctoral-level researches whose orientations are specific and time-bound, but certainly such researches do reflect the institutional thinking and that of the experts in the area. The application of western models and strategies are obviously not irrelevant, but adaptations are necessary keeping in view the basic personality structure of teachers, pupils and the imposed social structure. It is necessary for us to consider what would constitute a learning-conducive atmosphere and what contingencies would work in our society. What are the correlates of achievement in terms of predictive effectiveness? What kind of social psychology should influence classroom learning, since classroom and school are part of the social system?

Intervention studies have not emanated from reseaches conducted in areas of learner characteristics, classroom management, teacher behaviour and the instructional process, but are, by themselves, independent endeavours. But, remarkably enough, they reflect methodological sophistications.

Issues of methodological nature are many. First and foremost amongst them is too much survey research as compared to experimental research, especially in the 1980s when there has been rapid progress elsewhere. The use of correlational analysis, especially simple techniques, failed to substantiate a cause-effect relationship and the studies lost their validity. At appropriate places, mention has been made about improper sampling techniques, incidental selection of variables and tests, inadequate and inappropriate analysis of data, lack of concern for conditions that jeopardise external and internal validity of studies, concentration on a specific age-group or deviant groups, use of several tests of similar abilities, *post hoc* comparisons and analysis—these are some of the issues about which researchers in educational psychology should be more concerned.

One of the issues which is conceptually and methodologically relevant here is that there should be a close link between basic and applied studies. The applied studies should not concern themselves with change but with persistence of gains over time because classroom learning should have a long-term impact. Such issues can be resolved at national level workshops or seminars, where exchange of opinion and convergence in thinking can take place.

Cross-cultural researches have contributed very little, if at all, because of the nature of the research studies which are country-specific and sample-specific. Instead

of being programmatic they have contributed to equivocality because no two samples are comparable and differences just mean nothing. Since cross-cultural psychology has become a separate domain, educational psychology can operate within its own boundaries.

In spite of these shortcomings, as has been mentioned while discussing studies under different sections, the studies during last decade have demonstrated improved conceptual bases and methodological procedures in basic and applied educational psychological research. But since this is not the whole picture and deficiencies persist, serious thinking needs to be devoted to quality improvement. Concern for this has distinctly emerged during the period. This is a promising sign.

V. CONCLUSION

Having surveyed the literature as it stands today it is pertinent here to indicate some future directions in theory building research and applied research in educational psychology relating to instructional processes. It is true that classroom, pupils, and teachers present before us a situation or a culture-complex which is unique and culture-specific whatever may be the quality and quantity of research conducted at the level of doctoral research predominantly.

It is time now to start thinking and doing aptitude-treatment-interaction studies since classrooms are more heterogeneous than they used to be before the universalization of elementary education scheme and the policy of non-detention were introduced. Advances in educational psychology make it clear that abilities which were once considered fixed are now regarded as changeable through interventions. Research in future instead of being normative and status-oriented, should be aimed at prevention of deficit and oriented in terms of programmatic research at the early childhood level and, further, should concentrate on accelerating personality and motivational characteristics, shaping intellectual abilities and information-processing habits among children quite early in life. The thrust should be in the region of early childhood and care programmes deliberately introducing enrichment and compensatory educational programmes especially for the large majority of our children. Action arising out of these researches must eventually alleviate the ill effects of economic and cultural developments in our society and contribute to effective prescriptive instructional practice suited to individual needs and abilities.

In the course of such undertakings, a profile of abilities aptitudes, interest, and attitudes will emerge which will characterize Indian pupils and the techniques of educating them—using more learner-centred approaches and, eventually, contributing simultaneously to theory building concerning individual differences and, by reducing individual differences lend the theory the status of an applied science.

The instructional situation needs a more applied orientation so far as research is concerned. Classrooms which are characterized by dropouts, truancy, orthodox and rigid discipline, lack of commitment on the part of teachers and a lack of insight into what cognitive and affective climate should persist in the classroom should receive due attention. General researches have concentrated on this dimension but there should be a sincere attempt to understand basic processes underlying learning and instruction, the designing of instruction in terms of feasible strategies, the dimensions of instructional systems underlying varieties of learning processes, e.g., scholastic and non-scholastic learning outcomes. Research should also focus on developing processing habits in pupils at different levels.

Future research needs to stress understanding of the teacher who plays the pivotal role in bringing changes in the learner. Teacher behaviour and classroom interaction studies are quite in vogue but future studies should reflect more of methodological refinement in terms of control, observation and interpretation of data.

Not only learning strategy research, desirable teacher behaviour, and an effective classroom climate should get the attention of educational psychologists; they should also devise instructional techniques which will promote thinking and learning skills. In other words, researches should aim at synthesizing cognitive and effective training components and develop instructional packages based on research evidence and experience for strengthening the classroom teacher. These orientations have surprisingly failed to draw the attention of educational psychologists in our country.

Besides these, educational psychological research in order to appear more sophisticated and of higher level should not disproportionately concentrate on using complex analysis procedure which will make testing of simple hypotheses difficult. What is meant here is that the research should spring from necessity and be reality-based to increase its practical relevance. Analysis of processes should get priority over analysis of products. Research should aim at linking both the variables in furthering our knowledge and practices of teaching-learning activities and related dynamics from the point of view of relevance.

ABSTRACTS : 319—523

319. AGARWAL, K.L., *A Study of the Effect of Parental Encouragement upon the Educational Developement of the Students*, Ph.D. Edu., Garh. U., 1986

This study was designed to understand the effect of parental encouragement upon educational development of secondary school students.

The sample consisted of 1000 students studying in 24 higher secondary schools in the Garhwal region. Marks obtained by the students in four previous examinations were taken as the criterion of academic development. For measurement of parental encouragement the investigator developed a Parental Encouragement Scale.

The main findings of the study were: 1. The high achieving group had been getting higher parental encouragement. 2. The high achieving girls got greater parental encouragement in the urban areas but in the rural areas the middle achieving group received more parental encouragement. 3. The urban boys received greater parental encouragement than the rural ones. 4. The urban girls got greater parental encouragement than the rural ones. 5. The girls in general received greater parental encouragement than the boys. 6. There were differences in the amount of parental encouragement received by the students in the different regions. 7. The high achieving groups of boys and girls with the mother as well as the father absent received more encouragement than the other boys and girls. Sex differences in the encouragement of either parental absence could not be identified.

320. AGARWAL, R., *A Study of Feeling of Security in Morally Developed and Underdeveloped Adolescents as related to Their Self-Concept and Personality Pattern*, Ph.D. Psy., Agra U., 1985

The hypotheses were: (1) There is a lack of security among the youth. (2) There is a difference between the feeling of security of morally developed and underdeveloped adolescents. (3) There is a difference in the self-concept of morally developed and underdeveloped adolescents. (4) There is a difference in the personality pattern of morally developed and under-developed adolescents. (5) There is a difference between family attitude of morally developed and under-developed adolescents. (6) There is a relationship between personality pattern and moral development. (7) There is a relationship between self-concept and personality characteristics.

The moral development test was administered to 250 adolescents. Of these 47 were found to be morally developed, 113 morally under-developed and 90 were average. Thus the sample comprised 47 morally developed and 113 morally under- developed adolescents. The 16 PF Questionnaire was used to measure the personality of subjects. The Family Scales, Self-concept Scale, and Security–Insecurity Inventory were translated into Hindi. The coefficient of reliabilities were 0.83, 0.72 and 0.78 for the Family Attachment Scale, Self-concept Scale and Security-Insecurity Inventory respectively. The Validity coefficients for the Self-concept Scale and Family Attachment Scale were both 0.62, against the ratings by the parents. The data were analysed by variance and correlation techniques.

The findings were: 1. The adolescents were found to be secure. 2. Moral development was related to the feeling of security. 3. Self-concept was not related with moral development and moral under-development. 4. Morally developed and morally under-developed adolescents did not possess many different traits. 5. Family was positively related to moral development and moral under-development. 6. Personality was not related with moral development. 7. There was a significant relationship between self-concept and personality characteristics.

***321.** AGARWAL, T.D., *Some Psycho Correlates of Affiliative Motive*, Ph.D. Psy., RSU, 1980

The main objective of the study was to investigate the relationship between affiliative motive and personality traits, anxiety level, age, sex and birth order of students as well as the differences in affiliative motive arising due to these factors.

The sample of the study consisted of 400 subjects drawn randomly from different higher secondary schools and colleges of Raipur city. These subjects belonged to mainly two age-groups viz. 13 to 16 years (adolescents) and 21 to 25 years (adults). Apart from these, 100 additional subjects were drawn from the age group of 8 to 10 years (children) and 55 to 60 years (pre-retired), in order to make a better examination of the

impact of the age factor on affiliative motive. The relevant data were collected by employing Kureshi's AAPAS Motive Test, the 16 PF Questionnaire by S.D. Kapoor, the S.D. Kapoor's Anxiety Scale Questionnaire, the H.S.P.Q. by Kapoor and Mehrotra, and the Sinha Anxiety Scale by D. Sinha. The data were analysed by computing the t-values, analysis of variance, and coefficients of correlation.

The findings of the study were: 1. None of the relationships between personality traits and affiliative motive was found to be significant in case of the adolescent group; however, in the case of male adolescents, factors A and F of personality yielded a positive relationship with affiliative motive. 2. In the case of female adolescents, none of the relationships between personality factors and affiliative motive was found to be significant, except for factor O which had a highly negative relationship with affiliative motive. 3. Adult males showed a positively significant relationship of affiliative motive with factors H, F and Q_1 and a negative relationship with factor L of personality. 4. For adult females a significantly negative relationship was observed between affiliative motive and factors L and Q_2 of personality. 5. On second-order personality factor, Ia (introversion–extraversion), and IIa (low anxiety *vs* high–anxiety), both males and females showed a significantly positive relationship with affiliative motive, whereas, on factor IIb (high anxiety *vs.* low anxiety), both the groups showed a significantly negative relationship. 6. For the adult males, factors I and II, and for the adult females, factors I, II and III, showed a significantly positive relationship with affiliative motive. 7. No significant differences were found in the affiliative motive of adolescents with two poles of personality traits. 8. A significant difference in the affiliative motive of persons with low and high H trait was obtained with low H persons showing low affiliation. 9. Adult females showed a significantly different affiliation level by virtue of low or high C and I traits, with low C and high I-trait females showing high affiliation and high C-I and low I-trait females showing low affiliation. 10. Chi-square values for neither the adolescent males nor for the adolescent females were found to be significant for any of the personality traits. 11. A significantly positive relationship was observed between anxiety and affiliative motive scores for the adolescent females and adult males but not for the adolescent males. 12. No significant effect of age or sex could be observed on affiliative motive. 13. Neither the main effect nor the interaction effect of age and sex was found to be significant on affiliative motive. 14. The first-born subject of all the categories showed greater need for affiliation than later-borns.

322. AHLUWALIA, I., *A Study of Factors Affecting Achievement Motivation,* Ph.D. Psy., Agra U., 1985

The objectives of the investigation were (i) to study the effect of sex on achievement motivation, (ii) to study the effect of age, birth-order, academic performance, parents' education, parents' occupation, and parents' economic status separately on achievement motivation, (iii) to study the effect of rural-urban upbringing, size of the family, and dependency separately on achievement motivation, (iv) to study the effect of type of school, management of school, and organizational climate of school separately on achievement motivation.

The study was conducted on a sample of 200 children of 8 to 12 years of age. The intelligence of the children was controlled. They were given Raven's Progressive Matrices. The children whose score on this test was between the 25th and 75th percentiles were selected for the study. The sample in the beginning consisted of 480 children studying in public, central, and government schools. From this, only 200 children and 170 teachers of different types of schools were selected. A background-information blank was used for collecting data related to personal information such as sex, age, birth-order, parents' education, parents' occupation, parents' economic condition, child's upbringing, size of the family, type of school (sex-wise), and management of school. The Dependency Test developed by Kaul was used for measuring the dependency of children. The test-retest reliability after an interval of three months was 0.59. The Organizational Climate Description Questionnaire developed by Halpin and Craft was used to measure climate of school organization. An achievement motivation test was developed by the investigator. The test-retest and split-half reliability coefficients were 0.82 and 0.81 respectively. Data were analysed with the help of t-test, analysis of variance and correlation techniques.

The findings were: 1. Sex of the child had no effect on achievement motivation. 2. Age was significantly and positively related to achievement motivation. 3. Achievement motivation was not affected by birth-

order. 4. Academic performance was positively and significantly related with achievement motivation. 5. Father's education significantly affected achievement motivation while mother's education had no effect on achievement motivation of children. 6. The achievement motivation was not affected either by father's occupation or mother's occupation. 7. Economic status of parents did not affect achievement motivation. 8. Urban/rural upbringing of children had no effect on achievement motivation of children. 9. Size of family did not show any significant relationship with achievement motivation. 10. Dependency and achievement motivation were found to be negatively related though not significantly. 11. Children of coeducational schools had more achievement motivation than children of boys school. But no significant influence was recorded in the children of coeducational schools and girls schools, those of boys schools and girls schools. 12. Children from Central Schools were most achievement-motivated, next in order were public and then government schools. 13. The organizational climate in different types of schools did not significantly affect the achievement motivation of children.

323. AKHTAR, S.N., *Attitude Modifiability as a Function of Some Personality Factors*, Ph.D. Psy., Bhagalpur U., 1970

The main aim of the study was to explore the relationship between some personality factors and attitude modifiability. The main hypothesis was that subjects possessing different levels of personality factors would differ significantly with regard to attitude modifiability. Six subsidiary hypotheses were also tested.

A random sample of 300 postgraduate students was selected. Age, sex, economic status and intelligence were controlled. Eysenck's Personality Inventory, Sinha's M.A. Self-Analysis Form, the California F-Scale, Rehfisch's Scale of Personality Rigidity and Mohsin's Nationalization Scale were employed. Hindi versions of the instruments were used. Attitude was measured before and after presenting a persuasivce communication. The discrepancy between before and after communication scores was taken as a measure of attitude modifiability. The subjects' discrepancy scores possessing different levels of personality factors were compared to see whether different levels of personality factors differed in attitude modifiability. The chi-square test and t-test were employed for hypotheses testing.

The major findings were: 1. There was maximum attitude modifiability in subjects who were low on neuroticism, extraversion, authoritarianism and rigidity, and high on manifest anxiety. 2. Attitude modifiability was less in subjects holding extreme prior attitudes than those holding moderate prior attitudes. 3. Personality variables influenced the extent of attitude modifiability in persuasive situations. The person whose attitude was highly modifiable was low on neuroticism, extraversion, authoritarianism and rigidity and was highly anxious.

324. ANSARI, Md. F.B., *A Study of Flexibility–Rigidity Personality Trait among Indian Students*, Ph.D. Psy., Agra U., 1974

The objectives were (i) to study the typical behaviour of rigid and non-rigid persons, (ii) to find out the personality traits of rigid and non-rigid students, (iii) to find out the factors that were related to the flexibility-rigidity trait, (iv) to study the relationship between rigidity and other personality characteristics, and (v) to find out the characteristics of rigid persons. The hypotheses were: (1) There is no significant difference between students of UP and Bihar with regard to rigidity. (2) There is no significant difference between the rigidity scores of boys and girls. (3) There is no significant difference between the rigidity scores of students of arts and science faculties. (4) There is no significant difference between the rigidity scores of students having similar parental occupational goals than those who do not have similar parental occupational goals. (5) Religion is not a significant factor in creating personality rigidity. (6) There is significantly high positive correlation between rigidity and dominance. (7) There is significantly high positive correlation between rigidity and introversion and neuroticism separately. (8) There is high positive correlation between rigidity and self-sufficiency.

The sample consisted of 480 regular students of colleges of Bhagalpur (district) and Agra district. The flexibility–rigidity trait and personality characteristics were measured with the help of the Rigidity Scale of Rehfisch (Riscale) and the Bernreuter Personality Inventory (BPI). The split-half reliability coefficient of the Rigidity Scale was 0.74. Data were analysed with the help of critical ratio and correlational techniques.

The findings were: 1. The rigidity was not affected by territorial differences. 2. Sex was not a significant factor in creating rigidity. 3. The kind of education (arts and science) did not significantly affect rigidity of students. 4. Parental occupational goals had no significant effect upon rigidity scores. 5. Out of the four religions under study, Islam and Christianity, and Islam and Sikhism were significantly different from each other to some extent but Islam and Hinduism, Hinduism and Sikhism and Christianity, Sikhism and Christianity were significantly different in respect of rigidity. 6. There was a positive and significant correlation between rigidity and dominance; rigidity and introversion; rigidity and neuroticism; introversion and dominance; and self-sufficiency and dominance. 7. There was a significant negative correlation between rigidity and self-sufficiency, introversion and dominance; neuroticism and dominance; introversion and self-sufficiency; and neuroticism and self-sufficiency.

325. ARA, N., *Parents' Personality, Child-rearing Attitudes and Their Children's Personality—An Intercorrelational Study,* Ph.D, Psy., Bhagalpur U., 1986

The main aim of the research was to attempt an intercorrelational study of parents' personality, their child-rearing attitudes and their offspring's personality (aggression, authoritarianism, extraversion, neuroticism and anxiety were considered). The main hypotheses were (1) Parents' child-rearing attitudes are significantly related to their offspring's personality (2) Parents' child-rearing attitudes are significantly related to parents' personality. (3) Parents' personality is positively and significantly related to a boy's or girl's personality.

A sample of 200 parents (100 mothers and 100 fathers of the same family) was drawn. This sample was matched for age, education, income, residence, number of children and occupation. Another sample consisting of 100 adolescent children (50 boys and 50 girls) of the same parents was drawn. One adolescent child of each parent who was included in the sample of parents, was selected. The adolescents were matched for age and level of education. The Buss-Durkee Hostility Inventory, California F-Scale, Maudsley Personality Inventory, Sinha Anxiety Scale and Parent Child-rearing Scale were used.

The major findings were: 1. A father's protective attitude generated aggression in boys while a mother's neglecting attitude generated aggression in girls. 2. A father's permissive attitude created authoritarianism in sons and daughters. A father's loving attitude also created authoritarianism in daughters while a mother's protective attitude created authoritarianism in sons. 3. Extraverted boys had loving fathers and mothers while extraverted girls had permissive mothers. Neurotic girls had rejecting fathers. 4. A father's restrictive attitude generated anxiety in sons and daughters while a father's rejecting attitude generated anxiety only in girls. 5. A mother's restrictive and neglecting attitudes generated anxiety in daughters only. 6. An aggressive father had a restrictive child-rearing attitude towards his children. Restrictive fathers were authoritarian. Rejecting fathers were still more authoritarian. 7. Rejecting mothers were more authoritarian. Extraverted mothers were more loving while neurotic fathers and mothers were more rejecting. 8. Anxious parents expressed restrictive and loving attitudes more frequently. Aggressive and authoritarian parents had aggressive and authoritarian children. Similarly, extraverted fathers and extraverted sons and daughters while a mother's extraversion had no effect on her children's extraversion. 9. Neurotic parents had neurotic and anxious sons and daughters. 10. The parents' personality was very strongly associated with their children's personality. 11. Parental child-rearing attitudes did not bear a very strong relation with children's personality.

326. BANDYOPADHYAY, P.K., *Experimental Studies on Aerobic Capacity of Bengali Students of Growing Age,* Ph.D. Physiology, Cal. U., 1982

The objective of the study was to measure the oxygen transporting system that determined an individual's power. For this the study dealt with (i) the measurement of aerobic capacity and some of the related cardiorespiratory functions of Bengali students, and (ii) the development of aerobic capacity with age in relation to physical growth parameters. The aerobic capacity or the maximal oxygen intake capacity (Vo_2 max) was defined as the highest attainable rate of aerobic metabolism during the performance of dynamic mascular work that exhausted the subject within 5–10 minutes.

The sample consisted respectively of 95 and 60 normal, healthy boys (10 to 19 years of age) and girls (10 to 18 years of age) from two secondary schools and two undergraduate colleges of Calcutta. The subjects were as-

sessed under laboratory conditions for their body weight, height, vital capacity and maximum breathing capacity, resting oxygen consumption, heart rate, maximal exercise level on the treadmill, pulmonary ventilation and oxygen intake. Vital capacity was determined by the Toshniwal Expirograph, maximum breathing capacity by collecting 15-second expired air volume at maximal voluntary effort in a Douglas bag, physical fitness by the Harvard Step Test, maximal exercise ability by an uphill treadmill running at a constant speed along a constant inclination, i.e. Seven or eight kilometres per hour at about six degrees. The heart rate was measured withe ECG tracings taken by the M-X lead on a Grass Model III D electroencephalograph and pulmonary ventilation with Douglas bags. All experimental studies were conducted during winter in Calcutta. The statistical test used wes t-test at .01 to .001 levels of significance.

The major findings were: 1. Height, weight and body surface area increased with age, with adolescent spurts. Girls showed early signs of adolescent growth which made them significantly larger in body dimension than boys at 11-12 years, but from 15-16 years, boys started showing their superiority and by 17–18 years, they had higher body dimensions than girls. 2. Vital capacity increased with age in both sexes. From 10 to 17-18 years, it increased by 130 per cent for boys and 80 per cent for girls. Sex difference in vital capacity becomes increasingly marked from 13–14 years and by 17–18 years, vital capacity per kg body weight in the girls was 24 per cent less than that of the boys. 3. Two major spurts of increase in maximim breathing capacity in boys were observed between 11–12 and 13–14 years and between 13–14 years and 15–16 years, which for girls were between 11–12 and 13–14 years and 13-14 and 15–16 years. 4. Maximum breathing capacity per unit body height increased with age. 5. Maximal pulmonary ventilation was found to increase 38/min in ten years to 69/min. in 17–18 year old boys, with two conspicuous spurts in between. The values for girls were 36/min in ten years to 56/min in 15–16 years; with increasing age, maximal pulmonary ventilation per kg body weight showed a reduction in both sexes. 6. Boys showed a tendency towards reduction in resting heart rate with increasing age and a similar tendency was also observed with respect to maximal heart rate. Girls did not show any age-induced difference in resting as well as maximal heart rate. 7. Both resting and maximal oxygen pulse values increased with age in both sexes. 8. For boys, aerobic capacity (Vo_2 max) was found to increase from 0.96/min at ten years to 2.20/min in 19 years, with two rapid spurts; for girls the values were 0.86/min at ten years and 1.48/min at 17–18 years with two rapid spurts. 9. At 11–12 years of age, the aerobic capacity values were well matched in both sexes, but in all higher ages, girls had a lower value. When standardized by body weight, girls had 21–26 per cent lower values in the post-puberty age group. 10. In boys, Vo_2 max gave high correlation with height (0.90), body weight (0.94) and body surface area (0.93), these were relatively less in girls, viz., 0.73, 0.86 and 0.84 respectively. 11. Vo_2 max increased in proportion to height in both sexes. 12. Both vital capacity and maximum breathing capacity were highly correlated to Vo_2 max. 13. When standardized by per kg of body weight, the aerobic power of Bengali young children and adolescents of both sexes matched well with that of their counterparts in developed countries of Europe and Japan; but North American and Swedish subjects showed superior values for both sexes.

327. BANDYOPADHYAY, R., *Growth and Development of Moral Judgement in Children*, Ph.D. Psy., Cal. U., 1981

The main objectives were (i) to adapt Piaget's stories, (ii) to study the growth of moral judgement with age, and (iii) to examine the effects of intelligence socio-economic conditions, sex, type of school and parental discipline on moral judgement.

The sample consisted of 440 children, 243 boys of which 58 were reading in missonary schools, and 197 girls of which 57 were from missonary schools. Children were all Bengali Hindus of age-group 6–11 years of matched SES from eight schools, four missionary and four non-missionary. The tools used were Raven's Progressive Matrices, Kuppuswamy's SES (Urban) Scale, the Ideal Person Test and a questionnaire built with adapted versions of stories developed by Piaget, with a reliability of 0.90 (boys) and 0.80 (girls), the validity being ensured by making rest scores a faithful measure of the psychological construct, viz. maturity of moral judgement and experts' agreement in test-item appropriateness. It was a correlational comparative survey, representing data in tables, columns, etc. The statistical tools used were Pearson's r, the linear regression equation, t-test, chi-square test and ANOVA.

The major findings were: 1. Moral judgement grew with age and the relation was appreciably linear. 2. Of

seven areas of moral judgement, girls showed more maturity than boys in three areas, viz., attitude towards justice, equality and authority, and collective responsibility; in three other areas, viz., moral realism, immanent justice and guilt, there was no sex bias, but in efficacy of punishment, girls gave less mature responses than the boys. 3. The moral judgement was positively related with intelligence, irrespective of age, sex, and type of school. 4. The practice of induction helped maturity of moral judgement and this, occasionally supplemented by withdrawal of love assertion of power, produced the best result. 5. Both boys and girls of missionary schools, where some moral lessons were given in some allotted hours of a week, were better in moral judgement than children of non-missionary schools, where no time was allotted for moral lessons. 6. There was no significant association between moral judgement and SES in general. 7. Where both parents adopted the same form of discipline (love-oriented or power-assertion), children showed more mature moral judgement; the greater the divergence between the parents, the lesser was the development of moral judgement.

*328. BARINDER, M., *A Study of General Anxiety and Test Anxiety with reference to the Environmental Factors and Extraversion-Introversion of Delhi Students*, Ph.D. Edu., Del. U., 1985

The objectives of the study were (i) to find out the general anxiety level of Delhi students so as to make out how it was affected by environmental factors and extraversion and introversion, (ii) to determine the test-anxiety level of Delhi students and find out how it was affected by environmental factors, general anxiety and extraversion and introversion, (iii) to develop a Test Anxiety Inventory suitable and useful for the Indian situation, and (v) to study the pattern of anxiety in boys and girls.

The sample of the study consisted of 200 college-going students (100 boys and 100 girls) of Delhi University in the age group of 20-25. The subjects were selected randomly, irrespective of the course they were pursuing and discipline they belonged to. The tools used for collecting data were: (i) The Dutt Personality Inventory, (ii) The Socio-Economic Status Scale, (iii) The Self Prepared Test Anxiety Inventory, (iv) The Maudsley Personality Inventory. The data were analysed with the help of ANOVA supplemented by the t-test.

The findings of the study were: 1. Sex was significantly related to anxiety, both general and test anxiety. 2. Girls exhibited more general anxiety, as well as test anxiety, than the boys. 3. There was a positive relationship between general anxiety and test anxiety. 4. Socio-economic status did not play any role in the case of boys, neither on their general anxiety nor on their test anxiety. There was significant difference in general anxiety of very high socio-economic status girls and high socio-economic status girls and also between very high socio-economic status girls and average socio-economic status girls. Test anxiety was also seen to be affected by socio-economic status in case of girls (only in case of very high socio-economic status and average socio-economic status. The lower the socio-economic status of girls, the higher was their test anxiety. 5. The interactive effects of socio-economic status and extraversion were again not found in the case of boys, neither in general anxiety nor in test anxiety. In case of girls, the interactive effect was observed at average socio-economic status level. There was no significant difference between very high socio-economic status extravert girls and very high socio-economic status introvert girls and between high socco-economic status extravert girls and high socio-economic status introvert girls. 6. There was a significant difference between average socio-economic status extravert girls and average socio-economic status introvert girls on general anxiety. On test anxiety, there was no significant difference between high socio-economic status extravert girls and very high socio-economic status introvert girls. 7. There was a significant relationship between general anxiety and test anxiety of boys. 8. There was a significant relationship between general anxiety and test anxiety of girls.

329. BEHARWAL, S., *Locus of Control and Attribution of Responsibility for Success and Failure*, Ph.D. Edu., All. U., 1987

The objectives were (i) to determine, empirically, the causal categories used by students on the task used, (ii) to find out the independent and interactive effect of (a) locus of control, (b) achievement motivation, (c) socio-economic status on attribution of responsibility for the outcome (success or failure, on the task) to: ability—lack of ability, effort—lack of effort, fate—bad fate, good family environment—lack of good family environment, self-confidence—lack of self-confidence, as also to: internality—externality, stability—instability, controllability—uncontrollability, and (iii) to observe

the proportion of variance explained by the combined predictors, locus of control, achievement motivation and SES in dependent variables (causal categories and their dimensionality) under success and failure conditions. The hypotheses were: (1) There would be more than four (ability, effort, task-difficulty, and luck) and other than these, causal attributes. (2) Internals on locus as compared to externals will attribute the causality of the outcome to personal factors: ability, effort, self-confidence, internality, stability and controllability. (3) High achievement-motivated subjects would attribute the causality for the outcome to personal causes and low achievement-motivated subjects would opt for impersonal causes. (4) High, average and low SES subjects would differ significantly with respect to their perception of causality and its attribution to the five causes and dimentionality. (5) Internals with high achievement motivation will attribute the causality of the outcome to personal sources, and internals with low achievement motivation will choose impersonal sources—those outside themselves. (6) Locus and SES will also interact significantly to affect the attributional process among different combinations of levels of locus and SES. (7) Achievement motivation and SES would interact significantly to affect the perceptual process of causal attribution. The difference would be in attributing causality to personal and impersonal factors. (8) Combination of locus, achievement motivation and SES would affect differentially the attributional proc ess. (9) Internals would perceive success due to personal causes and failure due to impersonal causes. The externals would behave the opposite way. (10) High achievement oriented subjects will attribute success due to ability, greater effort expenditure, favourable family environment, self-confidence and internality, and stability as well as controllability. Failure would be perceived as due to lack of ability, insufficient effort input, lack of good family environment, lack of self-confidence, and external, unstable and uncontrollable causes. Low achievement motivation subjects would perceive success and failure as functions of fate. (11) Different SES groups will attribute success and failure in a significantly different way. (12) Internals with high achievement motivation as compared to externals would ascribe success more to ability, effort, self-confidence, internality, stability and controllability and externals would describe in the opposite direction. (13) Locus, achievement motivation and SES would attribute the outcome differently in success and failure conditions. (14) The contributions of joint predictors would be significantly different in success and failure conditions.

The sample consisted of 270 males (class XI science curriculum students) having an average range of IQ (81 to 120) belonging to the age bracket 14 to 16 years, and classified into: high, average, low SES, high low achievement motivation and internal, internal/external and external locus of control. The design was $3\times2\times3\times2$ factorial with the last measures repeated. The subjects were randomly assigned to success and failure conditions. The data were collected with the help of anagrams, Attribution Scale, SES Scale, M.C. Joshi's Test of Mental Ability, Locus of Control Scale and the Achievement Motivation Test. The data were analysed with the help of analysis of variance.

The findings were: 1. Empirically obtained causes of an outcome were ability, effort, fate, family environment and self-confidence. Task difficulty did not emerge as a potential cause, family environment and self-confidence were attributed in an important way. 2. There was an overall trend for internals as contracted to externals to attribute their performance outcome to personal sources. 3. High achievement oriented as compared to low attributed the outcome to ability and internality (ability, effort, and self-confidence) factors. Low achievement oriented subjects perceived outcome as due to fate and externality (fate and family environment). 4. SES was observed to affect the perception of causality and its attribution to self-confidence only. 5. Internals with high achievement motivation had greater faith in their high ability and sufficient effort expenditure. They also considered it to be the function of internality, stability and controllability. The externals held fate and family environment responsible for the outcome. 6. Internals and externals with different socio-economic groups did not affect the attributional process for the task outcome. 7. The high achievement motivation oriented subjects, with high SES ascribed the outcome to good family environment and internality. 8. The internals with high achievement motivation and SES more than the externals, considered the causes for the outcome tagged to effort and self-confidence. 9. Internals as compared to externals placed more importance on personal sources as indicated by results. Following failure also, internals ascribed it to personal sources and externals attributed failure to lack of good family environment. 10. High need achievement students perceived their success as due to ability, effort input and failure as due to lack of this potential. Internals in success condition attribted outcome to internal

factors more than subjects in low achievement groups. 11. Students belonging to all the levels of SES ascribed the causes of their success not very differently. High SES groups attributed their failure, as compared to others, more to external dimension causes. 12. The internals with high achievement motivation ascribed success to effort and self-confidence, internality, stability and controllability and failure to lack of self-confidence as well as external, unstable and uncontrollable dimension social causes. The externals with low achievement motivation perceived failure as due to lack of ability, bad fate, lack of good family environment. 13. Locus of control with achievement motivation and SES ascribed responsibility for success and failure to self-confidence. 14. Results of multiple regression revealed that in success condition about 13.7 per cent of variance was attributed to ability, for effort 15 per cent, for fate it was 26.5 per cent and 10.6 per cent for family environment which would be accounted for by the linear combination of three predictors. In failure conditions, contribution of combined predictors to ability, and self-confidence was not significantly better than chance.

330. BHAGWAT, S., *Relative Effectiveness of Logical and Wishful Thinking on Attitudinal Change,* Ph.D. Psy., Jab. U., 1986

This investigation intended to establish some element of truth in two famous models of thinking, one which held that man was rational and the other that man was essentially a creature of habit, sentiment and emotion. It was mainly directed to testing the following hypotheses:

(1) Logical communication would be more effective than an emotional appeal in inducing change in the probabilistically strong group of syllagisms. (2) An emotional appeal would be more effective than logical communication in inducing change in the desirabilistically strong group of syllogisms. (3) The probabilistically strong group of syllogisms would be more susceptible to change by logical communication than the desirabilistically strong group of syllogisms. (4) Change induced by communication in any issue would produce a change in other (logically related but not mentioned in the communication) issues. (5) When a person's opinions on logically related issues are elicited in a close temporal contiguity, his need for contiguity would produce a Socratic effect. (6) The syllogisms which are high in logical discrepancy (least consistent) would be more susceptible to change by logical communication than by syllogisms which are low in logical discrepancy. (7) The syllogisms which are high in logical discrepancy would be more susceptible to change by the Socratic method than the syllogisms which are low in logical discrepancy.

This was an experimental study following a before and after experimental design. The sample of the study consisted of 332 students studying in different postgraduate departments of Jabalpur University. They were divided into three groups and three different treatments were assigned to each of these three groups randomly. Groups A and B were intended to verify the order effect in the presentation of communication (group A was administered a logical communication first and an emotional appeal afterwards; group B was administered an emotional appeal first and a logical communication afterwards). Group C was treated as a control group. The syllogisms were divided into two groups on the basis of their content, i.e. (a) A probabilistically strong group of syllogisms, and (b) A desirabilistically strong group of syllogisms. The subjcet's beliefs and desirability on sets of logically related issues were measured by means of a questionnaire that contained 90 statements of 30 syllogisms. Two types of communication—logical communication and emotional appeal— were utilized to verify the effect of logical thinking and wishful thinking respectively. The subjects were sensitized through logical communication about their inconsistent stand on syllogistically related issues. In the text of logical communication, Euler's Diagrams were utilized to show how the conclusions in a syllogism logically followed from premises. Each message in the text of emotional appeal was explained with the help of emotional evidence that the stand taken at the conclusion of a syllogism was undesirable. Mean, S.D., t-values, ANOVA and ANCOVA were the statistical techniques applied to analyse the data.

The findings of the study were: 1. Logical communication was found to be more effective than emotional appeal in changing a probabilistically strong group of syllogisms. 2. Emotional appeal was found to be more effective than logical communication in changing a desirabilistically strong group of syllogisms. 3. A probabilistically strong group of syllogisms was found to be more susceptible to change by logical communication than a desirabilistically strong group of syllogisms. 4. A desirabilistically strong group of syllogisms was found to be more susceptible to change by emotional appeal than a probabilistically strong group of syllo-

gisms. 5. Induced change in any issue generally produced a change in the logically related (not mentioned in the communication) issues. This change was in the same direction and was prominent when the subjects were made conscious about the interrelationship among logically related issues. 6. When the subjects were made conscious about the logically related issues, the incidental change and the induced change in explicit issues did not differ significantly. This specifically happened when there was a ceiling effect in the case of explicit issues. 7. There was not only consistency among different belief patterns but beliefs and desirabilities were also treated by the subjects in a meaningful way. 8. When subjects' opinions on logically related issues were elicited in a close temporal contiguity, their need for cognitive consistency produced a change in a consistent direction (Socratic effect). 9. The Socratic effect was found to be dependent upon the type of content. When the material was effectively charged, the Socratic effect was not present. 10. Syllogisms which were high in logical discrepancy were found to be more susceptible to change by logical communication than syllogisms which were low in logical discrepancy. 11. It was observed that while adjusting the change in a logically consistent direction in syllogistically related issues, most of the change tended to divide between major premise and conclusion. The minor premise showed a negative change.

331. BHAGYAVATHY, N.E., *Studies in Self-Actualization*, Ph.D. Psy., SVU, 1983

The main objective of the study was to investigate different levels of self-actualization among post-graduate students. The hypotheses formulated were: (1) People of high self-actualization are directed more by internal than external reinforcements compared with those of low self-actualization. (2) People of high self-actualization are more flexible and less rigid in their behaviour than those of low self-actualization. (3) People of high self-actualization are lower in seeking approval of others than those of low self-actualization. (4) People of high self-actualization are more capable of accepting themselves than those of low self-actualization. (5) People of high self-actualization are more capable of accepting others than those of low self-actualization. (6) People of high self-actualization are more capable of accepting the world around them than those of low self-actualization.

A Self-Actualization Inventory was Standardized using traditional psychometric procedures on a group of 400 university students and was administered to a group of 1,000 university students from whom three samples of 25 each were randomly drawn from various levels of score distribution to represent high moderate and low levels of self-actualization respectively. All the subjects belonging to the three samples were individually tested to obtain a measure of internal–external locus of control of reinforcements, a measure of their flexibility-rigidity level, and a measure of their approval motive. Further, they were given an Osgood type of Semantic Differential Test individually under three instructional sets to obtain three measures of self-constructs—self—ideal self, man in general—ideal man, and general environment—ideal environment.

The major findings were: 1. Persons who perceived themselves as belonging to a high level of self-actualization were directed more by internal than by external reinforcements in comparison with those who perceived themselves as belonging to a low level of self-actualization. 2. Persons belonging to a high level of self-actualization were more flexible and less rigid in their behaviour than those belonging to a low level of self-actualization. 3. There were no significant differences between the high and the low self-actualizing persons in seeking approval of others. 4. Persons belonging to a high level of self-actualization were more capable of accepting their own self with all its shortcomings and discrepancies than those belonging to a low level of self-actualization. 5. Persons belonging to a high level of self-actualization were more capable of accepting others for what they were than those belonging to a low level of self-actualization. 6. Persons belonging to a high level of self-actualization were more capable of accepting the world around as it was than those belonging to a low level of self-actualization.

332. BHARATHI, G., *A Study of Self-concept and Achievement Motivation of Early Adolescents*, Ph.D. Psy., Osm. U., 1984

The objectives of the study were to study (i) the aspects of self-concept, that is, real, ideal self-concept and the self-ideal discrepancy, (ii) the achievement motivation and various self-concept measures in different age-groups, different sex groups, and different socio-economic status groups, and (iii) to observe the interac-

tion effects of age, sex and socio-economic status and achievement motivation.

A sample for the present study was obtained from the high schools and junior colleges of Hyderabad and Secundrabad stratified on the basis of age, sex and socio-economic status. The total sample consisted of 360 students (180 boys and 180 girls). At each age-level there were 60 boys and 60 girls of three socio-economic status groups. The tools used in the study were: (i) the Rao Socio-Economic Status Scale (1973); (ii) the Mehta Achievement Motivation Test for High School Boys (1969); (iii) the Self-Concept Inventory with two dimensions—Real Self-Concept and Ideal Self-Concept. The last tool measured four aspects, viz., ability, adjustment, personal social orientation and masculinity–feminity. The split-half reliability was 0.86 and it had content validity.

The findings of the study were: 1. Older age-group subjects perceived themselves as being less able, less aspiring for greater ability and showed more dissatisfaction with their ability. 2. No age differences were found in self-concept with respect to adjustment. 3. No significant age differences were found in the personal social orientation aspect of self-concept in the real self-concept. 4. In the masculinity–feminity aspect of self-concept, age differences were not significant. 5. The strength of achievement motivation increased significantly from twelve years to sixteen years. 6. At different age-levels, different self-concept measures were found to be related with n-achievement. 7. In the ability aspect on self-concept no sex differences were observed. 8. Girls perceived themselves better adjusted and also aspired to be better adjusted than boys. 9. Boys perceived themselves to be more personality oriented than girls and they also aspired to be more personally oriented. 10. Boys perceived themselves to be more masculine and also would like to be more masculine as compared to girls. 11. Girls were more dissatisfied with their perceived self than boys. 12. No sex differences were found in achievement motivation. 13. The self-concept of ability was not affected by socio-economic status. 14. Low socio-economic status subjects perceived themselves less adjusted and felt greater dissatisfaction with themselves in this aspect. 15. Low socio-economic status subjects wanted to be more socially oriented as compared to high and middle SES subjects. 16. The influence of the age variable on the masculinity-feminity aspect of self-concept was different in different SES groups. 17. Middle SES groups showed greater satisfaction with self in general. 18. Achievement motivation was found to be the highest among the high SES groups and lowest in low SES groups.

333. BHARDWAJ, K., *Attitude as Process and Product of the Socio-Psycho-Being of College-going Adolescents,* Ph.D. Edu., Agra U., 1985

This study was designed to determine the role of attitude as process in the shaping of psycho-dynamic contents of personality in terms of needs, perception, anxiety, conflicts, defence mechanism and function of ego and super ego. It also aimed at determining the role of psycho-cultural background in terms of value orientation, caste and sex in determining attitudes to nationalism, liberalism, social change, social distance, social revolution and untouchability.

The sample for the study consisted of 300 adolescents in the age range 16 to 22 years studying in six colleges of Agra. Of them, 150 were high-caste students and 150 were scheduled caste students. In both the groups, half of the students were males and half were females.

The data were collected with the help of an Indian adaption of the Thematic Apperception Test by Uma Chaudhary, the *Hamarey Drishticone* (Attitude Scale) by Chauhan and the Value Orientation Scale by Chauhan.

The main findings of the study were: 1. The attitudes of social change, social distance, social revolution and untouchability act both as processes and products. The attitudes of nationalism and liberalism act as products only. 2. The attitude of nationalism characteristically belongs to faith-oriented male and scientifically thinking female adolescents. 3. The attitude of liberalism is characteristically a feature of males who are faith-oriented, localite and traditionist in outlook. It is prominently possessed by female adolescents who have an extensive social outlook. 4. The attitude of social change is characteristically available in high-caste male and scheduled-caste female adolescents. 5. The attitude of social distance characteristically belongs to scheduled-caste adolescents. 6. The attitude of social revolution is a characteristic feature of scheduled-caste male adolescents. Culture-rebelling rural and urban adolescents of high economic status possess it prominently. 7. Attitude to untouchability belongs to adolescents of scheduled caste in a characteristic way.

The author has suggested that, since attitudes play a very important role, suitable educational programmes

should be organized in the schools for proper development of attitudes among students.

334. BHARDWAJ, K.S., *Humour in the Indian Classroom: A Study of Classroom Situations and Materials*, Ph.D. Edu., JMI, 1984

The objectives of the study were (i) to analyse theoretically the meaning and nature of humour as a socio-psychological element in a group situation, (ii) to identify the various purposes for which the potential of humour is employed in the classroom as a social group, (iii) to content analyse the humorous material, stories, poems, dramas, essays, etc. in the prescribed textbook of Hindi and English of secondary classes, (iv) to identify humorous incidents,functional and dysfunctional to class teaching in the Indian context, and (v) to study the effects of germane humour or non-germane humour on learning comprehension, retention and recall.

The tools used in the study were two separate questionnaires developed by the investigator to collect data from teachers and students, an interaction recording tool used to gather first-hand data on humorous interaction between teachers and students, and experimental tests to study the usability or unusability of the technique of humour in the teaching learning process. The sample of the study consists of 300 students and 300 teachers.

The major findings of the study were: 1. A classroom session beginning with humour helped the teacher considerably in removing tensions, in overcoming depression and in controlling anger and aggression. 2. Teachers were well aware of the positive roles that humour performed in their classroom. 3. A large majority of teachers took a moderate view of using humour in the classroom, i.e. 20 per cent who always used humour and almost a negligible percentage who never used it in the classroom. 4. The teachers used all kinds of humour in the classroom: 65 per cent employing need-based humour and twenty-one per cent of them employing stereotype humour. Five per cent used sex-based humour, 7.66 per cent used religion-based humour and only 1.34 per cent used caste-based humour. 5. Humour was found to serve as a technique of control and as a means to educational correctiveness. 6. Teacher-respondents held that ill-humoured teachers were made the butt of humour more frequently than those possessing a good sense of humour. 7. Teacher-respondents often made use of humour to control indisciplined students, to diffuse tension, to foster social and moral values, to boost the morale of students and to create a cordial and social atmosphere in the classroom. 8. In the opinion of 98.67 per cent of teacher-respondents, humour promoted creativity and mental health. 9. About 95.11 per cent of teachers claimed that they had been successful in creating an academic atmosphere in their classrooms by introducing humour in their talks. 10. Humorous lessons worked as a coping mechanism to help students adjust to the new situations in which they are placed. 11. Women teachers seemed to have a slightly upper hand in using humour in classroom. 12. Students favoured the inclusion of humorous material written by Indian writers in their text-books. 13. Germane humour facilitated better learning.

335. BHARADWAJ, R.L., *Vocational Interests as Functions of Creativity Components, Intelligence and Socio-economic Status among College-going Students*, Ph.D. Psy., Agra U., 1978

The objectives of the study were (i) to determine and study the impact of components of creativity and intelligence upon the vocational interests of Indian adolescents at various strata of socio-economic status, (ii) to study interactions among creativity, intelligence and socio-economic status on bivariate and trivariate levels of operations while influencing the growth of vocational interests, (iii) to structure the patterns of growth to vocational interests during adolescence, (iv) to assess potentiality and usefulness of vocational interests for purposes of 'roles' and 'statuses' in the current national aspirations and venturesome planning framework, (v) to formulate basic issues to be discussed to provide a broad and integrated framework for harnessing vocational interests of adolescents, and (vi) to make a sound appraisal of higher education, in terms of 'problems' and 'prospects' of vocational adjustment of the youth.

The sample of 240 college-going students of Agra town, both boys and girls, of urban areas, graduates and postgraduates of the arts, science and agriculture faculties was selected through a multistage random sampling. The Creativity Test developed by Chauhan and Tiwari was used for measuring creativity. The split-half reliability coefficient ranged from 0.59 to 0.83. Intelligence was measured with the help of A Group Test of Intelligence for Adults by Tandon. The split-half reliability coefficient ranged from 0.59 to 0.99. Its relationship with Jalota Test of Intelligence was 0.60. A Socio-economic Status Scale (Urban) developed by

Kulshrestha was used to measure socio-economic status. The test-retest reliability was 0.87. Vocational interest was measured with the help of Vocational Interest Record developed by Shrivastava and Bansal. The split-half and test-retest reliability coefficient ranged from 0.73 to 0.83 and 0.74 to 0.86 respectively. The data were analysed with the help of factorial design analysis of variance with equal cell size followed by t-test.

The findings were: 1. Creativity components—creativity production (CP), fluency (FL), originality (ORG) and flexibility (FX) were interest-demoting in bright adolescents but remained prominently promoting in less intelligent adolescents of this category. 2. Intelligence consistently demoted vocational interests on the high level of SES. It was more interest-promoting in less creative and less interest-promoting in high creative adolescents. 3. Creativity was more interest-promoting on the middle socio-economic level in general. Its promoting capacity was negatively correlated with intelligence. 4. Intelligence on middle SES was interest-promoting. It tended to correlate with creativity positively in promotion and demotion of vocational interest on this SES level. Creativity on low SES level remained interest-demoting with less of intelligence. Intelligence was less interest-demoting with low SES as well as with low creativity. 5. Creativity remained a consistent promoting agent of vocational interest in bright adolescents of middle SES. Its promoting role was reduced both by high and low levels of SES in bright adolescents. 6. SES consistently promoted vocational interests in low creativity bright adolescents. 7. The role of creativity in promoting vocational interests in less intelligent adolescents was best facilitated by the high level of SES. The middle level of SES followed it but the low level tended to change its role. 8. SES promoted vocational interests when adolescents possessed high creativity with low intelligence. Both creativity and intelligence, when uniformly low retarded the promoting role of SES. 9. Intelligence at high creativity level promoted vocational interests the best at the middle level of SES. 10. Promotion of vocational interests by SES was facilitated the best when high creativity was accompanied by less intelligence. It became more demoting when both were uniformly high. 11. Intelligence was more vocational interests promoting in low creatives on the middle SES level. 12. SES, in less-creative adolescents, promoted vocational interests in the best manner when accompanied by brightness of intelligence. 13. Intelligence promoted agriculture interest of high creatives when they belonged to middle SES but demoted it when they belonged to high SES. Agriculture interest of low-creativity brights was promoted by SES but was demoted in the case of high creative brights. Fluency, independent of SES, promoted the interest. 14. Intelligence promoted artistic interest in highly ingenious solutions to problems (ISP) or low originality adolescents of high SES. SES independent of fluency and intelligence, in high-fluency or high-ISP adolescents promoted the interest. Artistic interest of high-SES adolescents with brightness was promoted by fluency and ISP and of high-SES ones with less intelligence was promoted by originality. 15. The interest in high creative production (CP)—high flexibility adolescents was demoted by intelligence at the high-SES level. SES demoted the interest in brights when they possessed either high originality or high flexibility. It promoted the interest in brights when they possessed high or high flexibility. Low creativity in high-SES adolescents promoted executive interest. 16. The interest was promoted by SES in brights of high creativity (CP, FX). Independent of intelligence, SES demoted the interest in low-CP adolescents. The interest was promoted by CP in less intelligent adolescents independently of SES, by fluency adolescents independently of SES. The interest was demoted by flexibility in low-SES adolescents independently of intelligence. 17. Intelligence in creativity-oriented (FL, FX, ISP) adolescents promoted the interest among adolescents of middle SES but demoted it in those of low SES. SES promoted the interest in high-fluency brights but demoted it in low-fluency brights. It promoted the interest in low originality brights but demoted it in high-originality brights. The interest was promoted by SES in high-originality–less-intelligent, but was demoted in low-originality–less-intelligent adolescents. Scientific interest was promoted by SES when high flexibility was accompanied by low intelligence or low flexibility was accompanied by brightness. Originality with high SES demoted the interest in brights but promoted it in less-intelligent adolescents. Originality with low SES promoted the interest in brights but demoted it in less-intelligent adolescents. 18. The interest was promoted by SES in low-flexibility adolescents independently of intelligence variations. Fluency promoted the interest independently of SES, and intelligence. Fluency, among brights promoted the interest independently of SES. Flexibility among brights demoted the interest at high SES and promoted it at low SES but the reverse was the case among less-intelligent adolescents. 19. At the high SES level, creativity components promoted vocational

interests in less-intelligent and demoted them in bright adolescents. Similarly, intelligence promoted vocational interests in low creatives and potency to promote interests was reduced in high creatives. At the middle-SES level, creativity, though negatively related to intelligence, promoted vocational interest. Intelligence related positively with creativity and promoted vocational interests. At the low-SES level, creativity with low intelligent demoted vocational interests. Intellgence with low creativity also demoted vocational interests. 20. Among bright adolescents, creativity was consistent in promoting vocational interests in middle-SES adolescents but SES remained a consistent promoter of vocational interests in low creatives. Among less-intelligence adolescents, creativity promoted vocational interests in middle-SES adolescents and SES promoted vocational interests in high creatives but its promoting capacity was retarded in low creatives. 21. Among high creatives, intelligence promoted vocational interests at the middle SES level but demoted them at the high level. Similarly, SES promoted vocational interests in low intelligent and demoted them in bright adolescents. Among low creatives, intelligence promoted vocational interests at middle-SES level and SES promoted vocational interests in brights.

336. BHARGAVA, I., *Development of Moral Judgment among Children at Concrete and Formal Operational Stages and its Relationship with the Variable of Home and Educational Environment,* Ph.D. Edu., Pan. U., 1986

The objectives of the study were (i) to identify moral development trends among children from the concrete operational stage (8+ to 11+ years) to the formal operational stage (12+ to 13+ years), (ii) to examine the variables of home environment with moral judgment at the concrete operational stage and the formal operational stage; (iii) to examine the variables of educational environment with moral judgment at the concrete operational stage and the formal operational stage, (iv) to determine the relative contribution of significant correlates (home and educational) of moral judgment to the prediction of moral judgment at the concrete operational stage and the formal operational stage, and (v) to determine the sex differences in moral judgment with respect to its development in the 8+ to 15+ age group.

The sample of the study consisted of students, parents and teachers. The sample of students had two subsamples. First was a sub-sample of 278 students (128 boys and 150 girls) in the age range of 8+ to 11+ at the concrete operational stage. The second sub-sample comprised 322 students (158 boys and 164 girls) in the age range of 12+ to 13+ at the formal operational stage. The parents of these 600 students formed the sample of parents. They were contacted personally. The sample of teacheres consisted of 80 teachers of the institutions from which the sample of students was collected. All these samples were selected randomly from 22 districts of north-west Madhya Pradesh. The following tools were used in the study: (i) the Sinha and Verma Moral Judgment Test (1968), (ii) the Sherry and Verma Family Relationship Inventory (1968), (iii) the Srivastava Socio-economic Status Scale (1978), (iv) the Singh School Characteristic Index (1977), (v) the Sharma School Organizational Climate Description Questionnaire (1978) for teachers, (vi) the Students Information Form, (vii) the Teacher Information Form, (viii) the Test of Moral Dilemma, and (ix) and Interview Schedule for parents. The data so collected were analysed with the help of t-test, product–moment correlation, factor analysis and step-up regression.

The findings of the study were: 1. There was a significant development of moral judgment from one age group to the next seccessive age group. 2. Mean scores on moral judgment at the formal operational stage were significantly higher than those at the concrete operational stage. 3. The measures of home variables were positively related with moral judgment at the concrete as well as the formal operational stage. These measures were parental acceptance, parental avoidance, family relationship, moral attitude of parents, socio-economic status. 4. The measures of school characteristics—teaching methods and co-curricular activities—were positively related with moral judgment at both the stages. 5. The measures of socio-economic status correlated significantly with moral judgment at concrete and formal operational stages. 6. The factor structures underlying moral judgment, home and educational environment, were similar at concrete and formal operational stages. At the formal operational stage the factors were the group factor of organizational climate, the group factor of school characteristics and the group factor of home environment. 7. Home variables were significant predictors of moral judgment in terms of mother acceptance, socio-economic status and moral attitude of the formal operation stage: home environment was a significant predictor of moral judgment with respect to socio-economic status, mother acceptance, father acceptance,

mother avoidance and the moral attitude of parents. 8. Educational variables were significant predictors of moral judgment with respect to the open climate of the school (intimacy, disengagement), the moral attitude of teachers, co-curricular activities and school traditions at the concrete stage. At the formal operational stage, predictors were humanized thrust, open climate and psycho-physical hindrance. 9. The comparison of the conjoint effect of home and educational variables at concrete and formal operational stages showed that variables which emerged as potent predictors towards moral judgment were socio-economic status, moral attitude of parents, co-curricular activities, mother acceptance, school traditions, open climate of school, mother avoidance, moral attitude of teachers and controls. 10. Children with both parents literate, children belonging to small families, and children belonging to religious families scored higher on moral judgment. 11. Children belonging to schools having morning assembly excelled in moral judgment over children of schools which did not have morning assembly. 12. Boys and girls scored equally well on moral judgment.

337. BHARGAVA, M., *A Critical Study of Attitudes of Adolescents towards Gandhian Philosophy and its Relationship with Intelligence, Socio-Economic Status and Achievement,* Ph.D. Edu., Raj. U., 1981

The objectives of the study were (i) to know the attitudes of school-going adolescents towards Gandhian philosophy with reference to truth, non-violence and love, women and Harijans, manual labour, and health and hygiene, (ii) to know the attitude of adolescents towards Gandhian philosophy in relation to their intelligence, socio-economic status and scholastic achievement, and (iii) to compare attitudes of adolescents towards Gandhian philosophy with respect to their sex, area of residence, intelligence, socio-economic status and achievement.

A sample of 600 students was drawn randomly from higher secondary schools of Bikaner division of Rajasthan. The sample included 150 urban boys, 150 rural boys and 300 urban girls. The age of the sample students ranged from 15+ to 19 years. The students were administered following: (i) the Jalota Intelligence Test; (ii) the Kuppuswamy Socio-Economic Status Scale; (iii) the Attitude Scale towards Truth; (iv) the Attitude Scale towards Non-violence; (v) the Attitude Scale towards Love; (vi) the Attitude Scale towards Health and Hygiene; (vii) the Attitude Scale towards Manual Labour; (viii) the Attitude Scale towards Women; (ix) the Attitude Scale towards Harijans.

The findings of the study were: 1. The difference between urban and rural boys was not significant for their attitude towards the Gandhian tenets of truth, love, health and hygience and women. But the differences were significant for tenets concerning non-violence, manual labour and Harijans. 2. The difference between the scores on attitude towards Gandhian philosophy between urban boys and urban girls was not significant for tenets concerning truth, non-violence, love, health and hygiene, and manual labour. But the differences between the two groups were significant concerning women and Harijans. 3. In the case of the comparison between the attitude of rural boys and urban girls towards Gandhian philosophy, the results revealed that differences were not significant for tenets concerning love, health and hygiene, manual labour and Harijans. But the differences were significant for tenets concerning truth, non-violence and women. 4. Comparison of adolescents with high intelligence and low intelligence showed that differences in scores on attitudes towards truth, love, women, Harijans, health and hygiene and manual labour were not significant. But the difference between the two groups was significant for attitude towards non-violence. 5. Comparison of adolescent grops formed on the basis of socio-economic status showed that the differences were not significant in their attitude towards truth, non-violence, love, women, Harijans, health and hygiene and manual labour. 6. Comparison between adolescent groups formed on the basis of achievement showed that differences were not significant for attitude towards truth, love, women, Harijans and manual lobour. But these differences were significant for their attitude towards non-violence, health and hygiene. 7. The correlation between the components of attitude scores of Gandhian philosophy and intelligence showed that the correlation coefficient was not significant in the case of any of the tenets of Gandhian philosophy. 8. The relationship between the components of attitude scores of Gandhian philosophy and socio-economic status scores showed that the correlation coefficient was significant only in the case of one tenet—non-violence. It was positive. 9. The relationship between the components of attitude scores of Gandhian philosophy and achievement of pupils showed that the correlation component was significant and positive in the case of two tenets, viz., attitude towards women and

attitude towards Harijans. In the case of the rest of the components, it was not significant.

338. BHASKARAN, K., and SHUKLA, T.R., *A Socio-psychiatric Study of Maladjusted School-going Children of Ranchi Hospital for Mental Diseases, Ranchi,* 1981 (ICSSR financed)

The objective of the study was to carry out a socio-psychiatric survey of maladjusted school-going children of Ranchi.

The sample of 1450 adolescent students (791 boys and 659 girls) was selected for the purpose of screening by the stratified random sampling method from various schools at Ranchi. These students were given a psychiatric questionnaire to find out any psychiatric symptom present and an intelligence test. For the purpose of the study, 120 students (60 boys and 60 girls) scoring highest on the psychiatric questionnaire were selected and a matched group of 60 normal boys and 60 normal girls was also studied using the same tools and techniques. The tools used were: (i) An interview schedule to elicit information related to the necessary identifying data: onset of illness, physical and mental condition, social and psychological atmosphere in the family, relationship with parents, school adjustment, various disorders of cognitive functions, guilt regarding masturbation, resentment of authority, anger and ability to sustain interpersonal relationships, (ii) an adapted Indian version of the Thematic Apperception Test (Dr Uma Choudhary, 1967) to investigate different factors of personality and explore at same depth unconscious and conscious wishes, conflicts, complexes and emotions, etc. The data were analysed by calculating percentages of normal and abnormal subjects on various items. Group differences were worked out by using a critical ratio.

The major findings were: 1. The majority of adolescents suffered from anxiety neurosis (female, 49.33 per cent; Male, 38.66 per cent of the abnormal group only). 2. A greater number of females suffered from anxiety neurosis, hysterical neurosis and hypochondriacal neurosis in comparison with males. 3. A greater number of males suffered from depressive neurosis and transient situation disturbances. 4. About mood, it was observed that abnormal groups (both male and female) scored significantly higher on anxiety, whereas normal females were found to be least anxious. 5. Depression in order of frequency was highest in abnormal females compared to the other three groups. 6. Apathy was expressed more by abnormal males and differences were found to be significant. 7. A higher number of males and females in the abnormal group felt unwanted during their childhood, suffered from frequent attacks of physical illness, felt that they were loved less than other brothers and sisters and felt unhappy at home. 8. A greater number of abnormal subjects in both groups (male and female) treated their father and mother with fear, indifference and belligerence; father was perceived as irresponsible, hating, punishing, unsympathetic and non-controlling, whereas most of the normal subjects treated their parents with respect and love and perceived their parents as loving and accepting also. 9. With regard to relationship with their siblings, subjects in the abnormal groups experienced jealousy, indifference, fear and hatred in relation to their brothers and sisters, whereas normal subjects had respectful and affectionate relationship with their siblings. 10. Subjects of abnormal group experienced their school environment as boring and distasteful and treated their teachers with fear, indifference, defiance and hatred, whereas most of the normal subjects treated their teachers with respect and love. 11. A large number of abnormal subjects showed a disinclination to study and to attend school. 12. Abnormal male subjects used drugs occasionally whereas normal and abnormal females never used drugs. 13. A large number of abnormal subjects from both the groups experienced marked or mild anxiety as reaction to physical changes. 14. Guilt regarding masturbation was observed in the abnormal males whereas normal males and two groups of females showed no anxiety or very little anxiety regarding masturbation. 15. Resentment to authority was seen mostly in the abnormal male group, whereas most of the normal males and two groups of females showed very little or no resentment to authority. 16. The majority of the normal students considered themselves as average, whereas abnormal males and females considered themselves to have inferior intelligence in comparison with normal subjects. 17. The majority of the abnormal males and females felt inferior with regard to level of aspiration. 18. Most of the fantasies in all the four groups were found to be connected with achievement. 19. Sexual day-dreams were found to be significantly higher among normal females as compared to abnormal females. 20. Frequency of sexual fantasies among normal males and abnormal males did not differ significantly. 21. Abnormal subjects in both male and female groups showed a significantly higher need for love, dependency, sex, succorance, consolation and revenge; on the other hand, normal subjects had scored

higher on need for achievement. 22. Abnormal subjects scored significantly higher on various conflicts, whereas scores of normal subjects were very low on all the conflicts. 23. Abnormal subjects showed significantly higher anxiety about illness, disapproval, loss of love and helplessenss in comparison with normal subjects. 24. On both the defence mechanisms (reaction formation and rationalization) scores of the abnormal subjects in the two groups were significantly higher. 25. Abnormal subjects were pessimistic in their outlook and this finding was statisticaly highly significant.

339. BHATIA, K.T., *The Emotional, Personal and Social Problems of Adjustment of Adolescents under Indian Conditions with special reference to Values of Life,* Ph.D. Edu., Bom. U., 1984

The aims of the study were (i) to inquire into the social and personal background of the junior and senior college-going students of Greater Bombay, (ii) to study the nature of problems faced by adolescents, of both sexes, in their inter-personal relationships in the college, (iii) to find out the nature of problems that adolescents faced in their daily lives relating to the social, personal and emotional adjustments at home and at college, (iv) to find out the attitudes of adolescents towards their country, (v) to obtain the views of adolescents about intercommunal marriages and the dowry system, and (vi) to investigate into the nature and amount of sex instruction that adolescent received and their attitude to sex instruction.

Random sampling was used for the selection of the sample. To collect the relevant data, the survey method was used. The survey was conducted in twelve prominent arts, science and commerce colleges in the city of Greater Bombay. The sample consisted of 830 adolescents (340 boys and 490 girls) in the age group of 15 to 20 years. The tools employed in the study were questionnaires and interview schedule, and group discussion. The data were analysed by using descriptive and inferential statistics, viz., percentages, chi-square test, phi-coefficient, contingency-coefficient and gamma correlation.

The major findings of the study were: 1. Adolescents were sometimes treated like adults and sometimes like children. 2. The girls were more liable to be treated like children, and were not granted the freedom of thought and behaviour due to an adult. 3. It was found that family atmosphere was more tense and unhappy for girls in the Indian environment. 4. In many families parents were more favourably inclined towards boys. 5. A large majority of the adolescents preferred coeducational institutions and mixed parties with members of both sexes. 6. Girls were not permitted to stay out late by their parents. 7. A large majority of the boys and girls preferred to have friends of the opposite sex. 8. Many adolescents expresssed their anger at the corruption rampant in public and political life in India. 9. Quite a large majority of adolescents were influenced by their friends in terms of dress, outings, attitudes and ideas. 10. Boys seemed to receive more pocket-money than girls. 11. Adolescents claimed that the greater freedom at college gave them more self-confidence. 12. A large majority of adolescents stated that they were proud of being Indians, mainly because of their rich cultural heritage and strong family ties. 13. A large majority expressed the desire to have marriage by choice. 14. Quite a large number of adolescents had gained sex education through books, magazines, movies and friends. 15. Adolescents were hesitant to favour sex instruction in schools.

***340.** BHATTACHARYYA (CHATTERJEE), A., *A Cross-Sectional Study on Some Differential Aptitudes of Secondary School Students,* Ph.D. Edu., Kal. U., 1986

The main purposes of the study were (i) to determine the extent of differential aptitudes, viz., verbal reasoning, English usage, abstract reasoning and scientific aptitude of the students of Class VIII (just promoted to class IX), (ii) to determine the significance of differences in mean scores in the above three areas—sexwise and stratawise, (iii) to determine the prognostic values in those four areas on the achievement of the students in the respective school performances.

A Differential Aptitude Test (Verbal Reasoning) and an English Usage Test were developed for students of Class VIII (just promoted to class IX). An Abstract Reasoning Test was adopted. Ghosh's Scientific Aptitude Test was also used. The sample included 420 boys and girls (just promoted to Class IX), reading in 11 schools in urban and rural areas in different districts of West Bengal. Measures of central tendency, dispersion, skewness, kurtosis, F-test, t-test, correlation, etc. were used.

The major findings were: 1. Boys showed better performance in verbal reasoning than girls. Urban students showed superiority in verbal reasoning over rural stu-

dents. Urban boys did not show better performance in verbal reasoning than urban girls. 2. There existed a significant difference in verbal reasoning between rural boys and girls. 3. Urban boys were not superior in verbal reasoning to rural boys. 4. Boys showed better performance in English usage than girls. Urban students showed superiority in English usage over rural students. Urban boys did not show better performance in English usage than urban girls. 5. There existed a significant difference in English usage between rural boys and girls. 6. Boys showed better performance in abstract reasoning than girls. Urban students did not show superiority in abstract reasoning over rural students. Urban boys did not possess better proficiency in abstract reasoning than urban girls. 7. There was a positive correlation between scores on verbal reasoning and Bengali, English usage and English, abstract reasoning and mathematics, scientific aptitude and physical science.

*341. BHATTACHARJEE, M., *The Needs, Frustration, Frustration-intoleration and Mental Health of Adolescent Girls Reading in Certain Urban Secondary Schools in West Bengal*, Ph.D. Edu., Kal. U., 1985

The main objectives of the inquiry were (i) to study the extent of the possession of some needs by secondary schoolgirls, (ii) to study the extent of frustration felt by them in regard to the needs under study, (iii) to study the extent of frustration-intoleration possessed by them in regard to the needs, (iv) to study the pattern of growth of the needs along with frustration and possession of frustration-intoleration in regard to them during adolescent years (13, 14, 15,16 years), (v) to find out whether there was any significant relationship between socio-economic level and the needs, their frustration and frustration-intoleration in regard to them, (vi) to study the extent of mental ill-health existing among the girls for inquiring about the relationship existing between mental health and extent of the possession of the needs (under study), their frustration and frustration-intoleration in regard to them, (vii) to find out the relationship between social intelligence and the needs, their frustration and frustration-intoleration in regard to them, and (viii) to develop tests for measurement of needs, frustration and frustration-intoleration. Sixteen hypotheses were tested.

Five schools of three urban areas of Nadia and 24 Parganas were selected and 804 (Class VIII, IX and X) girls were drawn. An Adolescent Girls' Needs, Frustration and Frustration-intoleration Questionnaire, an Adolescent Girls' Needs, Frustration and Frustration-intoleration Picture Projection Test, Sen's Neurotic Questionnaire (F-test), Roy's Social Intelligence Test and Kuppuswamy's SES Scale were used.

Some of the major conclusions were: 1. Materialistic, sexual relationship, security and independence needs were high. Not only this but the extent of frustration in regard to these needs was also high. 2. Extent of frustration-intoleration of these five needs was high. 3. Idealistic and altruistic needs were low. 4. Incidence of mental ill-health was high. 5. There was high positive relationship between materialistic, sexual relationship, security and independence needs and mental ill-health. 6. There was a high positive correlation between frustration-intoleration and mental ill-health. 7. There was negative relation between idealistic and altruistic needs and mental ill-health. 8. The less the frustration of idealisic and altruistic need, the more the mental ill-health and vice versa. 9. There was a negative relationship between mental ill-health and frustration-intoleration of the idealistic and altruistic need.

342. BHATTACHARYA, B., *An Inference on the Mathematical Model of Life Adjustment Attitude Dispositions of Bengalee Students (of Calcutta) of School-leaving Class*, Ph.D. Edu., Cal. U., 1985

The objectives of the study were (i) to try and verify the utility of using a more sophisticated procedure of attitude-scale construction, (ii) to select any method by which an investigator could venture into framing a mathematical model on the basis of empirical findings in the field of attitude measurements, (iii) to describe the inter-relationships of items in an attitude questionnaire, and (iv) on the basis of the model to make some inferences about hypothetical variables underlying attitude formation.

In order to select enquiry-areas and valid items for the purpose of the investigation, after surveying contemporary literature of high relevance, the following four attitude inventories were finally selected: Minnesota Personality Scale, Minnesota Counselling Inventory, Calcutta Social Morale Inventory, and Life-Environment Adjustment Inventory. After a careful scrutiny of above inventories, 150 valid items, for both boys and girls, were selected and grouped under the following enquiry areas: the nature of physical health, the

nature of temperamental peculiarities, the relation with parents, perception about family environment, sociable nature, preference in social-life situation, perceptions about educational policy and practices, perceptions about law enforcement and judicial policies, and perception about economic conditions and policy. Altogether 135 attitude statements written in simple English language with proven stimulating capacity in yielding attitude responses were finally set up to structure the inventory. Altogether 270 students of school-living class were selected consisting of boys and girls in equal proportion from ten randomly selected secondary schools. Multiple groups solution after Harman was used to extract factor groups from a correlation matrix of 135 attitude statements. The factors obtained were health, family relation, social relation and societal relations. The inventory with a 'Yes/No' scale was administered to a representative population of students (N = 520), well-matched with a Factor Analysis sample (N = 270). The responses of these 520 students were treated by the Latent Structure Analysis method to obtain a 39-item shortend equivalent inventory, inclusive of the four obtained factors.

The major outcomes were: 1. A scientific tool with a smaller number of highly valid attitude items could be constructed by the Latent Structure Analysis method in lieu of the Factor Analysis method. 2. It was established that the short attitude inventory could be used to explore the attitude of a student population with scientific parsimony as a dependable substitute for the original lengthy one.

*343. BHATTACHARYA, U., *A Technological Approach to Preventive Teaching for Alleviation of Learning Disabilities in Life Science,* Ph.D. Edu., Kal. U., 1985

The main aim of the study was to try out a technological method of preventive teaching for the alleviation of learning disabilities of the students in life science. The hypotheses were: (1) the experimental groups taught by audio-visual materials and techniques would achieve significantly more than the controlled groups taught by the conventional method. (2) Learning through audio-visual materials and techniques would cause more prolonged retention than that by the conventional method. (3) The experimental groups would show more interest in the lesson than the controlled groups.

The study was conducted in two parts, viz., (i) diagnosis of the patterns of disabilities of students in the unit, cell division and its significance in life science, and (ii) preventive measures taken to check the development of learning disabilities in those areas with the help of improved teaching methods. A diagnostic test for the unit was developed. The sample included 300 students selected from twelve schools in West Bengal. The brightest students were kept outside the survey. A Students Performance Chart was prepared. Patterns of disabilities were identified through a diagnostic test. The experiment was conducted in four schools (class X students) with experimental and controlled groups in each school. Two groups were treated with separate methods of teaching. The effect of experiment was statistically analysed by analysis of covariance.

Some of the major findings were: 1. All the three hypotheses were retained. 2. Eighty major patterns of disabilities in the content area were identified.

344. BHUSHAN, L.I., *Personality Factors and Leadership Preference,* Ph.D. Psy., Bhagalpur U., 1968

The main purposes of the study were to explore the relationship, if any, between certain personality variables and preference for an authoritarian or democratic type of leadership, and to ascertain the influence of the political set-up and some personal factors upon leadership choice. The hypotheses were: (1) There will be a substantial negative relationship between preference for a democratic type of leadership and authoritarianism, intolerance of ambiguity, extraversion and neuroticism. (2) There will be a substantial positive relationship between ascendance and a preference for a democratic type of leadership.

A random sample of 400 undergraduate male students belonging to middle and lower middle income groups of families was drawn from a constituent college of Bhagalpur University. Age, sex, education and economic status were controlled. A 5-point Likert type Leadership Preference Scale (LPS) was developed in Hindi through tryouts and item-analysis. The final scale included fifteen positively and fifteen negatively worded items. Reliability (test-retest and split-half) and validity (content and construct) of the scale were determined. Along with the LPS, a Personal Data Sheet, Hindi versions of California F Scale, Allport and Allports' A-S Reaction Study, Budner's Scale of Intolerance of Ambiguity and Eysenck's Personality Inventory were used. Mean, the product–moment correlation, chi-

square test, t-test, etc., were employed.

The major findings were: 1. The personality factors were substantially related to the leadership preference. 2. Preference for a democratic type of leadership was negatively related to authoritarianism, intolerance of ambiguity and neuroticism and positively related to ascendance and extraversion. 3. Subjects preferring a democratic type of leadership were relatively ascendant, extravert, non-authoritarian, tolerant of ambiguity and emotionally stable, whereas those who preferred an authoritarian leadership style were more authoritarian, submissive, intolerant of ambiguity, introvert and neurotic. 4. Personality factors exerted a directive influence upon individual's choice of an authoritarian or democratic type of leadership. 5. The democratic political set-up of the country did influence the subjects' leadership preference score. The percentage of subjects preferring a democratic type of leadership was significantly higher. But factors like residence in rural or urban areas, age, stay in the college and financial status did not make any significant difference to the leadership preference. 6. The LPS was highly reliable and valid.

*345. BHUSHAN, R., *Certain Psychological Correlates of Belief in Superstitions,* Ph.D. Psy., Bhagalpur U., 1985

The main purpose of the research was to study certain psychological correlates of superstition among college students. Seven hypotheses were tested.

Four hundred college students (200 male and 200 female) were drawn from two constituent colleges of Magadh University located at Arrah town in Bihar through a quota sampling technique, on the basis of four criteria (age, education, residence and religion). The sample had four sub-groups, each consisting of 100 cases. A Personal Data Sheet, a Superstition Scale, Bhushan's Religiosity Scale, Bhushan's Indian F-Scale, Eysenck Personality Inventory (1964) and Amal's Situational Test of Intolerance of Ambiguity were used. All test materials were in Hindi. Reliability (test-retest and split-half) and validity (content and construct) of Superstition Scale were determined. Mean, SD, One-Way ANOVA, t-test, product-moment correlation, etc. were used.

The main conclusions were: 1. Superstitions were widespread among college students. 2. Significant individual differences were found regarding belief in superstitions. 3. Female college students and those reading in the arts faculty were significantly more superstitious than their male college students and those reading in the science faculty respectively. 4. Personality and attitudinal factors were closely related to belief in superstitions. Factors like intolerance of ambiguity, neuroticism, authoritarianism and religiosity were positively related to superstition, while extraversion had no significant relationship with it.

*346. CHAKRABARTI, S., *A Critical Study of Intelligence, Socio-economic Background of the Family, Educational Environment in the Family, and Quality of Schools in Children of Standard V, A Case Study of some Schools in and around Pune,* Ph.D. Edu., Poona U., 1988

The major objectives of the study were (i) to study the effect of socio-economic background on the performance of students of standard V from rural and urban areas, (ii) to find out whether the educational environment in the family affected the school quality, (iii) to find out the relationship between academic achievement and quality of school, and (iv) to study the effect of mental ability of students on their academic achievement.

The study was conducted in 12 schools in and around Pune. The sample consisted of 500 students, both boys and girls from rural and urban areas. The data were collected with the help of the Socio-economic Status Scales (urban and rural) by S.P. Kulshrestha, Educational Environment in the Family-questionnaire by A.S. Wadkar, a Tool for Evaluating Primary Schools in Maharashtra, Achievement Tests in English, Arithmatic and general knowledge developed by the researcher, and Progressive Matrices for measuring mental ability of children. The information regarding family background, socio-economic status and educational environment of families was collected through home visits. Other data were collected by administering the tools to students in twelve schools. The collected data were analysed by computing means, t-values and coefficients of correlation.

The major findings of the study were: 1. Students from urban areas were found to be significantly better than students from rural areas. 2. Students from private schools scored better than zilla parishad and corporation schools. 3. Students from C class (as suggested by

the Gradation of School Test) scored better than D and E Classes of schools. 4. Students of Marathi-medium schools scored better than those of English-medium schools. 5. There was no significant difference in the achievement of boys and girls.

347. CHATTERJEE, L., *The Problem of Labelling in the Psychology of Conservation,* Ph.D. Psy., DHSGVV, 1973

The major objectives of the study were (i) to trace how far labels were helpful in forming links to aid abstract thinking, (ii) to find out how the simultaneous visual presentation of two objects with identical language labels reinforced the concept formed by the linguistic label alone and helped better and quicker generalization, and (iii) to find out how the instructions (containing verbal labels), removed the false perceptual cues which helped in abstract thinking. The ultimate objective of the investigation was to understand how labels worked in conservation, which is a simple type of abstract thinking.

The sample consisted of 300 students between 4 and 7 years old studying in different KG/primary schools of Sagar and Nagpur. They were divided into three age groups, viz: 4 to <5 years, 5 to <6 years and 6 to 7 years. Three sets of experiments were conducted.

In the first series of experiments, two dolls of identical appearance but with different names were used. They were presented before the subjects one by one, changing their appearance, status and situational placement. While changing the variables, the experimenter asked the subject the same questions. At the end of the series of experiments the subject was told to answer the same questions in the absence of the dolls. The purpose of these experiments was to find out the effect of interaction between perception and symbols. The second series of experiments consisted of another set of dolls of different appearances but of identical names. The experimental procedure was the same as in case of the first series of experiments. These experiments illustrated the effect on conservation when the label was common, but appearance was different. The third series of experiments used only on doll, without a name. The subject had to answer the questions only on the basis of the appearance of doll or its image. Other variables were the same as in the case of the previous experiments. These experiments were designed to make a comparative study of conservation in the presence and absence of labels.

The findings of the study were: 1. A label was found to act like a continuous thread which strung together the different phases of objects into a single unit. This function of lebels was found to operate even in the absence of objects, thus promoting abstract thinking. 2. It helped the child to remember the previous actions done in the presence of the object. 3. It helped to form a unity in the previous actions and events. 4. The label acquired a thing-like quality from the objects and formed generalizations. But this was found possible only up to the age of six. 5. It was found to serve as a screen between false perceptual cues and thought.

348. CHATTERJI, P.S., *A Comparative Study of Personality, Intelligence and Achievement Motivation of Students in Different Academic Groups,* Ph.D. Edu., Pat. U., 1983

The objectives of the study were (i) to compare the personality, intelligence and achievement-motivation of students studying in different academic groups at the +2 stage, (ii) to find out the academic-group differences among high scorers in each of these three variables, (iii) to find out the academic-group differences among low scorers in each of these three variables, and (iv) to compare the personality, intelligence and achievement-motivation of successful and unsuccessful students in different academic groups at the +2 stage.

A sample of 760 male students studying in four academic groups, arts (N = 190), science (N = 180), commerce (N = 190) and agriculture (N = 200) of class XII, was drawn from nine different recognized institutions of the Varanasi region by using the purposive incidental sampling method. Personality dimensions were measured by a Hindi version of EPI (Eysenck Personality Inventory Form A) adopted by Srivastava (1976); Jalota's Group Test of General Mental Ability was used to measure intelligence. Achievement-motivation was measured by the test developed by Gandhi and Srivastava (1980). Academic achievement was determined on the basis of subjects' performance at the board examination. Academic group differences in personality, intelligence and achievement motive scores were assessed by applying t-test of significance of difference between means. Successful and unsuccessful students in different academic groups were also compared on the three variables by applying the t-test.

The major findings were : 1. Commerce and agricul-

ture students obtained significantly higher extraversion scores in comparison to those in the arts and science groups. 2. Students of the agriculture, arts and science groups attained significantly higher neuroticism scores in comparison with those in the commerce group. 3. Out of the four academic groups, science students were the most intelligent and arts students the least. 4. Science students achieved significantly higher verbal factor and total intelligence scores in comparison with those in all other academic groups. They were significantly superior in numerical factor of intelligence in comparison with arts and commerce students. Furthermore, they were significantly better than students in arts and agriculture groups on the reasoning factor of intelligence. 5. Commerce students ranked second in intelligence out of the four academic groups and were significantly more intelligent than those in arts on all the factors of intelligence. 6. The agriculture group ranked third in intelligence and was significantly better than the arts group on all factors of intelligence. 7. Science students were significantly higher in achievement-motivation in comparison with those in agriculture and the arts groups. 8. Students of commerce and agriculture attained a significantly higher mean achievement motive score in comparison with those in arts. 9. Scores on the extraversion scale in the commerce group were significantly higher on this dimension of personality in comparison with scores of students in the science and arts groups, whereas scores on the extraversion scale in the agriculture group were significantly higher than the scores of the arts group. 10. Score on neuroticism in the agriculture and arts groups were significantly higher in science and commerce groups. 11. Scores on intelligence test in science group were significantly higher than those in all other academic groups with respect to all factors of intelligence, namely, verbal, numerical and reasoning. 12. Scores on achievement-motivation of students of science or commerce were significantly higher than those of the other groups.

349. CHATURVEDI, S.C., *Effects of State/Trait Anxiety and Field Independence upon Cognitive Competence,* Ph.D. Edu., Utkal U., 1981

The objectives of the study were (i) to measure teachers' characteristics with regard to two major but different characteristics—anxiety and cognitive style, (ii) to observe if these two characteristics had any direct effect on their competencies, especially, on academic competencies, (iii) to observe what type of academic competencies or cognitive competencies were more affected by such factors, and (iv) to find out whether state/trait anxiety and field dependence factors identified as significant characteristics of teachers had an independent effect or interacted in their influence which would again differ, depending upon the nature of the task.

The study was divided into three sections for the purpose of investigation and analysis, each using a 2×2 factorial design. Section I dealt with the effects of state/anxiety and field dependence on cognitive measures. In Section II, the effects of trait-anxiety and field independence on a series of cognitive measures were studied, and, in Section III, the effects of state-anxiety and trait-anxiety on cognitive competence were included for investigation. The total number of subjects were 283 male graduate teachers attending the teachers' training course in the Regional College of Education, Bhubaneswar. They were all working teachers having put in at least five years in the teaching profession. The results were analysed using means and standard deviation. F-test and t-test were used to draw conclusions.

The major findings were: 1. Teachers who were field-independent performed significantly better in each of the measures of cognitive competence than field-dependent teachers. 2. Low state-anxious teachers performed significantly better in each of the measures of cognitive competence than hign state-anxious teachers. 3. At low level of state-anxiety there was no difference between field-dependent and field-independent teachers, whereas at high level of state-anxiety, field-independent teachers performed significantly better than field-dependent teachers in each of the cognitive measures. 4. Teachers who were field-independent performed significantly better in each of the measures of cognitive competence than field-dependent teachers. 5. Low trait-anxious teachers performed significantly better in each of the measures of cognitive competence than high trait-anxious teachers. 6. At low level of trait-anxiety, there was no difference between field-dependent and field-independent teachers, whereas at high level of trait-anxiety field-independent teachers performed significantly better than field-dependent teachers in each of the cognitive measures. 7. High state-anxious teachers performed significantly better in each of the measures of cognitive competence than low state-anxious teachers. 8. Low trait-anxious teachers performed significantly better in each of the measures of cognitive competence than high trait-anxious teachers. 9. There was an ordinal interaction between state/

trait-anxiety of teachers in relation to each of the cognitive measures. In other words, the low trait-anxious and the low state-anxious group of teachers performed significantly better than the high trait-anxious group in relation to each of the cognitive measures.

350. CHAUBE, A., *A Study of some Personality Traits and Pressing Problems of Junior High School Students,* Ph.D. Edu., Mee. U., 1982

The objectives were (i) to analyse the personality traits of junior high school students, (ii) to ascertain the problem areas of junior high school students, (iii) to study the problem areas with regard to the personality factors of junior high school students, and (iv) to identify the pressing problems of junior high school students. The hypotheses were: (1) There is a significant difference between boys and girls with regard to their personality traits. (2) Junior high school students of classes six, seven and eight have different personality factors. (3) There is a significant difference between boys and girls in their problem areas with regard to personality factors. (4) There is a significant difference among sixth, seventh and eighth class students in their problem areas with reference to personality factors.

In the study, the multi-stage cluster sampling method was used. The primary sampling unit was the institution, the secondary sampling units were boys and girls, and the ultimate units selected were the VI, VII and VIII classes of each sex separately. The sample comprised 2032 students (946 boys and 1086 girls). Personality was measured with the help of the High School Personality Questionnaire (Hindi Version) by S.D. Kapoor and Sharadamba Rao (originally prepared by R.B. Porter and R.B. Cattell). The Students' Problem Checklist prepared by the investigator was also used for finding out the pressing problem. The data were analysed by using chi-square technique.

The findings were: 1. The girls were more critical and had lower mental capacity. They were unable to handle abstract problems, more emotionally mature, stable, constant in interests and calm. They did not obscure the realities of a situation, were adjusted to facts, more silent, introspective, full of cares, concerned, reflective, non-communicative, given to stick to inner values, slow and cautious as compared to boys. On the other hand boys were more stoical, complacent, deliberate, not becoming easily jealous, self-effacing, talkative, cheerful, happy-go-lucky, frank, expressive, reflecting the group, quick, alert, unsentimental, self-reliant. They took responsibility, acted on practical, logical evidence, kept to point and did not do well on physical disabilities. 2. As the boys grew from class VI to VIII, the intensity in traits, viz., undemonstrativeness, deliberativeness, inactiveness, stodgyness, enthusiasm, needlessness, and happy-go-lucky nature increased. They become less shy, timid, threat-sensitive, apprehensive, self-reproaching, insecure, worrying, troubled, tensed, frustrated, driven, overwrought, and fretful and more relaxed, torpid, unfrustrated, composed, forthright, unpretentious, self-assured, placid, secure, and complacent. 3. As girls grew from class VI to VIII, a decrease in the intensity was observed in the case of the traits of reservedness, aloofness, stiffness, detachedness and criticalness. They became more warm-hearted, outgoing, easy-going, participating, insightful, fast-learning or bright, undemonstrative, deliberate, inactive, stodgy, tender-minded, sensitive, dependent and over-protected, but became less affected by feelings, emotionally less stable, easily upset, changeable, excitable, impatient, demanding, overactive, unrestrained, disregarding rules, astute, and artful. They became more controlled, exacting in will power, socially precise, compulsive, follow self-image, tense, frustrated, driven, overwrought, fretful, relaxed, tranquil, torpid, unfrustrated and composed. 4. The most dominant area of problems of boys and girls was money, work and the future; the second dominant area was self-centred concerns, and the third, health and physical development. 5. The most dominant area of problems of VI, VII and VIII class boys was in the area of money, work and the future; the second area was school for VI class and self-centred concerns for the VII and VIII classes; third was self-centred concerns for VI class and school for VII and VIII classes. 6. The most dominant area of problems of class VI girls was health; physical development of class VII; and money, work and future of the class VIII; the second area for class VI was relations with people in general; self-centred concerns for class VIII; and the third area for class VI was money, work, and future; for class VII health and physical development; and school for class VIII girls. 7. The most pressing problems of the total sample were: anxiety regarding securing good marks in examinations, parents taking too many pains for them, feeling much too ashamed for doing something wrong, anxiety about attaining success in life, losing one temper quite often, wanting to plan for the future, finding it hard to forget certain mistakes, anxiety about what happens after death, parents' worries due to paucity of money, and

having a headache quite often. 8. Pressing problems of junior high school boys were parents taking too many pains for them, anxiety regarding securing good marks in examinations, feeling much too ashamed for doing something wrong, wanting to plan for the future, parents' worries due to paucity of money, anxiety about attaining success in life, having a bad handwriting, having no vehicle at home, wanting to earn money, and losing one's temper quite often. 9. Anxiety regarding securing good marks in examinations, feeling quite often as if one has no home of one's own feeling much too ashamed for doing something wrong, parents taking too many pains for them, having a headache quite often, finding it hard to forget certain mistakes, anxiety about attaining success in life, losing one's temper quite often, anxiety about what happens after death and feeling weepy over petty things—these were the pressing problems of junior high school girls. 10. Parents taking too many pains for them, anxiety regarding securing good marks in examinations, having bad handwriting, losing one's temper quite often, feeling too shy, anxiety about attaining success in life, feeling much too ashamed for doing something wrong, feeling perturbed in a crowd, being hurt by others' remarks very easily—these were the pressing problems of class IV boys and girls. 11. The pressing problems of class VII boys and girls were: having no vehicle at home, parents taking too many pains for them, anxiety regarding securing good marks in examinations, anxious about getting success in life, wanting to plan for future, losing one's temper quite often, finding it hard to forget certain mistakes, having a bad handwriting, and getting headache quite often. 12. Parents taking too many pains for them, anxiety about attaining success in life, anxiety about what happens after death, anxiety about securing good marks in examinations, feeling much too ashamed for doing something wrong, wanting to earn money, and feeling perturbed in crowds—these were the pressing problems for class VIII boys and girls. 13. Students who appeared to be affected by feelings, emotionally less stable, easily upset and changeable experienced more problems in the area of health and physical development in comparison with those who were emotionally stable, calm, mature, with ability to face reality. Conscientious, persistent, moralistic and staid students faced less problems in the area of health and physical development than those who appeared to be disregarding rules and expedient. Tensed, frustrated, overwrought and fretful students experienced more problems in the areas of health and physical development, and home and family, in comparison with relaxed, torpid, unfrustrated and composed students. 14. Reserved, detached, critical, aloof, and stiff boys faced more problems in the area of home and family and relations with people in general than those who tended to be warm-hearted, outgoing, easy-going and participating. Emotionally stable, mature and calm students faced more problems in the areas of money, work and the future and self-centred concerns as compared to those who were affected by feelings, emotionally less stable, changeable and who would be easily upset. Disregarding rules and expedient boys faced more problems in the area of health and physical development in comparison with conscientious, persistent, moralistic and staid boys. Tense, frustrated, overwrought and fretful boys faced more problems in areas of health and physical development and home and family in comparison with relaxed, tranquil, torpid, unfrustrated and composed boys who had more problems in the area of money, work, and the future. 15. Affected by feelings, emotionally less stable, easily upset and changeable girls faced more problems in the area of health and physical development while those who were emotionally stable, calm, mature and faced reality, faced more problems in the areas of home and family and relations with people in general. Sober, taciturn and serious girls faced more problems in the area of school, while enthusiastic and happy-go-lucky girls faced more problems in the area of relations with people in general. Tense, frustrated, overwrought and fretful girls faced more problems in the area of health and physical development, while relaxed tranquil, torpid, unfrustrated and composed girls faced more problems in the area of self-centred concerns.

*351. CHAUHAN, S.S., *A Comparative Study of the Achievement Motivation of Scheduled Tribe and Scheduled Caste Students of Himachal Pradesh in relation to Their Intelligence and Socio-Economic Status*, Dept. of Education, HPU, 1984 (UGC financed)

The objectives of the study were (i) to study the difference in the achievement motivation of scheduled-tribe and scheduled-caste students, (ii) to study the difference in the achievement motivation of boys and girls, (iii) to find out the interactional effect of community (scheduled tribe and scheduled caste) and sex in relation to the achievement-motivation of students, (iv) to study the difference in the achievement-motivation of

students at different levels of intelligence, e.g. high, middle and low, (v) to find out the difference in the achievement-motivation of scheduled-tribe and scheduled-caste students at different levels of intelligence, (vi) to find out the interactional effect of community and intelligence in relation to the achievement-motivation of students, (vii) to find out the interactional effect of sex and intelligence in relation to the achievement-motivation of students, (viii) to study the triple interactional effect among community, sex and intelligence in relation to the achievement-motivation of students, (ix) to find out the difference in the achievement-motivation of students at different levels of socio-economic status, viz. high, middle and low, (x) to study the difference in the achievement motivation of scheduled-tribe and scheduled-caste students at different levels of socio-economic status, (xi) to find out the interactional effect of community and socio-economic status in relation to the achievement motivation of students, (xii) to find out the interactional effect of sex and socio-economic status in relation to the achievement-motivation of students, and (xiii) to find out the triple interactional effect among community, sex and socio-economic status in relation to the achievement-motivation of students.

The study was conducted on 600 students (300 scheduled tribe and 300 scheduled caste) studying in grade X. Scheduled-tribe students were selected randomly from the three main tribes, namely, Gaddis, Kinnauras and Lahaulas from three districts of Chamba, Kinnaur and Lahaul-Spiti of Himachal Pradesh. Scheduled-caste students were selected from the schools of five districts, namely, Bilaspur, Hamirpur, Kangra, Mandi and Shimla. The necessary data were collected by using, (1) the Socio-economic Status Scale for Rural Population by Udai Pareek and G. Trivedi, (2) the Group General Mental Ability Test by S. Jalota, and (3) the Achievement Values and Anxiety Inventory by Prayag Mehta. Three categories of students were formed with regard to intelligence and socio-economic status in the following manner: (a) students whose intelligence and socio-economic status scores were equal to (Mean $-\frac{1}{2}$ standard deviation) or more than this were designated as high intelligence and high socio-economic status group respectively, (b) students getting intelligence and socio-economic status scores equal to (Mean $+\frac{1}{2}$ standard deviation) or less than this were classified as low intelligence and low socio-economic status group respectively, and (c) students whose intelligence and socio-economic status scores fell between the above mentioned two categories were termed middle intelligence and middle socio-economic status groups respectively. Analysis of variance was used for the analysis of data.

The main findings of the study were: 1. Scheduled-tribe and scheduled-caste students did not differ significantly in relation to their achievement-motivation. However, scheduled-caste boys and girls had slightly higher achievement-motivation than the scheduled-tribe boys and girls. 2. Boys and girls did not differ significantly in relation to their achievement motivation. Boys in both the communities had slightly higher achievement motivation than the girls. 3. Community and sex did not interact significantly in relation to the achievement-motivation of students. 4. The achievement-motivation of students differed significantly at different levels of intelligence, high, middle and low. 5. Scheduled-tribe and scheduled-caste students did not differ significantly in relation to their achievement motivation at different levels of intelligence. 6. Community and intelligence did not interact significantly in relation to the achievement-motivation of students. 7. Sex and intelligence did not interact significantly in relation to the achievement-motivation of students. 8. Community, sex and intelligence did not interact significantly in relation to the achievement-motivation of students. 9. The achievement-motivation of students differed significantly at different levels of socio-economic status, high, middle and low. 10. Scheduled-tribe and scheduled-caste students did not differ significantly in relation to their achievement motivation at different levels of socio-economic status. 11. Community and socio-economic status did not interact significantly in relation to the achievement-motivation of students. 12. Sex and socio-economic status did not interact significantly in relation to the achievement-motivation of students. 13. Community, sex and socio-economic status did not interact significantly in relation to the achievement-motivation of students.

352. CHHOTU RAM, *Psychometric Study of Variations in Cognitive Abilities among Discrete Genetic Population,* Ph.D. Psy., Raj. U., 1985

The objectives of the study were (i) to compare performance of Harijans and Brahmin subjects on measures of level I and level II abilities, (ii) to investigate the differences in speed of processing information among both the genetic groups, (iii) to find out the relationship be-

tween psychometric measures of general intelligence and speed of processing parameters, (iv) to investigate the interdependency and predictive power of various variables for group membership, and (v) to extract the factor structure of measures of level I and level II abilities.

A sample of 262 subjects (102 Harijan and 160 Brahmin subjects) was drawn through stratified random method from government high schools of Haryana. The subjects were matched on sex, age, educational level, socio-economic status, school and urban–rural residence. All the subjects were males from grades IX and X and their age ranged from 156 months to 228 months. The subjects were administered the following tools: (i) Raven's Standard Progressive Matrices (1960); (ii) The Memory for Numbers Test (forward, backward and delayed); (iii) The Reaction Time Test (simple reaction time and choice reaction time); (iv) The Pareek and Trivedi Socio-Economic Status Scale (1964). The subjects were divided into the two groups on the basis of mean scores on Raven's Progressive Matrices as having level I ability (above sample mean) and level II ability (below sample mean scores). The data so collected were analysed with the help of t-test, correlation and Jennrich's test of difference between correlation matrices and varimax factor analysis.

The findings of the study were: 1. The Harijan and Brahmin subjects differed markedly on level I and level II ability tests. 2. Harijans and Brahmin groups differed significantly on speed of processing parameters, viz., choice of reaction time and intra-individual variability in simple reaction time. 3. Complex chronometric measures, viz., choice of reaction time and inter-individual variability in choice reaction time were found to be negatively correlated with general intelligence. 4. Harijan and Brahmin groups differed significantly in pattern of correlation matrix. 5. Four factors were identified after factor analysing the data. These factors were General Factor, Simple Chronometry, Complex Chronometry and Group Genetic Factors. 6. The multiple regression analysis showed that Raven's Progressive Matrices scores and intra-individual variability on simple reaction time were poor predictors of difference in Harijan and Brahmin groups. The choice of reaction time on the other hand was discriminating significantly between Harijan and Brahmin groups. 7. The subjects from two different socio-economic groups were more similar on level I abilities than level II abilities.

***353.** CHILIMIKOLLAD, *M.I., Action Research on Study Habits and Study Skills of Metallurgy Students of Government Polytechnic, Bellary,* TTTI, Madras, 1987

The objectives of the study were (i) to identify the nature and degree of relationship between study habits and study skills of polytechnic students, (ii) to find the significant differences in the mean achievement in study habits and study skills among the students of different years, and (iii) to describe the consistency of scores in the two inventories among the sample selected.

For collecting data, two tools, viz., the Study Habits Inventory of Dr B.V. Patel and another study skills inventory developed by the investigator were used. The data were collected from 51 students randomly chosen from those studying in the metallurgy course. The year-wise breakup was 18, 17 and 16 respectively for the I, II and III year diploma classes. For analysis purposes, rank correlation and t-test were used.

The important findings were: 1. There existed a moderate positive correlation between study habits and study skills of the three groups of students. 2. The obtained t-values were below the critical minimum required and as such there were no significant differences in the mean scores of study habits and study skills among the students of three different years. 3. The scores of the students in the study habits inventory were consistent to the maximum for the entire sample taken together.

354. DABAS, S., *An Investigation into the Hysterical Tendencies and Other Psycho-social Factors among the Adolescent Girls (15+) in the Segregated and Coeducational Schools in Delhi and their Relationship with Scholastic Achievement,* Ph.D. Edu., JMI, 1984

The objectives of the study were to find out (i) whether the girls in segregated and coeducational schools differed in the incidence of hysterical tendencies. (ii) whether there was any relationship between intellectual efficiency and hysterical tendencies among girls studying in both coeducational and segregated schools, (iii) whether there was any difference in the incidence of hysterical tendencies among the girls from high and low

socio-cultural groups, and (iv) whether there was any relationship between hysterical tendencies and scholastic achievement.

Tools used in the study were Raven's Progressive Matrices, Dabas Socio-cultural Status Scale, the Hysterical Tendencies Scale, and an achievement test to measure achievement in Hindi, social science, mathematics and science. Analysis of variance and covariance were used to analyse data. To measure correlation between different variables, the product-moment correlation was computed.

The findings of the study were: 1. Girls studying in coeducational and segregated Hindi-medium Delhi urban schools differed significantly in the incidence of hysterical tendencies and girls studying in coeducational schools were likely to be more prone to hysterical tendencies when compared with girls studying in segregated schools. 2. There was no significant relationship between hysterical tendencies and intellectual efficiency among girls studying both in coeducational as well as in segregated schools. Further there was no significant difference in the incidence of hysterical tendencies between the girls belonging to high and low intellectual efficiency status both in coeducational and in segregated schools. 3. There was no significant relationship between hysterical tendencies and socio-cultural status among girls studying both in coeducational as well as in segregated schools. There was also no significant difference in the incidence of hysterical tendencies between the girls belonging to high and low socio-cultural group both in coeducational and in segregated schools. 4. There was a negative and significant relationship between hysterical tendencies and scholastic achievement among girls studying both in coeducational and in segregated schools.

*355. DAMLE, K., *An Experimental Study of Personality, Intelligence, Distribution of Practice and Motivation as related to Psychomotor Learning and Retention,* Ph.D. Psy., Bom. U., 1987

The main purpose of the study was to investigate experimentally the relation of personality, intelligence, mode of practice and augmented feedback to the learning and retention of a psychomotor task. The main hypotheses of the study were: (1) Personality is a significant variable in the performance, learning, retention and reminiscence of the psychomotor skill. (2) There are significant differences between the four personality groups in the performance, learning, retention and reminiscence of the psychomotor skill. 3. Intelligence is a significant variable in the performance, learning, retention and reminiscence of the psychomotor skill. (4) Mode of practice is a significant variable in the performance, learning, retention and reminiscence of the psychomotor skill. (5) Motivation is a significant variable in the performance, learning, retention and reminiscence of the psychomotor skill. (6) There are significant interactions among the four variables.

The study employed the experimental approach and used a $4\times2\times2\times2$ factorial design. The method of simple random sampling was used for the selection of the 500 subjects of first, second and third year degree course from three colleges in Bombay. The scores of the initial sample of 500 subjects were administered on EPI and SPM. Responses were scored and 40th and 60th percentile scores were considered as cut-off points for drawing the final sample of 160 subjects. Experimental and control groups were formed. All these subjects were tested on MRT and PR Test. The variables studied were personality, intelligence, practice, motivation, performance, learning, retention, reminiscence of a psychomotor task, sex and education. The tools used were Eysenck Personality Inventory (EPI), Raven's Standard Progressive Matrices (SPM), Minnesota Rate of Manipulation Test (MRT) and Pursuit Rotor (PR) (an electronic pursuit rotor, manufactured by MAQLAB, Bombay). The data were analysed by using analysis of variance, analysis of covariance, product-moment correlation, F-ratio, t-test, and descriptive statistics.

The major conclusions of the study were: 1. Personality was not a significant variable in any of the aspects of the psychomotor skill. 2. The results of analysis for the motivation variable also showed no significant contribution of this variable in all aspects of the psychomotor skill. 3. The extraversion, neuroticism dimensions of personality as measured by EPI did not reveal any differential effects. 4. There was no significant interaction between extraversion and retention interval. Thus, consolidation theory of reminiscence did not get any support in this study. 5. General intelligence significantly contributed in the learning and retention of the psychomotor skill. 6. Superiority of distributed practice (DP) was highly significant in the learning and retention of the psychomotor skill. It concluded that the mode of practice was a very powerful variable and that DP was an influential learning as well as performance variable. 7. Augmented feedback (AF) was not a significant varia-

ble in the various aspects of the psychomotor task. 8. Various interactions between personality and AF, and between personality and practice were significant.

356. DANI, D.N., *Scientific Attitude and Cognitive Styles of Higher Secondary Students,* Ph.D. Edu., M. Sukh. U., 1984

The major objectives of the study were (i) to measure the scientific attitude of higher secondary students, (ii) to find out the cognitive styles of the higher secondary students, (iii) to compare the scientific attitude and cognitive styles of boys and girls, village, town and city pupils, science, arts and commerce students, (iv) to compare the scientific attitude and cognitive styles of early-adolescent, middle-adolescent and late-adolescent students, and (v) to investigate the relationship between scientific attitude and cognitive styles of higher secondary students.

The sample for the construction of a scientific attitude test comprised 1265 students (804 boys and 416 girls) selected by stratified cluster sampling and by purposive sampling techniques. The sample was selected from a total of 48 schools from cities, towns and villages. For studying the cognitive style, 505 students out of 1265 students were selected at random. The tools used were Scientific Attitudes Study (SAS) constructed by the investigator and Group Embedded Figures Tests by Ottman, Raskin, Witkin. The method employed for the study was a combination of the normative, correlational and comparative survey method. For analysis of the data and drawing of conclusions, analysis of variance, regression and factor analysis were used.

Some of the major findings were: 1. About 80 per cent of the students had a positive scientific attitude. 2. Boys and girls did not differ in scientific attitude scores. 3. The scientific attitude of the science students was higher than that of the arts and commerce students. 4. The rural students were found to have a low level of scientific attitude as compared to urban students. 5. The scientific attitude decreased significantly with an increase in age. 6. About 71 per cent of the students were clearly field-dependents. 7. Boys and girls did not differ in their cognitive styles. 8. Science students possessed higher field-independence ability than the arts and commerce students. City students possessed higher field-independence ability than the town and village students. 9. The early-adolescents were found to be more field-independent than the middle– and late-adolescents. 10. Rajasthan students were more field-dependent than American students. The field-dependent-independent ability was related to the scientific attitude in general and cognitive aspects of the scientific attitude in particular. 11. The cognitive styles scores could be predicted from the scientific attitude with an efficiency of 4 to 5 per cent.

357. DAS, P., *Structure of Cognitive Abilities among Normal and Tribal Children as a Function of Developmental Level,* Ph.D. Edu., Utkal U., 1985

The objectives of the study were (i) to measure different information-processing abilities of children, (ii) to make a comparative analysis of processing habits using the subcultural groups as independent variables and each of the measures as a dependent variable, (iii) to find out whether there was any interactive relationship between the organismic variables (age, social groups) and the process variables, and (iv) to analyse the structure of cognitive abilities in the case of different subgroups of normal and tribal children of 7 to 10 years of age. The hypotheses of the study were: (1) There will be significant differences among children varying in age and social background for each of the measures on cognitive abilities. (2) There will be a significant interactive relationship between age and social background with regard to various processing variables. (3) The structure of cognitive abilities will be different for children varying in age and social background.

One hundred and fifty boys were selected from classes I and V equally drawn from normal and tribal schools of Puri and Keonjhar districts of Orissa state. Twenty-five high-SES and 25 low-SES children under each group served as the subjects of the present study. Twenty-five boys of classes I and V selected from three tribal schools of Keonjhar district formed the sample of tribal students. The normal children were divided in two groups, namely, highly-SES and low-SES. Students were classified under two age-groups, viz. those below seven years age and those above ten years age. The tools employed for the study were Figure Copying Test (FCT), Hidden Patterns Test (HPT), Raven's Coloured Progressive Matrices (RPM), Visual Short Term Memory (VSTM), Digit Span Forward and Backward (DSF, DSB), Memory-for-Designs (MFD), Children's Embedded Figures Test (CEFT), Matching Familiar Figures Test (MFFT), Colour Naming and Colour Word Test (C, CW) and Culture Fair Intelligence Test (CFIT). The

average time taken to administer all the tests on a single child was 2.5 hours. The data were analysed using 2 × 3 factorial analysis of variance. The intercorrelations of all test scores for different sub-groups were computed using the varimax rotation factor analysis technique.

The findings of the study were: 1. Children above ten years were superior to children under seven years in analytical ability. 2. Children coming from high-SES background were significantly superior to those from low-SES, normal and tribal children. 3. The performance of low-SES normal children was very close to that of tribal children at both age levels. 4. Younger children were less intelligent than older ones. 5. High-SES normal children performed much better than low-SES normal and tribal children in both the immediate memory abilities at both age levels. 6. The span of attention and memory of low-SES normal and tribal children were very short compared to those of high-SES normal children. 7. High-SES normal children committed less errors compared to low-SES normal and tribal children at both age levels. 8. Older children performed better than younger children in response to latency and errors. 9. The younger children took more time and committed more errors than older children. 10. The tribal children took more time and committed more errors than low-SES normal children who were inferior to high-SES normal children in the C, CW test. 11. The low-SES normal and tribal children were poor in perceptual ability and had more interference effect than the high-SES normal children. 12. For the younger age groups of children, FCT, RPM, VSTM, DSB, CEFT, MFFT, and CFIT were loaded with more than one factor and were considered as mixed tests. 13. For children in the above-ten age-group, it was found that children adopted more simultaneous processing habits as reflected by FCT, HPT, RPM, CEFT, and CFIT.

358. DASGUPTA, A., *An Investigation into the Organisation of Student Activities and their Relationship with Personality Characteristics of Secondary Pupils in Nagaland,* Ph.D. Edu., NEHU, 1986

The objectives of the study were (i) to study the organizational set-up of student activities in the high schools of Nagaland, (ii) to find out the existence of any relationship between participation in activities and the personality characteristics of students, and (iii) to make suggestions for the reorganization of student activities in the high schools of Nagaland. The hypothesis was: There is no significant difference among students who are highly motivated, moderately motivated and lowly motivated towards student activities with regard to personality characteristics.

Relevant data based on existing rules were collected. A questionnaire on participation in student activities was developed and used along with Cattell's High School Personality Questionnaire (HSPQ). A group of 841 (580 boys and 261 girls) standard X pupils were drawn from a stratified random sample of 33 high schools of seven districts in Nagaland. In-depth observation was made in three schools. Students were classified into highly, moderately and lowly motivated and F-values were computed to establish the relationship among the groups with regard to personality factors. Critical ratios were calculated for significant factors to ascertain difference among each of the three groups.

The major findings were: 1. Students who were highly as well as moderately motivated towards student activities scored significantly higher than the lowly motivated on the Reserved–Outgoing trait. 2. Students who were moderately as well as lowly motivated towards student activities scored significantly higher than the highly motivated on 'Less Intelligent–More Intelligent' and 'Vigorous–Doubting' traits. 3. Students who were highly motivated towards student activities scored significantly higher than the moderately as well as lowly motivated on 'Affected by Feelings–Emotionally Stable' (among the latter the moderately motivated scored significantly higher than the lowly motivated) and Shy–Venturesome traits. 4. Students who were highly as well as lowly motivated towards student activities scored significantly higher than the moderately motivated on the 'Sober–Happy-go-lucky' trait. 5. There was no significant difference among students who were highly, moderately and lowly motivated towards student activities on the Phlegmatic–Excitable, Obedient–Assertive, Expedient–Conscientious, Tough-minded–Tender-minded, Placid–Apprehensive, Group-dependent–Self-sufficient, Undisciplined-Self-Conflict–Controlled, and Relaxed–Tense traits.

*359. DE, B., *Cognitive Style and Cognitive Ability of Tribal and Non-Tribal School Pupils,* Dept. of Psychology, Pat. U., 1985 (NCERT financed)

The objectives of the investigation were (i) to study the cultural differences in the cognitive style of tribal and

non-tribal high school students, (ii) to study the cultural differences in the general intelligence of tribal and non-tribal high school students, and (iii) to study the cultural differences in the creative thinking of tribal and non-tribal students.

The samples for the study were drawn from high school students of Ranchi. The tribal group of 160 students consisted of the male, female, Christian and Sarns, Oraon and Munda students of the age-group 12–14 years. The non-tribal group of 80 students consisted of male and female Hindu students divided into high-caste and scheduled-caste. The data were collected with the help of Witkin's Embedded Figure Test (EPT), Raven's Progressive Matrices, and Mehdi's Non-verbal Creative Thinking Test. The obtained scores were treated statistically using two non-parametric techniques.

The major findings of the study were: 1. Tribals were more oriented towards field dependence and towards field independence than the non-tribals. 2. The scores, when tested in the context of the various sub-groups based on ethnic, religious, sex and caste factors, failed to show any consistent trends. One consistency, however, was that the high-caste male students were higher on field independence than the low-caste ones. 3. Male and female tribal and non-tribal students differed in field dependence, whereas this difference was not noticed in the case of field independence. 4. As regards creative thinking, the results obtained showed that the tribal and non-tribal students did not differ among themselves. Similar results were obtained for the different sub-groups. A highly significant association among the three variables in case of tribal students and non-tribal students was found. 5. Cognitive style was found to be associated with academic achievement.

***360.** DESHPANDE, M.B., *An Analytical Study of Cognitive-Affective Development and Scholastic Achievement of Tribal Secondary School Students,* Ph.D. Edu., Nag. U., 1984

The study aimed at critically examining the achievement, the intellectual and affective development of tribal students, especially in comparison with non-tribal students. Hypotheses were formulated under three heads: (i) the study of cognitive abilities, (ii) the study of personality make-up, and (iii) scholastic achievement.

The sample for the study was drawn from the tribals and non-tribals of the Chhatisgarh region of Madhya Pradesh. The tools used for the collection of data were: (i) General Intelligence Test, (ii) Numerical Ability Test, (iii) Verbal Ability Test, (vi) Reasoning Test, (v) Bernreuter Personality Inventory, (vi) Scholastic Achievement Test.

The following were some of the major findings: 1. Mean scores of non-tribal students were significantly higher than those of the tribal students on all the cognitive tests. 2. Mean scores of non-tribal boys and non-tribal girls were significantlyhigher than those of tribal boys and tribal girls on all cognitive tests. 3. Urban tribal boys and urban tribal girls were sufficiently higher than rural tribal boys and rural tribal girls. 4. Gond tribal students were better than those of all other castes on all cognitive tests. 5. Bariya and Khadia castes students were lowest in performance. 6. Tribal students scored lower than non-tribal students on Bernreuter Personality Inventory which indicated that tribal students were more emotionally stable and more social than non-tribal students. 7. Tribal students scored more than non-tribal students on an attitude scale which indicated a more favourable attitude of tribal students than non-tribal students toward education. 8. Tribal girls were found more social, stable and emotionally well developed than non-tribal girls. 9. Tribal girls had a more favourable attitude than non-tribal girls towards schooling. 10. Rural tribal boys and girls were emotionally better developed and more social than urban tribal boys and girls. 11. Rural tribal boys and girls had a more favourable attitude than urban tribal boys and girls. 12. Tribal students were more educationally backward than non-tribal students.

361. DHAWAN, N., *A Stduy of Persistence and its Correlates,* Ph.D. Psy., All. U., 1982

The objectives were (i) to study the nature, characteristics and dimensions of persistence by developing adequate measuring instruments, and (ii) to study the relationship between persistence levels and certain motives of an individual, like need for achievement, level of aspiration, and anxiety. The hypotheses were: (1) High-persistence individuals would have significantly higher need for achievement as compared to moderate, and low-persistence groups. (2) High-persistence subjects would have higher and more realistic aspiration levels as compared to moderate and low-persistence subjects. (3) Persistence and anxiety would show a non-linear relationship, with high persistence levels accompanied by

moderate to low anxiety, as compared to the high anxiety displayed at moderate and low-persistence levels.

The sample consisted of 110 male and 90 female subjects, who were drawn from two local colleges of Allahabad. They were students of high school and intermediate first year, with an average age of 14.8 years. They were administered a persistence questionnaire (PQ), a semi-projective test of persistence (PTP) and a performance measure of persistence (MRT) developed for the purpose. In addition, all subjects were given the Sinha Anxiety Scale, the EPPS Achievement items, and Ansari and Ansari's L.A. Coding Test. The data were analysed with the help of correlation, factor analysis and analysis of variance techniques.

The results of the study were: 1. Persistence as an index of motivational strength was reliably measured by verbal, projective and behavioural methods. The split-half reliability for the persistence questionnaire was 0.92. For the semi-projective test of persistence, inter-coder reliability was calculated and it ranged from 0.84 to 0.91, with an average value of 0.87. The test-retest reliability for performance measure of persistence was 0.69 for females and 0.64 for males. 2. The concept of persistence as derived from the three measures referred to was multi-dimensional in nature. It comprised certain core dimensions such as striving, adhering, continuing, and completing a task, despite failures and obstacles. In addition there were related factors such as non-avoidance, tenacity, endurance, risk-taking, task-regularity, substitution and effort, which were measured differentially by each test. 3. Persistence was significantly and positively related to need for achievement and level of aspiration, and negatively with anxiety, and that any variance on the persistence scores was partly due to a combination of need for achievement, level of aspiration and anxiety.

362. DHOLAKIA, B.B., *A Study of Classroom Climate and Pupil Growth: Construction of Tools and Survey*, Ph.D. Edu., MSU, 1985

The broad objectives of the study were (i) to construct a tool to measure classroom climate and a battery of tools to study pupils' growth, (ii) to survey the classroom climate, (iii) to study pupils' growth at macro and micro levels, (iv) to draw cumulative profiles for classroom climate, (v) to identify parameters for diagnostic and prognostic utility, and (vi) to enunciate a practical instructional strategy for a typical Indian classroom.

The sample consisted of 75 pupils of class XI of two secondary schools of Baroda. The sample size varied in the case of construction of various tools. For surveying the classroom climate, the sample was drawn from class X of 14 secondary schools of Baroda (N = 572). The researcher constructed tools to measure pupils' anxiety, motivation, adjustment, fulfilment and a tool to measure classroom climate.

The major findings of the study were: 1. The traits of 'Anxiety' and 'Motivation' in pupils did not change with time whereas 'Adjustment' and 'Fulfilment' altered with time. 2. The pupils felt that their teachers performed their duties with no sense of belongingness and did not care for the pupils' expectations and aspirations. 3. Pupils were found to be punctual but learnt the subjects rather mechanically without knowing the underlying purpose. 4. Parents seldom made a serious inquiry into pupils' growth. 5. The pupils complained that properly drawn assignments were not given, examinations were not systematic, laboratory experiments were absent. 6. The school authorities did not recognize the value of projects and identification of talent. 7. Pupils showed confirmed trust in classroom teaching and they enjoyed going to school.

The tools developed in this study can be fruitfully used by schools to study classroom climate, pupils' motivation, anxiety, adjustment and the feeling of fulfilment and to apply remedial measures.

363. DUBEY, R., *A Comparative Study of the Personality, Intelligence and Performance of Psychotics and Neurotics*, Ph.D. Psy., Agra U., 1984

The objectives were (i) to determine the personality pattern of psychotics, neurotics and normals, (ii) to investigate the difference in intelligence among neurotics, psychotics and normals, (iii) to compare the coefficient of division of attention among psychotics, neurotics and normals, (iv) to compare the choice reaction time to visual stimuli among psychotics, neurotics and normals, and (v) to investigate the interaction effect of the type of personality having neurotic and psychotic trends with the personality traits on performance, i.e., reaction time and division of attention. The hypotheses were: (1) There is no difference among the psychotics, neurotics and normals on 16 PF. (2) There is no difference in intelligence among psychotics, neurotics and normals. (3) There is no difference in the coefficient of division of at-

tention among psychotics, neurotics and normals. (4) There is no difference in the choice reaction time among psychotics, neurotics and normals. (5) There is no interactions effect of the type of personality and traits of personality on performance.

For the study, 60 subjects having neurotic trend, 60 subjects having psychotic trend and 60 normal subjects were selected on the basis of their scores on MMPI from the 600 subjects on whom the test was administered. Cattell's 16 PF Questionnaire was used to measure personality. Intelligence was measured with the help of the General Mental Ability Test developed by S.S. Jalota. To measure the division of attention coefficient, M'cdougall's disc apparatus was used. The reaction time was measured with the help of Vernier's chronoscope. Data were analysed with the help of Duncan's Range Test and analysis of variance.

The findings were: 1. The group having psychotic trend scored higher than those with neurotic or normal trend on factors E, L, M and O of 16 PF but scored the lowest on factors A, B, C, H and Q_3. Hence this group was found to be hostile, day-dreaming, mistrusting, doubtful, interested in internal mental life, imaginative, depressed, moody, low in intelligence, sceptical, easily arranged, low in frustration, tolerative, pessimistic, shy and withdrawing. Neurotics were found to be simple, sceptical, enquiring regarding ideas, unsophisticated, slow to learn and grasp, docile, dependent, anxious, unsteady in purpose, sentimental, conservative, socially group-dependent, and uncontrolled. Normals were found to be good-natured, easygoing, emotionally mature, cheerful, dominated by a sense of duty, practical, relaxed, satisfied, and intelligent. 2. The psychotic group was found to be slowest on choice reaction time to visual stimulation compared to the other two groups, while the normal group was the quickest of the three groups.

*364. DUBEY, S.N., *Reactions to Frustration as a Function of Personality Factors and Need Patterns of Scheduled Caste Adolescents and Young Adults*, Ph.D. Psy., Avadh U., 1982

The aims of the investigation were (i) to study the ways in which adolescents and young adults of Scheduled Castes (SC) reacted in a frustrating situation, (ii) to know the pattern of hierarchy of reactions to frustration between two age groups, (iii) to study the personality and need correlates and differentials of extreme reactions to frustration, and (iv) to know the factorial structure of reactions to frustration in relation to personality and need variables among the SC subjects.

The research was a correlational field study and used the extreme group analysis method. The sample of the study, selected from Government Higher Secondary Schools (for adolescents) and the M.B.N. Engineering College, Jodhpur (for young adults), consisted of 144 SC male adolescents and 158 SC male young adults, and two matched groups of the same sex, age, education, school and economic status consisting of 156 non-SC adolescents and 150 non-SC young adults. The tools of the study were: 1. the Indian adaptation of Rosensweig Picture-Frustration Study (Adult Form by Pareek, Devi, and Rosensweig (1968), (2) the Indian adaptation of Edward's Personal Preference Schedule (EPPS), standardized by Tripathi (1973) (TPPS), 3. the Indian adaptation of the Cattell's 16 Personality Factor Questionnaire (16 PF, Form A), standardized by Kapoor (1962), and 4. the Indian adaptation of Cattell's High School Personality Questionnaire (HSPQ, Form A) standardized by Kapoor and Mehrotra (1967). The collected data were tabulated and analysed by computing critical ratio, product–moment correlation coefficients, and factor analysis.

The findings of the study were: 1. The relationships between personality factors, need patterns, and reactions to frustration varied with age and caste. The degree of relationship, though significant, was found to be high. 2. Among the SC subjects there were some incompatible types of needs which correlated significantly with reactions to frustration, e.g. n-ach positively and n-end negatively correlated with ED reactions among SC young adults. 3. The non-SC subjects had come up with some strange personality and need correlates of reactions to frustration. They seemed to perceive their circumstances as hopeless. 4. Among the young adults (SC and non-SC) n-ach was negatively correlated with the need-persistence 'type' of reactions. 5. The ED and EA reactions to frustration were predominant among adolescents and young adults. 6. Among the adolescents (SC and non-SC) more meaningful relationships had developed of personality and need variables with reactions to frustration, while at young adulthood some strange relationships were obtained. 7. As revealed by the factorial structure across all the five groups (four major groups, and SC and non-SC young adults as a whole) there was a cluster of covariability among the five reactions, viz., positive loadings of NP, IA and MA, and negative loadings on EA and ED. They had

emerged separately also along with some need and personality variables. 8. No single reaction pattern (with positive or negative loadings) had on the whole emerged without the company of other reactions to frustration. It was also revealed that reactions to frustration were interdependent, interactive, and reciprocal in operation.

*365. DUBLI, K., *Retention of Various Types of Materials under Various Cue Situations in relation to Anxiety-level and Personality Characteristics*, Ph.D. Psy., RSU, 1986

The objectives of the study were (i) to find out if neurotics and extraverts differ in their memory of verbal materials, (ii) to test whether low or high scorers on neuroticism and extraversion dimensions performed differently on the retention test, (iii) to find out if the sex of the subjects affected retention, (iv) to examine if taboo, less frequent and frequent words were retained with differential ease by the subjects; (v) to find out if memory was facilitated by cue and to ascertain whether different cues facilitated memory differentially, (vi) to find out the effect of anxiety-level on the retention behaviour of subjects, and (vii) to find out the effect of interaction among anxiety, sex, words and cues on the memory of subjects.

The sample of the study consisted of 800 male and female students studying in classes 10, 11 and 12 of different schools of Nagpur city. The age of these subjects varied from 15 to 18 years. The relevant data were collected by employing the Eysenck Maudsley Personality Inventory and Sinha's Comprehensive Anxiety Scale. Apart from these, a word list of 150 words was prepared which were chosen from a standard Hindi dictionary. Of these, 15 were identified as those which were used frequently in day-to-day life, 15 were identified as those that were rarely used in daily life, and 15 were identified as those that had emotional connotations (they were also termed taboo words, because they were not easily used in our society). For each of these three learning lists (frequently used, rarely used and taboo words), three separate cue lists were prepared which were of orthographic, semantic and recognition nature. Half of the subjects of the sample were presented these three learning lists along with their cues, whereas, the remaining subjects were presented these learning lists without any cue. After the presentation of learning lists, the subjects were tested for the retention of the words. The data were analysed by computing the mean, SD, t-values, ANOVA, etc.

The findings of the study were: 1. Significant differences were observed in the retention behaviour extraverts and neurotics. 2. Females excelled males in retention power. 3. The retention of taboo words was found to be highest, followed by familiar words and unfamiliar words. 4. In general, cues were found to facilitate memory as against no cues. However, recognition cue was found to be the best, followed by orthographic and semantic cues in that order. 5. Only two interactions, i.e. between personality and word and cue were found to be significant. 6. Interaction among all the five factors, i.e. personality, anxiety level, sex, word and cue was found to be significant. 7. Those subjects that were high on anxiety were found to retain better than low anxiety subjects. 8. A four-way ANOVA for four factor-levels of anxiety, sex, type of words and type of cues resulted in a significant F-ratio, which testified to the fact that these four factors acting in combination affected the memory behaviour to a considerable extent.

*366. FATMA BILQUEES, *A Study of Power Motivation in Relation to Certain Social and Personality Variables*, Dept. of Psy., AMU, 1968 (AMU sponsored)

The major objectives were (i) to determine the strength of the power motive and its constituents, hope of power and fear of power, among university students as related to the differentials of sex, age and religion, and (ii) to discover the extent and direction of relationship of the power motive, hope of power and fear of power with each of personality variables with and without regard to social differentials.

The study adopted a sample of 192 university students equally divided in terms of age, sex, and religion. A specially designed pictorial test of power motive, an adapted version of the California Scale (Mach IV Scale) and Levenson's IPC Scale were the tools used for data collection. Product-moment coefficient of correlation, critical ratio and ANOVA were used for statistical inferences.

Some of the principal findings were: 1. A significant positive relationship was found between the power-motive and authoritarianism. 2. Hope of power and authoritarianism were inversely related. 3. Among the Hindus there existed a significant positive relationship between the power motive and authoritarianism and a significant inverse relationship existed between these

variables among males and Muslims. 4. Fear of power and authoritarianism were positively related among the females and elders. 5. Mach and the power motive had a significant positive relationship and Mach and hope a significant inverse relationship. 6. A significant inverse relationship was found between the power motive and locus of control and hope of power and locus of control. 7. Female elders and Muslims showed a stronger hope of power than their counterparts. 8. Among males and females and younger and older, hope of power and Mach were inversely related.

367. FRANCIS, J., *A Study of the Effect of Physical Fatigue on Mental Process,* Ph.D. Edu., Bhopal U., 1983

The main objectives of the study were (i) to study the effects of fatigue on mental processes, namely comprehension, retention and reasoning, and (ii) to study the after-effects of test intervals on the mental processes of subjects who were physically fatigued. It was hypothesized that there was no significant difference in the main scores on the three mental abilities of those students who were physically fatigued and those who were not.

A pilot study was conducted on 38 grade IX students and the final study on 216 male students of the same grade who were in the age group of 13+ and 14+. The students were matched on general mental ability by using Jalota's General Mental Ability Test. A separate AAPHER test battery was administered to the students to fatigue them. The three tools used to collect the data were Ballard's Reading Comprehension Test, Cattell's Retentivity Test and Burt's Reasoning Test. Physiological measures such as pulse rate, reaction time and urine chloride test were used as indicators of fatigue. The data were analysed for the control and experimental groups with the use of statistical techniques including variance, deviation, kurtosis, skewness, ANOVA and t-test to compare the means of experimental and control groups.

Major findings of the study were: 1. Fatigue caused by a physical education programme did not affect performance on the mental processes (comprehension, retention and reasoning) of the pupils. 2. Rest treatment given to the pupils also did not affect significantly their performance on mental processes (comprehension, retention and reasoning).

The study has implications for the school time-table. Any subject period can be fixed after the physical education period in the time-table. The study implies that a rest period is not required after a physical education period as is generally thought. This has implications for the physical education teachers' training programme, where the teachers are required to attend theory classes after physical training.

368. GAGANDEEP, K., *Defence Mechanisms, Used by the Adolescents in Different School Environments and Their Impact on Their Adjustment to School and Home,* Ph.D. Edu., Pan. U., 1986

The objectives of the study were (i) to study the problems, defence mechanisms and adjustment in school and home of adolescent students, (ii) to study the relationship of problems of adolescents and defence mechanisms used by them, (iii) to study the relationship of defence mechanisms and home adjustment of adolescents, and (iv) to study the relationship of defence mechanisms and school adjustment of adolescents.

In the study multi-staged randomized design was followed for selection of the sample. A total of 400 students were selected comprising 200 boys and 200 girls. At the first stage, four schools were selected on the basis of their socio-economic status. These schools were designated as belonging to high socio-economic status, moderately high socio-economic status and moderately low socio-economic status. From each of these schools, 50 boys and 50 girls were selected. The tools employed in the study were: (i) the Sharma School Socio-Economic-Status (SESS) Questionnaire (1978), (ii) Raven's Standard Progressive Matrices, (iii) the Money Problem Check List, (iv) the Mittal Adjustment Inventory, and (v) the Defence Mechanism Questionnaire. The data so collected were analysed with help of t-test, product–moment correlation and factor analysis.

The findings of the study were: 1. The adolescents studying in high-SESS-based environment had less problems as compared to adolescents studying in low-SESS-based environment. 2. With the decrease in SESS, the use of defence mechanisms increased. 3. With the decrease in socio-economic status of schools (SESS), the adjustment to school and home became poorer. 4. Boys had significantly more problems in high and low-SESS environment in the sample of boys. 5. No significant difference for total index of defence mechanism existed between boys and girls. 6. The defence mechanisms—

aggression, regression, displacement, reaction-formation, withdrawal, self-punishment and identification had a significant negative relationship with home adjustment. 7. In the case of girls, regression, self-punishment, displacement, withdrawal, reaction-formation and denial had a significant negative relationship with home adjustment. 8. In the case of boys, displacement, regression, reaction-formation, aggression, compensation, self-punishment and substitution showed a significant inverse relationship with home adjustment. 9. Regression, aggression, rationalization, self-punishment and withdrawal had a significant negative relationship with school adjustment of adolescents. 10. In the case of girls, compensation, sublimation, rationalization, denial aggression, attention-getting and identification showed a significant inverse relationship with school adjustment. 11. In the case of boys, displacement, regression, reaction-formation, sublimation, projection, and aggression were negatively associated with school adjustment.

369. GARG, R.R., *Children's Perception of Parental Disciplinary Practice and Its Relation to Development of Personality Needs, Moral Judgment and Problem-solving Ability,* Ph.D. Psy., Agra U., 1983

The objectives were (i) to study the main effect of parental disciplinary practices and social class on personality needs, moral judgement and problem-solving ability of children belonging to the 10–15 years age group, and (ii) to study the interaction of these variables while they influenced personality needs, moral judgement and problem-solving ability.

The sample comprised 270 students selected by employing the stratified random sampling technique. The design of the study was *ex post facto* cum correlational. The independent variables were parental disciplinary practices, social class and age. Each independent variable had three levels. The dependent variables were personality needs, problem-solving ability and moral judgement. The Personality Need Inventory (PNI) developed by C.P. Sharma was used for measuring personality. It measured achievement (n-ach), affiliation (n-affil), change (n-cha), and order (n-ord). Moral judgement was assessed with the help of the Moral Judgement Test developed by Durganand Sinha and Meera Varma. The Parental Disciplinary Practices Test and Problem-solving Ability Tests were developed by the investigator. The data were analysed with the help of factorial design, ANOVA and correlation techniques.

The findings were: 1. Moderate parental disciplinary practice significantly promoted a need for achievement, a need for affiliation and a need for change. The parental mode of controlling children did not affect need for order and ability to solve the children's own problem. A poor mode of parental control promoted, in greater magnitude, the moral judgement of the children in comparison with strict and moderate modes of parental disciplinary practices. 2. Children belonging to the age group of 10-11 or 13–14 years had significantly more need for achievement in comparison with those of the 12–13-year old group. Children of 12-13 or 14–15 years had significantly more need for affiliation in comparison with 10-11-year olds. Children of 12-13 years had significantly better ability to solve problems and moral judgement in comparison with children of 10-11 or 14-15 years. 3. Children belonging to moderate as well as low social class families had more need for achievement in comparison with high social class family. Children of high social class or moderate social class had more need for change in comparison with those from low social class families. 4. Need for achievement was available at the age of 10-11 years only when this age-group of children got moderate parental disciplinary practices. Children belonging to the age-group of 10-11 years, with parents controlling them in a moderate way, had the best pattern of need for affiliation. Children of age 12-13 years receiving moderate parental disciplinary practice had the best pattern of need for change. 5. The best pattern of need for affiliation prevailed in children belonging to low social class when they got moderate parental disciplinary practices. The best pattern of need for affiliation prevailed in low social class children in comparison with other social class children. Children belonging to high social class and receiving moderate parental control displayed the best pattern of need for change. The maximum magnitude of problem-solving ability prevailed in moderate social class children receiving moderate disciplinary patterns from their parents whereas the mimimum magnitude of problem-solving ability prevailed in children of low social class receiving moderate disciplinary patterns from their parents. 6. The best pattern of need for achievement prevailed at the age of 10-11 years only when they belonged to low social class. A minimum magnitude of need for achievement prevailed in children of 14-15 years age-range belonging to high social class families. 7. The

maximum magnitude of problem-solving ability prevailed in the 12-13 years age-group children belonging to high social class, whereas the minimum magnitude of problem-solving ability prevailed in the same social class children of 10-12 years. 8. The best pattern of need for achievement prevailed in children of the 10-11-year age-group belonging to low social class and receiving moderate parental disciplinary practices. 9. Poor parental disciplinary practices demoted in maximum magnitude the need for affiliation in children of the age 14–15 years belonging to low social class. 10. Children of 10–11 years belonging to high social class had more need for change when they got moderate disciplinary practices from their parents, but 14-15 years old children showed more need for change when they got strict disciplinary practices from their parents.

370. GARG , S., *Decision-making in Children: An Experimental Investigation*, Ph.D. Psy., Del. U., 1984

The overall objective of the study was to study decision-making by children under risk and uncertainty, by means of simple, interesting decision games. The other objective of the study was to seek answers to the following questions: (1) Is there a significant difference between decision-making under conditions of risk and uncertainty? (2) To what degree do children differ and to what extent are these differences mediated by socio-economic status, age or sex factors? (3) Do children make choices among risky alternatives to maximize expected utility? (4) Do children differ in risk-taking in terms of choosing an easy distance or difficult distance in a skill–chance task? (5) Do different pay off schemes affect decision-making? (6) Do children predict better under contingent/non-contingent or equiprobable/non-equiprobable conditions? (7) Do children revise probabilities in accordance with information given or new evidence provided?

The sample for the study comprised 192 children in the age range of 10 to 16 years. There was an equal number of males and females. The students were selected from public schools, convent schools, semi-government and government schools. The children coming from convent and public schools were taken to be as coming from high socio-economic status families, those coming from semi-government schools were taken as belonging to middle socio-economic status families, and students coming from government schools were taken as coming from low socio-economic status backgrounds. The sample subjects were given the following games: (i) the Lucky-seven game, (ii) a skill-chance game, (iii) a dice game, (iv) a guards guessing game, (v) a probability learning game. The decision-making and risk taking scores of the student were counted. The data so collected were analysed with the help of t-test and analysis of variance.

The findings of the study were: 1. Decision-making under conditions of risk and under conditions of uncertainty was found to be different. 2. SES, age and sex of children affected decision-making. 3. Children were observed to make choices as if they were attempting to maximize expected utility. 4. Children of high SES were observed to be lower on risk-taking. They had a tendency to choose very easy distance as compared to low SES children. 5. Different payoff schemes affected risk-taking to varying degrees. Low SES and younger children were observed to be guided by payoff rather than subjective probability of occurrence of events. 6. The number of times of betting and amount of bet showed an increase in their case on probability bets. 7. In the probability learning game, under contingent and equiprobable learning conditions, predictions were observed to be better. 8. Girls in general were correct to a greater percentage of times and boys were observed to be higher in confidence in judgements. 9. The high SES children were right in their judgement more often, as compared to children of middle and low SES background. 10. The SES of children did not affect probability revisions. 11. Older children and girls were found to be higher on conservatism.

371. GEORGE, M., *Personality Patterns of College Students Specializing in Different Fields*, Ph.D. Psy., Ker. U., 1969

The aim of the study was to find out whether there were significant differences in values, temperament and vocational interests among college students specializing in different fields (science, humanities, engineering, commerce, medicine education, law, agriculture and veterinary science).

Nine general education colleges and ten professional colleges were selected to form nine groups of students representing nine subjects, namely science, humanities, engineering, commerce, medicine,education, law, agriculture and veterinary science. Three personality inventories and a vocational interest inventory were devel-

oped. Allport-Vernon's Study of Values and the Guilford-Zimmerman Temperament Survey were adapted. The tests were administered to a total of 2407 students. The different samples taken for each test from a college were more or less comparable. The analysis of variance was undertaken for each of the 23 traits to see whether the nine groups of male students differed in the trait concerned. A similar analysis was done for each scale in the case of female students.

The important findings of the study were: 1. The F-ratio for men was significant of all traits except that of temperament. In the case of women, the F-ratio was significant for twelve scales (three of values, two of temperament and all seven vocational interest scales). 2. In values, men were more theoretical, economic and political while women were found social, aesthetic and religious. 3. In temperament, men were found more ascendant, sociable and masculine than women. Women in the humanities group had more restraint than men. They were also emotionally more stable, objective and friendly. Men students in medical colleges were more emotionally stable, and objective, but less thoughtful than the women students. Among student teachers men were more active and emotionally stable. Among science students men were more thoughtful while women were found better in personal relations. 4. In vocational interests men got higher scores in mechanical and persuasive scales, while women were better in outdoor, aesthetic and social work scales. Men in the humanities and medical groups got significantly higher scores on the scientific scale than their women counterparts.

372. GHOSH, S.K., *Effects of Variation in Advance Organizers on the Cognitive Subsumption in Life Science*, Ph.D. Edu., Kal. U., 1986

The study attempted to make an appraisal of the relative effectiveness of two different types of advance organizers AO on the criteria of immediate learning and retention i.e. cognitive subsumption by having learners of differenrt cognitive styles and different levels of readiness for learning. The specific objectives of the study were (i) to develop two types of AO, i.e. prose-passage type and pictorial type, (ii) to develop instructional material in Bengali on the basis of Ausubelian principles of 'progressive differentiation' and 'integrative reconciliation', (iii) to develop a series of 'cognitive subsumption tests' to assess the consolidation of learnt subject matter, (iv) to develop and standardize the test of readiness for learning, (v) to perform the experiment and compare the effectiveness of two types of AO on the criteria of immediate learning and retention, and (vi) to study the interactions among instructional treatments, readiness for learning and cognitive style.

The sample consisted of 480 learners of class IX which included 240 boys and 240 girls. Witkin's Embedded Figure Test was used to measure the cognitive style of the learner. The treatments were assigned randomly to the treatment groups. The specific type of AO was then presented and students were asked to study the AO minutely. The experimenter then discussed the questions raised by students after studying the AO. The students were then asked to read the relevant portion of the instructional material. Then there was a session for teacher-controlled discussion. The Witkin's Test was then administered. Thus the experiment was in the sequence AOIM-Discussion-Witkin's Test. On the completion of teaching of all the seven sub-units of the unit on 'Photosynthesis', Witkin's Test-I was administered to measure the immediate learning. After an interval of four weeks, Witkin's Test-II was administered to measure the retention of learnt subject matter. The experimental results were analysed on the basis of two $2\times2\times2$ factorial designs.

The following were the findings of the study: 1. The cognitive subsumption of the concept of life science was facilitated by the advance introduction of relevent subsuming concepts. 2. Both types of AO facilitated the retention of subject matter even after an interval of four weeks. 3. Instructional strategy with the pictorial type of AO was found better than the prose-passage type of AO. 4. Cognitive subsumption of complex subject matter was dependent on the factor of readiness for learning. 5. Difference in cognitive style produced a difference in cognitive subsumption of the learning task. 6. The original hypothesis predicting facilitating effects of both types of AO was fully observed. 7. For subjects like life science, the pictorial type of AO enhanced learning and retention.

The obvious implication of this practice is that one should carefully decide the type of AO that can be considered best in a particular learning situation.

*373. GOSWAMI, A.K., *An Experimental Study for Verification of Zipf's Law of Least Effort on Verbal Learning of Hindi Words*, Ph.D. Psy., Avadh U., 1983

The objectives of the study were (i) to prepare Zipf and controlled synonymous (noun, adjective and verb) words in Hindi, (ii) to study experimentally the effect of Zipf's Law of Least Effort on meaningfulness, meaning satiation and retroactive interference in verbal learning of Hindi words, and (iii) to draw a general principle on the basis of verification of this law in the verbal learning of Hindi words.

The investigation was an experimental study conducted in stimulus-response design. The sample of the study consisted of 380 students (120 male and 120 female for the first, 80 male for the second, and 60 male for the third experiment) of degree/postgraduate colleges, having passed the intermediate examination with Hindi as a subject, and belonging to average social status and of the age group between 17 and 22 years. The synonymous Zipf word table and controlled word table for three types of Hindi words—noun, adjective and verb, were prepared by the investigator with the help of experts. The collected data were tabulated and analysed using t-test and F-ratio as the main statistical techniques.

The major findings of the study were: 1. There was no significant difference between responses of meaningfulness of males and females. 2. Interactional relationships between sex and type of word, and type of effort were lacking; thus sex was not a relevant variable in verification of Zipf's law. 3. Word-effort affected meaningfulness. 4. There were differences between meaningfulness of word-types. 5. In consonance with this law, the amount of effort worked independently, and affected each type of words—noun, adjective and verb. These lacked discriminative interaction. 6. Zipf words were more meaningful and had more meaning satiation than controlled words. 7. For both Zipf and controlled words, meaning and satiation decreased with increase in time gap. 8. This law affected the retroactive interference of all the three word-types. 9. The effect of Zipf's law was also observed in basic learning of word tables when the paired association method was used.

***374.** GUPTA, K.M., *Moral Development of School Children*, Ph.D. Edu., Guj. U., 1984

The objectives of the study were (i) to find out the stages of the moral development of school children, (ii) to study the moral reasoning of children of various age groups, (iii) to study the moral reasoning of children according to the grade, management and organization of a school, (iv) to find out the moral reasoning scores of children and compare them according to age and management, and age and sex, (v) to study the moral reasoning scores of children with respect to grade, management, organization, and sex, (vi) to compare the moral judgement of children of various age groups under the peer press and authority orientation with respect to management and sex, (vii) to study the moral judgement of children under peer press and authority orientation with respect to grade, management, organization, and sex, (viii) to compare the moral judgement of children of various age groups under peer press, independence and reformatory zeal with respect to management and sex, and (ix) to study the moral judgement of children under peer press, independence and reformatory zeal with respect to grade, management, organization, and sex.

The tools for data collection were: (1) Moral Reasoning Scale (MRS), (2) Moral Dilemmas Scale A (MJDAS), (3) Moral Dilemmas Scale B (MJDBS), and (4) Personal Data Sheet. A startified random sampling design was adopted for the study. The sample was selected on the basis of management—goverment and aided; organization—boys and girls and co-ed grades–VII, IX and XI; and sex— male and female. In all, 831 subjects, 483 boys and 348 girls were included in the study. Age, grade, management, organization, and sex were considered as independent variables. The three dependent variables were moral reasoning (MSR), moral judgement under peer press and authority orientation (MJDAS), and moral judgement under peer press, independence and reformatory zeal (MJDBS). The development of moral reasoning was studied according to age-groups, grades, managements, and organizations. The stages of moral development were determined for the entire sample under each cell of an independent variable. The moral reasoning scores (MRS), moral judgement dilemmas A scores (MJDAS) and moral judgement dilemmas B scores (MJDBS) were analysed on the basis of age, management, and sex. A factorial design grade × management × organization was selected to study the three dependent variables. Further, 2-(sexes) × 3 (grades) factorial design was used to study the effect of sex and grade on three dependent variables. The chi-square test, descriptive statistics, t-test, analysis of variance (ANOVA), and Duncan's multiple range test were used for the analysis of the data.

The following were the main findings of the study: 1. Stage 1 (Immediate consequences) reasoning was used

by the children at the age of 12 (50.80 per cent). The use of reason of Stage 1 declined sharply with the increase in age. Stage 4 (Generalized comments) reasoning was completely absent at the age of 12.2 Stage 2 (Partial evaluation) reasoning was used by the children throughout from the age of 12 to 17 but Stage 2 response decreased continuously. 3. Stage 3 (Full evaluation) reasoning was found to increase from 3.29 per cent at the age of 12 to 40 per cent at the age of 17. 4. Stage 4 (Generalized comment) was found to increase slowly from the age of 13 to 15. 5. As the child matured, he used fewer and fewer arguments of reward and punishment. The dependence on the consequences decreased. He tried to use more and more Stage 3 reasoning (Full evaluation) and, finally, tried to reach Stage 4 (Generalized comment). There was a reversal of the order from Stage 1 to Stage 3 at the age of 17. The gain was clear ascendancy over Stage 3 and Stage 1. This proved that as the child advanced in age, his moral behaviour shifted from immediate consequences—the fear of reward and punishment, to a generalized point of view. 6. The children from Grades VII, IX and XI differed significantly with each other on moral reasoning. The child from Grade VII was not found at Stage 4. Even Stage 3 was absent in government school boys at Grade VII level. Similarly, Stage 4 was absent in all the grades of an aided girls' school. 7. The children from aided and government schools differed significantly from each other in moral reasoning. The children from government schools were superior in moral reasoning. 8. The children from coeducational schools were better in moral reasoning than the children from non-coeducational schools. 9. Girls were superior to boys in moral reasoning. 10. Boys and girls of the same age-group differed from each other but the difference was statistically significant only at the ages of 15 and 16. 11. The older children gave due weightage to the intention in making moral judgement in an adult-approved direction. 12. The children of all ages subscribed to moral judgement in an adult-approved direction in a conflicting situation. The children of the age of 15 subscribed mostly to adult orientation. 13. The children from aided schools showed more fluctuations (instability) in their judgement in subscription to adult orientation. 14. A gradual increase was observed in moral judgement among the children from government schools. 15. Girls showed faster development in moral judgement, including reasoning. 16. The children of Grade IX differed significantly from the children of Grades VII and XI in their moral judgement. 17. The children from government and aided schools did not differ significantly in their judgement in an adult-approved direction. 18. Boys and girls did not differ markedly in their judgement on adult orientation. 19. The reformatory zeal among children diminished gradually with increase in age. A child at the age of 12 subscribed to the maximum to a judgement with reformatory zeal. 20. The children from aided schools showed variations in their judgement with reformatory zeal. But they were superior to the children from government school. 21. Boys and girls did not differ significantly in their judgement with reformatory zeal. The reformatory zeal among girls increased till the age of 14, then it declined, while in boys it was maximum at the age of 12. 22. Boys and girls of the same age-group did not differ significantly in their judgement with reformatory zeal. 23. The children of Grade IX were superior in their judgement with reformatory zeal in comparison to the children of Grades VII and XI. 24. The children from aided schools were higher in their judgement with reformatory zeal in comparison to the children from government schools. 25. The children from coeducational schools showed lower reformatory zeal in comparison to the children from non-coeductional schools.

375. GUPTA. P., *Self-Concept, Dependency and Adjustment Pattern of Abandoned Institutionalized Preadolescents*, Ph.D. Appl. Psy., Cal. U., 1984

The purpose of the study was to investigate the emotional make-up of 'Home' and 'SOS village' subjects in terms of their self-concept, dependency and anxiety content. On the basis of data gathered in respect of the rearing systems, the inter-dependence of the three factors were judged in respect of adjustment patterns of both the orphan groups and either parent alive but functionally absent 'Home' group subjects. 'Home' connotes the government/voluntary agency-run institutions, where the children lived and which they had to think of as their own home by indirect pressure. The SOS village, i.e. Save Our Souls Village, was a volunatry care organization where the director became the 'father' of the children, and the director controlled twenty 'simulated mother' volunteers. Here the abandoned children felt a prototype of family.

The sample consisted of 400 preadolescents aged 10-13 years, who got institutionalized within the first five years of life. The experimental group (n = 300) was subdivided into home-managed orphans and home-managed either parent alive abandoned, and SOS

village-managed, each of 100 children. A control group of 100 children of normal family set-up was taken. The tools used were L.P. Lipsitt's (1958) Self-concept Scale for children, a shortened version of Minnesota Multiphasic Personality Inventory of 28 anxiety items with nine lie items (reliability=0.83), U. Pareek and others' Preadolescent Dependency Scale (Form B) and U. Pareek and others' Preadolescent Adjustment Scale. The experimental-control group design was used and the statistical tools used were t-test, Mahalonobis D^2 and product-moment r.

The major findings were: 1. There was some relationship between self-concept, anxiety, dependency and adjustment for the experimental group. 2. Subjects reared in an artificial family atmosphere with surrogate mothers had better self-concept and adjustment with less anxiety than subjects reared in general homes without any substitute parent figure. 3. Self-concept and adjustment were positively correlated and they had negative correlation with anxiety. 4. The whole experimental group differed from the control group, i.e. their naturally reared counterparts.

376. GUPTA, P.L., *A Study of Personality Characteristics of Ninth Grade Over- and Under-achieving Boys and Girls at Different Levels of Achievement Motivation,* Ph.D. Edu., Punjabi U., 1983

The objectives of the study were (i) to identify the personality factors of ninth grade boys and girls in which there was a significant interaction between over- and under-achievement and achievement motivation, (ii) to identify the personality factors of ninth grade boys and girls in which over-achievers differed from under-achievers, (iii) to identify the personality factors of ninth class boys and girls in which three levels of achievement motivation showed significant differences, (iv) to identify the personality factors of ninth grade boys and girls which showed main effects neither of over- and under-achievement, nor of achievement motivation, nor of the interaction between the two, and (v) to identify the personality factors of over- and under-achievers, of high motivated, average motivated and low motivated groups.

A sample of 310 ninth class boys and 312 ninth class girls was chosen randomly from four high schools of Patiala. They were administered the following tools: (i) the Tandon Group Test of Intelligence; (ii) the adapted version of Cattell HSPQ (Form B); (iii) the Achievement Motivation Inventory. Along with these tools the marks obtained by these students in the eighth class public examination were taken as criterion scores to identify them as high or low achievers. The data were analysed with the help of unweighted means analysis.

The findings of the study were: 1. The group of low motivated over-achieving boys was found to be more vigorous and zestful than the group of low motivated under-achieving boys. Among the under-achieving boys, the low motivated group was found to be least vigorous and zestful. 2. The high motivated under-achieving girls were more submissive and less tense than high motivated over-achieving girls. But low motivated under-achieving girls were less submissive and more tense than the low motivated over-achieving girls. 3. Over-achieving boys were less expedient and less shy and had less undisciplined self-conflict than the under-achieving boys. 4. Over-achieving girls were less affected by feelings and more emotionally stable, less shy and more vigorous and zestful and had less undisciplined self-conflict than the under-achieving girls. 5. Among boys, the high motivated group and average motivated group were found to be more sober, less happy-go-lucky, and had less undisciplined self-conflict than the low motivated group. 6. Among girls, the high motivated group was more intelligent and less expedient than the low motivated and average motivated groups, and was less shy and had less undisciplined self-conflict than the low motivated group. The high motivated group did not differ significantly from the average motivated group in shyness and undisciplined self-conflict. 7. The average motivated boys did not differ from low motivated boys in scholastic ability, expediency, shyness and undisciplined self-conflict. 8. Neither the two levels of achievement nor the three levels of achievement motivation differed significantly on personality factors—A, B, C, E O and Q_3 for boys, and A, D, F, I, O and Q_2 for girls. Interactional effect was also not found in these personality factors. 9. Over-achieving boys differed from under-achieving girls in G, H and Q_3 and over-achieving girls differed from under-achieving girls in C, H, J and Q_3 personality traits. 10. There was significant interaction in academic achievement and achievement motivation both in the case of boys as well as girls in the case of J personality factor.

377. GUPTA, R.P., *Second Order Personality Factors as Functions of Sex and Creativity among Young Adults,* Ph.D. Psy., Agra U., 1975

The problem was how far and in which way do creativity, age and sex affect the four second stratum factors, like adjustment *vs* anxiety; introversion *vs* extroversion; pathemia *vs* cortertia; and subduedness *vs* independence of personality.

The sample consisted of 240 adolescent boys and girls attending university classes. It was selected through the random stratification technique. *Ex post facto* correlational design was followed. 16 PF Questionnaire was used to measure the personality of students. Creativity was measured with the help of Creativity Test developed by N.S. Chauhan and G. P. Tiwari. The data were analysed through factorial design analysis of variance of equal cell size.

The findings were: 1. Age affected significantly the four second stratum factors like adjustment *vs* anxiety; introversion *vs* extroversion; pathemia *vs* cortertia; and subduedness *vs* independence. 2. Sex, both independent of age and creativity, and with them, affected the four second order factors of personality. 3. Creativity and its components, both independently, and with sex and age, affected the four second order factors. 4. Subduedness during middle and late adolescence was not at all affected by creativity or its components. 5. As correlates of adjustment, no relationship existed between sex and creativity with its components. 6. Age did not affect subduedness.

378. GUPTA, T.P., *A Study of Personality Characteristics of Bright and Dull Children,* Ph.D. Edu., Luc. U., 1985

The study was designed to see if there were any significant differences in personality characteristics among bright and dull students.

The sample for the study consisted of 157 bright and 160 dull students studying in twelve Hindi medium secondary schools in Lucknow. Raven's Progressive Matrices Test was used for assessment of intellectual level and on the basis of scores in this test the students were classified as bright and dull students. Kuppuswamy's Socio-Economic Status Scale was used for assessment of the socio-economic status of the families of the students and Edward's Personal Preference Schedule was used for determination of the personality characteristics of the students.

The main findings of the study were : 1. There were significant differences among the bright and the dull students as regards needs deference, abasement, nurturance, change, endurance, needs exhibition, autonomy, affiliation and heterosexuality. 2. There were significant differences among the bright and the dull students as regards socio-economic status of their families. 3. At the upper socio-economic level, the bright and the dull students differed significantly as regards nurturance, change, endurance, and needs affiliation. 4. At the lower socio-economic level, bright and dull students differed significantly as regards needs deference, abasement, change, endurance, affiliation and heterosexuality. 5. Bright children belonging to the upper socio-economic status group differed significantly from dull ones belonging to the lower socio-economic status group on needs deference, interception, abasement, nurturance, change, endurance, needs exhibition, autonomy, affiliation, dominance and heterosexuality. 6. Bright children belonging to the lower socio-economic status group differed significantly from dull ones belonging to the upper socio-economic status group on needs abasement, change and needs affiliation. 7. Bright children belonging to the upper and lower socio-economic groups differed significantly from each other on need interception and need order.

379. GUPTA, V.K., *Relationship of Age, Sex, Level of Intelligence and Personality Adjustment to Extreme Response Style,* Ph.D. Psy., Agra U., 1976

The hypotheses were: (1) Dull adolescents give more extreme responses as compared to bright adolescents. (2) Females reveal more extreme response style as Compared to males of the same age group. (3) The extreme response style gradually decreases with the increase in age. (4) Adolescents with less personality adjustment prefer to give more responses in extreme categories.

The sample comprised 1200 subjects (600 males and 600 females) drawn from the population of Western UP belonging to the age group of 11 to 18 years. Samoohik Mansik Yogyata Pariksha (2/70) developed by Tandon was used to measure intelligence. The split-half reliability coefficient was 0.93. Intelligence was also assessed with the help of Samoohik Mansik Yogyata Pariksha (1/61) developed by Tandon. Its split-half reliability was 0.59. Vyaktitva Parakh Prashnavali developed by Saxena was used to assess the personality of students. The test-retest reliability coefficient was 0.90. Rorschach Ink Blot Test was used to measure extreme response style. The data were analysed with the help of t-test, chi-square test and correlation techniques.

The findings were: 1. Extreme response style was highest at 11 years and again at 15 and 16 years. 2. Age and extreme response style (ERS) had a low correlation. 3. Sex influenced significantly the ERS. 4. Intelligence did not influence significantly the response style. 5. Level of adjustment and ERS were not significantly related. 6. Sex and adjustment brought about differences in ERS while intelligence did not bring about any significant difference.

380. GYANONI, T.C., *Frustration Reactions as Functions of Achievement Motivation and Anxiety at Different Age Levels,* Ph.D. Edu., Agra U., 1984

The main objectives were (i) to find out the nature and extent of relationship of need achievement, anxiety and age with frustration reactions, (ii) to establish the regression equations between various frustration reactions as criterion variables and need achievement, anxiety and age as predictor variables, (iii) to determine the variation caused by the predictor variables in reactions to frustrations, (iv) to find out the role of needs achievement, anxiety and age in determining the frustration reactions of an individual and (v) to find out the role of need achievement and anxiety in determining the frustration reaction of the individuals at different levels of age.

The sample of the study consisted of 300 male students studying in various classes of different schools and colleges of Agra City. The tools used were (i) a self-prepared controlled projective type Frustration Reaction Test, (ii) a self-prepared projective type n-achievement Test (A set of six pictures), (iii) self-prepared Test Anxiety Questionnaire, (iv) Sinha's W.A. Self-Analysis Form of Trait Anxiety, (v) Tandon's 1/61 and 2/70 forms of Group Tests of General Mental Ability, (vi) Kulshrestha's Socio-Economic Status Scale. After the finalization of the sample, the tools were administered in two sessions. In the first session the n-achievement Test and Test Anxiety Questionaire were administered under natural conditions. In the second session the Frustration-Reaction Test and Trait Anxiety Test were administered. The statistical techniques used were percentiles correlation, chi-square test, t-test, two-way analysis of variance, multiple correlation regression analysis.

The following were the findings: 1. Most of the subjects of the parent population were not very aggressive or passive in frustrating situations. 2. Except the 'I' reaction at the age groups of $17^+ - 20^+$ years and the 'E-D' reaction at the age group of $21^+ - 24^+$ years, all the remaining frustration reactions were positively skewed, i.e. most of the boys of age group 17^+ to 20^+ years were more self-critical rather than aggression oriented. At the upper age level ($21^+ - 24^+$), most of the boys were more ego defensive rather than obstacle dominant. 3. At all age groups the percentage of E and 'E-D' reactions was comparatively higher in relation to other frustration reactions. 4. A significant increase in intropunitive behaviour was observed, whereas impunitive frustration reaction increased with age but a significant fall in this particular reaction was observed after the age of 20 years. 5. Ego defensive and obstacle-dominant reactions to frustration decreased as the subjects advanced in age but their need-persistent reactions significantly increased with increase in their age. 6. Boys with high achievement motivation were intropunitive and need-persistent, but low in extrapunitive and 'O–D' behaviour. The boys with a low level of achievement motivation were found to be more ego-defensive, obstacle dominant and impunitive in their behaviour. 7. The students with a high level of anxiety were found to be more intropunitive and obstacle-dominant, whereas the low level anxiety boys were more impunitive and need-persistent.

381. HARJINDER KAUR, *Information Processing Approach in the Study of Reinforcement in Perception,* Ph.D. Psy., Del. U., 1984

The objective of the study was to seek answers to the following questions: (1) Can positive and negative reinforcement differentially affect perceptual organization? (2) Is reinforcement a necessary condition for perceptual learning to occur? (3) Is the effect of positive (reward) and negative (punishment) reinforcement on perceptual organization a specific case of figure-ground organization or a mere general case of perceptual organization? (4) How do positive and negative reinforcement differentially affect the perceptual organization?

The study was conducted with four different experimental situations. In each of the experimental situation the age of the children ranged from 10-12 years and they belonged to a low socio-economic status group. The numbers of students selected for the samples in the four different experimental situations were 32, 24, 24 and 24 respectively. There was an equal number of boys and

girls in each situation. In the first experimental situation 2×4 factorial design with repeated measures was followed. The first variable, the sex, varied in two ways (males and females); and the second variable, the reinforcement varied in four ways (Reward-50, Punishment-50, Reward-25 and Punishment-25). In the second experimental situation again 2×4 factorial design with repeated measures was followed. Here the first factor was presence and absence of ambiguous situations. The second factor of reinforcement varied in four ways as in the first experimental situation. The third experimental situation followed 2×2 factorial design with repeated measures. The first factor was nature of stimulus (ambiguous and segregated) and the second factor was reinforcement (reward and punishment). In the fourth experimental situation, 2×4 factorial design with repeated measures was followed. The first factor was the presence or absence of the profile to be searched for in a segregated situation. The second factor was the nature of reinforcement that varied in four ways as in the first experimental situation. The apparata used in the study were: (i) Harvard Techistoscope, (ii) Response Unit, (iii) Four Digit Electronic Counter, (iv) Chart of Ambiguous Figures and their Mirror Image. The dependent variable was responses to perceptual material presented through techistoscope. The data were analysed with the help of analysis of variance and Duncan's Range Test.

The findings of the study were: 1. Monetary reward and punishment were associated with specific aspects, during the perceptual learning stage. It differentially affected the figure ground organization. 2. Positive reinforcement was more effective in perceptual search in comparison to negative reinforcement. 3. Reinforcement was not a necessary condition for perceptual learning to occur but it resulted in faster and more efficient learning in comparison to learning without reinforcement. 4. Reinforcement (positive or negative) had a positive effect on perceptual search in comparison to absence of reinforcement. 5. The two pairs of the complementary profile of the ambiguous as well as the segregated situations had equiprobability of being perceived, if not altered by reinforcement.

382. INTODIA, S.L., *Educational Needs, Interests, and Aspirations of Adults in Rural Communities of Udaipur District,* Ph.D. Agr., Udai.U., 1974

The main objective was to find out the educational needs, interests and aspirations of land-holding adults both in developed and undeveloped villages of Udaipur district as perceived by extension education workers and adults of villages.

The survey method was used. The tool was a questionnaire used as an interview tool with illiterate persons.

The major findings were: 1. The literacy percentage in the developed villages was 52 while in the undeveloped villages it was 31. 2. The use of high-yielding variety of seeds was more in developed villages than in undeveloped villages. 3. The educational needs like health and hygiene information were perceived to a large extent in the case of developed villages as compared to undeveloped villages. 4. Both types of villagers had poor aspirations for accessibility to technological literature and for membership or office of a political party.

383. JAIN, R., *Inter-Modality Transfer and Its Personality Correlates;* Ph.D. Psy., All. U., 1974

The hypotheses were: (1) There will be a positive correlation between intelligence and transfer. (2) There will be a positive correlation between intolerance of ambiguity and transfer. (3) Rigidity and transfer will also be positively correlated. (4) There will be a positive correlation between transfer and introversion and a negative correlation between transfer and extroversion. (5) KFAE and transfer scores will be positively correlated. (6) Visual to tactual transfer will be easier than tactual to visual transfer.

The sample consisted of 115 undergraduate students of Allahabad University and local degree colleges. Of these, 58 were females and 51 were males. The ag ranged from 18 to 22 years. All subjects were non-psychology students. An Inter-Modality Transfer Test was developed by the investigator. It comprised shape, size, height and texture series items. The test-retest reliability ranged from 0.27 to 0.81. Jalota's Verbal Intelligence Test, Bhatia's Performance Battery of Intelligence, Koul's Ambiguity Scale, Koul's Rigidity Scale, Eysenck's Personality Inventory and KFAE (Kinesthetic Figural After Effect Test) were used to collect data. The data were analysed with the help of t-test and correlation techniques.

The findings were: 1. Sex was not found to be a significant factor on visual to tactual (VT) or tactual to visual (TV) series. 2. VT and TV difference was found to be significant. 3. There was a high level of consistency between the Kinesthetic Figural After Effect (KFAE)

scores of the right and left hands. 4. There was high consistency among scores obtained on Broad and Thin T-Block. 5. There was commonality between KFAE and intersensory transfer. 6. Intelligence was an important and significant correlate of intersensory transfer. 7. Rigidity, intolerance of ambiguity and extroversion were not found to be related to transfer. 8. Introversion was found to be correlated with intersensory transfer. 9. Overall VT was superior to overall TV transfer. 10. A great deal of learning took place during a short period as shown by a marked increase in accuracy.

384. JAIN, S. *Concept Formation as a Function of Verbal Intelligence and Achievement Motivation*, Ph.D. Edu., RSU, 1983

The objectives of the study were (i) to study the processes (nature, form and kind) and product of concept formation under different levels of intellectual development and achievement motivation employing extreme criterion group samples, (ii) to study the relative interaction of verbal intelligence and achievement motivation on concept formation as a process and product, (iii) to study the relative relationship between concept formation and verbal intelligence and concept formation and achievement motivation, and (iv) to study the interaction of intelligence and achievement motivation upon concept formation as a process as well as product.

The sample of the study consisted of 405 students of grade X of ten Hindi medium higher secondary schools of Bilaspur town, selected out of 1644 pupils on the basis of their extreme scores on intelligence and achievement motivation tests. The sample was divided into four groups, namely high intelligence–high achievement motivation group (N=105), high intelligence–low achievement motivation group (N= 103), low intelligence–high achievement motivation group (N=90), and low intelligence–low achievement motivation group (N=107). Tools employed were the Bruner, Goodnow and Austin's Test of Concept Formation, the PSM Verbal Test of Intelligence, and the Achievement Motivation Inventory by Prayag Mehta. The data were analysed by computing the percentile scores, t-values, Pearson's product-moment coefficients of correlation, ANOVA and F-values.

The findings of the study were: 1. Intelligence was found to be a good predictor of nature, form and kind of concept formation ability. High intelligence students scored significantly higher on this ability than low intelligence students. 2. Achievement motivation had a significant effect upon the concept formation ability of the students and highly motivated pupils showed a significantly superior ability in concept formation to those of low motivated pupils. 3. The high intelligence–high achievement motivation group was significantly better in concept formation ability than low intelligence–low achievement motivation group. 4. The pupils of the high intelligence–high achievement motivation group employed 'Wholist' strategy in their concept formation process, whereas those from the low intelligence–low achievement motivation group opted for 'Partist' strategy. 5. The high intelligence–low achievement motivation group displayed significantly superior concept formation ability to the low intelligence–high achievement motivation group. 6. Pupils from both the groups, i.e. high intelligence–low achievement motivation group and low intelligence–high achievement motivation group, regardless of their intra- as well as inter-group sex differences employed 'Partist' strategy in their concept formation processes. 7. Intelligence was found to be a better predictor of concept formation ability than achievement motivation. 8. There existed no significant sex difference in the concept formation ability of four extreme groups. 9. Verbal intelligence was found to have the greatest significant interactional effect on concept formation, whereas achievement motivation was placed at the second position in this respect. 10. There existed positive linear significant relationship between the students' scores on the tests of concept formation and verbal intelligence, as well as their scores on concept formation and achievement motivation.

385. JAIN, U.C., *Extreme Response Style as a Personality Factor*, Ph.D. Psy., Raj. U., 1974

The hypotheses examined in the study were: (1) Subjects with high extreme response scores will consistently obtain analogous scores on original and reversed forms of F scale and S-I inventory as compared to those with low extreme response scores. (2) High and low extreme groups will differ significantly on scores obtained from the reversed form of S-I inventory and F-scale. (3) High extreme response group will yield higher scores on F-scale and S-I inventory as compared to low extreme response groups. (4) Extreme response style as an independent dimension will have low factor loadings on each of the 16 personality factors.

The study employed two extreme groups design in

order to compare the groups of subjects who scored high and low on the dimensions concerned. More than 500 girls and 500 boys were administered the PRT (Picture Reaction Test) in their respective postgraduate classes in Rajasthan University. Out of these, 50 boys and 50 girls who showed extreme responses were selected on the basis of Q_1 and Q_3 on PRT scores. The age range of this sample was 17 years to 25 years. The Data were collected with the help of the following tools: (i) the Berg Picture Reaction Test having sixty geometrical drawings; (ii) the California F-Scale (Hindi version 1967); (iii) the Maslow Security-Insecurity Inventory (1952); and (iv) the Hindi adaptation of the Cattell Sixteen Personality Factor Questionnaire (1950).

The findings of the study were: 1. ERS (Extreme Response Style) operated more consistently in female subjects than in male subjects. 2. High and low extreme response groups were not quite opposite to each other as there was positive significant correlation for the high ERS group and non-significant negative correlation for the low ERS group with their responses on S-I and F-scales separately. 3. The high and low ERS groups differed significantly on the reversed form of S-I and F-scales separately. 4. The ERS extremity was positively related to authoritarianism, rigidity and confidence of judgement. 5. The correlation or high extreme groups between original and reversed forms of S-I inventory and reversed F-scales was significant and positive. 6. The male subjects of high extreme response groups tended to be authoritarian with a feeling of insecurity. Similar personality characteristics were noted in male subjects of low extreme groups. On the contrary, female subjects in high extreme groups were not insecure as compared to females in low response groups. 7. High and low response groups differed with regard to 16-PF. On factor analysis of 16-PF of the male high response group, eight factors were identified. These were 'H', F, M factors of 16-PF, ERS factor, N factor of 16PF, I factor, B factor, L factor of 16-PF. Out of all these, ERS remained as an independent personality dimension especially in the case of male members. However, ERS could not be identified as a major factor for female subjects.

386. JERATH, J.M., *A Study of Achievement Motivation and Its Personality Motivation and Ability Correlates*, Ph.D. Psy., Pan. U., 1979

The objectives of the study were (i) to differentiate between intrinsic and extrinsic aspects of n-ach in terms of their correlation with other variables, (ii) to find out the correlates of other fantasy measures, viz., n-affiliation, n-power, and fear of failure among males and females, (iii) to find the relationship between fantasy measures and academic achievement among males and females, and (iv) to test the following hypotheses: (a) n-achievement factor would have a different composition among males and females, (b) n-achievement scores would be positively correlated with super ego sentiment, self-sentiment and assertiveness.

The study was conducted in who phases. In the first phase the fantasy measures were analysed together with 16 PF, Study of Values, Culture Fair Intelligence Test Scores, and academic achievement measures. In the second phase, the fantasy measures were analysed together with MAT, ORI and academic achievement measures. The sample for the first phase consisted of 217 males and 217 females, whereas the sample for the second phase consisted of 233 males and 206 females. In the first phase the tools used were: (i) the Adapted Form of Themetic Apperception Test (1958), (ii) the Cattell 16 PF (1962) Questionnaire, (iii) the Cattell Culture Fair Test of Intelligence, (iv) the Chaudhry Value Preference Scale (1959), and (v) academic achievement of students. In the second phase apart from the TAT and academic achievement scores, the other tools used were (i) The Cattell MAT (1964), (ii) The Bass ORI (1962).

The findings of the study were: 1. Males scored higher than females on fantasy measures, n-achievement, intelligence test, factors B, C, E, and H of the 16 PF, theoretical, economic and political interests. 2. Females scored higher than males on factors A, I, O, Q_3 and Q_4 of 16 PF, aesthetic, social and religious interests. 3. Factor analysis yielded the following comparable factors among males and females: Anxiety, Introversion *vs* extraversion, Body measures, Scholastic proficiency and Good upbringing. 4. Separate factors named 'Pathemia *vs* Cortertia' and 'Secure Naturalness *vs* Foxiness' were located in the male sample whereas in the female sample separate factors located were n-achievement, and intelligence. 5. Among males, 'Sweetheart sentiment' as a factor could not be matched with any factor in the female sample. 6. Among females, n-achievement and self-sentiment could not be adequately matched with the factors obtained for the male sample. 7. The obtained second order factors were of 'Anxiety' and 'Extroversion *vs* Introversion' in both the sexes. 8. n-achievement emerged as a complex measure in both males and females but with loadings on entirely different factors.

387. JETHWANI, P.M., *An Investigation into the Frustration of School-going Adolescents of Kutch District in the Context of Cognitive and Non-Cognitive Variables,* Ph.D., Edu., SPU., 1986

The objectives of the study were (i) to compare the frustration scores of pupils studying in 10th, 11th and 12th grades, (ii) to compare the frustration scores of pupils having high n-ach with those of pupils having low n-ach, (iii) to compare the frustration scores of pupils having more anxiety with those of pupils having less anxiety, (iv) to compare the frustration scores of pupils having high intelligence with those of pupils having low intelligence, (v) to compare the frustration scores of pupils coming from a small family with those of pupils coming from a large family, (vi) to compare the frustration scores of the non-backward class pupils with those of the backward class pupils, (vii) to study the effects of interaction among the various independent variables and the dependent variable (frustration) incorporated in the study.

For collecting data about frustration, G.K. Patel's Frustration Inventory was used. The reliability and validity of the inventory were 0.81 and 0.71 respectively. For measuring n-ach, Prayag Mehta's TAT picture test was used and for measuring anxiety an inventory standardized by G.N. Patel was used. The reliability of the inventory was 0.73. Pallavi Patel's Test of General Ability for measuring I.Q. was used. The 3×2×2×2×2×2 factorial design was adopted for the study and analysis of variance was used for analysing the data. The study was based on 672 subjects.

The major findings were: 1. The non-backward class pupils were found to be more frustrated than the backward class pupils. 2. The pupils from small families were significantly more frustrated than the pupils from large families. 3. The pupils with high intelligence and those with low intelligence had no significant difference between their mean scores. Intelligence was not a factor that caused frustration. 4. The pupils having high anxiety were significantly more frustrated than the pupils having less anxiety. 5. The pupils of grade X, and XI and grade XII differed significantly in their frustration scores. The pupils of grade XII had the highest frustration scores. The pupils of grade XI had higher frustration scores than the X grade pupils. 6. The pupils having high n-ach were significantly more frustrated than the pupil's having low n-ach. 7. The significant interactions were (a) grade × family size, (b) n-ach, × intelligence, (c) n-ach × family size, (d) anxiety × family size, (e) anxiety × caste, (f) family size × caste.

388. JIT, R. *The Contribution of Fluid and Crystallized Intelligence to the Verbal and Spatial Abilities of Right-handed Males and Females,* Ph.D. Psy., Mee. U., 1985

The hypotheses formulated were: (1) Right-handed males and females would show differences in performance on verbal and spatial skills. (2) Fluid intelligence and crystallized intelligence would account for a differential proportion of variance in verbal and spatial abilities of males and females. (3) Females would show variance in their performance on different cognitive tasks over the menstrual cycle.

The study covered a sample of 200 males and 200 females of which a sample of 40 males and 40 females was randomly drawn and reserved for the validation of the study. Thus the main study was conducted over a sample of 160 females and 160 males. The female sample was further divided into five equal groups by allocating them to five different menstrual phases. The tools used to collect data were the Group Test for Assessing Hand and Eye Dominance (Crovitz and Zener), Culture Fair Test of Intelligence (Cattell), Hindi version of Hundal's GMAT (Singh), Fluency Test (Christense-Guilford), Space-relations subtest of DAT (Form L) and Your Style of Learning and Thinking (Torrance). The data collected were analysed using meta-analysis, intercorrelation analysis, multiple regression analysis, ANOVA and Duncan's Range Test.

The findings of the study were: 1. There were significant sex differences in performance on verbal and spatial tasks, and moderate sex differences in performance on numerical tasks. 2. The Gc and Gf measures contributed differently to the verbal and spatial abilities of males and females. While Gc accounted for a large amount of variance in both verbal and spatial performances of males, Gf had been found to be a major contributor to these abilities in females. Considering the total amount of variance, both Gc and Gf were shown to contribute more to the verbal and spatial abilities of males than to the verbal and spatial abilities of females. 3. In both males and females Gc and Gf accounted for more variance in spatial ability than in verbal ability. 4. Females showed variance in cognitive performance over the menstrual cycle. This level of performance was found to be the lowest in the luteal and menstrual phases, and highest in the premenstrual phase.

*389. JOGI, J. K., *The Effect of Response on Achievement at Different Levels with reference to Intelligence and Taxonomic Categories Through a Programme in Micro-Economics,* Ph.D. Edu., HPU, 1984

The objectives of the study were (i) to study the effect of response mode on achievement of students at different levels of learning, (ii) to compare the achievement of the students on a criterion measure in four types of learning selected out of Gagne's typology of learning, (iii) to study the effect of intelligence and taxonomic categories on pupil performance as the criterion measure, and (iv) to study the interaction effects of all the abovementioned variables. The hypotheses formulated for the study were: (1) There will be a significant difference in the student achievement at different levels of learning. (2) The performance of the students responding overtly to a programme will be significantly better than those responding covertly. (3) Intelligence will have a significant effect on the performance of students. (4) The achievement of the students will be affected significantly by taxonomic categories of Bloom. (5) The interaction of response mode with levels of learning, intelligence and taxonomic categories, of levels of learning with intelligence and taxonomic categories, and also the triple and quadruple interaction of these variables will be significant.

The study covered the target population of grade IX students of secondary school in Shimla. The sample was randomly drawn from six out of ten secondary schools. The experiment was conducted within the framework of 2×4×3×3 mixed factorial design. It involved two levels of response mode, three levels of intelligence, three taxonomic categories and four out of Gagne's eight levels of learning. The data were analysed with the help of analysis of variance.

The findings of the study were: 1. Overt response mode was found to be more effective on all four levels of learning as against the covert mode. 2. The interaction between response mode and taxonomic category was not found to be significant. 3. Intelligence, taxonomic category, and levels of learning had a significant effect on the achievement. 4. The double and triple interactions between the variables of this study were found to be significant except that between response mode and taxonomic category. The quadruple interaction (R×L×I×T) was not found significant.

*390. JOHI, J.K., *A Study of Ego-Identity and Values of Adolescents Living in Hill Areas of Kumaun Region in Relation to Their School and Home Environment,* Ph.D. Edu., Kum. U., 1984

The main objectives of the study were (i) to determine whether ego-identity and values of adolescents were related to their school and home environments respectively, (ii) to determine whether ego-identity of adolescents was related to their values, (iii) to study the factorial structure underlying six variables corresponding to the first six crises/conflicts of life, ego-identity, values, school environment and home environment of adolescents and to find out whether some common factors could be extracted as a result of constellation of some of these variables, and (iv) to determine whether differences in their school and home environments affected their ego-identity and values. The hypotheses were: (1) Ego-identity and values of adolescents may have a relationship with their school environment, and ego-identity and home environment of adolescents may have a relationship with their values. (2) Adolescents differing in their school environment and home environment may differ in their ego-identity and values respectively.

Product-moment coefficient of correlation among various variables was calculated to determine ralationship; factor analysis was employed to extract some common factors; 't' ratios were computed to test the significance of the difference. Ego-identity Scale—an adaptation and modification of Ego-identity scale of Ras Mussene, School Environment Scale and Home Environment Scale designed by the investigator, and Study of Values by S.P. Kulshreshtha were used in this study. The sample of adolescents (M=531) was selected from the hill areas of Kumaun region and included male school-going adolescents in the age group 13 to 19. Proportionate stratified random sampling technique was employed for selecting the sample adolescents.

The following were the main findings of the study: 1. Ego-identity was positively and significantly related to the perception of the adolescents of their school and home environments. 2. Ego-identity, perception of school environment and home environment belonged to the same perceptional domain implying that one who perceived himself favourably also tended to perceive his socio-emotional environment more favourably and

vice versa. 3. More adherence to economic value and social value and less adherence to aesthetic value might lead to more stable and stronger ego-identity. 4. The most preferred value of adolescents was theoretical value and the least preferred value was aesthetic value. With only slight exceptions, in general the order of preference for various values was (i) theoretical value, (ii) social value, (iii) political value, (iv) religious value, (v) educational value, and (vi) aesthetic value.

391. JOHNSON, S.J., *Personality Characteristics of Sports Participants in High Schools,* Ph.D. Psy., Ker. U., 1982

The main objectives were (i) to study the personality characteristics of sports participants, and (ii) to compare the personality characteristics of sports participants and non-participants. The hypotheses were: (1) Sports participants are more intelligent, more adjusted and free from abnormal tendencies, and more sociable and less impulsive in terms of temperament than non-participants. (2) Sports participants have greater interest in sports and have a more favourable attitude towards sports than non-participants. (3) Sports participation is related to materialism-spirituality orientation attitude. (4) Socio-economic status, caste membership and perceived degree of encouragement from peers, teachers and parents are related to sports participation. (5) Sports participation is associated with higher academic achievement.

The sample for the study consisted of two groups—a group of sports participants (n=419)— who had been identified by the Kerala Sports Council, the Government agency for promoting sports, as excelling in sports and who were selected, prepared and tested in academic as well as physical abilities, and a group of non-participants in sports (n=423) who were tested for academic ability alone. The samples were further stratified on the basis of sex. The tools used were Test of Mental Abilities-Verbal (Mathew, 1973), Mathew Maladjustment Inventory (Mathew, 1973), Mathew Temperament Scale (Mathew, 1974), and Mathew Materialism-Spirituality Scale (Mathew, 1980). In addition, an attitude scale to measure attitude towards sports and games, an inventory to measure interest in sports and games and a general data questionnaire were prepared for the purpose of the study. The data were analysed by applying the two-way analysis of variance technique wherever applicable, of the chi-square test and t-test.

The major findings were: 1. Sports participants differed from non-participants in their personality characteristics. 2. Sports participants were more adjusted, free from abnormal tendencies, more gregarious (sociable) and thoughtful (less impulsive) than non-participants. 3. Sports participants exhibited a more favourable attitude towards sports, and higher interest in sports and games than non-participants. 4. Socio-economic status, caste and religion, and encouragement from parents, peers and teachers were found to be related to sports participation. 5. Sports participation was associated with higher academic achievement.

392. JOSHI, R.R., *An Investigation Into the Interest of Higher Secondary School-going Pupils in the Context of Some Psycho-Socio Variables,* Ph.D. Edu., SPU, 1983

The objectives of the study were (i) to study the interests of the higher secondary school-going pupils, and (ii) to study the difference in the interests of these students in relation to their parents' education, socio-economic status, location and personality traits, namely, emotional stability and self-sufficiency.

The interest inventory constructed and standardized by J.C. Parikh, Socio-economic Scale constructed and standardized by Udai Pareek and G. Trivedi for rural areas, and Socio-economic Scale constructed and standardized by Kuppuswamy for urban areas were used for data collection. Besides, the High School Personality Questionnaire (HSPQ) for 12 to 18 years by R.B. Cattell translated into Hindi by S.D. Kapoor and K.K. Mehrotra was also used for collecting data about two traits of personality. The data were collected from a sample of 1000 students selected at random. A factorial design was formulated and analysis of variance was used for drawing conclusions.

Some of the major findings were: 1. The pupils of the urban area were more interested in administrative, computational, scientific and literary topics than those of the rural area. 2. The pupils of the higher socio-economic status group were more interested in the administrative, natural and outdoor, scientific and fine arts topics than those of the lower SES group. 3. The children of highly educated parents were more interested in the administrative, computational, mechanical, natural and outdoor, scientific and fine arts topics than those of less educated parents. 4. The pupils having a high score on the personality trait of emotional stability were more interested in mechanical areas than those

having a low score on emotional stability. 5. The pupils having a high score on the personality trait of self-sufficiency were more interested in the computational, scientific, fine arts and literary areas than those having a low score on self-sufficiency. 6. Area of interest and socio-economic status factors appeared to be dependent on each other so far as administrative, fine arts and literary interests were concerned, 7. Area of interest and parents' education factors were found to be dependent on each other so far as the computational, mechanical and teaching interests were concerned. 8. Socio-economic status and parents' education were found to be dependent on each other so far as the mechanical interests were concerned. 9. Socio-economic status and emotional stability were dependent on each other so far as the fine arts interests were concerned. 10. Parents' education and self-sufficiency were found to be dependent on each other so far as the computational and teaching interests were concerned. 11. Emotional stability and self-sufficiency were found to be dependent on each other so far as the mechanical interest was concerned. 12. The interaction of area of interest, socio-economic status and parents' education were significant at .01 level in the case of natural and outdoor and teaching interests, and at .05 level in the case of scientific interests. 13. The interaction of area of interest, socio-economic status and self-sufficiency was significant at .05 level in the case of scientific interests. 14. The interaction of socio-economic status, parents' education and emotional stability was significant at .05 level in the case of administrative and at .01 level in the case of computational interests. 15. The interaction of SES, parents' education and self-sufficiency was significant at .01 level in the case of computational, mechanical and literary interests. 16. The interaction of parents' education, emotional stability and self-sufficiency was significant at .05 level in the case of computational interests. 17. The interaction of parents' education, emotional stability and area of interests was significant at .01 level and .05 level in the case of administrative and natural and outdoor interests respectively. 18. The interaction of emotional stability, self-sufficiency and area of interest was significant at .01 level in the case of scientific interests. 19. The interaction of area, parents' education and emotional stability was significant at .05 level in the case of mechanical interest. 20. The interaction of area of interests SES, parents' education and self-sufficiency was significant at .05 level in the case of administrative and computational interests. 21. The interaction of parents' education, emotional stability, self-sufficiency and SES was significant at .05 level in the case of mechanical interests.

393. KAFILUDDIN, S., *A Study of Parental Discipline, Family Structure and Ordinal Position as Antecedent Factors in the Genesis of Aggression,* Ph.D. Psy., Bhagalpur U., 1980

The main purpose of the study was to examine the antecedent factors which were supposed to be responsible in the development of aggression. The main hypotheses were: (1) Aggression is positively related to parental power-assertive technique of discipline. (2) There is a negative relationship between family structure and aggression. (3) There is a positive relationship between ordinal position and aggression.

Three factors (parental discipline, family structure and ordinal position) were selected. A random sample of 400 male students of class XI was drawn from different schools of Bhagalpur city. Age, sex, economic status and education of students were controlled. A personal data sheet, Hindi versions of Buss-Durkees' Hostility Inventory, Sowaid's Parental Discipline Scale and Khatri's Jointness-Nuclearity Scale were employed. Interviews were also conducted. Mean, correlation, Fisher's z-function, t-ratio, analysis of variance, contingency coefficient, etc., were employed.

The major conclusions were that a person subjected to power-assertive discipline, reared in a nuclear family and being the only child or first born would be more aggressive than a person who has been disciplined by indirect methods such as love-withdrawal and induction, reared in a joint family, and being the middle or last born.

394. KALE, P.S., *A Study of the Development of Self-concept at Preadolescent Level with Reference to Some Family and School Factors,* Ph.D. Edu., Bom. U., 1982

The objectives of the study were (i) to trace the general development of self-concept at the preadolescent level as a function of age and sex, (ii) to study sex differences in self-concept development, (iii) to study the relationship of internal family factors like parent-parent and parent-child relationships with self-concept at the preadolescent level, and (iv) to study the relationship of school factors like teacher-students and peer relations with self-concept at the preadolescent level.

The data were collected from three coeducational

Marathi medium schools. The study was conducted on a sample of 990 children. Tools employed in this study were (i) Self-concept Inventory, (ii) Parent-child relationship Scale, (iii) Parent-parent Relationship Scale, (iv) Scale of Teacher-student Relationship, (v) Peer Relationship Scale and (vi) Socio-economic Status Scale of Jogavar. All the tools were specially constructed for this study except the socio-economic status scale. Descriptive statistical techniques used were frequency distribution, bardiagrams, frequency polygons, mean, median, mode, Bartlett's homogeneity test, analysis of variance, t-test, and multiple correlation regression.

The major findings were: 1. The perceived self did not show a downward trend throughout the preadolescent period. It showed a significant upward trend at the end of this period. According to this, the self-concept did not remain static and showed gradual development up to the end of the preadolescent period. 2. Boys and girls did not differ significantly in self-concept development. 3. Perception of family factors as well as school factors showed significant development in concept perception of parent-child relationship. 4. Girls showed more understanding for parent-parent relationship, teacher-student relationship and at the end of the preadolescent period, parent-child relationship. 5. Parent-parent relationship was highly significantly related to self-concept. 6. Teacher-student relationship was important in self-concept. 7. Parent-child relationship was significantly associated with self-concept. 8. Peer relations were important in development of self-concept. 9. Family factors jointly were significantly associated with self-concept. 10. School factors jointly were significantly associated with self-concept.

*395. KAPOOR, K., *A Study of Saraswati Shishu Mandirs and Public Schools with reference to Some Psycho-social Characteristics of Their Students*, Ph. D. Edu., Mee. U., 1986

The objectives of the present study were to compare the cultural background, the socio-economic status, the attitudes, values and the academic motivation of the students in Saraswati Shishu Mandirs and public schools.

The samples of 378 public school students and 312 Saraswati Shishu Mandir students who studied at least for three years in their respective institutions were selected randomly from class VIII. The tools used to collect data were Cultural Background Scale (Sharma), Personal Value Questionnaire (Sharma and Verma) and Academic Motivation Inventory (Srivastava). The data were analysed using t-test and chi-square test.

The following were the findings of the study: 1. The students belonging to Saraswati Shishu Mandirs had a more oriental biased culture than the students of public schools. 2. Public school students came from higher income group families. 3. The Saraswati Shishu Mandir students possessed somewhat more positive attitudes towards teachers, parents, discipline, country, and religion than the public school students. 4. The Saraswati Shishu Mandir students had more respect for religious, social, democratic, knowledge and power values whereas the public school students paid more regard to aesthetic, economic, hedonistic and health values. 5. The Saraswati Shishu Mandir students were better motivated towards academics than the public school students.

396. KAR, S.B., *The Intelligence of the Hos*, The Bihar Tribal Research Institute, 1961

The main aim of the investigation was to assess the level of the concrete intelligence of the Hos (the fourth major tribe of Bihar) in order to have an idea of their intellectual potentiality both from quantitative and qualitative aspects.

A general survey was carried out for selecting villages with pure Ho population. Alexander's Scale for Concrete Intelligence, along with Porteus Maze Test were administered to 116 Hos (47 men, 37 women and 32 school boys) selected at random from 11 Ho villages and two schools of Singhbum district. Various group comparisons were made by applying the t-test.

The major conclusions were: 1. In the Pass Along Test the school boys were superior to the men, and both these groups were superior to the women. Women were more homogeneous while the men were the least. 2. In the Block Design Test there was no significant difference between the three groups. The women were comparatively more homogeneous while the boys were the least homogeneous. 3. In the Cube Construction Test there was no difference between school boys and men, but both the groups were superior to the women. However, the women's group was more homogeneous than the other two groups. The school boys were the least homogeneous. 4. In the Porteus Maze Test there was no significant difference between the school boys and the men, but both the groups were superior to the the women. As far as homogeneity was concerned, there was no marked difference between these groups.

*397 KAZMI, Q.S., *A Study of Personality Profiles and Cognitive Factors of Academic Failures amongst Science and Arts Students at Various Levels,* Ph.D. Edu., AMU, 1986

The objective of the investigation was to study the relationship between personality characteristics, cognitive factors, sex difference and academic failure among science and arts students at the high school, intermediate and undergraduate levels.

Bernreuter's Personality Inventory, Raven's Progressive Matrices, Conformity-C-Scale, AAPAS Motive Test (a measure of achievement motivation), Brown-Holtzman Survey of Study Habits and Attitudes and Multi-dimension Inventory of Self Awareness, and a measure of memory span were administered to a random sample of 1000 failures (500 girls and 500 boys) of arts and science streams at high school, intermediate and undergraduate levels.

The major findings of the study were: 1. The relationship between different personality factors of Bernreuter's Personality Inventory, intelligence, conformity, achievement motivation, study habits and memory span, and academic failure was not significant. 2. Failures differed in their personality characteristics and cognitive make-up. 3. Sex differences did not interact with any personality characteristics for academic failure. 4. Failures did not have any significant interactional effects of sex difference and cognitive factors on their academic achievement. 5. The personality characteristics and cognitive factors interacted on the failure's academic achievement.

398. KHAN, M.A., *Effect of Parental Deprivation on Personality Adjustment (With Special Reference to Denotified Tribes of U.P.)* Ph.D. Psy., Agra U., 1976

The objectives were (i) to assess the effect of parental deprivation on personality adjustment among deprived and undeprived children, (ii) to evaluate the level of adjustment among the parentally deprived and undeprived children, (iii) to find out the main areas of adjustment among the parentally deprived and undeprived chileren, (iv) to compare the level of adjustment among the partially and fully deprived children, (v) to make a comparative study of the achievement scores of parentally deprived and undeprived children, (vi) to study and compare the adjustment scores and general mental ability scores among the parentally deprived and undeprived children, (vii) to compare the adjustment scores of rural parental group children with that of urban parental group children, (viii) to compare the adjustment scores of rural non-parental group children with that of urban non-parental group children, and (ix) to compare adjustment scores of female children with those of male children.

The sample comprised 670 children (255 deprived and 415 undeprived). Of the 255 deprived children, 200 were males on the other hand, among the undeprived children, 300 were males. Their age ranged from 13 to 16 years. The sample was selected through the stratified cluster sampling method. Data were collected with the help of Mittal's Adjustment Inventory and Jalota's Genereal Mental Ability Test, and academic achievement was recorded from the school records. Data were analysed with the help of the t-test.

The findings were: 1. There was a significant differential effect of parental deprivation on the level of adjustment. 2. Deprivation was affected by a variety of factors, viz., age at the time of separation, quality of maternal relationship during and after separation and other persoality factors. Adjustment involved relating the individual most effectively to society; at the same time, society provided the means of realizing the individual's potential for perceiving, feeling, thinking and creative activity including the changing of society itself. The majority of the deprived children were emotionally well adjusted. 3. There was no significant difference in respect of levels of adjustment between the partially and fully deprived children. 4. Parental deprivation had a differential effect on the achievement of students. 5. There was a significant difference in respect of adjustment and genereal mental ability scores between parentally deprived and undeprived children. 6. Children who belonged to the rural community were less adjusted in comparison to the children who were located in urban areas. 7. There was a significant difference between the adjustment scores of the rural non-deprived children and that of the urban deprived group children. 8. Female children had superior adjustmet as compared to males. 9. There was a significant difference in respect of total adjustment scores amongst orphan and tribal, and orphan and parental group children.

399. KHAN, S., *A Study of the Personality Characteristics of Educationally Backward Pupils of Higher Secondary Schools of Lucknow District,* Ph.D. Edu., Avadh U., 1983

The objectives of the study were (i) to discover the sig-

nificant variables of personality responsible for low achievement, and (ii) to find out the relationship between these variables.

The sample of the study consisted of 600 pupils (150 boys and 150 girls of age range 10 to 12 years and an equal number of boys and girls of age range 13 to 16 years) with an I.Q. ranging from 100-120, studying in classes VII to X, having poor marks in school examinations, and on Schonell's Achievement Test. The sample was selected from 1500 pupils studying in classes VII to X in higher secondary schools of Lucknow district. The tools used in the study were Jalota's Group Test of Mental Ability, Schonell's Test of Achievement, and Cattell's C.P.Q. and H.S.P.Q. Personality Tests prepared in Hindi by Kapoor and Rao and Kapoor and Mehrotra. Examination marks were also used by the investigator. The collected data were tabulated and analysed using suitable statistical techniques.

Findings of the study were: 1. Educationally backward pupils were more reserved, detached and aloof, less intelligent, more emotionally unstable, more excitable and impatient, more assertive and aggressive, more happy-go-lucky, shy, timid and threat-sensitive, tender-minded and sensitive, more internally reflective, more insecure, worrying and guilt-prone, socially group dependent, uncontrolled and careless of social rules, and tense, overwrought and frustrated. 2. On second order factors the educationally backward pupils were more introverts, tender-minded and subdued, and had more anxiety and poor adjustment. 3. On the whole the girls were found to be a little warmer, more participating, more emotional, having stronger super-ego, more sensitive, tender-minded and guilt-prone than boys who were found more dominating, thickskinned, happy-go-lucy, excitable, tense and surgent. 4. Those who obtained medium sten scores on personality factors were better in achievement than those who obtained high or low sten scores or in other words deviated from the average sten scores to the low or high ends. 5. It was also found that the hampering effects of aloofness, emotional instability, excitability, aggression, dominance, guilt-proneness, feeling of insecurity tension and frustration, etc. were more prevalent at the adolescent stage (13 to 16 years) than at the preadolescent stage (10 to 12 years).

400. KHANAPURI, V.B., *Academic Achievement, Motivation-Assessment, Validation and Development,* Ph.D. Edu., Kar. U., 1986

The major objectives of the study were to develop a psychological education course and to evaluate its effectiveness. The hypotheses of the study were: (1) The psychological education course raises the level of the need for academic achievement motivation. (2) The psychological education course (PEC) improves the performance of pupils in school subjects or school achievement.

The researcher developed two tools for studying the academic achievement motivation of students, with reliability values of 0.91 and 0.82 respectively. PEC included three units consisting of lessons on cognitive, motor and affective domains. The sample consisted of 35 standard IX pupils of the Rotary High School, Hubli. The treatment was given in 90 periods each of 45 minutes duration. The effectiveness of PEC was found by administering the achievement motivation tool before the treatment, immediately after the treatment, and six months after the treatment. Also, the students' performance in school subjects was studied in relation to the PEC. For this purpose the results of the annual examinations of class VIII and class IX of the experimental group were collected. The non-parametric Wilcoxon Matched-Pairs Signed-Ranks Tests were used for analysis of data.

The study revealed the following: 1. The psychological education course was effective in raising the level of academic achievement motivation of the pupils. 2. The pupils sustained the academic achievement motivation level raised by the psychologcal education course even for six months after the training. 3. The psychological education course was effective in improving the performance of pupils in school subjects.

401. KHANNA, R.K., *The Relationship Between Fantasy, Measures of Motives and Affective Arousal In Response to Motive-related Cues—A Test of McClelland's Affective Arousal Model of Motivation,* Ph.D. Psy., Pan. U., 1982

The objective of the study was to test the following hypotheses: (1) The high n-achievement (n-Ach) group as compared to the low n-achievement group will give a higher Galvanic Skin Response on the words and statements of situation indicative of the achievement motive. (2) The high n-Power (n-Pow) group, as compared to the middle and the low n-Pow group will give more Galvanic Skin Response on the words and statements of situations indicative of the power motive. (3) The high n-Affective (n-Aff) group, as compared to the middle

and the low n-Aff group will give a higher Galvanic Skin Response on the words and statements of situations indicative of the affiliation motive.

A sample of 415 male subjects in the age range 18-35 years was drawn from the university teaching departments of Punjabi University. The protocols of these subjects were scored on different motives—n-Achievement (n-Ach), n-Affective (n–Aff), n-power (n-Pow), In-Ach, En-Ach, HP and FP according to the respective scoring systems. Out of 415 subjects, 180 subjects were randomly selected to equalize the number in each cell on the basis of TAT scores, so as to study effects of n-Ach, n-Pow and their interaction on the Galvanic Skin Response scores in two-way factorial design with each variable at three levels (high, middle and low). Thereafter the Galvanic Skin Response test was administered to the 180 subjects. The test consisted of 19 words, consisting of one practice word, six achievement, three affiliation, six power related and three neutral words, 12 statements of situations consisting of one practice sentence, four achievement, two affiliation, four power related and one neutral statement. The Lafayette Psychogalvanometer was employed in Galvanic Skin Response Test. An inter-test pause of five minutes was given at the end of 19 words after which 12 statements were presented.

The findings of the study were: 1. The n-Ach was significant on all achievement related words. 2. The main effect of n-Ach was significant on achievement related statements. 3. High n-Ach group gave a significantly higher Galvanic Skin Response than the middle and low n-Ach groups on all the achievement related words and statements. 4. The high n-Pow group gave a lower Galvanic Skin Response than the middle and low n-Pow groups on all the power related words and statements. 5. No significant differences were found among the three n-Aff groups for the Galvanic Skin Response scores either on any of the affiliation related words or statements or other statements. 6. No significant differences were obtained among the three In-Ach groups for Galvanic Skin Response scores on any of the words or statements including those related to In-Ach. 7. The En-Ach groups showed significant differences similar in pattern to those found in the n-Ach groups with respect to Galvanic Skin Response scores. 8. Significant differences were obtained among the three HP groups on all the 19 words. The low HP group gave a higher Galvanic Skin Response than the high and the middle HP groups. 9. No significant differences were obtained among the three FP groups for Galvanic Skin Response scores on any of the words or statements. 10. The cues related to achievement, power and affiliation motives were found to be generally capable of eliciting differential affective arousal, from subjects belonging to different motive groups. 11. The Galvanic Skin Response was found to be successful in indicating affective arousal.

402. KHOKHAR, C.P., *Parenting, Sex and Economic Status as Correlates of Socio-genic Need-Satisfaction of Children*, Ph.D. Psy., Mee. U., 1983

The objectives of the study were (i) to present the contribution of parenting independent of its 'sex-roles' and material consideration of the family, towards pleasurable and painful experiences of children's socio-genic needs, (ii) to determine the characteristic roles of 'fathering' and 'mothering' independent of parental deviance and material facilities of the family, in their contribution to pleasurable and painful experiences of children's socio-genic needs, (iii) to enumerate the effects of material facilities of the family independent of the nature and sex roles of parenting, upon satisfaction and dissatisfaction of children about socio-genic needs, (iv) to determine how and in what ways parenting, its sex-roles and material conditions of the family affect each other during the course of their operational presence, (v) to determine the nature and magnitude of children's satisfaction and dissatisfaction about their socio-genic needs with reference to the characteristic socio-cultural climate of Indian families, and (vi) to collect relevant facts about the socio-genic need satisfaction profiles of children in families to be utilized for reconstruction of real family-planning programmes of our society and the country.

The sample comprised 200 families. It was selected by employing cluster sampling technique. The study employed randomized block design in which eight factorial experiments of the nature of 2×2×2 had been conducted. The three independent variables of the study were parenting, parenting sex, and economic status. Each one of these variables had two levels, such as parenting (normal and deviant), parenting sex (mothering and fathering), and economic status (high and low). The dependent variables for eight sub-studies were acceptance-rejection, dominance-submission, identification-differentiation, and of cooperation-isolation. The parenting style was measured with the help of a Multidimensional Scale for Parenting devel-

oped by C.P. Khokhar and N.S. Chauhan. The dimensions of the scale were love, encouragement, acceptance, progressivism, democratism, independence, dominance, positive dimensions (as a whole), hate, rejection, autocratism, discouragement, submission, conservatism, dependency, and negative dimension (as a whole). The test-retest reliability coefficients ranged from 0.44 to 0.88 and validity coefficients from 0.63 to 0.97. The socio-economic status was measured with the help of a Socio-Economic Status Scale developed by R.L. Bharadwaj, S. Gupta and N.S. Chauhan, The test-retest reliability coefficients ranged from 0.67 to 0.92 and validity coefficients from 0.82 to 0.95. The socio-genic satisfaction needs of children were measured with the help of a Socio-genic Need Satisfaction Scale developed by N.S. Chauhan and V. Dhar. The dimensions were positive dim-negative dim; acceptance-rejection; cooperation-isolation; dominance-submission; and identification-differentiation. The test-retest reliability coefficient ranged from 0.46 to 0.83 and validity coefficients from 0.68 to 0.91. The data were analysed by using analysis of variance followed by Duncan's Range Test.

The findings were: 1. Procurement of satisfaction and painful experience of socio-genic needs of children remained really sensitive to parenting, parenting sex, and economic status of families. 2. The non-deviant parenting set-up of families promoted satisfaction of acceptance, cooperation, dominance and identification and dominated painful experiences of rejection in children. 3. 'Fathering' in non-deviant parenting families was found to relate to acceptance, satisfaction and differentiation experiences in children. It promoted isolation experience in children of high economic status families. 4. 'Mothering' of non-deviant parenting families was found to promote identification and cooperation satisfaction and children belonging to families of high economic status. 5. The deviant parenting families stood for rejection–differentiation and isolation experiences in children. 6. The deviant parenting 'fathering' procured the highest amount of identification satisfaction to children. 7. 'Mothering' in deviant parenting families was found to associate with demoted experience of dominance but promoted differentiation, rejection and the least of acceptance in children. 8. Role-reversion proceeded from 'mothering' to 'fathering' in procuring identification satisfaction, as well as from 'fathering' to 'mothering' in procuring acceptance-cooperation satisfaction and experiences of rejection-differentiation, and isolation in children. 9. 'Mothering' in general procured the least of acceptance and differentiation. In families of low economic status, it promoted cooperation satisfaction in children, but promoted isolation experience in those belonging to high economic status families. 'Mothering' in non-deviant parenting families promoted identification, but in deviant parenting families, it promoted rejection experience and demoted dominance experience in children. 10. 'Fathering' in non-deviant parenting families procured acceptance satisfaction and differentiation experiences in children. In deviant parenting families, it had extra identification procurement to children. 11. Economic status appeared both as a boon and hazard in procuring need satisfaction and need experiences in children. 12. Deviant parenting set-up of families depended mostly on faulty 'mothering' and consequent 'role-reversions'.

403. KIRAN, U., *Anxiety, Task Complexity and Sex as Related to Verbally Expressed Preferences and Problem Solving Performance,* Ph.D. Psy., Agra U., 1983

The objectives were (i) to study the effect of anxiety, sex, and task complexity, separately on performance of subjects, (ii) to study the interaction between sex and anxiety; anxiety and complexity; and sex and task complexity separately in relation to verbally expressed preferences, (iii) to study the interaction between sex, anxiety and task complexity in relation to verbally expressed preferences, (iv) to study separately the effect of anxiety, sex and task complexity on problem solving performance, and (v) to study separately the interaction between sex and anxiety, sex and task complexity anxiety and task complexity, and sex, anxiety and task complexity on problem solving performance. The hypotheses were: (1) Anxiety, sex, and task complexity separately do not affect verbally expressed preferences. (2) There is no interaction between sex and anxiety, anxiety and task complexity, sex and task complexity, anxiety, sex and task complexity separately in relation to verbally expressed preference. (3) Anxiety, sex and task complexity separately do not affect problem solving performance. (4) There is no interaction between sex and anxiety, sex and task complexity, anxiety and task complexity, and sex, anxiety and task complexity separately in relation to problem solving performance.

The sample comprised 300 students selected from intermediate colleges of Agra. An anxiety test developed by D.N. Sinha was used to measure anxiety. The test-

retest and split-half reliability coefficients were 0.85 and 0.92 respectively. The data were analysed through factorial design analysis of variance of equal cell size followed by Duncan's Range Test.

The findings were: 1. Anxiety and sex did not affect the mean interestingness it ratings of subjects separately, whereas the complexity of the task affected it significantly. 2. Complexity in addition to anxiety as well as sex affected the mean interestingness ratings significantly. 3. There was found to be a significant main effect of rating trials leading to a significant interaction between sex and rating trials; anxiety and rating trials, and complexity and rating trials. 4. The main effect of anxiety, sex and task complexity variables were found significant as the problem solving performance was concerned. 5. The interactions between anxiety and complexity, and sex and complexity were found significant whereas the interaction between anxiety and sex was not significant. 6. On trend analysis, a significant linear and quadratic trend for complexity variable was found. On linear trend analysis interactions between anxiety and complexity, and sex and complexity were significant. For the quadratic trend analysis none of these interactions were found significant.

404. KRISHNAN, U., *The Role of Motivational and Cognitive Factors in the Differences of Person-Perception and Person-Approach*, Ph.D. Psy., RDVV, 1985

The study was directed to test the following hypotheses: (1) High self actualizers would be higher on the accuracy and approach measures of person-perception than low self actualizers. (2) Internals on the locus of control variable would be higher on accuracy and approach measures than externals. (3) Subjects with high values of independence, benevolence and leadership on SIV would be higher on the accuracy and approach measures than subjects with high values of support, confirmity and recognition. (4) Field independence would be higher in accuracy but lower in approach than field dependence. (5) High intuitives would be higher in accuracy but lower in approach than low intuitives. (6) Subjects with a high preference for complexity would be higher in accuracy but lower in approach than subjects with a low preference for complexity.

The sample of the study consisted of 866 female undergraduate students studying in class B.A.I. of different colleges of Indore city. A multistaged procedure was followed to collect the relevant data. Firstly, acquaintance ratings were obtained for large groups of students and the groups of unacquainted members were formed. Secondly, these large groups were given the questionnaires and tasks of the perceiver variables in their classes or in smaller groups. Thirdly, the groups formed on the basis of unacquainted members were given the interaction tasks and the duration was one hour for every group. At the fourth stage they rated other members for approach of liking first and then rated others on qualities given in the rating scales for accuracy and followed this by self ratings. Finally they were administered the 16 PF Test. The tools used for data collection were the Rating Scale for Acquaintance constructed by the investigator, the Self Disclosure Questionnaire Translated in Hindi from Jourard's Questionnaire, the Rosenzwig's P.F. Study (Adult Form) a performance task of Problem-7 from Alexander's Pass-Along Test, the College Adjustment Inventory by Sinha and Singh, the Seven Point Scale for Liking used by Burne (1961), and the Social Distance Scale used by Back (1951). Sixty-four bipolar adjectives presented in four sections of 16 pairs representing the 16 personality factors of the Cattell Questionnaire (Form A) were used as measures of persons-perception accuracy and the 16 PF Questionnaire (Form A) of Cattell was used as a criterion measure of accuracy. Along with this the other tools used were the Personal Orientation Inventory developed by Brammer and Shostrom (as a measure of self actualization), the Collin's Modification of Rotter's I. E. Scale, the Gordon's Survey of Inter-personal Values (SIV), the Embedded Figures Test (as the measure of field independence), the Westcott's Test of Intuitive Leaps (as a measure of intuitive ability), and a Figure Preference Test constructed on the lines of the Barron-Welsh Scale (as a measure of performance for ambiguity). The data were analysed by computing mean, S.D., t-values and coefficients of correlation.

The findings of the study were: 1. Self actualization was found to be significantly and negatively related with self ratings based in accuracy. Other relationships and differences in this respect were not found to be significant. 2. Internality of personal control was found to have significantly negative relationship with self ratings based in accuracy. Internals and externals were also found to differ in matched and mismatched conditions for all the measures except 16 PF based inaccuracy. 3. The SIV values of benevolence had a significantly negative relationship with 16 PF based inaccuracy, while the SIV value of support had a significantly positive rela-

tionship with self ratings based inaccuracy. Other relationships were not found to be significant. 4. Field independence was found to have significanlty lower inaccuracy scores on the 16 PF criterion, but none of the other analyses revealed significance. 5. Intuitive ability was found to be related to 16 PF based inaccuracy with a significantly positive relationship of clue use with inaccuracy. Other differences were not found to be significant. 6. The preference for complexity showed no relationship with any of the accuracies. 7. The relationship of variables among the perceiver factors revealed a significantly positive relationship of preference for complexity with field independence and a significantly negative relationship with self actualization. 8. The relationship among person-perception and person approach measures revealed only a low but significantly positive relationship of self ratings based inaccuracy with assumed dissimilarity. Approach measures were found to have no significant relationship with other variables.

405. KULSHRESHTHA, R., *Value Orientations, Interests and Attitudes as Correlates of Self-Concept among Male and Female Adolescents*, Ph.D. Psy., Agra U., 1983

The objectives were (i) to determine and study the impact of value orientations, interests and peer relations upon the concept of self in both male and female adolescents, (ii) to obtain interactions among as well as between value-orientation, interests and peer relations on bivariate and trivariate levels of operation while affecting the concept of self, so that the dynamics of the concept of self could be understood, (iii) to determine differences in the dynamics of the concept of self as the study related to both the sexes, and (iv) to determine the growth of self-concept of the students in the Indian socio-cultural setting. The hypotheses were: (1) Value orientation may affect the concept of self. (2) Interest may affect the concept of self. (3) Peer relations may affect the concept of self. (4) Value orientation and peer relations may interact in set. (5) Value orientation and interests may interact in the set. (6) Interests and peer relations may interact in the set. (7) Value orientation, interests and peer relations may interact in the set.

The sample consisted of 160 high school and intermediate college going students of Aligarh. It represented both males and females, whose age ranged from 15 to 19 years and who belonged to the urban area. They were from three faculties viz., science, arts and commerce, and generally belonged to the middle SES. Value orientation was measured with the help of a value-orientations scale developed by N.S. Chauhan *et al.* Self-concept was measured with the help of a Test of Self-concept developed by G.P. Sherry *et al.* Its test-retest reliability coefficient was 0.733. Chatterji's Non-language Preference Record developed by S. Chatterji was used to measure interest of students. The Attitude Towards Peers Scale developed by the investigator was used. The test-retest and split-half reliability coefficients were 0.81 and 0.74 respectively. The data were analysed with the help of factorial design analysis of variance of equal cell size.

The findings were: 1. Value orientations affected the concept of self in adolescents. 2. Value orientation had a positive affinity with self-concept among male as well as female adolescents under different levels of interest. 3. Interest played an important role in the growth of self-concept among adolescents. It promoted the concept and also demoted the concept of self in various association bonds with value orientations and peer relations. 4. Interests were shaping and forming the male adolescents' concept of self. 5. Growth of self-concept during the period of adolescence in both the sexes depended upon the variations of interest occurrence. 6. Peer relations generally demoted the concept of self in adolescence in males and females. 7. Peer relations prompted the concept of self also but only when value orientations or interests were operating. 8. Promotion or demotion of the concept of self by peer relations in case of both males and females remained different.

406. KUMAR, J., *The Effects of Extraversion and Elaboration of Encoding on Retrieval of Information*, Ph.D. Psy., Mee. U., 1984

The hypotheses stated in this study were: (1) Retention would be greater in the more elaborated condition than in the less elaborated condition. (2) Retention would be greater for recognition than for free recall. (3) Retention would be greater for recognition than for free recall for both more and less elaborated tests.

Adaptation of extraversion scale of the Eysenck Personality Inventory (E.P.I.) was initially administered to 1200 students, out of which 416 students who had lie scores of five or more were eliminated. Out of the remaining 784 students, 192 subjects were selected for the study. The subjects were male undergraduate and post-

graduate students of Meerut University and various colleges affiliated to Meerut University, and ranged in age from 16-25 years. A 3×2×2 factorial design was replicated 16 times. The list used in the present study was patterned after that used by Stein (1977) in his investigation. The list contained 29 similes in the Hindi language. They could be classified into animate and inanimate categories. All the similes were printed on a sheet and the same sheet was given to all the subjects. All subjects received the same sequential order of similes. The subjects were first required to classify the similes in one of two ways—good, moderate or poor, and animate or inanimate categories. Immediately after classification of the task, a free recall or recognition test was given for three minutes. The data were analysed by analysis of variance.

The findings were: 1. The retention performance was positively related to elaboration of encoding. That is retention was greater for the more elaborated task than for the less elaborated task. 2. Retention was greater when determined by the recognition test than the free recall test. 3. Subjects high on extraversion had greater retention than moderate and low scorers, the moderate scorers had greater retention than low scorers. 4. Extraversion and elaboration of encoding were not independent of each other. The moderate scorers on extraversion had greater retention than low scorers for the more elaborated task but the differences were not significant for the less elaborated task. 5. Elaboration of encoding and retrieval measures were not independent of each other. 6. Extraversion and retrieval measures did not interact with each other. 7. The three variables, extraversion, elaboration of encoding, and retrieval measures, were not independent of one another.

407 KUMAR, K., *Some Personality Correlates of Academic Adjustment*, Ph.D. Psy., Bih. U., 1980

The main aims of the study were (i) to develop a tool for measuring level of academic adjustment of college students, and (ii) to ascertain the relationships between certain personality dimensions and academic adjustment of college students.

An Academic Adjustment Inventory (AAI) was developed which contained six aspects of academic adjustment, viz., curricular adjustment, level of aspiration, personal efficiency, study skills, personal relations and mental health. The inventory was developed adopting suitable procedures. The reliability and validity of the inventory were found out. Sex difference in academic adjustment of college students was determined. Personality dimensions were ascertained by using the Hindi version of the Eysenck Personality Inventory (EPI). The validity for the EPI was further tested. The AAI and EPI were administered to a mixed sample of 500 undergraduate college students of Bihar University.

The major findings were: (1) The AAI was sufficiently reliable and valid for measuring academic adjustment of college students. (2) The AAI was capable of yielding six area scores and one composite score (Inventory Score). (3) The academic adjustment of the female students was significantly much better than that of the male students. (4) No significant difference between the English and Hindi versions of the EPI was observed. (5) The introvert students had better academic adjustment than the extravert students. (6) The normal (or stable) students had better academic adjustment than the neurotic (or unstable) students. (7) The stable-introvert students had the highest academic adjustment, while the unstable-extravert students had the lowest adjustment. The significant educational implication is that the AAI can profitably be used to measure the level of academic adjustment of college students.

408. KUMAR, R., *Development of Religious Identity and Prejudice in Christian School Students*, Ph.D. Psy., Ran U., 1986

The main objectives of the study were to examine (i) the development of religious preference and prejudice, religious recognition and religious information, (ii) the role of age, sex and sect on the development of religious preference-prejudice, recognition and information, (iii) the relationship between religious preference-prejudice, recognition and information, and (iv) the relationship of prejudice with attitude and personality.

One hundred and twenty tribal Christian (60 Catholics and 60 Protestants) school students (60 males and 60 females) were selected from Ranchi town. It was a stratified random sample using a factorial design. There were 24 sub-groups with five cases in each. Religious Recognition Test, Religious Preference-Prejudice Test, Religious Information Test, Likert Type Prejudice, Attitude and Personality Scales were used. Percentage, mean, t-test, analysis of variance, correlation technique, etc. were employed for drawing conclusions.

Some of the major findings were: 1. Development of

Preference-Prejudice was not influenced by sex and sect. 2. Religious recognition increased with age. It was higher for one's own than for other religions, and appeared in early childhood. There were significant effects of age and sect on religious recognition. 3. Religious information was significantly influenced by age and sect but not by sex. Level of religious information was rather low for even Christian items and much lower for items of other religions. 4. Religious identity was more influenced by age. Age influenced significantly religious preference-prejudice against Muslims. Sex and sect did not significantly influence development of religious identity and prejudice. 5. Ethnocentrism and prejudice in Christian children stabilized at 6-7 years. They accepted other religions in this order—Hinduism, Sikhism and Islam.

*409. KUMAR, S., *A Comparative Study of the Interests, Needs and Adjustment Problems of Gifted and Average Children*, Ph.D. Edu., Del. U., 1985

The objectives of the study were (i) to ascertain the incidence of the gifted in some schools, (ii) to ascertain the interests, needs and adjustment problems of the gifted, and (iii) to compare the interests, needs and adjustment problems of the gifted with those of the average children.

The study was conducted on 509 students of class X (300 boys and 209 girls) drawn randomly from the 18 secondary schools of Delhi. The tools used for collecting data were: (i) Raven's Standard Progressive Matrices, (ii) Jalota's Group Mental Ability Test, (iii) Chatterji's Non-Language Preference Record, (iv) Saxena's Adjustment Inventory, (v) the Need Inventory, (vi) a Problem Checklist. The data were analysed with the help of analysis of variance supplemented by t-ratio and factor analysis.

The major findings of the study were: 1. The gifted children constituted 12 per cent of Delhi's school population. 2. The gifted children were highly interested in scientific and medical areas. 3. The average children were highly interested in literary and medical areas. 4. The gifted children were more interested in scientific, medical and technical areas and were less interested in fine arts, outdoor and sports areas. However, both the groups did not differ in their interests in literary areas, agriculture, crafts and household work. 5. The average boys were highly interested in scientific, medical, literary, technical and sports areas. 6. Both the groups did not differ in their interests in the literary and medical areas, agriculture, crafts and household work. 7. The gifted girls were highly interested in medical and scientific areas as compared with other interest areas and were least interested in crafts. 8. The average girls were highly interested in literary and medical areas and least interested in crafts as compared with other areas of interests. 9. The gifted girls were more interested in scientific areas and less interested in fine arts, outdoor and sports areas. However, both the groups of girls did not differ in their interests in the literary and medical areas, agriculture, crafts, technical and household work. 10. The gifted boys were more interested in technical and crafts areas and less interested in fine arts, literary, medical, agriculture and household work areas than the gifted girls. Both the groups did not differ in their interest in scientific, outdoor and sports areas. 11. The average boys were more interested in technical and crafts areas and less interested in fine arts, literary, medical, agriculture and household work areas than the average girls. Both the groups did not differ in their interest in scientific, outdoor and sports areas. 12. The gifted children felt highly the need for self-actualization and least for aesthetic needs as compared with other needs, whereas average students felt highly for basic needs and least for aesthetic needs as compared with other needs. 13. The gifted children felt more for esteem, self-actualization, aesthetic and educational needs than the average children. Both the groups did not differ in their basic needs. 14. The gifted girls felt highly the need for self-actualization and least for aesthetic needs than for other needs. Their basic needs were more than educational and esteem needs whereas average girls felt highly for basic needs and least for aesthetic needs. 15. The gifted girls felt more for esteem, self-actualization, aesthetic and educational needs than the average girls. Both the groups did not differ in their basic needs. 16. Among esteem and educational needs, the gifted girls felt more need for achievement, intellectual independence, intellectual curiosity, research and problem solving, and encouragement of creative thinking than the average girls. 17. The gifted boys felt more for educational needs and less for aesthetic, belongingness and love needs than the gifted girls. There was no difference in their needs for safety, esteem, self-actualization, achievement, intellectual/independence, dominance, adventure, research and problem solving, and encouragement of creative thinking. 18. The average boys felt less for aesthetic, belongingness and love needs than the average girls.

There was no difference in their safety, esteem, self-actualization and educational needs. 19. The gifted children were better adjusted in health and least adjusted in school as compared with other areas of adjustment. 20. The gifted and the average children did not differ in their total adjustment. 21. The gifted boys had better total adjustment than the gifted girls. They were more adjusted in health, emotional and school areas than the gifted girls. But there was no difference in their home and social adjustment. 22. The average boys had better total adjustment than the average girls. But there was no difference in their home and health adjustment. 23. There was no difference in the total problems of the gifted and average children. 24. The gifted girls and average girls had more emotional problems than the gifted boys. But there was no difference in their home, health, social and school problems. 25. The analysis of the problem checklist indicated that there was no difference in the nature of problems faced by the gifted and the average. 26. The gifted and the average did not differ in their satisfaction of basic needs but differed in the satisfaction of higher order needs. 27. Among esteem and educational needs, the gifted were less satisfied in their need for achievement, intellectual curiosity, research and problem-solving, and encouragement of creative thinking than the average. However, there was no difference in their satisfaction of needs for intellectual independence, dominance, adventure and independent study habits.

410. KUMAR, V., *A Study of Perception of Classroom Social Climate With Reference to Prediction of Dimensions of Academic Motivation of High School Students*, Ph.D. Edu., Kur. U., 1984

The objectives of the inquiry were (i) to study the relationship between perceptions of dimensions of classroom social climate and dimensions of academic motivation in high school students, (ii) to predict each of the 16 dimensions of academic motivation and total academic motivation on the basis of perception scores on a combination of the dimensions of classroom social climate, and (iii) to adapt the tools—The Classroom Environment Scale and The Academic Motivation Inventory, in Hindi. The hypothesis of the study was that there existed a significant correlation between nine dimensions of classroom social climate and 16 dimensions of academic motivation.

The sample of the study consisted of 1251 students of class X, out of which 808 were in government managed schools and 443 from privately managed schools. The sample included 971 boys and 280 girls. The sample students were administered the following tools: The Trickett and Moos Classroom Environment Scale, and The Moen and Doyle Academic Motivation Inventory. Both these tools were adapted and their Hindi versions prepared. The test-retest reliability of the Trickett and Moos Classroom Environment Scale ranged from 0.72 to 0.90 for nine dimensions of classroom social climate and its validity coefficient ranged from 0.62 to 0.83. The reliability coefficient of the Moen and Doyle Academic Motivation Inventory ranged from 0.52 to 0.87 and the validity coefficient from 0.66 to 0.90 for 16 dimensions of academic motivation. The data so collected were analysed with the help of multiple correlation and multiple regression.

The findings of the study were: 1. There ware positive and significant correlations between nine dimensions of classroom social climate and 14 dimensions of academic motivation, viz., Thinking Motive, Persisting Motive, Achieving Motive, Facilitating Anxiety, Debilitating Anxiety, Grade Orientation, Economic Orientation, Desire for Self-employment, Demanding, Influencing Motive, Competing Motive, Approval Motive, Affiliating Motive, and Withdrawing Motive. 2. The other two dimensions of academic motivation, viz., Dislike School and Discouraged about School were negatively related with each of the nine dimensions of classroom social climate. 3. There was significant correlation between total classroom social climate and total academic motivation scores. 4. Multiple correlations of each of the 16 dimensions of academic motivation with the combinations of nine dimensions of classroom social climate were positive and significant. 5. Rule Clarity, Competition, Teacher Control, Affiliation, Teacher Support, Task Orientation, Innovation, Involvement, and Order and Organization contributed positively to Thinking Motive. 6. Rule Clarity, Teacher Control, Competition, Involvement, Affiliation, and Innovation contributed positively to Persisting Motive. 7. Rule Clarity, Competition, Task Orientation, Teacher Control, Involvement, Innovation, and Order and Organization contributed positively to Achieving Motive. 8. Competition, Involvement, Teacher Control, Task Orientation, Rule Clarity, and Teacher Support contributed positively to Facilitating Anxiety. 9. Competition, Teacher Control, Task Orientation, Teacher Support, and Involvement, contributed positively to Debilitating Anxiety. 10. Rule Clarity, Competition, Teacher Con-

trol, Task Orientation, and Affiliation contributed positively to Grade Orientation. 11. Order and Organization, Competition, Teacher Control, Rule Clarity, and Affiliation contributed positively to Economic Orientation. 12. Rule Clarity, Affiliation, Competition, Teacher Control, Teacher Support and Order and Organization contributed positively to Desire for Self-improvement. 13. Competition, Rule Clarity, Innovation and Teacher Control contributed positively to Demanding Motive. 14. Competition, Innovation, Rule Clarity, Teacher Support, Involvement, and Teacher Control contributed positively to Influencing Motive but Affiliation contributed negatively to influencing Motive. 15. Competition, Task Orientation, Teacher Control, Innovation, Rule Clarity, and Teacher Support contributed positively to Competing Motive, but Affiliation contributed negatively to Competing Motive. 16. Rule Clarity, Competition, Teacher Control, Involvement, and Affiliation contributed positively to Approval Motive. 17. Rule Clarity, Competition, Affiliation, Innovation, Teacher Control, and Involvement contributed positively to Affiliating Motive while Order and Organization contributed negatively to Affiliating Motive. 18. Competition, Task Orientation, Teacher Control, Involvement, and Teacher Support contributed positively to Withdrawing Motive while Affiliation contributed negatively to Withdrawing Motive. 19. Rule Clarity, Competition, Affiliation, Teacher Control, and Task Orientation contributed negatively to Dislike School. 20. Rule Clarity, Affiliation, Teacher Control, Innovation, and Task Orientation, contributed negatively to Discouraged about School while Involvement contributed positively towardes it. 21. Competition, Rule Clarity, Involvement, Teacher Control, Task Orientation, and Teacher Support contributed positively to Total Academic Motivation.

411. Kumari, S., *Self-Esteem and Aspiration as Factors Affecting Risk-taking Behaviour among Deviant Adolescents*, Ph.D. Psy., Agra U., 1981

The objectives of the study were (i) to study the individual as well as collective impact of self-esteem, level of aspiration and deviance on risk-taking tendencies and unethical-task involved risks, (ii) to study the interaction between self-esteem and aspiration, self-esteem and deviance, and aspiration and deviance in as many as eight 2x3x3 factorial studies of risk-taking behaviour of adolescent girls, and (iii) to study the interaction between self-esteem, aspiration and deviance while influencing risk-taking tendencies (RTT) and unethical-task oriented risks.

The sample consisted of 360 girls belonging to different levels of aspiration, behavioural deviants (BD) and self-esteem. A Self-esteem Inventory by M.S. Prasad and G.P. Thakur was used to measure self-esteem. Its split-half reliability for personally-perceived self and socially-perceived self were 0.82 and 0.78 respectively. Level of aspiration was measured with the help of a Level of Aspiration Scale by H.M.Singh and Govind Tewari. A Behavioural Deviance Scale by N.S. Chauhan was used to measure behavioural deviance. Its split-half reliability coefficients ranged from 0.62 to 0.87. Risk-taking Behaviour was measured with the help of measures of risk-taking behaviour (choice dilemma procedure and behaviour prediction scale). Its split-half reliability was 0.90. The data were analysed with the help of factorial design analysis of variance, t-test and Duncan's Range Test.

The findings were: 1. For taking more risk, it was essential to have high aspiration and positive or moderate self-esteem. 2. Deviance, self-esteem and aspiration independently and simultaneously affected risk-taking behaviour. 3. Both ends of self-esteem (positive and negative) promoted risk-taking behaviour in deviant adolescent girls whereas moderate self-esteem did so in non-deviant girls. High aspiration and high self-esteem promoted risk-taking behaviour, whereas low aspiration and negative self-esteem demoted risk-taking tendencies. High aspiration promoted comparatively in greater magnitude risk-taking tendencies in deviants but the results of the main effect of aspiration showed that low aspirants showed comparatively more risk-taking tendencies than high and moderate aspirants. 4. Withdrawal type of deviants showed comparatively more risk-taking tendencies and unethical risk-taking behaviour. 5. Low SES promoted risk-taking tendencies whereas high and moderate SES demoted the same. 6. High aspiration significantly promoted risk-taking tendencies in comparison to moderate and low levels of aspiration. 7. Self-esteem and level of aspiration did not play any significant role in unethical risk-taking behaviour. 8. High and moderate aspiration promoted risk-taking tendencies in withdrawal type of deviants, whereas low aspiration did so in non-deviant adolescent girls. 9. Withdrawal type of deviants having any magnitude of aspiration showed more unethical risk-taking

behaviour in comparison to non-withdrawal type adolescent girls. 10. High self-esteem promoted risk-taking tendencies as well as unethical risk-taking behaviour in withdrawal type of deviants only when they possessed a moderate aspiration level. Positive self-esteem was a prominent factor in risk-taking behaviour of withdrawal type deviant adolescent girls. 11. The expectation evading type of deviants tended to have more risk-taking tendencies and participated comparatively more in unethical risk-taking tasks in comparison to non-expectation evading type adolescent girls. 12. Self-esteem did not play any significant role in risk-taking tendencies of expectation evading deviance but had a significant impact on unethical risk-taking behaviour. Positive self-esteem promoted the risk of the unethical tasks due to better understanding. 13. Low aspiration promoted both types of risk-taking behaviour in adolescent girls. 14. Expectation evading deviants when they possessed high self-esteem, took more risk in comparison to other levels of self-esteem; whereas non-deviants did so when they possessed negative or low self-esteem. 15. Expectation evading type of deviants having any amount of aspiration level showed more unethical risk-taking behaviour in comparison to non-deviants. 16. Low aspiration with low self-esteem promoted risk-taking tendencies in adolescent girls. Moderate aspiration with moderate self-esteem promoted risk-taking tendencies. High aspiration did so only when adolescent girls possessed high self-esteem. 17. At a moderate level of aspiration, when self-esteem increased, it promoted unethical risk-taking behaviour in expectation evading deviants, whereas in non-deviants the deterioation in self-esteem increased unethical risk-taking behaviour. High aspiration with moderate self-esteem promoted unethical risk-taking behaviour in deviants. The maximum magnitude of unethical risk-taking behaviour was noted in deviants when their self-esteem was high but aspiration was low, whereas non-deviants did so when they possessed high self-esteem and high aspiration. Rebelling type of deviants had significantly more risk-taking tendencies and took more risk in unethical risk-taking behaviour. Low self-esteem promoted significantly risk-taking tendencies as well as unethical risk-taking behaviour. A moderate aspiration level promoted significantly risk-taking tendencies, whereas a low level of aspiration did so in unethical risk-taking behaviour. 18. Rebelling type of deviants having high self-esteem showed more unethical risk-taking behaviour than non-deviants. The rebelling type of deviants having a low or moderate aspiration level showed more risk-taking behaviour in comparison to non-deviants, whereas non-deviants did so when they possessed high aspiration. A low aspiration level promoted significantly more risk-taking tendencies only when the scores of self-esteem were high.

412. KUMARI SUDHA, *A Study of Intelligence, Achievement, Adjustment and Socio-economic Patterns of Different Sociometric Groups of Adolescents*, Ph.D. Edu, Pan. U., 1982

The objectives of the study were (i) to compare the intelligence of populars, neglectees, isolates and rejectees, (ii) to find out the difference in their achievement, (iii) to explore their adjustment, (iv) to make a comparison of their socio-economic status, and (v) to find out if any relationship existed in intelligence, achievement, adjustment and socio-economic status of different sociometric groups.

A sample of 529 students was drawn from nine schools (government and private) of Jullandhar city. The sociometric status of these students was worked out on the basis of a sociometric questionnaire and four extreme groups of populars, neglectees, isolates and rejectees were formed. Further it was managed to keep 50 students in each category, so the final sample consisted of 200 students of class IX. These students were administered the Jalota (1963) Group Intelligence Test, the Mittal (1965) Socio-Economic Status Scale, and the locally prepared Sociometric Scale. The results were analysed using product-moment coefficient of correlation and analysis of variance.

The findings of the study were: 1. There were significant differences among the four sociometric groups in the case of almost all variables. 2. The group combinations of populars and neglectees, populars and isolates, populars and rejectees differed significantly on intelligence. 3. The differences in achievement of various sociometric groups were significant. 4. Populars accounted for significant differences from other sociometric groups, i.e., neglectees, isolates and rejectees, on the variable of achievement. Populars showed the highest mean score on achievement followed by the mean scores of isolates, rejectees and neglectees. 5. The different sociometric groups differed significantly on the variables on home adjustment, social adjustment, health and emotional adjustment, school adjustment and total ad-

justment. 6. Populars got the highest mean score on home adjustment. 7. On the variable of social adjustment the group combinations of populars and neglectees, populars and isolates, populars and rejectees and neglectees and rejectees attained significant differences between their means. 8. In school adjustment the populars were the best. They had the highest mean score (55.04) followed by isolates, neglectees and rejectees. 9. In total adjustment, populars had the highest mean score (221.68). 10. F-ratio was significant for the variable of socio-economic status indicating the existence of differences among various sociometric groups. 11. The mean score of populars was the highest on socio-economic status followed by neglectees, isolates and rejectees. 12. The correlation for populars between the variables of intelligence and achievement was significant. The correlation in their case was also significant between intelligence and socio-economic status. 13. In the case of neglectees all the correlation values were positive between different variables of adjustment. 14. A high positive correlation coefficient was obtained between intelligence and achievement for isolates. 15. The relationship between different variables for rejectees was positive in all the different combinations. 16. There existed a positive relationship between intelligence and achievement for all the sociometric groups. 17. There was a positive relationship between intelligence and home adjustment for all the sociometric groups. 18. There was a positive correlation between achievement and total adjustment for populars, neglectees, isolates and rejectees. 19. The product-moment coefficient of correlation in respect of sociometric categories ranged from 0.146 to 0.439 for variables of total adjustment and socio-economic status.

413. LAHRI, S.K., *Differential Personality Patterns of Normal, Vagabond and Delinquent Children,* Ph.D. Psy., Bhagalpur U., 1977

The main aim of the study was to find out the differences in the personality patterns of normal, vagabond and delinquent children (12 to 16 years old). Twelve hypotheses were examined.

The sample included 300 male children (100 normal, 100 vagabond and 100 delinquent). Purposive sampling method was employed to select vagabonds from Observation Homes for Boys (New Delhi) and delinquents from Observation Homes for Boys (New Delhi) as well as Special School (Poor House, Kingsway Camp, New Delhi). Normal children were selected randomly from a Government Higher Secondary School, New Delhi. A Hindi version of IPAT's Jr. and Sr. H.S.P.Q., Form B (standardized in the Indian situation by Mehrotra) was used. Personality profiles based on mean scores were drawn. Mean, SD, T-test, etc, were employed.

Some of the major conclusions were: 1. While the difference between normals and vagabonds was less compared to normals and delinquents, it was more compared to vagabonds and delinquents. 2. Adolescent normals, adolescent vagabonds and delinquents differed more in personality patterns than pre-adolescents belonging to similar groups. Pre-adolescent and adolescent vagabond and delinquent children differed more or less equally. 3. Difference in personality patterns between pre-adolescent and adolescent normal, vagabond and delinquent children was rather negligible. 4. Vagabonds and delinquents had normal emotional stability and stronger super-ego strength. They had shown a tendency of self-sufficiency as normals. 5. Vagabonds and delinquents had moral values to accept social norms to rehabilitate in a society.

414. LALITHA, *A Study of Achievement Motivation Among School Going Tribal Children in Relation to Their Perceived Parental Behaviour,* Ph.D. Edu., Osm. U., 1982

The study had the objective of finding answers to the following questions: (i) What kind of family background produces people with high n-achievement as opposed to those with low achievement motivation? (ii) What are the consequences of parental expectations towards the development of achievement motivation? (iii) What is the level of achievement motivation of tribal children who are supposed to be socialized in a traditional way as opposed to the modern concept of child rearing? (iv) How do families of different socio-economic status with their respective familial practices engage in child socialization and influence the development of achievement among children? (v) How does a student's social origin shape his/her performance at school?

The sample for the study comprised 300 tribal and 146 non-tribal students in the age range of 12 to 18 years studying in classes VIII, IX and X. Among the tribals there were 254 boys and 46 girls and among non-tribals there were 94 boys and 42 girls. The tribal students belonged to different tribes. The sample students were ad-

ministered the following tools: (i) The Mukherjee Sentence Completion Test (1965) for measuring level of achievement motivation; (ii) the Development Oriented Perceived Parental Behaviour Test for parent-child interaction covering five dimensions, viz., achievement *vs* nonachievement orientation, independence-dependence, acceptance-rejection, nonconformity-conformity, modernism-traditionalism; (iii) the achievement of the students for the last two years (1978-80) in six school subjects (Telugu, English, mathematisc, science, social studies and Hindi) taken from the annual examinations record of the school; (iv) the Pareek and Trivedi Socio-Economic Statis Scale (1964).

The findings of the study were: 1. There was no significant difference in mean scores of tribal and non-tribal students in achievement motivation. 2. There were no sex differences in the mean n-achievement scores of boys and girls within tribal and non-tribal samples. 3. Regarding the influence of grade level on achievement motivation, the developmental trend was absent among the tribals in grades VIII, IX and X respectively. Among the non-tribals, a downward trend was shown at grade X after a steady maintenance at grades VIII and IX. 4. The set of inter-related dimensions relating to students' n-achievement, both tribal and non-tribal, showed that the achievement motive was not contingent upon family socialization practices. 5. The non-tribal children who felt that their parents had rejected them, exhibited higher n-achievement scores than those who felt that their parents had loved and accepted them 6. There was no relationship of conformity-nonconform ity with n-achievement tribal children, but there was an inverse relationship in the case of non-tribal children. 7. There was no relationship between n-achievement and independence training both in tribal and non-tribal children. 8. There was no relationship between democratic-oriented-perceived parental behaviour of children and n-achievement in both tribal and non-tribal children. 9. There was no significant relationship between socio-economic status and achievement motivation, and socio-economic status and development-oriented-perceived-parental behaviour, in the case of both tribal and non-tribal children. 10. The non-tribal children performed better in scholastic achievement than the tribal children in all the socio-economic groups. 11. There was no significant relationship between the school environment and n-achievement of both tribal and non-tribal children. 12. There was no significant difference between the school achievement of high and low n-achievement tribal and non-tribal groups. 13. The residential tribal school children had demonstrated better school achievement than the tribal and non-tribal children in common schools.

The study has its implication for policy makers who need to transform the educational system to awaken and motivate tribals towards the future, and to redeem the tribals from the prejudices that have emanated from hierarchical stratification of society.

***415.** MAHESHCHAND, *A Comparative Study of the Ideas of Bruner and Piaget on Concept Development*, Ph.D., Edu., Del. U., 1985

The objectives of the study were (i) to study Bruner's and Piaget's ideas on concept development, (ii) to compare Bruner's and Piaget's ideas, (iii) to find out experimentally the effect on concept development of the various variables revealed from the comparative ideas of Piaget and Bruner, and (iv) to point out the main implications for classroom instructions based upon the findings of the study.

The study was done in two parts. The first part was concerned with the ideas of Bruner and Piaget on concept development and comparison. The second part was concerned with an experiment in order to verify the effect of various factors. A sample of 300 students was selected, out of which 150 students belonged to urban area schools of Delhi and 150 belonged to rural schools of Rajasthan. The rural and urban children belonged to the age group 7+ to 9+ years and had equal years of schooling. Selection of the sample was done on the basis of cluster sampling technique. The conservation tasks and children's personality questionnaire were administered for the collection of data. The data so collected were processed with the help of analysis of variance.

The findings of the study were: 1. For the rural children, in the development of conservation concepts, labelling technique was the most effective while manipulation technique was more effective than screening. It was contrary to Piaget's view and supported Bruner's views. 2. For urban children, techniques for the development of conservation concepts were the same as for rural children, i.e. labelling, manipulation and screening. This was also consistent with Bruner's views on concept development. 3. Labelling and screening techniques related to symbolic and iconics models of representations respectively. In the development of conser-

vation concepts these were more effective among urban children than rural children. It supported Bruner's views on concept development. 4. In the development of conservation concepts among rural children, screening technique was more effective for children of low intelligence than for those of middle intelligence, and for those of high personality than for those of middle personality. Manipulation technique was more effective for children of middle intelligence than for those of high intelligence, and children of high ego-strength than those of low ego-strength. Labelling technique was more effective for children of low intelligence than for those of high intelligence, of middle intelligence than for those of high intelligence, and of low ego-strength than for those of high ego-strength. All these findings supported Bruner's views. 5. In the development of conversation concepts among urban children, screening technique was more effective for children of high intelligence than for those of middle and low intelligence, of middle intelligence than for those of low intelligence, and of high personality than for those of middle personality. Manipulation technique was more effective for children of high intelligence than for those of middle and low intelligence, and of high personality than for those of middle personality. Labelling technique was more effective for children of high and middle intelligence than for those of low intelligence, and of high personality than for those of middle personality. Bruner's views regarding individual differences for concept development among urban children were confirmed. 6. In the development of conservation concepts among children (regardless of their being rural or urban), screening technique was more effective for children of high intelligence than for those of middle intelligence, and of high personality than for those of middle and low personality. Manipulation technique was equally effective for children of high, middle or low intelligence, high or low ego-strength, and high, middle or low personality. Labelling technique was equally effective for children of high, middle or low intelligence, and high, middle or low personality but more effective for children of low ego-strength than for those of high ego-strength. These findings were partially in accordance with Bruner's views on individual differences but fully confirmed Piaget's views regarding individual differences in the development of conservation concepts.

***416.** MAJID, A., *A Study of the Various Dimensions of Mental Health*, Ph.D. Edu., AMU, 1984

The objective of the study was to identify the dominant factors which constituted the complex phenomenon known as mental health.

G.A. Ansari's Self-Acceptance Scale, A. Ansari and G.A. Ansari's Level of Aspiration Coding Test and E.L.Shostrom's Personal Orientation Inventory which is a measure of Time Perspective, Self-Actualization, Existentiality, Feelings, Reactivity, Spontaneity, Self-Regard, Self-Concept, Perception of Nature of Man, Acceptance of Aggression and capacity for intimate contact were administered to a sample of 210 boys and 220 girls. The data were subjected to factor analysis employing the method of Principal Component Analysis. Separate analysis was done for boys, girls and boys and girls combined. The extracted factors were rotated orthogonally to achieve a psychologically meaningrful, simpler structure of factor loadings.

The following factors were obtained: 1. Factor-I was called 'Self-Acceptance' because it was contributed by the variables which reflected an accepting attitude of the individual towards himself. This factor was common to all the three groups. 2. Factor-II for the combined group and Factor-III for boys and girls were called 'Existential Autonomy' because they were contributed by variables which indicated existentiality and inner orientation. 3. Factor-II for girls was called 'Open Mindedness' because it was mainly contributed by the variables which referred to a present-oriented and open personality. 4. Factor-II for boys and Factor-III for the combined group emerged as a configuration of loading contributed by all the variables of mental health. This factor was therefore, named the factor of 'General Mental Health'.

417. MAJUMDAR, I., *Study of Parent-Perception and Perception of School of Adaptive and Maladaptive Children*, Ph.D. Appl. Psy., Cal, U., 1983

The objective of the study was to find out how nursery school children perceived and interpreted their parents as well as home environment and their school situation in course of their social developmental phases. For this purpose, the hypotheses formed were: (1) Adaptive children have richer perceptions and interpretations about their parents whereas the maladaptives have poor perceptions and interpretations for the same. (2) Adaptive children have richer perceptions and interpretations about school whereas the maladaptives have poor perceptions and interpretations for the same. (3) Parent-perception and school-perception of both the adaptive and maladaptive children are directly proportional.

The sample consisted of 400 children four and five

years old of seventeen Bengali-medium nursery schools in Calcutta. There were 200 (110 boys and 90 girls) adaptive and 200 (110 boys and 90 girls) maladaptive childeren. Tools used were researcher-made schedules, home information schedule and School Adaptation Test (SAT)—reliability and validity coefficients being 0.66 and 0.56 respectively. The Parent-Perception Test (reliability and validity coefficients being 0.59 and 0.74) and the School-Perception Test. The statistical techniques used were product moment correlation, t-test and F-test. The contrast group design was used.

The major findings were: 1. The maladaptive children perceived poorly or were unable to perceive all the contents of the school situation with similar levels of parent-perceptions in the home, whereas the adaptives perceived richly or were able to perceive mostly all the contents of the school situation and of the nature of parent-perceptions. 2. Home-perceptions and school-perceptions of children were directly proportional, i.e. one who perceived parents more richly perceived school at a similar level. 3. Age and sex had no role to play in the perceptual process.

418. MALHOTRA, K., *Internal Representations in Reasoning in Children,* Ph.D. Psy., Del. U., 1982

The objectives of the study were (i) to examine and analyse the internal representations made use of by a subject in solving linear syllogistic reasoning problems and analogy problems, and (ii) to draw certain broad generalizations in regard to the strategies employed in the formation of such internal representations and the rate at which these are formed. The following hypotheses were examined: (1) The higher ability group of children will require a lesser number of internal representations and less times to reach the correct solution as compared to the low-ability group. (2) Age will be a significant factor with respect to the number of internal representations required in solving a reasoning task. The older group will require a lesser number of internal representations and shorter time in reaching a solution to a reasoning problem as compared to the younger group. (3) The number of internal representations made to reach a correct solution will be more for the low-SES group as compared to that made by the high-SES group. (4) Sex will not be a significant factor in determining the number or type of internal representations required to solve either a syllogistic or analogical reasoning task.

The sample consisted of 120 boys and 120 girls in the age group of 11 to 13 years. The sample was divided into four groups of subjects, classified on the basis of two age groups (11+ to 12 and 12+ to 13 + years) and two socio-economic statuses. The sample was drawn from the Delhi Public School and one government school, taken to represent high-SES and low-SES group children respectively. The tools used were the Hindi adaptation of the Stanford-Binet Test (Kulshrestha, 1971) and Raven's Progressive Matrices Test. The study was done in two phases, viz., deductive reasoning phase and inductive reasoning phase. During the first phase, three series of problems were used to study the process of solving linear syllogistic reasoning problems. Two forms, one using female names and the other using male names, were constructed for each of the 32 problem types. A set of 64 problems was printed on a blank white paper which was pasted on to the hard cardboard. The distance between the three parts of the statement was so arranged that the subject had to turn the head observedly for reading different parts of the statement. The problems in the test were arranged in random order. In the second phase of inductive reasonsing, 20 analogy problems were selected from the Raven's Standard Progressive Matrices. Four problems were chosen randomly from each of the five subsets of the test. All the 20 items selected were modified in two ways. In the first case, no answer option was provided to the subjects. The subject was shown the pattern and was told to make use of a self-completion response mode by drawing the figure which he considered to provide the solution to the problem presented in the pattern. In the second case, items were cut out from the booklet and pasted on hard cardboard. The data collected from both the phases of study were analysed by using analysis of variance, t-test and coefficient of correlation.

The findings of the study were: 1. In case of deductive reasoning, there was significant correlation between the test scores of ability measure and linear syllogistic reasoning measure. The high-ability and high-SES group of subjects were observed to make a lesser number of visual fixations in a more parsimonious scheme than the low-ability and low-SES group of subjects. The high-ability group of students solved the problems faster, thus indicating faster speed of information processing as compared to the low-ability group of subjects. A significant difference was also observed for the two SES groups in this regard. However, age-group comparison and sex-group comparison failed to show differential effects. 2. In the case of inductive reasoning phase, the

higher-ability group required fewer patterns of internal representations, performing at a faster speed of information processing in reaching a solution to the problem in comparison with that of the low-ability group of children. The high-ability group of subjects was observed to be macro-analytic and flexible in arriving at a solution whereas the low-ability group was observed to be micro-analytic and kept on repeating the same pattern even though a feedback was provided. The percentage of correct number of responses was also higher for the high-ability group as compared to the low-ability group. 3. The high SES group was found to be significantly superior to the corresponding low-SES group in all the response measures. 4. Age as a main effect in interaction with SES was observed to be significant in analogical reasoning tasks and not in deductive reasoning tasks. 5. Sex was observed to be significant in interaction with ability, age and SES in deductive reasoning tasks and not in analogical reasoning tasks.

419. MALIK, S., *Personality Differentials of Adolescent Girls across Sociometric Status*, Ph.D. Edu., Pan. U., 1984

The objectives of the study were (i) to work out the sociometeric status of adolescent girls, (ii) to study personality patterns of adolescent girls as predicted by free expression drawings, (iii) to find out the personality traits of adolescent girls through a verbal measure, (v) to find out the interrelationship between the drawing component for each sociometric group, and (v) to make a comparison between the personality characteristics of four sociometric groups of popular, neglectee and isolate and rejectee adolescent girls.

A sample of 324 girls of grades IX and X of higher secondary schools of Chandigarh was selected on multi-staged randomized clustered sampling technique. The students who were selected as populars, neglectees, isolates and rejectees were administered the Mathur (1973) Free Expression Drawings and Cattell's HSPQ (1963). The sample was classified on the basis of the Bronfanbrenner (1945) sociometric questionnaire.

The findings of the study were: 1. For the personality characteristic of 'emotion-open', the populars and rejectees came in the above average category, whereas the neglectees and isolates fell in the lower cadre of the below-average category. 2. On the personality pattern of 'emotion-seclusive', all four groups stood in the above average category. 3. On 'combinative imagination', the populars fell in the high category, the rejectees in the above-average category and the neglectees and isolates in the lower category of the average category. The populars showed the highest mean scores followed by the mean scores of the rejectees, isolates and neglectees. 4. On 'creative imagination', the group of populars stood in the above-average cadre and the group of neglectees, rejectees and isolates were only in the average category. 5. On the characteristic of 'practical intellect' the group of isolates showed a less practical intellect than the group of populars, rejectees and neglectees, which were above average. 6. On the criterion of 'speculative intellect' all four groups came in the lower cadre of the average score, while the populars and isolates had an equal score followed by the mean score of neglectees. 7. In the case of 'dynamic activity', the groups of populars and rejectees stood in the high grading, wheras those of neglectees and isolates came in the above-average category. 8. On the personality pattern of 'controlled activity', all the four groups came in above-average category. 9. With regard to the total personality pattern, there existed significant differences among various sociometric groups. 10. The analysis of the personality patterns of populars revealed that they were more outgoing, intelligent, emotionally stable, assertive, happy-go-lucky, conscientious, venturesome, doubting, apprehensive, self-reliant, controlled, and tense. In comparison to populars, the rejectees were more outgoing and excitable, as assertive as populars, less intelligent, more doubting, equally tense and socially precise. On the factor of intelligence, the populars were superior to the rest of the sociometric group. 11. The group of populars and rejectees were found to be different on the variables of intelligence, emotion, happy-go-lucky, conscientious, venturesome, though-minded, doubting, group dependent and controlled. 12. The rejectees had the personality characteristics of outgoing, average on intelligence, emotionally less stable, excitable, assertive, happy-go-lucky, expedient, venturesome, tough-minded, high on doubting, apprehensive, depending, undisciplined and tense. 13. The rejectees differed significantly from populars, neglectees and isolates on all personality variables. 14. The isolates were reserved, more intelligent, emotionally stable, phlegmatic, shy, tough-minded, doubting, placid, obedient, sober, conscientious, group-dependent, undisciplined and relaxed. 15. The neglectees were found to be generally low on each variable as compared to the other sociometric groups. They were reserved, less-intelligent, emotionally less stable, phlegmatic, assertive, sober, expedient, shy,

tough-minded, vigorous, placid, took their own decisions, undisciplined and relaxed. 16. The neglectees differed significantly from other groups on all personality patterns. 17. The correlations for populars showed that there was a significant relationship between the variables of 'emotion-open' and imagination-combinative', 'emotion-open' and 'intellect-practical', 'emotion-open' and 'dynamic activity', 'imagination-combinative' and 'intellect-practical', 'imagination-combinative' and 'dynamic', 'imagination creative' and 'intellect-practical', 'imaginative-creative' and 'dynamic activity' and 'practical-intellect' and 'dynamic activity'. 18. In the case of neglectees, there was a positive correlations between the variables of 'emotion-open' and 'intellect-practical', 'emotion-seclusive' and 'intellect-speculative', 'imagination-creative' and 'dynamic activity. 19. In the case of rejectees, the correlations were significant in the case of variables of 'emotions-open' and 'imagination-combinative', 'emotion-open' and 'creative imagination', 'emotion-open' and 'practical intellects', 'emotion-open' and 'dynamic activity', 'combinative imagination' and 'creative imagination', and 'combinative imagination' and 'dynamic activity'. 20 In the case of isolates, a positive correlation was obtained between variables like 'emotion-open' and 'imaginative-combinative', 'emotion-open and paractical-intellect', 'emotion-seclusive' and 'creative imagination', 'emotion-seclusive' and 'dynamic activity', 'imaginative-creative' and 'dynamic activity', and 'intellect-practical' and 'dynamic activity'.

420. MANJULA, M.Y., *A Study of Concept Learning in the Disadvantaged School Children,* Ph.D. Psy., Mys. U., 1984

The main purpose of the investigation was to study concept learning in the advantaged and disadvantaged school children. The hypotheses formulated were: (1) The high and average SES children will perform better than the low SES children on conjunctive concept learning (A) verbal concept learning (B) and object categorization test (C). (2) No difference in performance is expected between the high and average SES groups on A, B, and C. (3) No difference in performance is expected between the two caste groups on A, B, and C. (4) The advantaged children will perform better than the disadvantaged children on A, B, and C.

The study adopted 2 × 3 factorial design with two castes—upper (Brahmins and Lingayats) and depressed (SC and ST) and three SES groups—low, average and high, forming six groups in all, children from upper caste, high SES families constituted the advantaged group and children from depressed caste, low SES families constituted the disadvantaged group. The sample of the study was stratified on the variables of caste and SES, and matched for the variables of age and class. It consisted of 300 standard VII children (both boys and girls) between 11 and 13 years of age selected from different schools in Mysore and Bangalore. The required data were collected using appropriate tools, viz., three concept learning tests (i) Conjunctive Concept Learning Tests (Jung & Bailay, 1976), (ii) Verbal Concept Learning Tests (developed by the investigator) and (iii) Object Categorization Tests (adopted from Rapaport et al., 1945) to measure concept learning; Non-verbal Group Test of Intelligence for children (Joshi and Tripattri, 1968); modified Kuppuswamy's Socio-Economic Status Scale (urban), 1962, to categorize children into low, average and high SES groups. Analysis of covariance was employed to test all the hypotheses, and the strategy adopted in learning the concept was analysed by using Chi-square test.

The major findings of the study were: 1. The performance of the high SES and the advantaged group was better than that of the low SES and the disadvantaged group on all the concept learning measures. 2. The performance of the high SES group was significantly better than the performance of the average SES group on all the concept learning measures except in conjunctive concept learning scores in the depressed caste. 3. The performance of the average SES group was significantly better than the performance of the low SES group on all the concept learning measures except in object categorization scores and percentage of adequate responses. 4. The effect of caste was not uniform on the different concept learning tasks. 5. High SES children and advantaged children tended to be focusers; low SES children and disadvantaged children tended to be scanners; the average SES group was found to adopt all the three types of strategies in the conjunctive concept learning task. 6. High SES children tended to adopt the utilized trial strategy; average and low SES children tended to adopt the waste trial strategy whereas advantaged and disadvantaged children did not differ from each other in the strategies adopted in the verbal concept learning task. 7. The two caste groups did not differ from each other in the strategy adopted in the conjunctive as well as verbal

concept learning tasks. 8. The performance of the SES advantaged–caste disadvantaged group was significantly better than that of the caste advantaged–SES disadvantaged group on conjunctive concept learning, verbal concept learning and complex task in verbal concept learning. The first group of children tended to be focusers and the second group of children tended to be scanners in the conjunctive concept learning task whereas no difference was found between the two groups in the strategy adopted in the verbal concept learning task. 9. High intelligence and high achievement were associated with better concept learning. 10. Boys and girls did not differ from each other in concept learning.

The results of this study imply that if the present system of reservation continues, only high SES individuals belonging to depressed castes will be benefited. If the disadvantaged children are to be helped genuinely, they should be given special coaching and training (particularly in preschool stage itself) in addition to the reservation to improve their cognitive abilities and to make them compete on their own along with others when they are at the portals of higher education. On the whole, it was concluded that, at present social disadvantage could not be measured by only caste, but it could be a relevant indicator of social disadvantage along with other indicators like income, education and occupation.

421. MANKAD, R.B., *An Analytical Study of Problems of Adolescence in Rajkot,* Ph.D. Psy., Guj. U., 1982

The main objective of the study was to know analytically the problems of adolescents studying in classes X and XI in high schools, pre-university and F.Y. classes of colleges in Rajkot city.

On the basis of the problem inventory of Badami, a preliminary script with 584 problems was evolved utilizing different procedures such as free writing, interviews, group discussions, relevant studies, etc., Prepilot and pilot studies were undertaken in two different towns of Saurashtra and the final tool consisting of 330 items having ten different areas was developed. In all, the inventory was administered to 1165 students; 165 cases had to be discarded. The final sample consisted of 550 high school students and 450 college students. One-fourth of the sample was also interviewed. The correlation between scores on interview data and inventory was 0.47 and that between interview data of two experts was 0.94. Since the very procedure of the preparation of the inventory was executed, the question of validity did not arise. ANOVA and t-test were utilized for analysis.

Major findings were: 1. Except in the areas of emotional and moral-religious problems, boys always had more problems than girls. 2. In two areas, namely, physical health and appearance as well as family and interpersonal relationships, high school pupils had significantly more problems than college students, while in the economic area, the reverse was the case. 3. The first five problems acutely faced by the entire sample were (i) I am worried about getting good marks for my studies, (ii) A virtuous man has to suffer a lot, (iii) I am keen to know how other students progress, (iv) I am very much disappointed when the expected work is not done, (v) I am unable to reply to a question in the class even though I know the answer. The range of respondent-percentage was from 69.7 to 79.9 in these cases.

422. MANSURI, A.R., *A Study of Achievement Motivation of Students of Stds. V, VI and VII in relation to Some Psycho-socio Factors,* Ph.D. Edu., SPU, 1986

The objectives of the study were (i) to prepare a reliable and valid verbal achievement motivation scale, (ii) to study the achievement motivation of pupils of classes V, VI and VII and to establish norms, (iii) to compare the level of achievement motivation of pupils of classes V, VI and VII, and (iv) to study the achievement motivation of pupils of classes V, VI and VII with regard to their psycho-socio factors such as SES, anxiety, motivation towards school and general ability.

The achievement motivation scale was constructed and standardized by following the usual method of scale construction. The scale was standardized over a sample of 1100 pupils of classes V, VI and VII of Sabarkantha District. The sex, percentile norms, z-score and T-score were established to help the user to interpret the test score. The reliability of the sacle was established by the test-retest method, split-half method, K-R Formula 20, Rulon Formula and analysis of variance. It ranged between 0.71 and 0.98. The construct and concurrent validity were established. The data of other variables were collected by using the SES scale constructed by B.V. Patel and I.A. Vora, the J-scale for measuring motivation towards school, the Anxiety Scale by K.R. Nijhawan and the General Ability Test of J.Z. Patel. The factorial design was adopted and analysis of vari-

ance was used for testing significance of differences between means and to study interaction effects.

Some of the findings were: 1. Grade was an effective variable on achievement motivation. The differences among means of grades V, VI and VII were significant and in favour of successive grades. The students of successive grades showed successive advancement in achievement motivation. 2. The students with high SES level were found significantly higher in their achievement motivation than those with low SES level. The interaction effect between grade and SES was not significant. 3. The students with low anxiety level and more achievement motivation than those with high anxiety level. The interaction effect between grade and anxiety was not significant. 4. The students having high-level motivation towards school were better in achievement motivation than those with a low level of motivation towards school. The interaction effect between grade and motivation towards school was not significant. 5. The students having good general ability also had a high level of achievement motivation. The interaction effect between grade and general ability was not significant.

423. MANUEL, D. R., *A Study of Tension on Goal Performance,* Ph.D. Edu., Madras U., 1982

The main objective of the study was to measure the effect of achievement-oriented tension and anxiety-related tension on academic performance in a school situation and risk performance in an experimental situation. Achievement-oriented tension was studied in terms of achievement-motivation at the conscious level and at the fantasy level. Anxiety-related tension was studied in terms of general anxiety in an overall manner, test anxiety specific to the evaluative situation and examination situation. The impact of failure on goal performance involving risk was studied under experimental conditions.

The Rao Achievement Motivation Test, Sarason's Test Anxiety Scale, General Anxiety Scale, and Rotter's Level of Aspiration Board were the standard tests used in the study. The investigator developed and used the following tools: A Goal Fantasy Test consisting of five pictures, each followed by a statement; an Examination Fear Test consisting of five incomplete statements, each followed by four alternatives to choose from; a Risk Board similar to Rotter's Aspiration Board but functionally differing from it , a Goal Gadget, and an electronic device to provide the experience of success or failure and to measure the effect of these on goal performance. Academic performance was studied with reference to terminal and the annual examination marks. The sample (N-460) was drawn from the boys in schools in Madras city adopting the random sampling technique. Critical ratio, analysis of variance and product-moment correlation were used to test the hypotheses.

The main findings were: 1. Achievement-motivation tension measured by achievement motivation at conscious and fantasy levels had a facilitating effect on academic performance. 2. Achievement motivation measured at the conscious level alone had shown a positive effect on risk performance. 3. Anxiety-related tension (measured by examination fear and test anxiety) had a negative influence on academic performance. 4. General anxiety did not show any impact on academic performance. 5. Test anxiety was related to risk performance negatively. 6. Examination fear was not related to risk performance. 7. Failure-tension, induced by failure experience, had shown negative impact on goal perception and performance in the success, neutral and failure groups. The impact was comparatively greater on failure groups.

The implications of the results were: (1) Learning situations should utilise the advantages and avoid the disadvantages of anxiety. (2) Teachers should be careful in labelling a student a failure since it may have a debilitating impact on the performance of the student. (3) Students may be taught failure-tolerance and to overcome fear in the school situation.

***424.** MATHUR, D., *A Study of Rorschach Diagnostic Indicators of Intelligence, Anxiety, Self-Image, and Level of Aspiration, D.Phil.* Psy., All. U., 1982

The major objectives of the study were (i) to evaluate the relative merits of the Rorschach test as a diagnostic measure for certain selected personality variables for the usage period (1950-65) at the Bureau of Psychology, (ii) to assess the concurrent validity of the Rorschach diagnostic indicators for certain selected variables by correlating them with another projective measure of personality and certain objective measures.

The data sample utilized for the study consisted of 175 Rorschach Protocols (after carefully sorting about 3000 case files) collected in the period 1950 to 1965 which also had with them data on the same subjects for TAT, and the Stanford-Binet and Bhatia Battery Per-

formance Test of Intelligence. These latter tests were used for assessing the concurrent validity for the Rorschach test. The age range of the sample was 14 to 18 years. Since the study was designed primarily as a validation study of Rorschach diagnostic judgements, it was delimited to four major personality areas, namely, intelligence, anxiety, self-image and level of aspiration.

The results indicated the following: 1. The mean score analysis of both frequency scores and proportion scores (controlling number of responses), indicated a generally normal pattern of distribution for the Rorschach indicators used. This suggested overall validity for discrete indicators in terms of usage in the data sample selected. 2. The intercorrelation analysis yielded very few statistically significant correlations. In the frequency scores of Rorschach indicators the significant correlations with TAT ratings were only 25 out of the total matrix of 320 correlations. Similarly, the number of significant correlations of the proportion scores of the Rorschach indicators with TAT ratings were even lower; out of the total correlation matrix of 320 only 14 correlations were statistically significant. A further attempt to factor analyse the TAT categories for greater reliability yielded only one significant correlation. Thus, while on the one hand the discrete Rorschach indicators mean pattern tended to support the usage of the test as a valid tool, on the other, the relationship of Rorschach diagnostic indicators with another projective test and objective measures of intelligence was not borne out, thus, suggesting lack of concurrent validity.

425. MISHRA, B.K., *A Study of the Relationship between Need for Achievement and Birth Order,* Ph.D. Psy., Ran. U., 1974

The main purposes of the study were (i) to determine the relationship, if any, between need for achievement and birth order, (ii) to find out the interacting effect, if any, of SES, size of the family, sex composition of the siblings, sex distribution of the siblings in the family and age interval of the nearest succeeding siblings in the family, in determining the relationship between need for achievement and birth order, and (iii) to explore the significance of difference, if any, between male and female subjects. Several hypotheses were tested.

A random sample of 480 college students, including postgraduate, students of Ranchi (310 males and 170 females) was drawn. A Hindi version of Mukherjee's Sentence Completion Test was used to measure need for achievement. Mean, standard error, t-test, chi-square, F-ratio, correlation, etc. were employed.

The major conclusions were: 1. There was no significant relationship between need for achivement and birth order even when analysed in relation to SES, class differences and family size. 2. Sex composition, sex distribution, age interval and sex had some interesting effects in determining level of n-Ach. of students of different ordinal positions.

426. MISHRA. C., *Association of Locus of Control, Creativity, and Educational Achievement of Urban, Rural and Tribal Children,* Ph.D., Psy,. Utkal U., 1983

The objectives of the study were (i) to assess the relationship between locus of control and creative thinking, (ii) to study the relationship between locus of control and academic achievement, (iii) to study the effect of socio-economic background and culture on the locus of control, (iv) to study the effect of socio-economic background and culture on creativity of children, (v) to study the effect of socio-economic background and culture on academic achievement of children, and (vi) to assess the relationship between creative thinking and educational achievement across sub-cultures.

There were three samples along the three sub-cultural groups, namely, the urban, rural and tribal. There were 115 socio-economically advantaged and 77 disadvantaged boys in the urban sample, 118 advantaged and 68 disadvantaged boys in the rural sample, and 110 disadvantaged boys in the tribal sample. The sample respondents were students of the 6th, 7th and 8th classes and belonged to the age range of 10 to 13 years. The tools used for data collection were the Cromwell Locus of Control Scale for children specially adapted by the researcher, annual examination results, and B. Mehdi's Indianized Scale of Creativity. The 3×2 and $2 \times 2 \times 2$ ANOVA were used for analysis of data.

The findings of the study were: 1. The trait locus of control was significantly related to creativity and educational achievement. 2. The internal locus of control subjects secured higher scores on creativity tests and educational achievements than the external locus of control subjects. 3. The relationships between locus of control and creativity, as well as between locus of control and educational achievement were positive and statistically significant. 4. The locus of control scores were

higher for the urban disadvantaged children compared to those of the rural and the tribal children. 5. Creativity scores were higher for the advantaged compared to those of the disadvantaged children both in the urban and the rural set-up. 6. The rural disadvantaged children seemed to be better than their urban and tribal counterparts in verbal creativity scores. 7. The non-verbal creativity scores were higher for the tribal children. 8. The advantaged children secured higher educational achievement scores than the disadvantaged children, both in the urban and the rural subcultures. Among the disadvantaged children, the tribals secured higher educational achievement scores than those of their urban and rural counterparts. Educational achievement was significantly related to creative thinking.

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*427. MISHRA, S.L., *Variations of Intelligence with Occupational Training Course, Age, Sex, and Locality*, Ph.D. Psy., AMU, 1968

The main objective of the study was to verify in Indian conditions Vernon's claim that variation in intelligence measured by certain tests, could be observed under certain conditions with reference to age, sex, locality and occupations.

The investigation had two experimental designs. Experimental design No. 1 had a battery of nine ability tests applied on 288 boys and girls of 14-19 years chosen from six classes. Experimental design No. 2 had a battery of 13 ability and attainment tests applied on 306 male post graduates chosen from ten occupational training courses of AMU. For collecting data, statistical analysis was used as a method, and different intelligence tests, ability battery tests and GK tests were the tools of the study.

The main findings were: 1. Regarding the significant observation in the six 14 to 19 years age-groups, the 16-year group obtained the first position in the Gottschaldt Test; the 18-year group obtained first position in Vernon's Drawing Pattern Test; the 19-year group obtained first position in seven tests, namely Aligarh V.I.T., Vernon's Pattern Reproduction Test, Vernon's non-verbal 'g', Vernon's graded Arithmatic–Mathematics, Raven's Progressive Matrices, Lovell's Concept Formation Test, Trist Hargreave's Concept Formation Test. 2. Males obtained higher average scores in six tests, namely, the Aligarh V.I.T., Vernon's Pattern Reproduction, Vernon's Arithmatic, Vernon's 'G' Hidden Shape, and Raven's Matrices. Females obtained higher average scores in three tests, namely, Vernon's Drawing Pattern, Trist Hargreave's Concept Formation and Lovell's Concept Formation Test. 3. Urban children obtained higher average scores in all the nine tests. Regarding the significant observations in the ten occupational groups, the physical science group obtained first position in four tests; the business group obtained first position in thirteen tests, the natural science group obtained first position in T (of the G.K. group); the teaching group obtained first position in C (of the G.K. Test); the library science group obtained first position in the H.T.W. (of the G.K. Test) and Vernon's Pattern Reproduction; the humanities group obtained first position in L (of the G.K. Test). 4. All the variables, namely, age, sex, locality and training courses, chosen in the investigation, were found to make significant contributions to the growth of intelligence and attainment factors.

428. MISRA, M., *Memory Test for Intolerance of Ambiguity*, Ph.D. Psy., All. U., 1974

The objective was the development of a memory test for intolerance of ambiguity and the establishment of its validity.

The study was conducted on a sample of 190 undergraduate students. Intolerance of ambiguity was regarded in the study as a cognitive variable. It was defined as the tendency not to tolerate an ambiguous situation but to remove its ambiguity by changing it into a meaningful, simple form through reorganization, reconstruction and effort after meaning. The intolerance of ambiguity test consisted of two subtests, viz, a jumbled sentence test and a jumbled word-combination test. The former contained fifteen series of jumbled words of sentences and the latter fifteen series of jumbled words of associated pairs. If the subject in reproduction made meaningful sentences or recalled associated pairs he was regarded as intolerant and if he reproduced jumbled words without any 'effort after meaning' he was considered to be tolerant. The scores of the jumbled sentence test and the jumbled word combination test were added to give a combined score on the memory test. The reliability of the test was determined by the split-half method and was found to be 0.90 for the jumbled sentence test and 0.89 for the jumbled word combination test. For validation the test was correlated with external criteria. They were, (a) attitudinal scales of rigidity and in-

tolerance of ambiguity, (b) a perceptual test of intolerance of ambiguity, namely, the Figure-Emergence Test, (c) a test of rigidity in which the thinking process was involved, viz., the water jar test and map test, and (d) a personality measure of authoritarianism, namely, Kool's Authoritarianism Scale. The correlation of the memory test with most of the measures of rigidity and intolerance of ambiguity used in the study was inconsistent and insignificant. With the water jar test, the relationship was found to be positive and significant, thus providing limited evidence for the validity of the present test.

The findings were: 1. Intolerant persons displayed a tendency toward associative combinations while those who were tolerant did not make such associations. 2. Sex difference was observed as a determinant. Males were found to be more intolerant than females in the jumbled sentence test.

*429. MISRA, R.M., *A Study of the Role of Hypotheses in Problem-solving in relation to Personality Traits, Intelligence, and Socio-economic Status of 11 School-going Children*, Ph.D. Edu., Mee. U., 1986

The major objectives of the investigation were (i) to study the role of hypotheses formation in solving problems involving a continuous chain of reasoning, (ii) to analyse problem-solving behaviour in terms of the basic processes needed to solve all problems, regardless of their types, (iii) to study the problem-solving process in relation to intelligence, personality, socio-economic status and immeditate reactions to the problems on presentation, (iv) to find out the characteristics of successful and unsuccessful problem solvers, (v) to study errors as they occurred in solving these problems, (vi) to determine the relationships between scores on hypotheses formation and variables: sex and types of school, and (vii) to analyse the structure of problems mathematically and interpret them psychologically.

The present normative survey study was conducted in the Lucknow region and was confined to public and non-public schools situated in urban and rural areas. The sample, consisting of 756 school-going students of both the sexes, was randomly selected from the 11 + age group. The tools used for collecting data were: an adaptation of Cattell's H.S.P.Q., Standard Progressive Matrices (Raven), SES Scale (Kulshrestha), and Quality Scale (Quinn). Besides, an Hypothesis Test Questionnaire covering eight problems such as combinatorial grouping, numeral, missing number, framing questions grasping the essence of a problem, stating of hypotheses, testing of hypotheses and visualzing was developed on the pattern of Piaget's work. The split-half reliability of the questionnaire was 0.63. The data collected were treated using mean, SD, correlation, t-test and factor analysis.

The major findings of the study were: 1. There were no significant differences in the performances of the pupils on the combinatorial grouping problem, irrespective of school, place and sex. 2. Pupils were in the habit of structuring or handling parts of the problem first before they attacked the problem as a whole. 3. Public school children of rural and urban area were more conscious of numeral calculation than the children of non-public schools. 4. Boys of the rural public schools were more fully aware of the means of solving missing number problems than girls. 5. Boys of urban non-public schools were more conscious of means of solving missing number problems than girls. 6. Boys and girls of rural and urban public schools had the capacity to grasp the essence of the problem whereas the boys and girls of rural and urban non-public schools were poor in grasping the problem. 7. All boys had sure creative signs of insight, irrespective of place and school. 8. All females, except a few from non-public schools of urban and rural areas, showed positive signs of insight. 9. All the pupils, irrespective of schools and regions could not propose all the possible combinations. 10. All pupils had the capacity of hypothesizing the problems. 11. Students of public schools had better performance in setting up control experiments than those of non-public schools. 12. A good number of pupils had difficulty and lack of confidence in solving problems like that of the simple pendulum etc. 13. Scholastic mental capacity, ego strength, super-ego strength, social boldness, participation, self-sufficiency, self-discipline, dominance, excitability and enthusiasm helped the pupils in visualizing the problem as a whole irrespective of sex, school and religion except the male pupils of urban and rural public schools. 14. Intelligent pupils attacked the problems more cautiously and efficiently. 15. Intelligence and socio-economic status helped in reducing errors among pupils.

430. MOHANTY, C., *Effects of State-Trait Anxiety on Classroom Learning and Personal Adjustment of Elementary School Pupils*, Ph.D. Edu., Utkal U., 1985

The objectives of the study were (i) to investigate the in-

cidence of state-trait anxiety in elementary school children, (ii) to explore the relationship between pupils' anxiety and their adjustment, intelligence, and achievement, (iii) to formulate instructional materials and apply them to reduce pupil-anxiety in the classroom, and (iv) to find out the effect of intervention on anxiety, adjustment, intelligence and achievement.

The sample for objective (i) consisted of 150 students, 30 each from classes III to VII randomly selected from two primary schools of Sambalpur town. The tools used for data collection were: 1. An Oriya version of the State Trait Anxiety Inventory for Children (STAIC) by Spielberger, *et al.* 2. An Oriya version of the General Anxiety Scale for Children (GASC) developed by Sarason, *et al.* The sample for the rest of the objectives was 370 children, 37 each from class III to class VII. The control group and experimental group were located in two separate schools. For these objectives, the Oriya version of STAIC, and Oriya versions of tests like Ravens Coloured Progressive Matrices, the Pre-Adolescent Adjustment Scale of Pareek, *et al.*, achievement tests and teacher-rating scales were used for data collection purpose. After pretest the training programme for anxiety reduction began. Training consisted of instruction through narration of (30) stories to all the five experimental groups in the schools. Fifteen stories were framed on the basis of situations expressing a state anxiety and the rest were prepared on behaviours expressing a state anxiety. The training programme continued for one month in the experimental school. The pretest and post test control group design was used in the study. Correlational analysis, analysis of variance and analysis of covariance were used for analysis of data.

The findings of the study were: 1. The anxiety scales, A-Trait, A-State, GASC and TASC showed a high degree of split-half reliability. 2. Children at the elementary school stage distinctly showed experience of trait and state anxiety. Trait anxiety among children was noted at all educational levels. 3. There was also the difference between these anxiety scores of children at various educational levels. 4. Children's GASC scores were higher than their TASC scores. 5. There was no interaction between general and test anxiety and educational level. 6. Both trait and state anxiety had a significant negative relationship with adjustment of elementary schoolchildren. 7. There existed a low negative correlation between trait anxiety scores and intelligence test scores of children at the elementary school. 8. Trait and state anxiety were negatively related to academic achievement. 9. The anxiety level of the experimental group fell as a result of intervention. 10. The intervention programme improved the adjustment and academic performance of children at the higher levels of the school by reducing their level of anxiety.

431. MUKHERJEE, D., *Deprivation and its Differential Effects upon Cognitive Processes,* Ph.D. Psy., Raj. U., 1978

The main objective of the study was to find out the differential effect of socio-economic status and deprivation upon cognitive processes in children. In order to achieve this objective, the following hypotheses were formed: (1) There existed a significant difference in the judgement aspect of conservation of children belonging to two different SES groups. (2) There existed a significant difference in the explanation aspect of conservation of children belonging to different SES groups. (3) Conservation responses would increase with the age of the subject. (4) The explanations for conservation would be different for different age levels. (5) Males and females would not differ significantly in the judgement aspect of conservation. (6) Males and females would not differ significantly in the explanation aspect of conservation. (7) The number of equivalence responses in children belonging to the high socio-economic status (HSES) group would be greater than those belonging to middle socio-economic status (MSES) or low socio-economic status (LSES) groups. (8) The quality of equivalence responses would differ significantly among the subjects belonging to different SES groups. (9) The number of equivalence responses would increase with the increase in age of the group. (10) The quality of equivalence responses would differ significantly with the age level of the subjects. (11) Males and females would not differ significantly in the number of equivalence responses. (12) Males and females would not differ significantly in the quality of equivalence response.

The sample of students was selected after administering the socio-economic status scale to the parents of the children. A total of 180 students were selected of whom 50 belonged to HSES (22 boys and 28 girls), 68 MSES (45 boys and 23 girls) and 62 LSES (23 boys and 39 girls). They were studying in primary classes in the schools of Jaipur. The tools used in the study were the Jalota Socio-Economic Status Questionnaire (1975), the Piaget six plasticine balls (1955) used for the conservation experiment, the Lovell, *et al.* 16 Cards (1960)

used for measuring the Concept of Equivalence. The sample subjects were divided into three groups of socio-economic status (HSES, MSES and LSES) and then tested individually on conservation of substance and equivalence concept.

The results of the study revealed: 1. Children belonging to different socio-economic status differed in their explanations of conservation. 2. There was no difference in male and female children in the explanation of conservation. 3. Children belonging to different age levels gave a similar explanation for conservation. 4. There was no significant difference in the judgement aspect of conservation of children belonging to different socio-economic status groups. 5. Male and female children did not differ significantly in the judgement aspect of conservation. 6. Conservation responses increased with the increase in age of the subjects. 7. Children belonging to high socio-economic status gave greater numbers of equivalence responses compared to those belonging to middle and low socio-economic status. 8. Children belonging to different socio-economic status groups differed in the quality of responses given by them. 9. With the increase in the age of the children, the number of equivalence responses also increased. 10. Male and female children did not differ significantly in the number of equivalence responses. 11. Also in the quality of equivalence responses, male and female children did not differ significantly. 12. Children of different age levels gave about the same quality of equivalence responses. 13. Socially and economically deprived children had poorer vocabulary than other children.

The study has its implication for preparing a curriculum programme for children belonging to different socio-economic groups, keeping in mind their cognitive structure. Further, parents and teachers need to be trained in providing motivation and encouragement to the children to attain higher vocabulary.

432. NAIDU, R.K., *Defence Phenomenon in Perception, Learning and Memory,* D. Phil. Psy., All. U., 1973

The aim of the study was to investigate the relationship between perception, learning and memory as they occurred within the same individual.

One hundred students participated in the study. The design of the study incorporated three conditions: a high-taboo condition, a low-taboo condition, and a control non-taboo condition. The subjects were assigned to conditions randomly, and were tested individually. The recognition threshold for each of the twelve words was measured with the help of a specially designed device. The method of minimal changes was used. After the perception experiment, the subject was made to learn twelve paired associations. These were formed by associating those very words which the subject had seen in the recognition task with twelve nonsense syllabals. The nonsense trigrams were used as response terms. The anticipation method and alternating study-test sequences were used. Learning was carried to one error-free trial. After learning, a distractor task was given for ten minutes and then recall was tested. Finally, conformity was measured using the ambiguous stimulus technique and induction of an arbitrary group norm through instructions. The data were analysed through percentiles and correlation.

The findings were: 1. A high degree of consistency in the reactions of subjects towards taboo stimuli was found in perception, learning, and memory. If a subject had higher threshold for taboo words compared to non-taboo words, then he made more errors in learning the taboo-paired associates and forgot them more readily. 2. Consistency existed in the case of those who perceived taboo words more readily and those who did not show any difference in the perception of taboo and non-taboo words. 3. The predicted generalization of effective reaction to non-taboo stimuli was not observed; on the contrary it was found that, if performance relating to, say, taboo words was facilitated, then performance of the other stimulus class was impaired. Evidence for this reciprocal facilitation and impairment was found in all the three processes: perception, learning, and memory. 4. No differences were observed between the low-taboo and the high-taboo conditions. There was no significant postive relationship between defensiveness and conformity.

433. NAIR, S., *Effect of Information on Person Perception,* Ph.D. Psy., Raj. U., 1979

The objective of the study was to find answers to the following questions: (i) How would individuals, in the role of an interaction situation, perceive each other? (ii) How would the type of given information bring about a change in perception of self and others? (iii) How were the personality traits organized in forming an impression of own self and others? (iv) How did the process of interpersonal perception take place in a role situation

where the persons were interacting with each other?

This was an experimental study having pretest post-test design. The sample of the study consisted of 100 juvenile criminals, 100 policemen and 100 jailors selected randomly from jails. Each group was divided again into three subgroups, viz., *positive* consisting of 25 subjects, *negative* consisting of 25 subjects, and *control* consisting of 50 subjects. The subjects were given an 11-point bipolar trait list and asked to rate how they perceived themselves and others on each of them. The information obtained was grouped into positive and negative for self and others separately. In the post-test condition, the subjects divided into subgroups were given positive or negative information. Positive subgroup subjects were given positive information, whereas negative subgroups were given negative information for self and others. After giving the information, the subjects were again asked to rate own-self and others on the 11-point bipolar trait list.

The findings of the study were: 1. The juvenile criminals perceived themselves more negatively as compared to other groups. 2. The criminals perceived the jailors and policemen more negatively than policemen and jailors perceived juvenile criminals. 3. Positive direct or indirect information led to positive perception of self and others. 4. Negative direct or indirect information led to negative perception of self and others. 5. Information affected impression formation and that impression could be changed by varying the information types.

The study has its implication for educating delinquents so as to change their perception about themselves as well as all those who look after them. A special counselling group needs to be created to help juvenile delinquents develop a positive perception of themselves.

434. NILIMA KUMARI, *A Study of Relationship between Socio-Economic Status and Conservation of Number and Substance in Delhi School Children,* Ph.D. Edu., JMI, 1984

The objectives of the study were (i) to find the relationship between socio-economic status and conservation of substance, (ii) to find the relationship between socio-economic status and conservation of number, (iii) to see the relationship between intelligence and conservation of substance, (iv) to see the ralationship between intelligence and conservation of number, and (v) to see the relationship between conservation of substance and conservation of number.

Three hundred six-year-old boys constituted the sample of the study. These boys were selected from 20 schools which were randomly selected from all the three types of schools situated in South Delhi—government schools, government-aided schools and public schools. The tools used in this study were Kuppuswamy's Socio-Economic Status Scale, Raven's Coloured Progressive Matrices, and two separate tools to assess the level of development of conservation of substance and the level of development of conservation of number developed by the investigator. The test-retest reliability of conservation of substance (equality + inequality) was 0.89 and that of conservation of number was 0.83. To find the interrelationship of the four measures, that is conservation of substance, conservation of number, intelligence and socio-economic status, and coefficient of contingency for different pairs of variables, was calculated. The Eta-coefficient was calculated for five pairs of variables; the chi-square test and coefficient of correlation were also used for examining the hypotheses.

Major findings of the study were: 1. Socio-economic status was highly and positively related with the manifestation of conservation of substance. The coefficient of contingency for SES and conservation of substance was 0.703 when intelligence was not controlled and 0.67 when intelligence was controlled. 2. Socio-economic status was highly and positively related with the manifestation of conservation of number. Coefficient of contingency for SES and conservation of number was 0.702 when intelligence was not controlled and 0.669 when intelligence was controlled. 3. Conservation of substance and conservation of number were highly correlated ($r=0.998$). 4. Intelligence was positively related to the level of development of conservation of substance. Coefficient of contingency for intelligence and conservation of substance was 0.66. 5. Intelligence was positively related to the conservation of number. Coefficient of contingency for intelligence and conservation of number was 0.676.

435. NIRMALADEVI, P., *Influence of Authoritarianism, Rigidity and Their Interaction on Verbal Paired Associate Learning,* Ph. D. Psy., And. U., 1984

The objective of the study was to test the following hypotheses: (1) There will be a relationship between authoritarianism and rigidity. (2) There will be a relationship between rigidity and the number of trials taken to

learn a first list. (3) There will be a relationship between rigidity and the number of trials taken to learn a second list. (4) There will be a relationship between authoritarianism and the number of trials taken to learn a first list. (5) There will be a relationship between authoritarianism and the number of trials taken to learn a second list. (6) There will be a relationship between rigidity and recall of first list responses. (7) There will be a relationship between rigidity and recall of second list responses. (8) There will be a relationship between authoritarianism and recall of first list responses. (9) There will be a relationship between authoritarianism and recall of second list responses. (10) There will be a significant difference between the high authoritarian-high rigid group and the low authoritarian-low rigid group in the number of trials taken to learn the first list and the second list.

The sample for the study consisted of 128 junior postgraduate class students of Andhra University from the faculties of science, arts, commerce and law. Their age ranged from 18 to 25 years. The subjects were administered: (i) the Lee and Warr F Scale (1969) to measure authoritarianism; (ii) the Schaie Test of Behavioural Rigidity (1960) to measure rigidity; (iii) the Taylor Manifest Anxiety Scale (1953) to measure anxiety. The subjects underwent two types of learning list conditions namely W-W and N-N. All the subjects underwent two learning list conditions but the order of allotment of the type of lists changed. Half of the subjects were allotted one learning list condition, say, W-W followed by another learning list condition, say, N-N. The other half was first exposed to N-N learning set and then W-W. There was a lapse of forty days between the two learning list conditions. After administering these tools a group of 78 subjects was exposed to W-W paired associates and another group consisting of 50 subjects underwent N-N paired associates. Then the subjects were called for a second session; only 50 subjects turned up for the W-W list and 46 for the N-N list.

The findings of the study were: 1. There was a significant positive relationship between authoritarianism and rigidity. 2. There was no relationship between rigidity and the number of trials taken to learn a first list for W-W and N-N paired associates. 3. There was a significant positive relationship between rigidity and the number of trials taken to learn a second list for W-W and N-N paired associates. 4. There was a significant positive relationship between authoritarianism and the number of trials taken to learn a second list for N-N paired associates. 5. There was a significant negative relationship between rigidity and the number of first list responses recalled for W-W and N-N paired associates. 6. There was a significant positive relationship between rigidity and the number of second list responses recalled for W-W and N-N paired associates. 7. There was a significant negative relationship between authoritarianism and the number of first list responses recalled in W-W and N-N paired associates. 8. There was a significant positive relationship between authoritarianism and the number of second list responses recalled for W-W and N-N paired associates. 9. There was no significant difference between the high authoritarian-high rigidity and the low authoritarian-low rigidity group in the number of trials taken to learn a first list of W-W and N-N paired associates. 10. There was a significant difference between the high authoritarian-high rigidity group and the low authoritarian-low rigidity group in the number of trials taken to learn a second list. 11. There was no significant difference in the high authoritarian-high rigidity and the low authoritarian-low rigidity group in the number of responses recalled in the first list. 12. There was a significant difference in the high authoritarian-high rigidity and the low authoritarian-low rigidity group in the number of responses recalled for the second list.

436. OJHA, H., *Relation of Achievement Motivation to Parental Behaviours and Certain Socio-Economic Variables*, Ph.D. Psy., Bhagalpur U., 1973

The main purpose of the study was to explore the relationship of achievement motivation with parental behaviours—the psychological variables, and certain socio-economic variables, viz., social class, father's occupation type, family system, family size, birth order, mother's age, parental separation, religion and caste. Ten hypotheses were examined.

A 'Parent Behaviour Questionnaire' was developed. Item-analysis was done. Reliability and validity were determined. A random sample of 120 urban boys was drawn from first year arts classes of two constituent colleges of Bhagalpur University. A Parent Behaviour Questionnaire, Kuppuswamy's Socio-Economic Status Scale, (Urban) Personal Data Sheet, and McClelland's *n*-Achievement Test were administered. Chi-square, correlation, t-test, and analysis of variance technique were employed.

Some of the major findings were: 1. Mother's love, father's permissiveness, and love were positively related with *n*-ach, whereas mother's rejection and protec-

tion, paternal restriction, rejection and protection were negatively related. Maternal restriction, permissiveness and neglect, and paternal neglect were not related with *n*-ach. 2. Encouragement for independence by parents was associated with high *n*-ach in children. 3. Sons of entrepreneur fathers, boys from nuclear families and sons of younger mothers had higher *n*-ach than sons of bureaucrat fathers, boys from joint families, and sons of middle aged and older mothers, respectively. 4. Relationship of *n*-ach with family size and social class was inverse and curvilinear respectively, whereas birth order was not significantly related to *n*-ach. 5. Separation from parents had an adverse effect on sons' *n*-ach. 6. No significant difference existed between Hindu and Muslim boys, and between upper and lower caste Hindu boys in *n*-ach. 7. Mean *n*-ach of the sample was considerably lower than that of similar samples in Japan, Germany, Brazil, Delhi, Madras, etc.

437. OLIVIA, Sr. M., *A Psychological Education Input for the Enhancement of Self-Concept and Achievement Motivation in the First Year Degree Students of Apostolic Carmel Colleges*, Ph.D. Edu., MSU, 1985

The main objectives of the study were (i) to develop a psychological education input programme for the enhancement of self-concept and achievement motivation among college students, (ii) to study the effect of the programme on the self-concept and achievement motivation of the students to whom the input treatment is given, and (iii) to explicate special individual features of growth and identify specific changes in thought processes and behaviour of a few cases out of those who gained high on self-concept and achievement motivation through the input treatment.

The input programme was essentially one of building up a positive self-image and strengthening motive acquisition. The inputs aimed at discovering the meaningfulness of the guiding questions concerning self-image, goals and communication processes, and personal values through self-analysis in group situations. The input treatment was given to 75 undergraduate girl students, 25 each drawn from the three colleges in Mangalore, Calicut and Patna run by the Apostolic Carmel. The control group comprised 75 undergraduate girls drawn equally from the same three colleges. The input was administered in three stages: an intensive eight days' programme on 'self' and achievement motivation; an interim period of four months with no programme except individual contact with the subjects by the investigator; and a four days' follow-up programme for further strengthening the inputs. The tools used were McClelland's TAT modified by Prayag Mehta, Sharma's Self-Concept Inventory and Basavanna's Self-Confidence Inventory. The quantitative data were analysed using analysis of co-variance and t-test.

The study generated the following major findings: 1. The three-phased input programme was effective in significantly raising the self-concept, self-confidence and *n*-ach. 2. Self-knowledge, self-understanding, self-acceptance and self-discovery were intensified through the input exercises on 'self'. 3. The input programme helped in the deepening of achievement imagery and in developing a strong sense of altruism. 4. Even beyond a period of two years after the completion of the programme, interviews revealed that goal-consciousness had taken concrete shape in the lives of individuals and on many occasions they could discover that they had shifted to positive thinking and outlook. They were able to make important decisions and experienced a sense of maturity in handling difficult situations in life.

The educational implications of the study are: (1) Psychological education needs to be made a part of the curriculum in universities. (2) Managements of schools and colleges should organize courses for teachers on self-renewal, self-motivation and better teaching.

438. PADHEE, B., *Development of Memory and Categorization Skills in Schooled and Unschooled Children*, Ph.D. Psy., Utkal U., 1985

The objectives of the research were (i) to study the effect of schooling on simple recall of an uncategorizable list of items, (ii) to study the effect of verbal instruction on recall and clustering, (iii) to compare the effects of enactive instruction on recall and clustering of schooled and unschooled children, and (iv) to study the effect of category size on recall and clustering performance of schooled and uschooled children.

For objective one, 120 schooled and unschooled subjects in three levels of age in the grade levels two, four and six were included in the sample. For objective two, 180 schooled and unschooled subjects belonging to the same grade and age of the previous sample were included in the study. For objective four, 120 children (11-12-year olds), schooled (Grade VI) and unschooled were included in the sample. The treatments given for the study were standard free recall instructions and verbal instructions

in cluster and verbal and enactive combined instruction. An uncategorized list of a memory test was administered to the students. The independent variables of the study were schooling, age, instruction and category size. The two-way ANOVA and three-way ANOVA were used for analysis of data.

The main findings of the study were: 1. Children's recall performance improved both due to schooling and age. 2. Verbal instruction improved the memory performance of both schooled and unschooled children. 3. The older children profited more from instruction than the younger children. 4. Both schooled and unschooled groups improved with enactive instruction to cluster. 5. With instruction, the schooled children improved more than the unschooled children. 6. Unschooled children gained slightly interaction but the schooled children gained almost equally with both verbal and enactive instruction. 7. Schooled and older children recalled better than unschooled and younger children, respectively. 8. Both enactive and verbal instructions occurrence in school accounted for the schooled children's ability to profit from such instructions more than the unschooled ones. 9. Both schooling and instruction improved memory performance regardless of category size. 10. Both schooled and unschooled subjects showed improvement with small category size (6×2) which was a characteristic of the effect of development on category size with the younger children performing better with smaller category size. 11. In general, schooling improved rote memory but not clustering. 12. Only when instruction was given did schooling improve the ability to cluster.

439. PADHY, N., *Effects of Schooling on the Development of Logical Thinking and Adjustment among Elementary School Children*, Ph.D. Edu., Utkal U., 1986

The objectives of the study were to fund out the effects of schooling, ethnicity and age (i) on seriation of length, area and cubes, (ii) on conservation of quantity, weight, number, length, area, and volume, (iii) on the development of concept, and (iv) on adjustment in relation to home, school, peers, teachers and general adjustment.

A common 2 (Schooling)×2 (Ethnicity)×7 (Age) factorial design was employed for testing the hypotheses set for each objective. A sample of 420 schooled and non-schooled children were randomly selected from amongst a tribal and non-tribal children population in the age groups 5+, 6+, 7+, 8+, 9+, 10+, and 11+. The sample was drawn from the district of Koraput in Orissa. The tools used for the study were modified versions of Elkind's Tests of Seriation (1964), the Piagetian Test of Conservation by Elkind's (1961), Piaget and Inhelder (1974), and Tomlinson, *et al.* (1979), the Test of Development of Concepts prepared by the investigator and an Oriya version of the Pre-Adolescent Adjustment Scale of Pareek, *et al.* (1970). ANOVA was used for analysis of data.

The findings of the study were: 1. The effects of schooling and age on seriation of length, area, and cubes were established. 2. The schooled children performed better than their non-schooled counterparts on seriation tasks. 3. There was significant effect of schooling and age on children's conservation performance, conservation of quantity, weight, number, length, area and volume. 4. Ethnic background was found non-effective with regard to the conservation tests. 5. Schooling effect was significant only for functional responses, whereas ethnic background emerged as an intervening variable showing the superiority of the tribal children over their non-tribal counterparts in terms of acquisitions of concepts. 6. Schooling and age did not have effects on adjustments of children. 7. Ethnic background seemed to be more influential, being significant in terms of children's adjustment in the areas of home, peers, teachers and general situations. 8. As a whole, schooling influenced the development of logical thinking while it had no such influence on adjustment. Schooling and ethnic background interactions were found significant for home adjustment, peer relations, and general adjustment, while interactions of schooling and age were significant for school adjustment, peer relations, and adjustment with teacher. 9. Ethnic background had effects on acquisition of concepts and adjustment, while age had significant effects on the logical thinking of children.

440. PANDA, N., *Effects of Cognitive Style and Adjunct Question on Learning from Connected Discourse*, Ph.D. Psy., Utkal U., 1985

The objectives of the study were (i) to study the role of the cognitive style (field independence, field dependence) and adjunct question in relation to learning and retention of prose materials in a series of studies, (ii) to study the differential effect of pre- and post-adjunct

questions in relation to prose processing among students varying in cognitive style and under conditions of immediate and delayed style, (iii) to study the effect of the general and specific nature of adjunct post-questions in relation to prose learning (social studies) as a fuction of cognitive style of students and retention interval, (iv) to test the effects of cognitive style and adjunct question structure on learning and retention of prose materials, and (v) to study the validity of the above study and extending the findings to an area of curriculum.

The study adopted 2×2×2 factorial designs. The subjects of the study for the first four objectives were 60 in number and belonged to class VII of Vani Vihar High School, Bhubaneswar. The subjects for objective (v) include 90 students of class VII from another school of Bhubaneswar. The tools used for the study were: (1) The revised version of the Group Embedded (Hidden Figure) Test of Gardener, *et.al.* (1960). 2. Tests of English, Social Studies and General Science to study the independence, and immediate and delayed retention of students. The instructional inputs included the text materials along with question levels and linguistic structures.

The findings of the study were: 1. Field-independent students learn and retained prose significantly more than field-dependent students. 2. Students who read the text with adjunct questions learn faster and retained longer than those who used the traditional reading style without any interspersed question. 3. Post-adjunct questions produced better learning and retention scores than pre-adjunct questions in prose learning. 4. The specific adjunct post questions produced significantly better learning and retention than the general adjunct post questions. 5. The level-I (simple recall, knowledge level), and level II (paraphrase, conceptual, etc.) questions led to significantly better retention than the level III (higher order, presuppositional) adjunct post questions. 6. Delayed retention scores were significantly more than immediate retention scores, which was also evident for the field-independent students. 7. Field-independent students proved to be significantly superior to field-dependent students in processing and comprehending scientific textual materials, at all levels of questions, and at both the retention tests. 8. The retention test had a stability coefficient of 0.80 with N=45 and an interval of two weeks. 9. A tentative theoretical framework was obtained by integrating the findings of the study leading to a theory of processing of connected discourse along with future research directions and classroom implications.

441. PANDE, S.K., *Rorschach as Tool for Investigating Individual Differences and Socio-Psychological Aspects of Acculturation in an Indian Primitive Society*, Ph.D. Edu., Kur. U., 1984

The objectives of the study were (i) to examine the feasibility of the Rorschach Test to measure socio-psychological aspects of acculturation in an Indian primitive society, (ii) to determine the psychological baseline (modal personality) of the Lanjia Saoras on the basis of which the psychological variation of acculturation could be assessed, (iii) to find out acculturation differences in personality traits between the least accultured and more accultured groups, least accultured males and more accultured males, least accultured females and more accultured females, least accultured children and more accultured children, (iv) to examine sex differences in 17 personality traits of least accultured and more accultured Saoras, and (v) to find out individual variability in modal personality in each of the accultured groups. The hypothesis of the study was that acculturation caused significant variation in the personality structure of the Saoras.

On the basis of the results of a non-directive interview schedule and participant observation, two localities—the Serango area consisting of ten villages with a population of 1506 and the Raygad area consisting of three villages with a population of 1346, were selected as least accultured and more accultured areas respectively following the purposive sampling technique. On the basis of simple random sampling 55 subjects 20 adult males, 20 adult females and 15 children) from the least accultured areas and an equal number from the more accultured area were selected as the final sample of the study. The subjects were administered the Rorschach Ink Blot Test (original ten cards) to measure socio-psychological consequences of acculturation. The non-directive interview schedule and participant observation technique were used to discriminate between two levels of acculturation. The chi-square test was applied to find out acculturation and sex differences in the personality traits.

The findings of the study were: 1. Least accultured group (males, females and children) possessed personality traits of abundance of creative impulses, more dependency, high relish for sensual experience, high inhibition of aggression, more interest in practical concerns

than in theorizing, attempt at ego formational high level of general anxiety, high reality testing (defective), low inhibition of sexuality, low anxiety concerning bodily functions, low abhorrence of dirt, and low awe of father figure. As a whole, the least accultured subject possessed a highly introversive balance in the basic structure of personality. 2. The more accultured group (males, females and children) possessed personality traits of more inhibition of sexuality, more abhorrence of dirt, more anxiety concerning bodily functions, high awe of father figure, low creativity, low dependency, low relish for sensual experience, low inhibition of aggression, and low level of general anxiety. As a whole, the more accultured subjects revealed an introversive balance in the basic structure of personality, except the more accultured males who possessed little extratensive balance with introversive productivity. 3. The males possessed personality traits like abundance of creative impulses, more given to introsection, high in inhibition of aggression and high anxiety concerning bodily function. 4. The females possessed personality traits like more interested in practical concerns than theorizing, high degree of empathy, high inhibition of sexuality, high dependency, high relish for sensual experiences, high inhibition of emotional expression and high emotion constriction. 5. Least accultured males, least accultured females, more accultured females and more accultured children possessed introversive balance and the more accultured males exhibited extratensive balance. The low accultured females maintained balance between introversion and extratension, and the more accultured males exhibited an introversive balance in their respective individual personality structures that deviated from their respective group norms.

442. PANDEY, S., *Factors Affecting Sense of Responsibility amongst Higher Secondary School Students*, Ph.D. Edu., BHU, 1983

The objectives of the study were (i) to construct a scale to measure the sense of responsibility of high/higher secondary school students, (ii) to identify factors affecting sense of responsibility in relation to different socio-economic variables, (iii) to find out the relationship between sense of responsibility, intelligence, anxiety, level of aspiration and SES, and (iv) to find out some predictor variables of sense of responsibility.

A sample of 200 boys and 200 girls was drawn from six higher secondary schools situated in Jaipur city. The subjects were administered the Verbal Intelligence Test, Anxiety Scale, Levels of Aspiration Scale along with scales of Sense of Responsibility and SES constructed by the investigator. Mean, SD, t-test, coefficient of correlation, multiple regression analysis and factor analysis were used for analysing the data.

The following conclusions were drawn: 1. Sense of responsibility was significantly higher in students belonging to the higher income group and higher academic achievement group than students belonging to lower income and achievement groups. 2. Sense of responsibility had no significant relationship with caste, age, sex, family education and occupation and political affiliation of the family. 3. Sense of responsibility was positively related to intelligence and level of aspiration but it was negatively related to anxiety. 4. Sense of responsibility could be predicted with the help of intelligence and level of aspiration scores. 5. Sense of responsibility consists of two independent factors, viz., psycho-social attributes and moral attributes.

443. PANDIT, I., *A Study of the Psychological Needs and Self-Concept of Adolescents and their Bearing on Adjustment*, Ph.D. Edu., Bom. U., 1985

The major objectives of the study were (i) to study the psychological needs of adolescents, (ii) to study the self-concepts of adolescents, (iii) to study the adjustment of adolescents, and (iv) to study the relationship between psychological needs, self-concept and adjustment of adolescents.

The descriptive survey research method was used for the investigation and a cross-sectional approach was adopted. The method of incidental random sampling was used in selecting the sample. The sample consisting of 640 adolescents of which 311 were boys and 329 were girls of the age group of 15 to 18 years studying in five higher secondary schools and eight junior colleges situated in the different municipal wards of Greater Bombay. In each institution, however, the division selected for testing was at random. Data were collected by means of questionnaires, standardized tests and inventories. Tools employed in this study were (i) the Edward Personal Preference Schedule by Allen Edwards, (ii) the Personality Word List by Pratibha Deo, (iii) Bell's Adjustment Inventory, (iv) Bhagia's School Adjustment Inventory, (v) the Socio-Economic Status Inventory prepared by Deo, Jogawar and Shekhar and (vi) the Boy's Questionnaire and Girl's Questionnaire (prepared

by the investigator). The statistical techniques used for the analysis of data were the t-tests and two-way analysis of variance and correlations.

The major findings of the study were: 1. The interneed differences of the adolescents were significant in psychological needs, viz., abasement, endurance, achievement, aggression, order, exhibition, autonomy, deference and heterosexuality except in the case of change, nurturance, intraception, affiliation, dominance and succurance. 2. There were significant differences between the ideal self and perceived self and ideal self and social self of adolescents. 3. The difference between perceived self and social self was not significant. 4. The adjustment of adolescents in home, health, social, emotional and school areas was significantly different in all cases, except in the case of home and health adjustment. 5. Out of all the five areas of adjustment the school adjustment was most satisfactory, followed by health, home, emotional and social adjustment respectively. 6. The result for self-concept of adolescent boys and adolescent girls showed that boys had a higher regard for the attributes and qualities, which they perceive as possessed by them, than girls. 7. The study found that the social and emotional adjustment of adolescent boys was more satisfactory than that of adolescent girls.

444. PANWAR, P.S., *Roles of Academic Achievement and School Background in Self-Concept, Self-Disclosure and Inferiority Feeling among Students of Kumaun Hills,* Ph.D. Edu., Kum. U., 1986

The study was designed to investigate the role of academic achievement and school background in self-concept, self-disclosure and inferiority feeling among the students of Kumaun Hills.

The sample for the study consisted of 180 class XI students studying in three types of schools. Sixty of the students were low achievers, 60 were average achievers and 60 were high achievers. Mohsin's Self-concept Inventory was used for assessment of self-concept, Singh's Self-disclosure Inventory was used for measurement of self-disclosure, and Pati's Inferiority Questionnaire was used for measurement of feeling of inferiority.

The main findings of the study were: 1. Academic achievement had significant effect on self-concept. 2. Home background had significant effect on self-concept. 3. School background had significant effect on self-concept. 4. Academic achievement had no significant relationship with feeling of inferiority. 5. There was no significant effect of school background on feeling of inferiority.

445. PAREEK, A., *A Study of the Problematic Behaviour of Adolescents with special reference to Their Self and Other Acceptance and Attitude towards Freedom,* Ph.D. Psy., Agra U., 1984

The hypotheses were: (1) Problematic adolescents do not accept themselves as well as others. (2) Problematic adolescents have a distorted attitude towards their freedom. (3) The attitude of adolescents mostly depends on their home environment. (4) The college atmosphere is usually a contributing factor in the development of the behaviour problem.

The sample consisted of 240 girls belonging to undergraduate levels studying in colleges situated in Kota district of Rajasthan. They represented different SES levels. The attitude towards freedom of children test originally developed by Koch Dysort and Streit was adapted by the investigator. The test-retest reliability was 0.68. The Acceptance of Self and Others Scale developed by Berger was used in this study. The split-half reliability was 0.89. An Adjustment Inventory was developed by the investigator. The split-half, and test-retest reliability coefficients were 0.80 and 0.97 respectively. Data were analysed with the help of chi-square technique and correlation.

The findings were: 1. Problematic adolescents did accept themselves as well as others. 2. The attitude of adolescents did not entirely depend on their home environment. 3. The attitude towards freedom of children was negative in the case of adolescents. 4. Environment played an important role in the building of personality.

446. PARMAR, D.S., *A Cross-sectional Study of Concept Attainment and Development of Logic in School Students,* Ph.D. Edu., Bhopal U., 1986

The major objectives of the study were (i) to develop concept-related criterion task to assess the growth of science concepts such as weight, volume and density, (ii) to study the nature of development of conservation of these concepts in science with reference to students' age, (iii) to find out the proportion of school students (Class VI to XI) who fell in the categories of Piaget's pre-operational concrete operational and formal operation-

al stages of development, (iv) to study the nature of errors the students committed in the process of giving responses to the conservation tasks and to cluster them into a meaningful theoretical framework, (v) to study the nature of development of classification of concepts with regard to Piaget's theory as they varied with subjects' age, (vi) to diagnose the errors which the students of various age groups made and the confusion the students faced in the process of classifying objects and concepts, and (vii) to study the nature of development of logic which grew from concrete logical to hypothetical deductive reasoning with regard to the variables under study.

The study was conducted on 918 pupils of higher secondary schools of Bhopal. Care was taken to see that children of 11+ age came from Class VI, those of 12+ came from Class VII and of 16+ from class XI. This was done to control the variable of educational qualification. Another measure of control applied was that of intelligence and SES. The finally selected sample comprised 240 students.

The subjects were administered Piaget-type tasks for conservation of weight, volume, density and classification skills. The study of conservation and the errors committed by the students gave the investigator an idea about the development of logic in the students.

The findings of the study were: 1. There was 100 per cent conservation of weight among the children of 11+ to 16+ age group. The conservation of weight occurred and also matured at the concerte operational stage. 2. The volume conserved increased proportionally from 15+ to 16+. The growth the logic in volume indicated a lag of 5 years, when compared to other Piagetian studies. It was observed that the students committed errors due to misconception of this concept. 3. In the case of density of liquids, the sequential growth of higher mental functions was noticed. Errors were grouped in four categories. The adolescents were not able to think of change in two dimensions. A lag of 5 years was also found in this concept. 4. Conservation of density increased with age but decreased with complexity. As for errors, the students could not think of the interrelationships between mass and volume. The concept of density of liquid also showed a lag of five years. 5. In the concept of classification and development of logic, two skills were added between the ages of 13+ and 16+. The skills identified were class hierarchy and class inclusion. Lag in the conservation of this skill was also found.

An implication of this study is that practical experiences need to be given to the students at early stages of schooling which may include handling of objects and apparatus in the science laboratory.

447. PATEL, N.M., *A Study of Some Aspects of Physical Growth of Pupils of the Age Group 10+ to 12+*, Ph.D. Edu., SPU, 1983

The objectives of the study were (i) to collect reliable data on the essential aspects of physical growth which would include in addition to the usually studied aspects of height and weight, the growth of head, neck, chest, waist, hips, arms, legs, wrists, feet, etc., (ii) to establish reliable and acceptable norms of physical growth at various age points of pupils of age group 10+ to 12+, (iii) to investigate the influence of urban and rural milieu as well as sex differences in the physical growth of the 10+ to 12+ age-group school pupils, and (iv) to study the relationship between the socio-economic status (SES) of the family and the physical growth of pupils of age-group 10+ to 12+.

For measuring socio-economic level of the pupils the SES scale was used. The sample included 773 boys and 362 girls making a total of 1135 pupils of whom 556 were from the urban areas and rest, 579, were from the rural area. The means and standard deviations of all the variables under study were computed and the t-test was used to test the significance of the difference between two means. For studying the influence of SES on physical growth, analysis of variance was applied.

The major findings were: 1. The mean scores of weight, height, circumference of the head, neck and chest, width between shoulders, waist girth, hip girth, arm length, length between two shoulders and elbow, length between elbow and wrist, upper arm girth, wrist girth, leg length, lower limb length, thigh girth, calf girth and foot length of pupils increased with increase in age and in SES, irrespective of sex differences at each age point. 2. The mean scores of measurement of all 18 aspects of physical growth of urban pupils were higher than those of rural pupils. 3. The mean scores of weight, hip girth, upper girth, wrist girth, thigh girth and calf girth of girls were higher than those of boys at all age points, while the mean scores of height, circumference of the chest, arm length, length between shoulders and elbow, length between elbow and wrist, leg length, lower limb length were higher for girls as compared to boys at the age points 11, 12 and 13 years. The mean scores of circumference of the head and neck, width between

shoulders, waist girth and foot length were higher for boys as compared to girls at all age points. 4. There was an increase in the weight, height, circumference of the head, neck and chest, hip girth, arm length, upper arm girth, thigh girth and foot length of all pupils at an interval of every four months, irrespective of sex and area. 5. There was an increase in the width between shoulders, waist girth, length between shoulder and elbow, length between elbow and wrist, wrist girth, leg length and lower limb length of all pupils at an interval of every four months, while the rate of growth of calf girth of all pupils was slow at the first interval of four months and there was rapid increase at the second interval of four months. 6. Weight, height, circumference of head, neck and chest, wrist girth, width between shoulders, hip girth, arm length, length between elbow and wrist, upper arm girth, leg length, lower limb length, thigh girth, calf girth and foot length increased with increase in age of boys and girls.

448. PATIL, I., *A Psychological Study of Intellectually Superiors,* Ph.D. Psy., Kar. U., 1982

This investigation was undertaken to study some of the psychological characteristics of intellectually superiors. The objectives of the study were (i) to investigate whether the intellectually superior group and the average group differed in their attitudes, creativity, personality and achievement motivation, and (ii) to find out whether factors like academic achievement, height and weight had any influence on intelligence.

The sample of the study consisted of 75 randomly selected intellectually superior and 185 average secondary school students. The sample was selected after an administration of Raven's Progressive Matrices. The instruments used were the Raven's Standard Progressive Matrices, the Mysore Aptitude Test Battery developed by Parashiva Murthy, the EPPS adopted by Sarojini Hosamani, Nayanatara's Kannada version of Mehdi's Verbal Test of Creativity and the Kannada version of Prayag Mehta's Achievement Motivation Inventory. The data were analysed by applying ANOVA, t-test and stepwise regression analysis.

The major findings were: 1. Intellectually superior performed significantly better on all the five aptitude measures (combined as well as boys and girls compared separately). 2. The superior and average groups differed significantly in respect of four needs: order, succorance, dominance and endurance. The superior group showed a higher degree of need for order and endurance whereas the average group showed a higher degree of need for succorance and dominance. 3. The superior group was found to be outstandingly creative ($p=.01$) than the average group. 4. There was no significant difference in the n-Ach of superior and average boys. 5. There was no significant difference in the academic achievement of the superior and average groups. 6. The superior and the average groups did not differ significantly on the factors of height and weight. 7. Clerical speed and accuracy (CSA), mechanical reasoning (MR), numerical ability (NA) and arithmetical reasoning (AR) were the preferred predictors in the case of the superior group. The average group was predicted by AR, CSA, NA and MR in that order. 8. n-Ach, n-End, n-Chg and n-Suc were the significant predictors of the superior group whereas only n-Nur and n-Dom were found to be significant predictors for the average group.

*449. PRABHAWATI KUMARI, *Personality Needs, Moral Judgement and Value Patterns of Secondary School Teachers—A Correlational Study,* Ph.D. Edu., Gor. U., 1987

The main objectives of the investigation were (i) to make a comparative study of the mean scores of male and female teachers in the inventories on personality needs, value and moral judgements, (ii) to make a comparative study of the main scores of teachers belonging to different localities (rural and urban) in the inventories mentioned above, (iii) to make a comparative study of the scores of the teachers belonging to two generations (young, below thirty years, and old, forty-five years and above) in the three variables and (iv) to determine the degree of relationship between the scores of male and female teachers separately in the three inventories.

Inventories on personality needs and moral judgement were prepared by the researchers. Inventory on Spranger's six values prepared by Yashvir Singh was used. The sample consisted of 500 teachers (300 male and 200 female). The teachers from rural and urban secondary schools were selected through a stratified sampling procedure.

Findings of the study were: 1. Male teachers showed high preference for affiliation need and female teachers preferred need for maintaining order. 2. Male teachers secured better points in the aesthetic, political and social values. 3. Male (urban) teachers secured better

points in the aesthetic, theoretical and social values than the rural male teachers. Urban male teachers secured high scores in the affiliation need while rural male teachers expressed high preference for achievement need. Urban male teachers secured better points in the moral judgement inventory. 4. Urban female teachers preferred economic and social values while rural female teachers showed high preference for aesthetic and religious values. Urban female teachers expressed high preference for affiliation and order needs. Urban female teachers showed better average score in the moral judgement inventory. 5. The effect of age on value was also observed. Teachers belonging to the age group forty-five and above, preferred aesthetic social and religious values. They also expressed preference for need of achievement and order. Teachers belonging to the young generation (below 30 years) secured better marks in the moral judgement inventory. 6. Most of these variables were found to be correlated.

450. PRAHALLADA, N.N., *An Investigation of the Moral Judgements of Junior College Students and their Relationship with the Socio-economic Status, Intelligence and Personality Adjustment,* Ph.D. Edu., Mys. U., 1982

The objectives of the study were (i) to investigate the level of moral judgement of students in standard XII, (ii) to investigate the relationship between (a) moral judgement and socio-economic status (SES), (b) moral judgement and intelligence, and (c) moral judgement and personality adjustment of the students, and (iii) to investigate the significant difference between science, arts and commerce students in respect of their level of moral judgement. The hypotheses tested were: (1) There is no significant difference in the mean moral judgement scores (DIT) of Indian students (present respondents) and their peers in the United States. (2) There is a positive relationship between (a) SES and moral judgement, (b) intelligence and moral judgement, and (c) personality adjustment and moral judgement. (3) There is no significant difference between (a) science and arts students, (b) science and commerce students, and (c) arts and commerce students—in their levels of moral judgement. (4) There is no significant difference between (a) male and female students, (b) the students belonging to four age groups, viz., 16, 17, 18 and 19 years, and (c) students studying in junior colleges and composite colleges in levels of moral judgement.

A sample of 1000 students was drawn using the stratified random sampling technique from all the three disciplines—science (Boys—268, Girls—147), arts (Boys—187, Girls—212), and commerce (Boys—130, Girls—56). Four tools used were (1) Defining Issues Test (DIT) perfected by James R. Rest (Minneapolis, USA), (2) a modified version of Kuppuswamy's SES Scale, (3) an advanced version of Raven's Progressive Matrices and (4) Bell's Personality Adjustment Inventory (PAI, English and Kannada version). A try-out of the tests was conducted to know the difficulties regarding the language of the tools, conceptual understanding, fatigue, etc. To minimize the fatigue effect the data were collected in two phases, (1) SES and DIT, (2) RPM and PAI. Statistical techniques employed to analyse the data were t-test and product-moment coefficient of correlation (r).

Major findings of the study were: 1. There was significant difference in the moral judgement scores of junior college students in India (Mysore) and senior high school students in the United States. 2. There was positive and significant relationship between (a) DIT and SES, and (b) DIT and PAI. The relationship was high in (a) and low in (b). 3. There was significant difference between (a) science and arts students, (b) science and commerce students and (c) arts and commerce students. 4. Significant difference was also indicated between boys and girls. 5. Significant difference was not reported between (a) the students belonging to four different age groups, and (b) students studying in junior colleges and composite colleges as far as their moral judgement was concerned.

451. PRAKASH, V., *A Study of the Factors Affecting Levels of Aspiration,* Ph.D. Edu., Kur. U., 1984

The objectives of the study were (i) to explore the differences, if any, between the levels of aspiration of urban and rural students, (ii) to study the differences between the levels of aspiration of boys and girls, (iii) to find out the differences between the levels of aspiration of scheduled-caste and non-scheduled-caste students, (iv) to study the differences between the levels of aspiration of high-risk-taking and low-risk-taking students, (v) to explore the differences between the levels of aspiration of external-locus oriented and internal-locus oriented students, (vi) to study the two-factor interaction effects of all the five independent variables (area, sex, caste, risk-taking, and locus of control), (vii) to find out the

three-factor interaction effects of all the five independent variables, (viii) to explore the four-factor interaction effects of all the five independent variables, and (ix) to study the five-factor interaction effects of all the variables.

A sample of 320 students was selected from 1466 ninth grade students of government and private schools of Delhi, after categorizing them on the basis of area, sex, caste, risk-taking levels and locus of control. There were in all, five independent variables and each variable varied in two ways, viz., area varied as rural and urban; sex varied as boys and girls; caste varied as scheduled caste and non-scheduled caste; risk-taking as high-risk-taking and low-risk-taking; and locus of control varied in two ways as external-locus oriented and internal-locus oriented. In this way there were ten categories and from each category ten students were selected. The students were administered the tools: the Locus of Control Questionnaire, the Risk Taking Inventory of Patel, and the Level of Aspiration Test. The data so collected were analysed with the help of five-way (2×2×2×2×2) factorial design of analysis of variance.

The findings of the study were: 1. Area (urban or rural) as a single main variable did not show significant difference on the level of aspiration. 2. Sex as a single main variable did not show any significant difference on the level of aspiration. 3. Caste (scheduled-caste and non-scheduled-caste) as a single variable did not show any significant difference on the level of aspiration. 4. The high-risk-taking students differed significantly from low-risk-taking students on levels of aspiration depicting high-risk-taking students to be more realistic. 5. Locus of control as a single man variable did not show any significant difference on the level of aspiration. 6. None of the ten two-factor interaction effects of all the demographic and personality variables showed any significant interaction on the level of aspiration. 7. None of the three-factor (ten) interaction effects of all demographic and personality variables showed any significant interaction on the level of aspiration. 8. Out of the five four-factor interaction effects, area, sex, risk-taking and locus of control together showed significant interaction on level of aspiration. The rural boys and girls both scored higher on the level of aspiration than the urban ones at high risk and internal locus of control. At high risk and external locus of control levels and at low risk and internal locus of control levels the rural boys scored higher than rural girls. However, the urban girls were higher than urban boys in both the cases. At low risk and external locus of control level the picture was just the opposite. Rural girls scored higher than the rural boys while urban girls scored less than urban boys. 9. The five-factor interaction effect, which included all the independent variables, did not show any significant interaction on the level of aspiration.

The study has its implications for guidance counsellors and agents of socialization like parents, teachers and educators. They should explore the need for guiding the adolescents who desire to be more achievement-motivated. Moreover, there is a need for expertise to inculcate a spirit of adventure among the young, irrespective of area, caste and sex.

452. PRAKASH, V., *A Study of Relationship between Intelligence, Scholastic Achievement, Personality Traits and Achievement in Sports at Different Levels of Socio-Economic Status,* Ph.D. Phy. Edu., Kur. U., 1986

The objectives of the study were (i) to find out independent and interactive effects of sport participation and socio-economic-status on the intelligence of sports students, (ii) to study the independent and interactive effects of sports participation and socio-economic-status (SES) on scholastic achievement of students participating in college and university sports, (iii) to investigate into the independent and interactive effects of sports participation and socio-economic status of 16 personality factors among college and university students participating in sports, (iv) to find out difference in intelligences, scholastic achievement and personality (16 factors) among sports students at different levels of sports participation, and (v) to study differences in intelligence, scholastic achievement and personality (16 factors) among college and university sports students at different levels of socio-economic-status.

The sample consisted of 256 sportsmen who participated in All India Inter-University and North Zone Inter-University competitions in games, viz., boxing, football, weight-lifting, volleyball, handball, wrestling and basketball. The sample also included 248 sportswomen who participated in All India Inter-University and North Zone Inter-University competition in games like shooting, basketball and handball. The sample subjects were administered the Cattell Culture Fair Intelligence Test (1971), the Cattell 16 P.F. Questionnaire, the Aaron, Merihal and Malteesha Socio-Economic-Status Scale having test-retest reliability 0.77 and concurrent validity 0.61. For scholastic achievement the

marks at the public examination were obtained. The achievement in sports was decided on the basis of position achieved in participation in different inter-university level sports. Two-way analysis of variance was used for data analysis.

The findings of the study were: 1. Boys having a university position were more intelligent than those having university participation. Similarly boys having an inter-university position were more intelligent than those having university participation. Boys having a university position were more intelligent than the inter-university position group. Boys with high SES were more intelligent than those with middle and low SES. 2. Girls belonging to university position, inter-university participation and inter-university position groups possessed higher intelligence than girls having university participation. 3. Boys having university participation had higher scholastic achievement than those having university position. Boys having inter-university participation possessed higher scholastic achievement than those having university position in sports. Boys having an inter-university position achieved higher than those having a university position. 4. Girls having university participation, university position and inter-university position in sports had higher scholastic achievement than those having inter-university participation. 5. Boys from the high-SES group possessed higher factor-A than low-SES boys. The middle-SES boys also possessed high scores on the personality factor 'Reserved *vs.* Outgoing' than low-SES group boys. 6. Boys of inter-university positions had more scholastic mental capacity than boys from other groups. 7. Girls belonging to the university position, inter-university participation, inter-university position group had higher scholastic mental capacity than those from the university participation group. Similarly, inter-university position girls possessed higher scholastic mental capacity than girls belonging to university participation and inter-university participation groups. Girls having an inter-university position and inter-university participation did not differ on factor-B. Girls belonging to middle SES possessed higher scholastic mental capacity and those belonging to low SES possessed the lowest personality factor-B. 8. Girls having university position and inter-university participation had higher ego-strength than university participation girls. The girls having inter-university participation had higher ego strength than university participation girls. 9. Girls having university position and inter-university position and inter-university participation possessed significantly higher personality factor-E than girls having university participation. Moreover, girls having inter-university position were higher in personality factor-E than girls having university position and inter-university participation. The girls having inter-university position were dominant and girls having university participation were submissive. 10. The boys of the middle-SES group possessed higher personality factor-G than those belonging to high and low SES. The boys of high SES were higher in personality factor—'Weaker super-ego strength *vs.* Stronger super-ego strength', than low-SES boys. 11. The boys belonging to high and middle SES possessed higher personality factor, 'Shy *vs.* Venturesome', than boys belonging to low SES. 12. Girls belonging to high and middle SES possessed significantly higher personality factor-H than those belonging to the low-SES groups. 13. The boys of the inter-university position group were better on factor-M than boys from university participation, university position and inter-university participation groups. 14. Girls belonging to university position and inter-university participation groups possessed higher scores on personality factor-M than those belonging to inter-university position. 15. Girls having inter-university position in sports were higher in personality factor 'Forthright *vs.* Shrewd' than girls having university participation and those having university position. High-SES girls possessed higher personality factor-N than low-SES girls. 16. High- and low-SES boys possessed higher personality factor, 'Group Adherence *vs.* Self-sufficiency', than boys of the middle-SES group. 17. High-SES girls possessed higher personality factor-Q2 than middle- and low-SES girls. 18. Boys belonging to middle-SES group had high self-concept control. Low-SES boys had indisciplined self-concept control as compared to low-SES girls. 19. Girls belonging to the high-SES group were significantly higher on personality factor, 'Relaxed *vs.* Tense', than girls belonging to the low-SES group.

453. PRAMANICK, M., *Child Rearing Practices and Adult Model Personality*, Ph.D. Psy., Bhagalpur U., 1981

The main aims of the study were (i) to determine and distinguish the adult model personality characteristics of three religio-cultural groups—Hindu, Muslim and Christian, (ii) to determine and distinguish the child-rearing practices and child-rearing attitudes of the mothers of the three religio-cultural groups, and (iii) to

explain the difference in model personality characteristics of the three religio-cultural groups on the basis of child-rearing practices and attitudes adopted by the mothers of these groups. The main hypothesis was that there would be significant differences among the adult model personality, child-care methods and child-rearing attitudes (mothers' attitudes) of the three religio-cultural groups, viz., Hindu, Muslim and Christian.

Two samples were drawn. Sample I included 300 adults (100 from each religio-cultural group), matched for age, sex, education, family income. Sample II consisted of 100 child-bearing mothers from each religio-cultural group. They were matched for age, education, occupation, family income, number of children and residence. A Child-Care Interview Schedule was prepared and used. Singh's Parental Attitude Scale, Attitude Scale and Self-Concept Inventory; Bhushan's Religiosity Scale and Fascism Scale; and the Buss-Durkee Hostility Inventory (Hindi version by Kafiluddin) were used. The study was conducted in two phases. t-test, chi-square, two-way analysis of variance were employed.

The major findings were: 1. Hindu middle-class adult personality was characterized by a highly favourable attitude towards family, a positive, social self-esteem, least aggression, less religiosity, and authoritarianism. 2. Muslim middle-class adult personality was highlighted by the most favourable attitude towards parents, high religiosity, unfavourable attitude towards family and authority, a negative private self-esteem, lack of aggression, and authoritarianism. 3. Christian middle-class adult personality was highly aggressive and authoritarian, least religious, had a highly favourable attitude towards authority but unfavourable attitude towards parents. 4. Hindu mothers practised early weaning and toilet training. Most of them used bottle feeding. Muslim mothers employed breast feeding and practised late weaning and toilet training. Most Christian mothers used breast feeding and practised late weaning and early toilet training. 5. Attitude of Hindu mothers was most loving and protecting, and least restrictive. Muslim mothers had most rejecting, neglecting and restrictive attitudes. Christian mothers had most restrictive, loving and protecting attitudes. 6. Adult model personality had some significant links with mother's child-rearing attitudes but no obvious link with child-care variables.

454. PRASAD, S., *Factors that Influence Stability of the Self-Concept,* Ph.D. Psy., Bhagalpur U., 1982

The main aim of the study was to analyse certain important factors of stability of the self-concept. Seven hypotheses were examined.

The study was designed on the line of self-theory. Anxiety, insecurity, self-satisfaction, self-role incongruence and social change were analysed. A comparison was made between older and younger generations to see the influence of social change. The sample included 132 college and university teachers (older generation), and 175 undergraduate and postgraduate students (younger generation). Teachers and students were selected randomly from different colleges of Bhagalpur University, representing both rural and urban population. Sharan's Ideal Self-Concept, Self-Satisfaction, and Role Performance Inventories, Taylor's Manifest Anxiety Scale (Hindi version by Singh), and Maslow's Security–Insecurity Inventory (Hindi version by Singh) were used. Nonparametric statistics were used to see the significance of differences.

The major findings were: 1. Anxiety, insecurity, self-role incongruence and self-satisfaction were the factors which influenced stability of the self-concept. 2. Social change had not been identified as an independent factor of self-consistency. 3. Older and younger generations differed significantly on anxiety, insecurity, self-role incongruence and self-satisfaction.

455. PRASAD, S.C., *A Study of Attitudinal Components and Some Personality Variables,* Ph.D. Psy., Raj. U., 1983

The objectives of the study were (i) to verify the distinctly different components of global attitude domains, (ii) to establish the possible amorphous nature of attitude structure, (iii) to account for total variance domain, and (iv) to explore the relative effect of personality differential on attitude components.

The sample comprised 577 postgraduate students of three different university (Rajasthan, Magadh and Patna). Out of 577 subjects, 443 were males and 134 were females. The age range of these students was 19 to 24 years. The following attitude and personality scale were employed in the investigation: (i) The Mohsin Nationalization Scale. It had 60 statements representing three attitude components—cognitive, affective and behavioural, in almost equal number. The split-half reliability of the scale was 0.94 and concurrent validity 0.43. (ii) The Bhusan religiosity Scale (1971). The scale had 36 items out of which 25 were positive and 11 were negative items. The split-half reliability was 0.69 and

concurrent validity 0.57. (iii) The Gough Stanford Rigidity Scale (1957). The scale consisted of 480 items classified into four categories, viz., (a) measures of poise, ascendance and self-assurance, (b) measures of socialization, maturity and responsibility, (c) measures of achievement, potential and intellectual efficiency, (d) measures of intellectual and interest mode. The test-retest reliability of the scale was 0.87 and concurrent validity 0.70. (iv) The Hindi adaptation of Maudsley Personality Inventory (1959). (v) The Hindi version of Maslow Security–Insecurity Inventory (1970). The attitude scores were analysed after the male and female subjects were divided over low scorers and high scorers for all the personality variables on the basis of median as cut-off point.

The results of the study were: 1. Factor analysis of Nationalism Scale Scores of all subjects revealed three factors which were identified as Faith in Nationalism, Dislike for Nationalisation and Virtues of Nationalisation. 2. Factor analysis of Religiosity Scale scores of the total sample revealed eight factors which were identified as: Faith in God, Opposition to Traditional Religious Belief, Belief in Traditional Sin, Belief in Power of Oneself, Disbelief in Traditional Religious Virtues, Rejection of Religious Belief, Doubt regarding the Supernatural, Disbelief in After-life. 3. When scores of male and female students on the Religiosity Scale were factor analysed, nine factors were identified in the case of males and 11 factors in the case of females. The factors identified in the case of males were: Faith in God, Belief in Power of Oneself, Belief in Traditional Sin, Belief in Traditional Religious Values, Recognizing Rebirth, Rejection of Religious Belief, Faith in Controverts, Conservative Religious Preaching, Disbelief in After-life or Rejection of Traditional Religious Belief. The 11 factors in the case of females were: Faith in God, Disbelief in Traditional Religious Values, Disbelief in Power of Oneself, Rejection of Religious Faith, Disbelief in Traditional Religious Values, Rejection of Religious Myth, Disbelief in Traditional Religious Norms, Rejection of Theism, Belief in Traditional Sin, Disbelief in After-life, Rejection of Religious Belief. 4. Eleven factors were extracted in the case of male low-scorers and ten factors for male high-scorers on extraversion after factor analysing their scores on the religiosity scale. In the case of low-scorers the factors identified were: Faith in God, Faith in Personal Effort, Belief in Traditional Sin, Belief in Traditional Religious Virtues, Doubt in Religious Virtues, Doubt in Power of Oneself, Opposition to Traditional Religious Belief, Doubt in Religious Practices, Disbelief in Traditional Religious Notions, Belief in Traditional Religious Values and Belief in Religious Norms. In the case of high-scoring males on extraversion the factors identified were Faith in God, Rejection of Religious Belief, Belief in Traditional Sin, Opposition to Traditional Religious Belief, Faith in Traditional Religious Values, Rejection of Supernatural, Disbelief in Power of Oneself, Faith in Religious Norms, Rejection of Mysticism in Religion. 5. In case of the female group labelled as low and high scorers on the extraversion scale, when their scores on Religiosity Scale were factor analysed, 11 factors were identified for low-scorers on extraversion and 12 factors for high-scorers on extraversion. 6. Neuroticism was included as another personality differential. There was some variation in the factors for low and high scorers on neuroticism. Specific factors such as 'Faith in God', 'Belief in Power of Oneself' were represented in all groups. However 'Disbelief in After-life' was identified only among male high neurotics whereas 'Disbelief in Soul' was identified only among low neurotic males. 'Disbelief in Religious Presupposition' was identified in female high neurotics. 7. The other set of personality variables also showed some variation in a number of factors among male low and high scorers and among female low and high scorers. Specific factors such as 'Faith in God' were identified in all groups. However 'Forgiveness and Rejection of Emancipation' was identified only among flexible males, whereas 'Rejection of Supernatural' emerged in rigid males and females. 'Belief in Traditional Sin' was identified among flexible males and rigid females. 8. Security-insecurity was also included as a polarized personality variable. There were some variations in the factor structure of religious attitude. A specific factor, such as 'Faith in God', was identified in all groups except for female low-scorers on the S-I inventory. The 'Belief in Traditional Sin' factor could be seen in secure males whereas 'Disbelief in Traditional Sin' could be seen only in insecure males.

456. PRASANNA, K.C.B., *A Study of Certain Mental Health Variables associated with High and Low Achieving Adolescents,* Ph.D. Edu., Ker. U., 1984

The main objective of the study was to identify the mental health variables which discriminated between high and low achievers among the total sample and subsamples classified on the basis of sex, and area of residence.

The sample was made up of 1050 pupils (567 boys and 483 girls) of Std. IX, selected by applying the proportional stratified sampling technique. The tools used were: (1) Mental Health Status Scale (M. Abraham, and K.C.B. Prasanna, 1981) to measure optimism, adaptability, sense of security, regularity of habits, perception of reality, emotional maturity, social conformity, freedom from sociopathic tendencies, recreational pursuits, mastery of environment, positive attitude towards self, positive attitude towards others, freedom from negativism, freedom from nervous symptoms, freedom from withdrawing tendencies, concept of degree of freedom, (2) Composite Test of Generalized Achievement (A.S. Nair, M. Abraham, D. Seethamony), (3) Kerala University Group Test of Intelligence (N.P. Pillai, A.S. Nair, and J. Gourikutty Amma, 1968), (4) The Kerala Non-Verbal Group Test of Intelligence (A.S. Nair, 1971), (5) The Kerala Socio-Economic Scale (A.S. Nair, 1970), and (6) General data sheet. The reliability and validity of the tools had been established in earlier studies. The data were analysed and interpreted by applying tests of significance for difference between means of (a) large independent samples and (b) large dependent samples.

The main findings were: 1. All the mental health variables studied discriminated between high and low achievers in most of the groups studied. (2) High achievers had higher mean scores than low achievers for all the 16 mental health variables studied.

The findings of the study indicate the need (a) to avoid threats which caused disequilibrium in children, (b) to provide for guidance-oriented teaching, (c) to organize extension lectures for parents and community leaders, (d) to form parent-teacher associations, and (e) to encourage pupils to participate in extra-curricular activities and institutional guidance.

*457. PUNETHA, D., *Socialization of Aggression in Children in a Tribal Society,* Ph.D. Psy., All. U., 1982

The hypotheses were: (1) The Bhotia socializing agents would exercise more control over children's aggression in a consistent manner and their children would exhibit low aggression in comparison to the Brahmin and Dom children, (2) The Brahmin parents would be strict and often more liberal in controlling children's aggression and their children would express more aggression than the Bhotia children. (3) The Dom parents would be most permissive and liberal in dealing with their children's aggression and children would manifest aggression in greater degree.

The sample consisted of 96 children belonging to three groups of Pithoragarh district. There where 38 Bhotia (20 boys, 18 girls), 30 Brahmin (19 boys and 11 girls), and 28 Dom (18 boys, 10 girls) children. Most of these children were school-going. Their mean age and the average income per month of their parents ranged from 10 to 20 years and Rs 200 to Rs 597 respectively. The method of participant observation was used to identify different forms of aggression both ordinary and specific settings. Apart from this, mothers were interviewed regarding the method they commonly employed for dealing with aggression in their children. The data were analysed with the help of the Wald Walfowitz Run Test.

The findings were: 1. Bhotia, Brahmin and Dom children invariably displayed some forms of aggression that were common e.g. tempertantrum, physical and verbal aggression, disobedience, damage to property, negativism, self-directed aggression, jealousy and competition. 2. The degree of aggression in Dom children was highest, in Bhotia children least and the Brahmin children fell in between these two extremes. 3. Bhotia boys and girls manifested equal amounts of aggression, whereas the Brahmin girls displayed less than the boys. The Dom girls behaved more aggressively than their male counterparts. 4. Mothers utilized three kinds of techniques for handling aggression: punitive, positive and inaction. In positive handling technique different kinds of positive incentives were utilized for motivating the children to give up aggression. Sometimes children were neither punished nor rewarded to inhibit aggressive behaviour, but it was believed that by permitting expression to aggression, children got rid of their tension. 5. Bhotia mothers used positive incentives more frequently, punitive and inaction techniques moderately. The punitive technique was employed in greater degree by the Brahmin mothers, positive technique moderately and inaction in less degree. The Dom mothers were more permissive and were much lower in frequency so far as negative incentives were concerned.

458. PURANDARE, V.M., *Anxiety and Strategies in Serial Verbal Learning,* Ph.D. Psy., Poona U., 1984

The main purpose of the present study was to study the

Strategies in serial verbal learning,
Ph.D. Psy., Poona U., 1984

effects of the various strategies on the shape of the serial position curve in the case of high and low anxious students. The hypotheses of the study were: (1) The typical shape of the serial position curve will be affected by the different strategies of learning. (2) The overall performance of low anxious subjects will be superior to that of high anxious subjects. (3) The learning of the list will be more difficult when temporal cases are omitted but will be easier when structural cases are placed in the list. (4) The subjects organize their learning around the first and last temporal items when on structural cases within the series are provided. (5) The self-posing strategy will change the typical shape of the serial position curve. (6) The high anxious subjects will be more prone to omission errors while the low anxious subjects will show more transposition errors or extra-list errors.

A sample of 40 high and 40 low anxious girl students of First Year B.A. of SNDT Women's University were selected on the basis of the Anxiety Scale of State-Trait Anxiety Scale adopted for a Marathi-speaking population by Deshpande and Aljapurkar (1982). All subjects had a percentile of 50 on the standard Progressive Matrices Test. Four strategies of serial learning were used. They were classical, closed-cycle or continuous presentation, isolation and self-pacing. The first three strategies were experimenter-determined and the last was subject-determined. Ten high and ten low subjects were randomly assigned to each strategy. Two experiments were done on serial verbal learning. In the first experiment, three categories were used and in the second experiment only the self-pacing strategy was used. The 2×3 factorial design was used in the first experiment with two levels of anxiety and three levels of strategies. A list of 15 Devanagari nonsense syllables were used in both the experiments. The error and trial data were tabulated and analysed with the help of non-parametric statistics. The 'Order of group learning curve' was drawn on the plot of Harcum-Cappage. The results obtained were discussed in the light of the Spence-Spence theory of anxiety and Jensen's empirical theory of the serial position effect.

The following were the findings of the study: 1. The low anxious subjects were better in performance in the serial verbal learning task as compared to high anxious subjects. 2. The E-determined and S-determined strategies affected the learning of the subjects. However, the shape of the serial position curve remained invariant. 3. The closed-cycle strategy was found to be superior to the test of the E-determined strategies. 4. The primacy-finality characteristic of the serial position curve remained unaffected by the strategies. 5. The HA and the LA subjects did not differ in types of errors made during the serial verbal learning. 6. The order of group-learning curves revealed that the subjects used their own anchors at the cognitive level in the absence of the anchors to learn the serial list. 7. The self-pacing strategy threw more light on the subject's method of attacking the learning task.

459. RAGHAVA, G., *A Study of Achievement Motivation Development in the Pupils of Ninth Standard with Various Socio-Economic Levels and Studying the Effects Thereof,* Ph.D. Edu., Mys. U., 1985

The major objectives of the study were (i) to study the effect of achievement motivation development (AMD) training on the n-Ach, academic performance, adjustment, classroom trust, dependency and performance of high school pupils, (ii) to study the effect of AMD training on the above-mentioned variables in case of SC/ST students and students of different socio-economic status (SES), and (iii) to study objective (i) in relation to sex, intelligence and academic motivation.

The sample of students was drawn randomly from class IX students of the cooperative secondary schools. The tools used were the TAT Test of Mehta, achievement tests, the Pre-adolescent Adjustment Scale, the Classroom Trust Scale, the Dependency Scale and Perception Test of Mehta. This was an educational experiment with an experimental group ($N = 100$) and a control group ($N = 100$). The two groups were comparable as regards SES, age, intelligence, and academic motivation. The analysis of covariance was used. The treatment was the training course in achievement motivation development. The training had a duration of four months.

The major findings were: 1. The Achievement Motivation Development Course (AMD Course) improved the n-Ach of the pupils. 2. The n-Ach of pupils of high, middle and low socio-economic status groups improved as a result of the AMD course. 3. The AMD course resulted in a positive gain in the immediate performance of students. However, the SC/ST students did not gain in their performance as a result of the course. 4. The training course resulted in improved achievement at the S.S.L.C. examination. 5. In the case of SC/ST students, the course had a negative effect on the S.S.L.C examination scores. In the low SES group, there was improvement in English and Social Studies though there was no

overall improvement. The effect of the AMD course was found to have sustained even after five years. 6. The training did not have any significant influence on the adjustment and classroom trust and perception of the pupil. 7. The AMD training resulted in the increase in independence in pupils. 8. The SC/ST pupils gained in n-Ach as a result of AMD training as compared to pupils of low SES but did not gain as compared to middle SES pupils. 9. The SC/ST pupils improved their performance in examinations as a result of AMD training but pupils of low SES gained the most. 10. The SC/ST pupils did not improve their adjustment as a result of training but they significantly improved their classroom trust. The same results were seen in the case of middle and low SES groups. 11. The SC/ST pupils did not improve either their independence or their perception as a result of AMD training. 12. No sex differences were seen in n-Ach, performance, adjustment, classroom trust, dependency and perception. 13. Pupils of high intelligence gained significantly in n-Ach, performance and perception as compared to pupils of low intelligence. But the gain was not significant in the case of adjustment, dependency, and classroom trust. 14. Academic motivation did not influence the gain scores in n-Ach, performance, adjustment, dependency, classroom trust and performance.

The major educational implication of the study is that psychological education is necessary in schools as it results in improved performance of pupils and the low SES students derive more benefit from it. The training of teachers both at the preservice and in-service levels should include a sizeable component of training in providing psychological education.

***460.** RAGHAWAN, R., *A Study of Family Dynamics and School Achievement as related to Neurotic Tendencies of High School Students,* Ph.D. Psy., DHSGVV, 1986

The major objective of the study was to find out the relationship between neuroticism and family dynamics, and neuroticism and academic achievement among high school students. The major hypotheses framed were: (1) The high school students who had a higher degree of neuroticism would perceive their mothers as rejecting than normal high school students. (2) There would be differences in marital adjustment of parents of normal and neurotic high school students. (3) The neurotic high school students would show poorer academic achievement than normal students.

The sample of the study consisted of 219 male and female high school students studying in classes IX, X and XI, 130 of which were identified as normals and 89 were neurotics, by employing the Neuroticism Scale Questionnaire designed and constructed by Cattell and Scheler and adapted in Hindi by Kapoor and Kapoor. Other tools employed for data collection were the Parental Acceptance-Rejection Questionnaire (PARQ) designed and constructed by Ronald P. Rohner and the Marital Adjustment Inventory by Dr Harmohan Singh. The annual examination scores of the students were taken as records of their academic achievement. The data were analysed by computing the mean, S.D. percentages, t-values and chi-square.

The findings of the study were: 1. Male students were found to show a slightly higher rejection score than females. Similarly neurotics had a slightly higher rejection score than normals. 2. The parental rejection did not show a significantly positive relationship with neuroticism and rather the sub-component R/U had a significantly negative relationship with neuroticism. 3. In the area of marital adjustment, mothers were found to be more maladjusted among neurotics and normals as compared to fathers. Further, mothers had higher maladjustment among neurotic male students, while both the parents had higher marital adjustment among neurotic female students. 4. Neurotic male students were found to have better academic achievement than normals in higher socio-economic status level, while neurotic females were found to attain better only in a Kendriya Vidyalaya setting where course work along with examination scores was given importance. 5. No significant difference was observed in the academic achievement of neurotic and normal students. 6. Males were found to have significantly higher academic achievement than females. 7. Among those of higher socio-economic status, students with average I.Q. with mothers being caretakers of the child, with family dynamics consisting of parental acceptance-rejection and parental marital adjustment were not found to exert a significant influence on neuroticism.

***461.** RAI, N.K., *A Comparative Study of Personality Dynamics of Blind and Sighted Higher Secondary Students,* Ph.D. Edu., Garh. U., 1988

The major objectives of the investigation were (i) to ascertain the differences and similarities between the

blind and sighted in terms of specific adjustment problems, viz. family relationship, social relationship, emotional stability and methods employed in making adjustment, i.e. conformity, leadership, mood and adjustment to reality, and (ii) to see the impact of blindness on adjustment.

The sample consisted of 125 blind and 125 sighted students of classes IX to XII studying in residential, partly residential and integrated settings. The tools used were Hindi translation of the Minnesota Counselling Inventory (MCI), the SES Scale (Kuppuswamy), the Rating Scale for the teachers, and an Interview Schedule.

The major findings were: 1. Blind subjects were less adjusted on the dimensions of family relationship, emotional stability, adjustment to reality, mood and conformity. 2. Sighted children showed poor adjustment on school relationship and leadership. 3. The adjustment of blind students correlated with interaction with family members, interaction with the sighted, acceptance of blindness and the setting of education. The blind students who had more interaction with the sighted and family members were found comparatively well adjusted.

462. RAMMOHAN, V.G., *Studies in ESP Performance in Classroom and Academic Examination Settings,* Ph.D. Psy., And. U., 1983

The objective of the study was to test the hypothesis, subjects who obtained scores above mean chance expectation on real questions which had been answered in "doubtful" and "guessing" columns would score significantly more hits on the Extra-Sensory-Perceptions (ESP) questions than the subjects who would score below chance on real questions answered in these two columns.

The study was done in four phases. In the first phase, 396 college students were exposed to 50 words, half of which were English words and half were words coined to sound like English words. The latter group constituted the Extra Sensory Perception (ESP) words group. For each of the words, five meanings were given. One of these alternatives was the correct one in case of the English words. In case of ESP words, the correct alternative was randomly designated. The subjects were asked to record their answers in three columns 'Certain', 'Doubtful' and 'Guessing', according to whether they were certain, doubtful or guessing about the answer. In the second phase of the study 40 college students in an examination and a classroom setting were exposed to a similar ESP vocabulary test. Apart from this, in this phase, variables like student's attitude towards the teacher, his mood while taking the examination and the amount of his perception for examination were also determined through locally prepared scales. In the third phase of the study, 135 college students were exposed to the ESP test in both examination and classroom conditions. In the fourth phase the ESP test in chemistry was administered to 100 high school students in both examination and classroom settings.

The findings of the study were: 1. In a total of four classroom settings, the subject scored below chance expectation. Out of the three examination settings, the subjects scored above chance expectation. 2. In the total of seven settings (four classroom and three examination), expected 'hitters' were found to obtain more 'hits' than expected 'missers'. 3. There was no consistency in the ESP performance of subjects in line with their positive and negative attitude towards the teacher. 4. There was no consistency in the performance of subjects in ESP whether they were in a good mood or in a bad mood, having good preparation or bad preparation, or whether they regarded themselves to be lucky or unlucky in the examination. 5. The vocabulary ESP test was found to be difficult in the first phase; in the second phase also, it was a little difficult, but no significant difference was found between ESP performance in examination and classroom settings.

The study has its implication for examination reforms committees in the universities who attribute scores of the students in examinations to their mood, attitude towards teachers, etc.

463. RAWAL, V.R., *Personality Adjustment and Attitude towards Authority of Emotionally Disturbed Adolescents in relation to Their Home and School Environment,* Ph.D. Edu., Kum. U., 1984

The investigation was designed to study personality adjustment and attitude towards authority among emotionally disturbed students in relation to their home and school environment.

The sample for the study consisted of 276 emotionally disturbed students studying in the intermediate colleges. Of them, 181 were male and rest female. Information about home background was collected with the help of a questionnaire developed by the investigator.

For study of emotional disturbance, an inventory was developed by the investigator. For assessment of attitude towards authority a scale was constructed by the investigator. For assessment of attitude towards authority a scale was constructed by the investigator. For assessment of adjustment, Mittal's Adjustment Inventory was administered to the students. For assessment of school environment, the scale standardized by Dixit was used.

The main findings of the study were: 1. The emotionally disturbed students did not differ significantly as regards their level of adjustment. 2. The emotionally disturbed students did not differ significantly as regards their attitude towards authority. 3. Emotionally disturbed students belonging to various age groups did not vary significantly as regards their personality adjustment and attitude towards parental and teacher authority. 4. There were no significant differences among the emotionally disturbed students in the different grades as regards their attitude towards authority and adjustment. 5. Emotionally disturbed students belonging to fathers and mothers with different educational status did not vary significantly with regard to adjustment and attitude towards authority. 6. There was no significant difference as regards the different variables chosen for the study among the emotionally disturbed students having working and non-working mothers. 7. School environment influenced total adjustment among the emotionally disturbed students.

464. RAY, P., *Effects of Attribution Training on the Development of Intellectual Achievement, Responsibility and Cognitive Performance among Lower Class Children*, Ph.D. Edu., Utkal U., 1982

The objectives of the study were (i) to measure intellectual achievement responsibility of low income group elementary school children reading in classes III and IV, (ii) to introduce an intervention programme at four different stages which were equally spaced in terms of time, and (iii) to observe if changes in the attribution process had significant relationship with mental abilities and cognitive competence as revealed by academic achievement and other related attributional processes.

Two hundred students (100 boys and 100 girls) of three elementary schools of Cuttack coming from families of poor socio-economic homes were randomly assigned to experimental and control groups. The instruments used were Crandill's IAR Scales, Bialers I-E Locus of Control Scale, Robinson's n-Ach Questionnaire, Raven's Progressive Matrices, Peirs-Harries Self-concept Questionnaire, and school achievement tests. Training was phased into four stages through 30 success-oriented stories, feelings of self-esteem or self-perception, through 15 lectures, goal-setting through discriminating learning tasks and realistic goal-setting through achievement games. The training programme was composite but the post-tests were taken in between to observe systematic change, if any, depending on training, using an additive model. Data obtained were analysed by using chi-square and analysis of variances.

The major findings were: 1. Intervention programmes produced significant changes in IAR, IAR (success), IAR (failure), related attributional processes (self-esteem, I-E control, n-Ach), mental ability and school achievement. 2. There was significant variation in attributional process scores, mental ability and achievement from phase-1 of the post-test through phase-4 with the only exception of self-esteem. 3. There were significant interactions between treatment and post-test sessions on each of the variables. At each of the post-tests the experimental group of children had higher scores than the control group children. 4. Changes in IAR (total) were related to IAR (success), IAR (failure) and school achievement for both the groups. 5. IAR (failure) was not related to any of the variables included in the study for both the groups. I-E control was positively related to self-concept scores of the experimental group children and negatively related to school achievement. 6. Self-concept was significantly related to mental ability, n-Ach and school achievement. n-Ach was only moderately related to mental ability and achievement, and the relationship between mental ability and achievement was positive in all cases.

465. REDDY, O.R., *A Study of the n-Achievement and Intellectual Capacity of High School Students*, Ph.D. Edu., And. U., 1983

The objectives of the study were (i) to study the family background of high school students in terms of education and occupation of the father and income of the family, (ii) to assess the levels of n-achievement among high school students from different types of secondary schools, (iii) to assess their intellectual capacity, (iv) to study the relationship between n-achievement and intellectual capacity, and (v) to compare the high and low n-achievement and intellectual capacity groups in terms

of other variables, viz., student characteristics, family characteristics and school characteristics.

A sample of 360 students was selected from Classes VI, VIII and X—each class having high, middle and low school performance students. The sample was stratified in terms of 15 students per class and 45 students per school. The sample students were administered the Mehta TAT Pictures Test (1969), Raven's Standard Progressive Matrices (1960), and a family background questionnaire which was locally developed.

The findings of the study were: 1. Class X mean scores on n-achievement were significantly higher than Class VIII and Class VI mean scores. But boys and girls studying in the same class showed no significant difference in their n-achievement scores. 2. Scores on n-achievement of high academic level students were significantly higher, whereas n-achievement scores of low academic level students were significantly lower. 3. The Telugu medium and English medium students showed significant differences in n-achievement level in all cases in favour of English medium students for all the three classes. 4. Students from boys, girls and coeducational schools showed no significant differences in their n-achievement. 5. Students from government aided, private and central schools did not show significant differences. 6. In case of n-achievement and father's occupation, it was found that the F-value was significant for Class VI students. 7. In the case of family income and n-achievement, none of the F-value was significant. 8. In terms of age, the low and high n-achievement students did not show significant differences in any of the classes. 9. In terms of intellectual capacity, the low n-achievement groups and the high n-achievement groups differed significantly for all the three classes and mean intellectual capacity of high n-achievement groups was significantly higher than that of the low n-achievement group students. 10. In terms of father's education, and low and high n-achievement groups of Class VI as well as Class X students differed significantly. 11. In the case of mean occupation of father, it was found that in all the three classes the low and high n-achievement groups differed significantly. 12. In terms of family income, the low and high n-achievement groups were significantly different and the mean income of the high n-achievement group was significantly higher. 13. Boys and girls did not show significant differences in their intellectual capacity levels excepting in case of Class X in which boys showed a significantly higher intellectual capacity level than girls. 14. In terms of academic levels, students of different levels showed significant differences and intellecutal capacity of high academic students was the highest and that of low academic students was the lowest. 15. The intellectual capacity of Class X students was the highest and Class VI students the lowest. 16. In terms of medium of instruction, the Telugu medium students and the English medium students showed significant differences and the mean intellectual capacity level of English medium students was consistently higher than that of Telugu medium students.

466. SAHAI, S.K., *A Study of Relationship of Students' Sex-role Identity with Intelligence and Certain Personality and Demographic Variables,* Ph.D. Psy., Pan. U., 1985

The objectives of the study were (i) to find out the effect of sex and sex role identity on the variables of intelligence, self-esteem, locus of control, adjustment and dogmatism, (ii) to find out if androgynous, masculine, feminine and undifferentiated male and female subjects differed significantly with regard to the variables of maternal adjustment, mother's education, father's education, size of the family, socio-economic status and academic achievement.

The sample of the study consisted of 408 male and female students of Panjab University, Chandigarh. They were administered the following tools: (i) The Bem Sex-Role Inventory, (ii) Raven's Standard Progressive Matrices, (iii) the Texas Social Behaviour Inventory, (iv) the Rotters I-E Locus of Control Scale, (v) the Bell Adjustment Inventory, (vi) the Singh Socio-Economic Status Scale, and (vii) the Dogmatism Scale.

The findings of the study were: 1. Males were found to be higher on mean intelligence as compared to females. 2. High masculine and high faminine subjects were found to have higher self-esteem scores as compared to low masculine and low faminine subjects. 3. Males were higher on self-esteem as compared to females. 4. Masculinity and femininity were not independent of each other with regard to self-esteem. 5. Low masculine subjects were found to be higher on external control as compared to high masculine subjects. 6. Females were higher on external control as compared to males. 7. Masculinity, femininity and sex were not independent of each other with regard to internal-external control. 8. High masculine and high faminine subjects were found to be better on adjustment as compared to low masculine and low feminine subjects. 9. The pattern of relationship of

masculinity/femininity with adjustment was different for males and females. 10. High masculine subjects were found to be less dogmatic as compared to low masculine subjects. 11. Males were more dogmatic as compared to females. 12. Significant differences were seen between feminine females and feminine males on internal-external control variables with feminine females being more externally controlled than feminine males. 13. Mother's employment had no effect on sex role identity of either males or females. 14. Mother's education affected sex role identity of only male subjects and not female subjects. Androgynous male subjects tended to have mothers with higher educational qualifications. 15. Like mother's education, father's education was found to affect sex role identity of male subjects only and not female subjects. 16. Size of the family also affected only the male subjects with more androgynous subjects belonging to small-sized families. 17. Structure of the family was found to have no effect on the sex role identity of either males or females. 18. Socio-economic status affected sex role identity of both males and females, with more androgynous males and females coming from higher socio-economic status families. 19. High masculine subjects were also higher on academic achievement as compared to low masculine subjects.

467. SAHNEY, S.P., *A Comparative Study of Personality, Adjustment and Values of Delinquents and Non-Delinquents,* Ph.D. Psy., Pan. U., 1984

The objectives of the study were (i) to find out differences between delinquents and non-delinquents boys in relation to psychoticism, extraversion/introversion and neuroticism, (ii) to find out the extent to which the delinquents differed from the non-delinquents in respect of personality characteristics, (iii) to find out difference in adjustment of delinquents and non-delinquents in home, emotional, health, social and total adjustment, and (iv) to find out difference in preference of values of delinquents and non-delinquents.

The sample of the study comprised two groups of 105 boys each, viz., delinquents and non-delinquents. The delinquents were selected from the certified school of Hoshiarpur (Punjab State) and the non-delinquents from a school at Jalandhar (Punjab State). The subjects were administered the following tools: (i) the Eysenck Personality Inventory (1970), (ii) the Jesness Inventory to measure level of delinquency (1966), (iii) the Bell Adjustment Inventory (1937), (iv) the Rokeach Value Questionnaire (1967).

The findings of the study were: 1. The delinquents showed significant differences from non-delinquents in respect of extraversion/introversion, social maladjustment and automism and denial. 2. The delinquents showed significantly poor adjustment on home, health emotional, social and total adjustment. 3. As regards values, the delinquents differed in their preference of values as compared to non-delinquents. Marked differences were observed on values of 'Broadminded', 'Capable', 'Clean', 'Forgiving', 'Honest', 'Obedient', 'Responsible' and 'Self controlled' in case of delinquents.

468. SANDHU, R., *A Study of Parental Acceptance-Rejection as Correlates of Personality Development with reference to Rural Families,* Ph.D. H.Sc., Agra U., 1986

The objectives were (i) to study the personality traits in relation to parental acceptance and rejection under different backgrounds. (ii) to study the relevance of background factors in personality development in relation to parental acceptance-rejection, (iii) to study the relevance of background factors in the development of parental acceptance and rejection. The hypotheses were: (i) Personality traits of mothers and children with specific background do not vary under conditions of parent-child acceptance. (2) Personality traits of mothers and children with specific background do not vary under conditions of parent-child rejection. (3) Personality traits of mothers and children with specific background do not vary under conditions where children feel rejected, but mothers perceive themselves as accepting. (4) Personality traits of mothers and children with specific background do not vary under conditions where children feel accepted, but mothers perceive themselves as rejecting. (5) Under conditions of parental acceptance and parental rejection the background factors such as sex of the child, family size, family pattern—joint/nuclear, and birth order of the child do not influence the development of personality. (6) The background factors such as sex of the child, family size, family pattern and birth order of the child do not influence the parental acceptance and parental rejection.

The study was conducted on children between 9 and 12 years of age studying in the government schools of the selected villages of Ajmer District in Rajasthan. The sample consisted of 250 randomly selected children and 250 mothers. A parental acceptance-rejection questionnaire adapted by Jai Prakash and Mahesh Bhargava was used to assess parent-child relations. An Indian adapta-

tion of 16 PF by S.D. Kapoor was used to measure the personality of mothers. Children's personality was measured with the help of an Indian adaptation of the Children Personality Questionnaire by S.D. Kapoor and Sharadamba Rao. In order to find similarity among the personality factors of mothers and children the profile similarity coefficient was used. Data were further analysed with the help of analysis of variance, chi-square and coefficient of association techniques.

The findings were: 1. There existed a similarity in the personality traits of mothers and children under conditions where there was mutual acceptance. However there existed a dissimilarity in the personality traits of mothers and children under condition of mutual rejection and under condition of incongruent parent-child relations. 2. There existed a significant difference in the personality of accepted children of nuclear and joint families; rejected children of nuclear and joint families; accepted children of large families and small families; rejected children of large families and small families; accepted male children and accepted female children; rejected male children and rejected female children; accepted first born and last born children; rejected first born and last born children; accepted first born and middle born children; rejected first born and middle born children; accepted middle born and last born children; and rejected middle born and last born children. 3. The background variables associated with the child's feeling of acceptance by the mother and also the mother's feeling of acceptance were alike. These were nuclear family pattern, small family size, male sex of the child and last in birth order.

*469. SANGWAN, R.K., *A Study of Motive Structure of High Proficiency Sprinters and Low Proficiency Sprinters*, Ph.D. Phy. Edu., Kur. U., 1987

The objectives of the study were (i) to find out the differences, if any, in the motive structure of high proficiency sprinters and low proficiency sprinters comparable on certain physical variables, (ii) to find out the differences, if any, in the need achievement of high proficiency sprinters and low proficiency sprinters comparable on certain physical variables, (iii) to study the relationship among the different measures of motivation of two groups, and (iv) to have factorial analysis of the scores of two groups on different measures of motivation.

In the study, the purposive sampling method was followed. A sample of 603 subjects was selected. Their performance on sprinting events 100m, 200m, and 400m were recorded separately. The total sample of 603 subjects was classified into three groups, viz., (i) high proficiency sprinters or HPs (N=120), (ii) low proficiency sprinters or LPs (N=120) and (iii) middle proficiency sprinters or MPs (N=363). They were administered following tools: (i) The Cattell Motivation Analysis Test and (ii) The Bhargava Achievement Motive Test.

The findings of the study were: 1. The frequency distributions of scores for all the variables included in this study were more or less normal. 2. The high proficiency sprinters scored significantly higher on home-parental sentiment and pugnacity in total motivation than did low proficiency sprinters. High proficiency sprinters also had significantly greater scores on pugnacity at integrated level as compared to low proficiency sprinters. 3. The high proficiency sprinters scored significantly better on the test of need achievement (N-Ach) in comparison with low proficiency sprinters. 4. The different measures of motivation and need achievement had very low intercorrelations among themselves for different groups. 5. The measures of motivation and need achievement showed a reasonable amount of overlap among themselves for different groups. 6. On factor analysis, five factors of motivation were found implicit in the case of high proficiency sprinters, six factors in the middle proficiency sprinters and five factors in the case of low proficiency sprinters.

470. SARASWATHI, T.S., *Perceived Maternal Disciplinary Practices and Their Relation to Development of Moral Judgement*, Dept. of Child Development, MSU, 1978 (ICSSR financed)

The objectives of the study were (i) to study the relationship between various maternal disciplinary practices, as reported by children, and the development of moral judgement, (ii) to determine the most effective disciplinary techniques for the internalization of morality, (iii) to study social class differences and sex differences, if any, in perceived maternal disciplinary practices, (iv) to study the nature of the relationship between perceived maternal disciplinary practices and the development of moral judgement in boys and girls of two social classes, (v) to study the nature of perceived paternal disciplinary practices in a subgroup of boys and girls, and (vi) to obtain information from a subgroup of mothers in order to establish a reliable technique of collecting data from

mothers regarding their use of disciplinary measures, and cross check and compare the responses of mothers and sons on the same issue.

Data on moral judgement were available for a sample of 360 children from a previous project. A sample of 249 children who could be contaced from the original sample of 360 children of age-group of 10-15 years, boys and girls from the upper middle and working class background was utilized for the present study. The following research tools were used: (i) an adapted form of the Kohlberg Moral Judgement Test (Sunderesan, 1975) to assess the moral judgement of the children, (ii) a structured interview schedule consisting of 15 daily life situations to assess children's perception of maternal disciplinary practices, (iii) a structured response list for use with the upper middle class sample and an open-ended response list for the working class sample. The maternal disciplinary practices were rated as falling under one of the three major categories, namely, power assertion, induction and love withdrawal. The data were analysed with product-moment correlations between moral maturity scores (MMS) and each category of maternal disciplinary practices, mean MMS comparisons of children falling under predominant categories of discipline and relevant sex × social class comparisons of frequency of reported usage of power assertion, induction and love withdrawal by parents.

The major findings were: 1. There was a trend of negative correlations between maternal power assertion and moral maturity scores (MMS) of children, and positive correlations between maternal induction and moral maturity scores of children. The correlations were, however, clearly significant only in the case of upper middle class girls and approached zero in the case of working class boys. 2. The pattern of relationship between love withdrawal and MMS was neither clear nor consistent in terms of direction. 3. There was a high usage of a mixed pattern of discipline, i.e. use of both power assertion and induction. Upper middle class children whose mothers were perceived as using such a mixed mode of discipline scored significantly higher in MMS than those who perceived their mothers as using predominantly power assertion. 4. Power assertion was the predominant mode of discipline in both social classes. The highest usage, both in terms of frequency as well as intensity (beating, physical assertion of power) was reported by the working class boys. 5. There was a certain degree of consensus among children's and mothers' reports of disciplinary practices, more clearly so in the case of induction than with power assertion. Children reported a greater use of power assertion than mothers admitted, while the reverse was the case with induction. 6. A comparison of the children's report of maternal and paternal disciplinary practices indicated that both parents were seen as using more power assertion than induction, by both boys and girls. A moderate tendency for boys and girls to perceive the parent of the same sex as stricter than the parent of the other sex was evident across specific disciplinary situations.

471. SARSWAT, R., *A Study of Self-concept in relation to Adjustment, Values, Academic Achievement, Socio-economic Status and Sex of High School Students of Delhi,* Ph.D. Soc. Sc., IIT New Delhi, 1982

The main objective of the study was to examine the relationship of self-concept measures with adjustment, values, academic achievement and socio-economic status of boys and girls. The hypotheses examined in the study were: (1) There is a significant relationship between self-concept and adjustment among higher secondary students, (2) There is a significant relationship between self-concept and values among higher secondary students. (3) There is a significant relationship between self-concept and academic achievement among higher secondary students. (4) There is a significant relationship between self-concept and socio-economic status among higher secondary students. (5) There is a significant difference between the self-concept of boys and girls of higher secondary students.

A quota random sample of 840 students (420 boys and 420 girls) of class IX from 14 schools under the Delhi Administration was selected. Data were collected using the Self-Concept Inventory developed by the researcher, the Vyaktitva Parakh Prashnavali by M.S.L. Saxena for measuring adjustment, the study of Values Test by R.K. Ojha, and the Socio-economic Status Scale by S.P. Kulshreshtha. The academic achievement was measured by obtaining annual examination marks of the previous classes. Product-moment correlation, t-test, stepwise multiple regression analysis and coefficient of multiple determination were used to analyse the data.

The major findings were: 1. The boys' self-concept was positively and significantly related to social adjustment, while the girls' self-concept was positively and significantly related to home, health, social, emotional, school, as well as total adjustment. 2. The boys' self-concept was positively and significantly related to polit-

ical and religious values, while the girls' self-concept was not related to any of these values. 3. Only intellectual self-concept was positively and significantly related to academic achievement in both the sexes. 4. Boys and girls differed significantly on total self-concept and its physical, social and moral dimensions. Girls were found to be higher on all these dimensions.

472. SAXENA, A.B., *A Study of the Influence of Some Selected Aspects of School Learning Environment on Student Characteristics*, Ph.D. Edu., Bhopal U., 1983

The major objectives of the study were (i) to explore those learning environment variables which have a bearing on the development of selected student characteristics, and (ii) to study the influence of these variables on the student characteristics, namely, general mental ability (GMA), school achievement (SA), achievement motivation (AM) and the extent of their participation in cocurricular activities (PCCA).

A sample of 1200 students was randomly drawn from 24 higher secondary schools of Class XI of Bhopal division which comprised 700 boys (350 rural, 350 urban) and 500 girls (250 rural, 250 urban). They belonged to the age range of 14 to 19. The influence of 17 learning environment variables was studied on student characteristics. The five tools used for the collection of data were (i) Jalota's (1972) General Mental Ability Test (GMAT), (ii) Prayag Mehta's (1969) Achievement Motivation Inventory (AMI), (iii) Anderson's (1973) Learning Environment Inventory (LEI) consisting of 17 learning environment variables, (iv) the Cocurricular Activities Index Provided (CCAI), and (v) the Cocurricular Activities Participated (CCAP). Both the last mentioned tools were developed by the investigator for use in the study. Seventeen independent variables of learning environment and four dependent variables of student characteristics were analysed by making use of (i) correlation matrix to determine the inter-correlations between the dependent and independent variables, (ii) factor analysis of the scores of independent variables to find out the factor structure of the classroom environment variables, (iii) canonical correlation analysis in order to determine inter-correlations between the learning environment variables and student characteristics, (iv) inter-correlations between the extracted factors and student characteristics, and (v) analysis of variance (ANOVA) to determine the effects of learning environment on student characteristics.

Major findings of the study were: 1. The environmental variables of cocurricular activities provided (CCAP), educational facilities provided (EFP), coherence, environment, democratic climate, satisfaction, competitiveness and speed correlated significantly at 0.01 level with student characteristics of GMA with correlation coefficients being 0.203, 0.208, 0.112, 0.216, 0.228, 0.153, 0.279 and 0.113 respectively. 2. The first canonical solution (RC = 0.704) indicated that the student characteristic of CCAP (structure coefficient = 0.954) is mainly predicted by pupil's participation in cocurricular activities, learning environment variables of satisfaction, democratic climate, competitiveness, speed and disorganization (negatively correlated), the structure coefficients being 0.641, 0.569, 0.512, 0.482, 0.385 and 0.263 respectively. Likewise the second, third and fourth canonical solutions were found to be 0.231, 0.167, and 0.151 respectively. 3. t-ratios indicated that rural girls obtained significantly higher mean scores on general mental ability, school achievement, and achievement motivation as compared to the rural boys on all these characteristics. 4. The analysis of variance in respect of GMA indicated the main effects of the variables of sex, residence and the interactional effects of sex and residence. The analysis in respect of pupil's participation in cocurricular activities indicated the main effects of the variables of residence. 5. The learning environment variables were categorized into four components by factor analysing the data. The four learning environment variables included: 'class organization' (comprising the variables of cohesiveness, diversity, speed, environment, friction, goal direction); 'democratic principles' (comprising the variables of democratic climate, satisfaction); and 'group functioning' (cliqueness, difficulty). While these three components contributed to the growth of specified student characteristics, the fourth component, that is, 'alienation from school' (favouritism, apathy, disorganization, competitiveness) appeared to be affecting adversely the development of the student characteristics which were studied.

473. SAXENA, S.B., *A Study of the Influence of Environmental Handicaps upon the Logical Thinking Ability of Children*, Ph.D. Psy., Bhopal U., 1985

The main objective of the study was to find out whether advantaged environmental conditions facili-

tated and disadvantaged environmental conditions interfered with the development of logical thinking ability of children. The environmental factors included for this study were parents' education, occupation and income, and the provision of certain physical facilities to the children in their schools. The main focus of the study was on logical thinking ability but, in addition to this, three other reasoning abilities, namely, additive classification ability, logical reasoning ability and creative thinking ability were also studied in order to obtain the factor structure of the logical reasoning abilities for the advantaged and disadvantaged categories of children.

The study was conducted on 400 students by including equal numbers of boys (N = 200) and girls (N = 200) studying in classes III to VI and in the age range of 8 to 11 years. These two sub-samples were randomly drawn from 10 schools of Madhya Pradesh with varying degrees of physical facilities. The tests used for the collection of data were: (i) the Logical Thinking Ability Tests (developed by the investigator), (ii) Piaget's Test of Additive Classification Ability, (iii) Mehdi's Test of Creative Thinking Ability, and (iv) Raven's Progressive Matrices. Statistical techniques included correlational analysis including canonical correlation, analysis of variance and factor analysis for determining the factor structure of logical reasoning abilities.

The significant findings and conclusions of the study were: 1. Logical Thinking Ability (LTA) was found to be correlated with Additive Classification Ability (ACA), Logical Reasoning Ability (LRA) and Creative Thinking Ability (CTA). 2. The LTA, CTA and LRA were predicted by the home environmental variables HE3, HE4 and HE8, the correlation coefficients being 0.838, 0.599 and 0.549. 3. Environmental handicaps significantly differentiated the advantaged and disadvantaged children in respect of their LTA, ACA was found to be in favour of the advantaged group. 4. No significant sex differences were found between the advantaged and disadvantaged groups with respect to their LTA, ACA and CTA. 5. The variables of home and school, when condensed into three factors by varimax rotation were found to be differentiating the advantaged group for the variables of maturity, creativity, motivation, male dominance, from the disadvantaged group.

474. SHARDARANI, *A Study of the Effect of Motives, Incentives and Expectancy of Goal Attainment upon Performance,* Ph.D. Psy., Kur. U., 1986

The objective of the study was to test the following hypotheses: (1) Subjects with a greater motive to avoid failure show better performance at intermediate probability of success than at low probability or high probability of success, when the monetary incentive is very low. (2) Subjects with a greater motive to avoid failure than a motive to succeed show better performance at both low and high probability of success than at intermediate probability when the monetary incentive is very low. (3) Subjects with a greater motive to succeed than a motive to avoid failure perform better than subjects with a greater motive to avoid failure than a motive to succeed in a task for which the incentive is low and the probability of success and failure is equal. (4) Subjects with a motive to avoid failure will perform better than subjects with a greater motive to succeed when incentive is low and the probability of success is very high.

A sample of 340 subjects was selected randomly from schools. Their age ranged from 14 to 16 years and were studying in grade X. They were administered T.A.T. and the Mandler Sarason Test Anxiety Questionnaire. The subjects were classified in two groups of having motive to succeed and motive to avoid failure. They were further distributed to the eight cells varying on two levels of monetary incentive (high and low) and four levels of goal expectancy (with degree of probability of success as P.05, P.25, P.50, P.75). These subjects were administered two performance task tests, one comprising an arithmetic task test and the other an 'X' drawing task test in a mentioned circle.

The findings of the study were: 1. Differences in motivation disposition had not been found explicitly manifested under various incentive conditions on tasks varying on difficulty level, i.e. easy, difficult and intermediate in difficulty level. 2. The absence of interactions (double as well as triple) between the independent variables n-Achievement, incentive and probability of success was consistently found on total performance battery as well as when separately computed from the components of the performance battery. 3. The study, contrary to expectations, found that high and low n-achievers show equivalent performance across various success probabilities and incentive conditions. Success probabilities and incentives also were found to produce variation in performance independently of one another. 4. There was greater willingness among the subjects to work harder when the outcome was in doubt. This tendency was observed among high monetary incentive subjects as well as in low monetary incentive subjects, suggesting the tendency to work

harder when the outcome was doubtful. 5. Actual payment of monetary incentive against promised condition and in the actual payment condition maintained their superiority over the low incentive groups. 6. When the stated probability of winning was very low, (.05) the level of performance was the lowest. It increased with increase in the level of success probability to 0.25. The performance decreased as the stated probability of success increased further to 0.75. 7. The subjects showed best performance irrespective of incentive condition and motivation level when the probability of winning was most uncertain. 8. A curvilinear relationship between performance and probability of goal attainment was observed irrespective of the level of need achievement and incentive.

475. SHARIFF, I.A., *Psycho-social Problems of Learners—Social Work Perspective,* Ph.D. Soc. Work, Kar. U., 1985

Keeping in view three types of school systems teaching higher, middle and lower strata of Indian society, the objectives of the study were (i) to understand various psycho-social problems of students in different types of schools, (ii) to devise a parameter which would give a significant picture of family background and child-rearing practices, (iii) to test the efficacy of Rutter's scale to understand normality or abnormality of students by the teacher, and (iv) to give a theoretical description of methods and therapeautic interventions in respect of dealing with children with psycho-social problems by social workers.

The sample consisted of three matched groups of 30 students each from a convent, corporation and slum school. Each group had 15 males and 15 females. Teachers and parents of the subjects also were used in data collection. The three tools employed were (1) Inventory on Socio Demographic Factors, (2) Rutter's Scale on Neurotic, Antisocial and Abnormality Dimensions, and (3) Child-Rearing Practices Inventory. The tools were administered to the subjects and the groups were taken up for comparison with one another in respect of socio-demographic factors, child-rearing practices and the normality-abnormality dimension. For a comparative study of the effect of types of schools in terms of child-rearing practices, biodata variables and score variable combinations, one way analysis of variance was employed. The chi-square test of association and tests of significance for differences among proportions were other techniques employed.

The major findings were: 1. Subjects from the convent school seemed to fall in the esteem-building, over-protection and disciplinarian categories; the second group from the corporation school gave a mixed picture; and the third group from the slum schools had children who markedly seemed to fall in the last three categories, namely, rejection, ridicule and harsh. 2. The Rutter's scale results showed more neurotics in convent schools, antisocials in the slum schools, and a mixture of both in corporation schools. 3. There was a conclusive indication of the effect of child-rearing practices on the personality of the children.

*476. SHARMA, C.S., *Personality Characteristics Contributing to Leadership Effectiveness,* Ph.D. Edu., Mee. U., 1986

The objectives of the study were (i) to find out the leadership effectiveness of such undergraduates as were members of the NSS, (ii) to find out the magnitude to which personality traits contributed to leadership effectiveness, (iii) to find out the personality traits of leaders of the students, and (iv) to compare the personality traits of the leaders in relation to their sex and locality.

This causal comparative study was conducted over 150 NSS leaders drawn randomly from three male colleges and three female colleges which were situated in both urban and rural areas, and were affiliated to Meerut University. The tools used to collect data were the Leadership Effectiveness Test (Ralph and Alwin) and a Hindi version of Cattell's Sixteen Personality Factors Questionnaire (Kapoor). The statistical techniques used to analyse data were product-moment correlation and t-test.

The major findings of the investigation were: 1. There existed no differences in the personality traits of leaders with regard to sex and locality. 2. By and large, a leader, whether male or a female, had similar personality traits. 3. There was no significant difference in the personality traits of leaders belonging to urban and rural areas. 4. Personality traits contributed to leadership effectiveness but not to an appreciable degree. 5. The leadership trait was contingent on distinctive growth levels of different personality traits. 6. Leadership as a trait was found to develop only in a very small section of the population.

477. SHARMA, G., *Risky Shift as a Function of Group Structure and Personal Relevance,* Ph.D. Psy., All. U., 1982

The objectives were (i) to study the effects of rural-urban ecocultural residential background on risk-taking and risky shift, (ii) to study the effects of caste membership (high caste and scheduled caste) as affecting risk-taking and risky shift across varying levels of group composition, (iii) to study the effects of caste homogeneity and heterogeneity on risk-taking and risky shift, and (iv) to study the effects of varying degrees of personal relevance, i.e., decision for self, friend and stranger with reference to risk-taking and risky shift.

The sample consisted of 360 undergraduate students. They belonged to different residential backgrounds (urban/rural), personal relevance (self, other and friend), group structure, i.e. homogeneous high caste (HHC), homogeneous scheduled caste (HSC) and heterogeneous (HET) mixed caste. The opinion questionnaire was developed for measuring risk and change in tendency to take risk. The split-half reliability index was found to be 0.84. For determining validity, it was correlated with Sinha and Yusuf's Measure of Risk Taking and it was found to be 0.62. The data were analysed with the help of analysis of variance.

The findings were: 1. The effects of complex socially determined differentials in risk-taking for rural and urban subjects were significant. 2. Group structure did not influence risky shift significantly. 3. There was significantly higher risky shift for strangers in comparison with self. In addition, interaction of relevance conditions with residential background and group structure moderated the main effects and demonstrated the differential effects of residential background and group structure in relation to relevance conditions.

478. SHARMA, J.N., *Adolescence GEIST—Interests as Determined by Personality Factors, Anxiety and Sex,* Ph.D. Psy., Agra U., 1982

The objectives were (i) to study adolescent interest in terms of impact upon them by personality factors, sex and anxiety, (ii) to determine the functional nature of personality factors, sex and anxiety in their mutual effect while influencing interest scores, (iii) to explore adolescent interests as they blossom and flower in relation to personality, sex and anxiety, (iv) to provide factual knowledge about the role and status of adolescent interest for being properly utilized in educational and guidance programmes of school going students.

The sample consisted of 460 subjects. It was selected with the help of the multi-stage random sampling technique. Subjects represented both boys and girls belonged to art, science and commerce faculties. Anxiety was measured with the help of the Sinha W-A Self-Analysis Form (anxiety scale). Its split half and test-retest reliability coefficients were 0.86 and 0.73 respectively. A 16 PF Questionnaire adapted in Hindi by S.D. Kapoor was used for measuring the personality of subjects. The Geist Picture Inventory adapted by N.S. Chauhan and Govind Tiwari was used for measuring Geist Interest. The split-half and test-retest reliability coefficients ranged from 0.38 to 0.81 and 0.48 to 0.80 respectively. The data were analysed with the help of factorial design analysis of variance of equal cell size.

The findings were: 1. Personality factors affected interests of adolescents. Anxiety affected interests independent of sex . Sex showed anxiety-independence. 2. Persuasive interest was promoted by intelligence in high anxiety girls—by super ego in girls and by ergic tension in boys. Scientific interest was promoted by ego strength in boys. Literary interest was promoted by intelligence in low anxiety adolescents. Artistic interest was promoted by ego, super-ego in high anxiety adolescents; by submissiveness in high anxiety girls. 3. Anxiety promoted persuasive interest in boys who were less submissive and more shrewd. It promoted musical interest in emotionally dry, threat sensitive, self-adequate adolescents as well as in emotionally dry girls. Anxiety promoted scientific interest in self-adequate boys as well as in dominant, socially bold or forthright girls. Anxiety promoted literary interest in girls. Anxiety promoted artistic interest in adolescents possessing ego strength, dominance, surgency, super-ego strength, social boldness, and imaginativeness. 4. Among high anxiety adolescents, less of submissiveness, more desurgency, and shrewdness had masculine leaning for persuasive interest. Among high anxiety adolescents, shrewdness, self-adequacy and among low anxiety adolescents social boldness, guilt proneness, forthrightness and dominance exhibited masculine leanings towards the scientific interest. Among high anxiety adolescents poor self-sentiment integration and among low anxiety adolescents emotional dryness and desurgency had masculine leaning towards dramatic interest. Among high anxiety adolescents feminine leaning was noted towards musical interest in emotionally dry adolescents; towards scientific interest in socially bold, forthright,

and dominant adolescents; towards artistic interest in radical, poor self-sentiment oriented adolescents; and towards dramatic interest in emotionally dry and desurgent adolescents. Among low anxiety adolescents there was a masculine leaning towards literary interest. Among low anxiety adolescents, feminine leaning was noted towards persuasive interest in less submissive, more desurgent, and shrewd adolescents; towards musical interest in affectothymic and socially bold adolescents; towards scientific interest in self-adequate adolescents; towards artistic interest in conservative adolescents; and towards dramatic interest in affectothymic, poor self-sentiment adolescents.

479. SHARMA, K., *Some Socio-economic Characteristics and Intellectual Abilities of High School Students,* Ph.D. Psy., Mag. U., 1981

The main aim of the study was to find out the impact of socio-economic status (SES) and caste on the development of intelligence. Several hypotheses were examined.

A sample of 400 male Hindu students of classes X and XI was selected from three high schools of Aurangabad District. All the schools were situated in rural areas and were almost similar in standard of teaching. Singh's Socio-Economic Status Scale (Rural), the Verbal, Numerical and Abstract Reasoning Test (VNART), Mohsin's General Intelligence Test (GIT), Ravan's Standard Progressive Matrices and a personal data schedule were used. t-test, chi-square technique, etc. were employed for drawing conclusions.

The major conclusions were: 1. No significant SES group differences were found in verbal ability, numerical ability and nonverbal ability. 2. Significant caste group difference was found in numerical reasoning ability and non-verbal ability. Upper caste subjects possessed more numerical ability and nonverbal ability than lower caste group. 3. No significant difference was found between science and arts students with respect to verbal ability. 4. A significant difference was found between science and arts students in GIT, numerical ability and nonverbal ability. Science students possessed higher nonverbal ability. 5. Lower caste students valued education significantly very high. 6. No significant differences were found between upper and lower caste groups in their aspirations, extra-curricular activities, leisure-time activities and interest pattern.

480. SHARMA, N.K., *A Comparative Study of Extraversion, Neuroticism, Achievement Motivation and Adjustment of Tribal, Rural and Urban Youth of Himachal Pradesh,* Ph.D. Psy., Pan. U., 1981

The objective of the study was to test the following hypotheses: (1) The urban youth will score highest on extraversion followed by rural and tribal youth. (2) Male youth, irrespective of the area, will score higher on extraversion and lower on neuroticism in comparison with female youth. (3) Urban youth will score highest on achievement motivation followed by rural and tribal youth. (4) Male youth, irrespective of the area, will score higher on achievement motivation in comparison with female youth. (5) The urban youth will score higher on total adjustment than rural and tribal youth. (6) Males will score higher on total adjustment than females.

The study employed two-way (2×3) factorial design with two conditions of sex (male/female) and three conditions of area (tribal, rural and urban). Through a stratified random sampling technique, 100 students from each area—tribal, rural and urban—were selected. The total sample comprised 300 subjects with an age range of 15 to 25 years from colleges of Himachal Pradesh. They were administered (i) the Eysenck Personality Inventory (1964), (ii) the Lynn Achievement Motivation Questionnaire (1969), (iii) the Patel Adjustment Inventory (1967).

The findings of the study were: 1. Area emerged as a significant correlate of extraversion with means favouring urban youth followed by tribal and rural youth. 2. Area also emerged as a significant correlate of neuroticism with means favouring tribal youth followed by rural and urban youth. 3. Area emerged as a significant correlate of Lie-Scale (Social-Desirability) with means favouring tribal youth followed by urban and rural youth. 4. Area emerged as a significant correlate of achievement motivation tribal and rural with means favouring urban youth followed by youth. 5. Area emerged as a significant correlate of adjustment with means favouring urban youth followed by rural and tribal youth. 6. Sex emerged as a significant determinant of extraversion, neuroticism with means favouring females. 7. Sex emerged as significant determinant of lie-scale (social desirability), adjustment, self schedule and independence with means favouring males. 8. Urban males were higher on extraversion than tribal females. 9. The tribal males were highest and urban males lowest on the lie scale (social desirability). 10. Extraversion was negatively related to neuroticism and positively with the lie-

scale. 11. Lie scale had a positive correlation with different aspects of adjustment. 12. In the case of rural youth extraversion, neuroticism and aspects of adjustment were positively correlated with other variables. 13. In the case of urban youth extraversion was negatively related to neuroticism. 14. Neuroticism was not related with achievement motivation. 15. In case of urban youth, achievement motivation was positively related with parental adjustment.

481. SHARMA, S., *A Study of Relationship of Personality Variation with Self-disclosure among the Professionals with special reference to Medical, Engineering, Teaching and Law Professions*, Ph.D. Psy., Agra U., 1982

The objectives were (i) to study how certain aspects of personality are related with the nature of their self-disclosure, (ii) to study the relationship between self-disclosure and depression, self-disclosure and brooding, self-disclosure and denial of symptoms, depression and brooding, depression and denial of symptoms, and denial of symptoms and brooding in the case of professional students as well as professionals.

The sample consisted of 500 subjects belonging to different professions, viz. medicine, engineering, teaching and law. There were professionals as well as professional students. The Depression Scale and Brooding Scale of MMPI were used to measure depression and brooding behaviour of the subjects under study. The Denial of Symptoms Scale developed by Welsh and Dabls Tram was adapted in Hindi by the investigator. The Self-disclosure Test by Jourand was used. The data were analysed with the help of t-test and correlation technique.

The findings were: 1. Engineers and lawyers had to brood more deeply about their problems to infer and decide the future course of action. 2. Self-disclosure and depression had an insignificant relationship both in professionals as well as student groups except in the case of professional doctors who had a moderate low relationship. 3. Self-disclosure and denial of symptoms was negatively correlated in the case of engineers and lawyers, but positive in the case of doctors and teachers who had the highest values in this respect. But in the case of professional students, self-disclosure and denial of symptoms were positively correlated. 4. Depression and brooding were negatively related in all four professional groups while this was highest in the case of lawyers, but in student groups this was found to be positive in all the four professional students, the law students having the highest value. 5. Depression and denial of symptoms was found to be positively related in all four professional groups and it was highest in the case of engineers. In respect of students this was positive in all groups and highest in the case of law students. 6. Denial of symptoms and brooding was found to be negatively related in all the four professional groups, and highest in the case of teachers. But in the student group these variables were negatively related in the case of engineering and law students but positive in the case of medical students and teacher trainees. 7. Depression scores of medical and engineering students, medical and law students, teacher trainees and engineering students; teacher trainees and law students differed significantly from each other while medical students and teacher trainees, engineering and law students did not show a significant difference. 8. In respect of brooding, medical students and teacher trainees, medical and engineering students, and medical and law students differed significantly, while teacher trainees and engineering students, teacher trainees and law students, and engineering and law students did not differ significantly. 9. Denial of symptoms had no significant difference with any group. 10. As regards self-disclosure, only teacher trainees and law students differed significantly. 11. In the case of depression, it was found that doctors and teachers, teachers and engineers, and teachers and lawyers differed significantly from each other. 12. In respect of brooding, doctors and engineers, doctors and lawyers, teachers and engineers, and engineers and lawyers showed a significant difference. Engineers had a brooding variable dominating in their personality. 13. In the case of denial of symptoms, doctors and lawyers, teachers and lawyers, and engineers and lawyers showed a significant difference. 14. The difference in self-disclosure of all the four groups was found to be insignificant.

*482. SHARMA, S.K., *Values of College Students of Different Socio-economic Groups and Relationship with Their Intelligence and Adjustment in the Colleges*, Ph.D. Edu., M. Sukh. U., 1986

The investigator attempted to study the qualities of adjustment and intelligence and their impact upon developing intrinsic desirable values.

One thousand students reading in the first year of 20 different colleges of Rajasthan were selected by the

stratified method of sampling. Factors like socio-economic status, place of living, sex, intelligence and level of adjustment were selected to serve as the basis of comparison of their attainments. The normative, comparative and correlational survey method was employed to study the values and personalities of students.

For data collection a value test, a group intelligence test and an adjustment inventory were adopted.

The major findings were: 1. The role of teachers was quite different in traditional and industrial societies. 2. In the context of rapid development in the field of science and technology, teachers faced a changed and disorganized social order, met with explosion of expectations, and had to take up the role of an agent of social change and an innovator of educational ideas. 3. The teaching experience did not affect significantly their classroom behaviour. Younger teachers were perceived by their students to be performing their roles as friend and guide, evaluator, and liaison officer between school and community in a better way than the older teachers. 4. Students' perceptions regarding female teachers' classroom behaviour were better than their perceptions regarding the classroom behaviour of male teachers.

483. SHARMA, U., *A Study of Frustration among Working Women,* Ph.D. Edu., BHU, 1985

The objectives of the study were (i) to study the nature and extent of frustration among women working in various professions, (ii) to study the difference between frustration among married and unmarried working women, (iii) to study the value patterns of working women, (iv) to study the relationship between frustration and personal values of working women, and (v) to study the relationship between frustration and socio-economic conditions of working women. For this, the following hypotheses were made: 1. The frustration level of unmarried women is higher than that of married working women. 2. There are significant relationships between frustration level and values and between frustration level and socio-economic status.

The sample consisted of 240 married and 160 unmarried women working as teachers, nurses, doctors, bank employees and office workers in Varanasi city. The sample was drawn by incidental purposive sampling procedure. They were administered the "Rosenweig P.F. Study—Hindi adaptation by U. Pareek and R.S. Devi, Sherry and Varma's Personal Values Questionnaire, and a personal data sheet for socio-economic status.

The findings were: 1. Women of all the groups were well adjusted, with bank employees showing the best adjustment. 2. Teachers showed obstacle-dominance and ego-defence types of aggression directed outwardly toward the environment in a frustrating situation to a greater extent than the normative population. In this they were like office workers, and bank employees but unlike nurses and doctors. The whole sample of women, to an extent greater than the normative population, did not accept blame and tried to avoid frustrating situations. They would blame something in the environment exemplifying the ego-defence type of aggression. 3. There was no difference in reaction to frustrating situations based on marital status. 4. Working women had high hedonistic values, but in other values they were like others in the population. Teachers were unlike nurses, doctors, and bank employees, but like office workers, average in all ten values. Amongst the five groups, teachers had the highest religious and aesthetic values, and the lowest democratic, economic and hedonistic values. 5. There was a significant correlation between frustration, aggression scores and different values. 6. Working women with high socio-economic status were optimistic of getting over a frustrating obstacle, whereas those with low socio-economic status tried to avoid it or deny its presence, and to blame others.

Since women teachers' ego dominates their responses, organizational climate in institutions should take cognizance of this and treat them in a sympathetic way. Since they are high in religious and aesthetic values, women teachers would be more effective for moral education, education in arts/crafts and fine arts.

*484. SHIKARI, A.G., *A Comparative Study of Personality Patterns of Tribal and Non-tribal High School Students in the State of Gujarat,* Ph.D. Psy., Guj. U 1986

The objectives of the study were (i) to examine the differences between tribal and non-tribal students in their four personality characteristics—dogmatism, alienation, security-insecurity and anxiety, and (ii) to study the extent of variance in the dependent variable explained by demographic variables like urban-rural background and sex.

The sample of the study comprised 1,000 high school students from 12 schools located in the districts of Dangs Valsad, Panchmahals and Surat. Of these 1,000

students, 500 were tribal students representing 12 tribes in the State of Gujarat. It was claimed that the sample was fairly representative for the tribal population in the State of Gujarat. The scores of the subjects on Dogmatism Scale by Qumar Hassan (1974), Alienation Scale developed by Dutt and Kureshi (1976), the Hindi version of Maslow's Security-Insecurity Inventory developed by Ansari (1964), and a shorter version of Sinha's Anxiety Scale developed by Khan and Qumar (1981), were analysed for differences between the groups categorized on independent variables. F ratios and t values were calculated.

The main findings were: 1. The tribal students, irrespective of their sex and background, were found to be more dogmatic, to feel more alienated, to feel more insecure and to show greater anxiety as compared to the non-tribal students. 2. The female students, irrespective of their race and background, were found to be more dogmatic, more insecure, and to show more anxiety, but the two sexes did not differ in their level of alienation. 3. Within both tribal and non-tribal samples, the rural students were found to be more dogmatic than the urban students. 4. Within the rural sample, the female students were found to be more dogmatic than the male students. 5. Rural students were found to be more alienated, and more insecure than the urban students. 6. Irrespective of the two levels of sex and background, it was found that non-tribal students showed greater anxiety compared to the tribal students. 7. Within the tribal group irrespective of the two levels of background, the female students were found to show more anxiety than the male students; to rural students showed more anxiety than the urban students.

485. SHOBHA, S., *Achievement Judgements by School Teachers: An Information Integration Analysis*, Ph.D. Psy., Guj. U., 1985

The present research tested the main hypothesis that the role people played in their life determined their scheme by applying the information integration theory to achievement judgements by school teachers of Kendriya Vidyalaya of the Delhi region.

A series of four experiments was performed. Experiment 1 (N=60) paired number of average motivation information with ability and asked school teachers to predict examination performance of the students. Experiment 2(N=60) was a further check on the generality of the absence of set-size effect and imputation, using non-academic competitive situations. Subjects made predictions about the performance of ten-years-olds in a puzzle solving, vocal music or drawing-painting competition. Experiments 3(N=36) and 4(N=32) studied the prediction of life performance, a task which was found to obey the multiplying rule. In the former experiment, information about motivation and ability as well as reliability of two types of information were manipulated experimentally while the last experiment used the logic of the two-operation model.

Considered together, the main findings of the series of four experiments were: 1. School teachers averaged information about motivation and ability when they predicted performance of school students. This finding lent support to the main hypothesis mentioned in the beginning. 2. The number of pieces of motivation information mattered in the prediction of performance only when information was positive. 3. Ability information was more effective when it came from a source of high rather than of low reliability. 4. Although the set-size and reliability of motivation information had a negligible effect, there were indications for a positive bias in teachers. 5. Teachers made no imputation about the missing information. 6. The nature of the task affected the weighing pattern and not the integration rule.

486. SINGH, B.K., *A Psychological Study of the Patterns of Personality Variables of Rural and Urban College Students of Agra Region*, Ph.D. Psy., Agra U., 1984

The main objectives of the study were (i) to locate anxiety levels, frustration levels, interest patterns and adjustment levels of rural and urban students, (ii) to provide guidance for the solution of problems occurring in daily life of teachers and psychologists, (iii) to ensure better understanding of the interpersonal relationship between teachers and students in different rural and urban areas, (iv) to create good teaching and learning situations in the class-room, (v) to inquire into the personality variables of rural and urban students, and (vi) to study the inter-relationship of anxiety, frustration, interest and adjustment.

The study was limited to four major personality variables—anxiety level, adjustment level, frustration level and interest pattern of rural and urban college students belonging to Agra (Chambal) region.

Some of the major findings were: 1. There was a significant difference in the level of anxiety between rural

and urban college students. In this regard , the rural students were found to have a higher level of anxiety than urban students in all the ten areas related to anxiety. 2. There was a significant difference in the level of frustration between rural and urban college students. The rural students were found to have a significantly higher level of frustration. 3. A highly significant difference was found in the adjustment levels of rural and urban students. The rural students were found to be significantly more adjusted than urban college students in all the four major areas of home adjustment, social adjustment, school/college adjustment and health and emotional adjustment. 4. The urban college students were found to have a significantly higher level of scientific interest only, but in the other eight areas of interest the rural college students were found to have a significantly greater interest than urban students. In the area of social work and activities, no significant differences were discovered.

487. SINGH, K.K., *Some Personality Factors of High and Low Intelligent Boys and Girls of Bhagalpur*, Ph.D. Psy., Bhagalpur U., 1985

The main purposes of the study were (i) to determine the difference and association between intelligence of boys and girls in general and facultywise, (ii) to verify the strength for association between intelligence and personality, (iii) to examine the difference in personality factors of the high and low intelligent members of both the sexes, and (iv) to find out the relationship between intelligence and personality. The hypotheses were: (1) There will be no difference in the intelligence level of boys and girls in general. (2) There will be a difference in the intelligence of boys and girls of different faculties. (3) There will not be any association between intelligence and other personality factors, (4) There will be a difference in the clusterings of personality factors in high and low intelligent males and females. (5) There will be a relationship between intelligence and some factors of personality.

In all, 460 students (275 boys and 185 girls) were drawn randomly from the arts, science, medicine and engineering faculties of four colleges and postgraduate departments of Bhagalpur University. They were matched with respect to age, years of schooling, socio-economic status, urban/rural background, etc. A Personal Data Sheet, Kuppuswamy's Socio-Economic Status Scale, Cattell's 16 PF Questionnaire (adapted by Kapoor), and Jalota's Group Test of General Mental Ability were used. Mean, t-ratio, correlation, chi-square technique, etc. were employed for drawing conclusions.

The major conclusions were: 1. Intelligence seemed to be influenced by certain factors such as sex, faculty, cultural condition, years of schooling and increased educational opportunities. Boys were superior in intelligence to girls. 2. Personality traits were more or less independent of intelligence. 3. High intelligent boys and girls were scholastic, suspicious-skeptical and controlled. The low intelligent group was outgoing, happy-go-lucky and apprehensive. 4. High and low intelligent boys differed on factors B, F, O, Q_3 and Q_4. High and low intelligent girls differed on factors A, B, C, G, and Q_3. 5. Intelligence was positively correlated with factors B, C, E, G, I, and Q_3 and negatively with factors A, H, N, O and Q_4. Factor Q_2 was positively correlated with female medical students and negatively with M.A. male students. 6. Intelligence linked personality traits of high intelligent subjects showed them to be more scholastic, emotionally mature, conscientious, venturesome, tenderminded, shrewd and controlled. 7. Sex-linked personality traits of high intelligent males showed them to be scholastic, emotionally mature, conscientious, venturesome, tendermmed, suspicious and controlled. High intelligent girls were scholastic, controlled and shrewd. Low intelligent boys were outgoing, emotionally immature, assertive, happy-go-lucky, shrewd, imaginative, apprehensive, experimenting, self-sufficient and tense. Low intelligent girls were outgoing, less scholastic and apprehensive. 8. Some personality traits seemed explainable on account of faculty.

488. SINGH, R., *An Investigation Into the Relationship Between Achievement-Motivation, Intelligence (General Mental Efficiency), Introversion-Extroversion, Achievement in Mathematics, and a Comparison Thereof Between Haryana and Delhi Students Belonging to Various Socio-Cultural Strata*, Ph.D. Edu., JMI, 1986

The objectives of the study were to find out (i) whether the students studying in two different states (Delhi and Haryana) differed in their achievement motivation, (ii) whether there was any relationship between achievement motivation and (a) intellectual efficiency, (b) introversion-extroversion, (c) socio-cultural status and (d) mathematics achievement of students studying

in Delhi and Haryana schools, (iii) whether there was any difference in achievement among the students belonging to high and low achievement motivation groups, and (iv) whether there was any difference in school achievement of Delhi and Haryana students belonging to the same socio-cultural strata. The following hypotheses were formulated: (1) There is no significant relationship between achievement motivation and (a) intellectual efficiency, (b) introversion-extroversion, (c) socio-cultural status, and (d) mathematics achievement of groups of students selected from Delhi schools and Haryana schools. (2) There is no significant contribution to the variance in mathematics achievement by (a) achievement motivation, (b) intellectual efficiency, (c) introversion-extroversion and (d) socio-cultural status in case of both the groups of students from Delhi and Haryana schools. (3) There is no significant difference in mean achievement scores between students identified as being high and low in terms of their achievement motivation scores in both groups of students studying in Delhi and Haryana. 4. There is no significant difference in mathematics achievement between two groups of students belonging to Delhi and Haryana. (5) There is no significant difference in mathematics achievement of two groups of boys (Haryana and Delhi) belonging to the same cultural strata.

The sample comprised 184 students from schools in South Delhi and the same number from Haryana schools. The following tools were used in the study: (i) B.N. Mukherjee's Sentence Completion Test (SCT) to secure measure of achievement motivation; (ii) Raven's Progressive Matrices Test to provide a global measure of intelligence; (iii) Kundu's Introversion-Extroversion Inventory (KIEI); (iv) Daba's Socio-Cultural Scale; and (v) Objective based achievement test in mathematics constructed by the investigator. To analyse the data and to draw conclusions, product-moment correlation coefficient, t-test, multiple regression analysis and analysis of covariance were used.

The major findings of the study were: 1. The difference between the n-ach scores of students of Delhi and Haryana schools was not significant. 2. Correlations between n-ach and (a) intellectual efficiency, (b) introversion-extroversion, (c) socio-cultural status and (d) mathematics achievement were found significant. 3. The difference in mathematics achievement was significant for low and high groups on n-ach in case of Delhi schools but in case of Haryana schools it was not significant. 4. The difference in mathematics achievement among boys, identified as belonging to the same socio-cultural status of Delhi and Haryana schools after having the effect of achievement motivation and intellectual efficiency controlled statistically, was significant.

***489.** SINGH, R., *Variation in Processing of Levels One and Two Abilities among Contrast Groups: Differing in Gene-Poles,* Ph.D. Psy., Raj. U., 1986

The objectives of the study were (i) to compare the performance of Harijans and Brahmins 'contrast caste subjects', varying on levels of cognitive test performance (CTP) for measures of Level I/Level II abilities, and speed of processing information variables, (ii) to investigate the relationship between psychometric measures of general intelligence and chronometric parameters for the two contrast caste groups, (iii) to ascertain the composition of factorial structure of measures of Level I and Level II abilities among Harijans and Brahmins, (iv) to investigate the psychometric relationship between Level I/Level II abilities and intelligence for the contrast groups of the study, (iv) to investigate the differences in the degree of correlation between Level I and Level II abilities for the two caste groups.

The study followed a 2×3 factorial design where there were two contrast groups of genetic subpopulation (Harijans and Brahmins) and three grades of cognitive test performance (grades II, III and IV). The sample was selected accordingly for six cells representing six groups of subjects. A sample of 200 male students (110 Harijans and 90 Brahmins) studying in IX, X, and XI classes was selected from the higher-secondary schools of Bhiwani and Rewari districts of Haryana State. The subjects were equated on age, socio-economic status, sex and urban-rural residence. The tools used for data collection were, Raven's Standard Progressive Matrices (SPM) (1960), the Hindi version of the Hundal General Mental Ability Test (1962), the Cattell Culture Fair Intelligence Test Scale 3 (1970), the Hasnain Short Term Memory for Consonant Trigrams (1984) and the Jalota and Kapoor Socio-Economic Status Scale (1970). The data were analysed with the help of analysis of variance, t-test, Jennrich test of significance and Schmid-Leiman factor analysis.

The findings of the study were: 1. The contrast caste groups did not differ significantly on simple reaction time and choice reaction time. 2. The chronometric measures of speed of processing information did not yield significant main effects. 3. The high graders had faster speeds of processing information than the low

graders. 4. The contrast caste groups (Harijans and Brahmins) showed differences in Level I and Level II abilities. These differences were more marked for Level II abilities than Level I abilities in favour of Brahmins. 5. The chronometric measures of speed of processing information (simple reaction time and choice reaction time) were negatively related to all the dependent measures for both Harijans and Brahmins. 6. The correlations between measures of general ability and chronometric measures were low and negative. 7. The information processing variables tapped a common mental speed factor. 8. The cognitive processing variables showed low correlation with SPM scores for both the contrast groups. 9. The high intercorrelations between general mental ability and SPM showed interrelatedness of an overlap in general factor loadings among these tests. 10. After factor analysis of all the variables in case of Brahmins and Harijans separately, four factors were identified. These were (i) General Factor, (ii) Complex Chronometry, (iii) Level II Ability (iv) General Mental Ability. 11. There was a high degree of similarity between the third factor of Harijans and the fourth factor of Brahmins, giving a coefficient of congruence of 0.97. 12. The two contrast groups were less similar on record factor, 'Complex Chronometry', with a congruence coefficient of only 0.77. 13. Measures of Level I and II abilities showed first-order factor (structure) differences and further indicated that first order factors had specifically large loadings on measures of Level II abilities rather than Level I abilities of both the contrast groups. 14. There was a trend of relationship between chronometric measures and psychometric measures.

490. SINGH, R.D., *A Study of Deprivation, Achievement and Level of Aspiration in High School Students of Science Group*, Ph.D. Edu., Gor. U., 1983

The study was made with a view to studying the effect of deprivation and level of aspiration on achievement in science. The major objectives of the inquiry were (i) to study the effect of deprivation on high school students' achievement in science, (ii) to study the various effects of deprivation on achievements in science, physics and chemistry, (iii) to study the effect of deprivation on level of aspiration of high school science students in relation to urban and rural areas, (iv) to study the significance of mean difference in achievement in relation to rural and urban areas, and (v) to study the significance of mean difference in level of aspiration in relation to rural and urban areas. The hypotheses of the study were: (1) There is no relationship between deprivation and achievement of high school science students. (2) There is no relationship between scores of various aspects of deprivation and achievement of the abovementioned students. (3) There is no significant difference between the mean scores of rural and urban students in deprivation. (4) There is no significant difference in the mean science achievement scores of rural and urban students. (5) There is no significant difference in the average scores in the level of aspiration of rural and urban students. (6) There is no significant difference in the mean achievement scores of high deprivation and low deprivation, high and middle deprivation, and middle and low deprivation students. (7) There is no significant difference in the average scores in level of aspiration of high and low deprived, high and middle deprived, and middle and low deprived students.

The Prolonged Deprivation Scale prepared by Mishra and Tripathi (1976), and Level of Aspiration Test by Shah and Bhargava (1974) and the Achievement Test in Science for high school students, developed by the investigator, were used. The sample comprised 450 students of high school science from 15 randomly selected institutions in rural and urban areas of Gorakhpur, Basti and Deoria districts. The collected data were analysed through the calculation of mean, percentiles, linear correlation coefficients, t and F-ratios.

Major findings were: 1. Deprivation had negative effect on achievement in science and level of aspiration. 2. Measures for mitigating the effect of criterion aspects of deprivation—lack of parental sympathy and care, bitter childhood experiences, lack of proper educational facilities—had a positive effect on the achievement of the students and would enhance the level of aspiration of the students as well. 3. The rural students received lower marks than the urban students. 4. There was a positive correlation between level of aspiration and achievement.

491. SINGH, R.D., *Impact of Social Attitude on the Personality Characteristics of Students of the Undergraduate Level*, Ph.D. Edu., Gor. U., 1984

The objectives of the investigation were (i) to study the social attitude of undergraduate level students, (ii) to study the personality characteristics of the students.

(iii) to compare the personality characteristics of boys and girls with high and low social attitudes, and (iv) to study socio-economic status of boys and girls with high and low social attitudes.

The tools used for data collection were a Social Attitude Scale, a Personal Questionnaire, a Socio-economic Status Scale (Kulshrestha), and a 16 P.F. Questionnaire. For the purpose of the study, 297 boys and 121 girls studying at the undergraduate level of eight affiliated colleges of Gorakhpur University were selected on the basis of the random cluster method.

The following results were obtained from the present study: 1. Students from high socio-economic status were found to have a better social attitude than students coming from lower socio-economic status. 2. Boys with high and low social attitudes were self-confident, and self-reliant. 3. Girls with the same social attitude were tender, dependent, and influential. 4. Boys and girls with a better social attitude had high morality, high sense of duty and high responsibility. 5. Motivation, creativity and morality were found more dominant in students with better social attitude in comparison with those with low social attitude, both boys and girls. 6. Boys and girls with a better social attitude had the characteristics of self-control, alertness and awareness more than those with low social attitude.

492. SINGH, R.P., *An Experimental Study of the Effect of Reinforcement on Transfer of Learning,* Ph.D. Psy., Kashi V., 1985

The investigation aimed at studying the impact of reinforcement on transfer of learning under experimental condition. For positive reinforcement, subjects were supplied toffees, money or verbal praise after each trial. For negative reinforcement subjects were deprived of these things.

Eighty subjects were selected out of which 40 were boys and 40 girls; 40 belonged to poor families and 40 to rich families. In each group there were 20 boys and 20 girls. Families with an income of Rs. 2000/- p.m. and above were classified as rich and families with an income of Rs. 400/- p.m. and less were classified as poor. The subjects were selected randomly. They belonged to the age-group of 11-14 years. Mirror drawing apparatus was the main apparatus used in the experiment. Each subject was given 60 trials—30 trials under positive reinforcement and 30 trials under negative reinforcement. Under positive reinforcement, for each type of reinforcement 10 trials were allowed. In each set of 10 trials, the first two trials were performed with the help of the left hand, then six trials with right hand and last two trials again with the left hand. During the performance of the six trials with the right hand, reinforcement was given under three sets of reinforcers—toffees and biscuits, money, and praise. Under the next three sets of 30 trials of negative reinforcers, no reward was given. The gain was measured in terms of time and error. The t-test was applied for drawing conclusions.

The major findings were: 1. In the case of rich boys the amount of transfer of learning was greater when they were given positive reinforcement in the forms of toffees, etc. The difference was significant in terms of time at 0.05 level and in terms of error at 0.01 level. 2. Reinforcement in the form of money could not induce these subjects to perform significantly better. 3. The effect of praise was significantly high at the 0.01 level in terms of reduction of time and error with the rich boys. 4. In the case of poor boys, reinforcement in the form of eating material and money had a positive significant effect at 0.01 level in terms of both time and error. 5. Verbal reinforcement could not induce them to perform significantly better on the mirror drawing instrument. 6. In the case of the girl subjects belonging to rich families, reinforcement in the form of edibles and money could not encourage them to perform significantly better. 7. The effect of positive verbal reinforcement was significantly high at 0.01 level on transfer of learning in terms of time and error, both. 8. The poor female subjects showed significantly better transfer of learning at 0.01 level in terms of time and at 0.05 level in terms of error under the inducement of edible reinforcers. 9. Money also had a significant effect at 0.01 level in terms of time and error over transfer of learning. 10. In the case of some subjects, praise could not induce them to better transfer of learning.

493. SINGH, R.S., *Children's Moral Judgement in relation to Prolonged Deprivation and Parental Attitudes,* Ph.D. Edu., Gor. U., 1983

The present research ventured to study moral judgement in relation to prolonged deprivation and parental attitudes. The variables studied in relation to moral judgement to fulfil the objectives were (i) prolonged deprivation, (ii) three types of parental attitudes—possessive, dominative and ignoring, and (iii) demo-

graphic variables—sex, area, birth order, age, educational status of fathers, income and type of school.

The sample consisted of 350 (216 male and 134 female) children studying in the fifth grade and belonging to the age range of 9 to 12 years from schools situated in the rural and urban areas of Gorakhpur and one adjoining district in UP selected on the basis of successive random sampling. The tools were the Moral Judgement Test by Sinha and Varma and an adoption of the Prologed Deprivation Scale by Mishra and Tripathi, and a Parental Attitude Scale developed by the researcher himself. The obtained data were subjected to statistical analysis by employing mean, SD, Pearson's r, point-baserial r, biserial r t-ratio, Duncan's Range Test, one-way analysis of variance and graphic methods.

The following were the major conclusions: 1. There was a significant negative correlation between moral judgement and prolonged deprivation. 2. Duncan's Range Test applied to the mean moral judgement scores showed a significant difference between high and low, and high and medium deprived groups. 3. The correlation between moral judgement and sex was significant. Boys had significantly higher mean moral judgement scores than the girls. 4. Sex-differences were insignificant at high and low levels of deprivation. 5. Insignificant correlation was obtained between residential (urban/rural) area and moral judgement. 6. The correlation between birth order and moral judgement was not found to be significant. 7. The correlation between children's age and their capacity for moral judgement was found to be significant. 8. A significant positive correlation was found between type of school and children's moral judgement. 9. Boys and girls belonging to fathers with high educational status had the highest mean moral judgement scores followed by those belonging to fathers with middle and low educational status respectively. 10. Children belonging to fathers with different income groups had differences in the capacity for moral judgement. 11. A significant positive correlation was obtained between fathers' attitude of possessiveness and children's moral judgement. 12. Fathers' attitude of domination was found to be unrelated to children's moral judgement. 13. No significant correlation was obtained between fathers' ignoring attitude and children's moral judgement.

494. SINGH, S.B., *A Critical Study of Neurosis with special reference to Psychoanalytic Theory,* Ph.D. Edu., Gau.U., 1982

The main aim of the study was to investigate into the etiology of neurosis.

The descriptive method was followed. Special reference was made to Freudian views. A critical analysis was made at each stage, after description. A case study approach was also adopted.

Some of the major conclusions were: Neurosis is a mental disease, ever spreading with the complexity of socio-cultural phenomena. The relation is of a direct variation type. It follows that attempts to trace the causative pattern of neurosis becomes more complex and even complicated. There is a relationship between neurosis and psychoanalysis.

Unconscious, infantile sexuality, reality instincts, id, ego and superego play important roles in neurotic etiology. Six metapsychological aspects of psychonalysis serve as the foundation of the Freudian Scheme. Freudian priniciples deserve still more careful attention in the light of modern trends and tendencies. Freudian insights will continue to be worthy of further studies.

495. SINGH, S.K., *Social Conformity—An Investigation Into Some Personality Correlates (Need Achievement, Need Affiliation, Dominance, Extraversion, Neuroticism, Anxiety),* Ph.D. Psy., Agra U., 1983

The hypotheses were: (i) There is no significant correlation between conformity and need achievement, conformity and need affiliation, conformity and need dominance, conformity and anxiety, conformity and extraversion, and conformity and neuroticism. (ii) The relationship between conformity and need achievement, conformity and need affiliation, conformity and need dominance, conformity and anxiety, conformity and extraversion and conformity and neuroticism is not affected by situational variations.

The sample consisted of 400 male college students. It was drawn from colleges situated in urban and rural areas of Deoria district of U.P. by a method of successive random sampling. Their age ranged from 16 to 23 years. All were undergraduate students of secular, privately managed, coeducational colleges affiliated to the University of Gorakhpur. The Tripathi Personal Preference Schedule, Sinha Comprehensive Anxiety Test and Maudsley Personality Inventory (Hindi adaptation by Jalota and Kapoor) were used for collecting data. The conformity scale was developed by the investigator. Data were analysed with the help of point biserial correlation, Duncan's Range Test and two-way analysis of variance.

The findings were: 1. There was a significant correlation between affiliation and conformity; extraversion dimension of personality and conformity; and conformity and need achievement. 2. An insignificant correlation between conformity and dominance was found. 3. The correlation of conformity with anxiety as well as neuroticism was also found to be insignificant. 4. Low, medium and high conformity groups revealed a non-monotonic trend in case of need achievement, dominance, and anxiety but the trend was weak. 5. Need achievement did not contribute significantly to variance in conformity. 6. The effect of interaction between need achievement and situation on conformity was significant. 7. Need affiliation did not contribute to variance in conformity. The effect of interaction between need affiliation and type of situation on conformity was not significant. 8. Need dominance was the main source of variance in conformity. But the interaction between this need and situation did not have a significant effect. 9. Anxiety alone, or its interaction with the type of situation, was not found to be a significant contributor to variance in conformity. 10. Extraversion did not have a significant effect on conformity. The interaction between extraversion and situation was also ineffective. 11. Neuroticism did not have a significant effect on conformity. The same was true of interaction between this dimension of personality and situation type. 12. In every case situation was found to be the most potent source of variance in conformity.

***496.** SINGH, S.S., *Influence of Intellectual Development on the Aggressive Attitude,* Ph.D. Psy., RSU, 1969

The hypotheses of the study were: (1) A person of a higher level of intelligence would be less hostile than one of a lower level of intelligence. (2) The students of grade VIII would manifest more hostility than grade X students and those of graduation classes would manifest more hostility than grade X students. (3) Persons with more or less aggressive traits would have different personality traits.

The sample of the study consisted of 580 students representing classes VIII, X and the final years of B.A., B.Sc and B.Com, selected randomly from different schools and colleges of Durg and Raipur districts of Madhya Pradesh. The data were collected by employing the Hostility and Direction of Hostility Questionnaire by T.M. Caine and G.A. Foulds, the Sutton Booklet by P. Slater, the E.P.I. by H.J. Eysenck and B.G. Eysenck, and the Group General Mental Ability Test by S. Jalota. χ^2, t-values and coefficients of correlation were computed to analyse the data.

The findings of the study were: 1. The relationship between general mental ability and hostility score was found to be negatively significant at all the grade levels except at grade X. 2. The general mental ability showed a significant increasing trend from one class level to the next higher class level, whereas, the mean hostility scores showed a decreasing trend. 3. The comparative study of two extreme upper and lower hostility groups in respect of their mean scores indicated that both of these groups did not differ at any level. This reflected the independent nature of the traits of general mental ability and hostility. 4. Among the obtained relationships between the hostility score and personality traits it was observed that hostility had a positive relationship with anxiety, annoyance and neuroticism; a negative relationship with hystericism and social desirability tendency; whereas, hostility had no significant relationship with depression, dislikes, likes and extraversion-introversion. 5. The comparative study of the two extreme groups—upper and lower in hostility at all the three educational levels revealed that the upper hostility group consistently and significantly scored higher as compared to the lower hostility group on anxiety, annoyance and neuroticism variables of personality. On the other hand, the lower hostility group showed a trend to score significantly higher on hystericism and social desirability tendency. 6. Persons of high hostility and intelligence were not found to be consistently discriminative on the various traits at the three educational levels. The only factor that tended to distinguish between these two extreme groups was social desirability which was negatively related with hostility and also with intelligence at grade X and graduate levels.

497. SINGHAL, C.S., *The Psychodynamic Background of School Deviants—A Projective cum PF Study,* Ph.D. Psy., Mee. U., 1984

The objectives of the study were (i) to effect a deeper probe into studying school deviance on a psychodynamic plane, (ii) to give a systematic base to and a genetic background to personality data belonging to the intersectional model through a projective analysis of deviant behaviour of adolescents, (iii) to move from the descriptive classification of facts (i.e. phenotypes) to the under-

standing of the underlying dynamic situation (i.e. genotypes), and (iv) to reveal the total personality of deviants through eliciting the content and dynamics of inter-personal relationships and the psychodynamic patterns. The hypotheses were: (1) 'Needs' will exist differently both in non-deviant–deviant (ND-D) groups, as well as in deviant D groups. (2) Conception of 'environment' will exist differently both in ND-D groups and D groups. (3) 'Figure-perceptions' will exist differently both in ND-D groups and D groups. (4) 'Conflicts' will exist differently both in ND-D groups, as well as in D groups. 5. 'Anxiety' will exist differently both in ND-D groups, as well as in D groups. 6. 'Defence mechanism' will exist differently both in ND-D groups, as well as in D groups. (7) 'Super-ego severity' will exist differently both in ND-D groups, as well as in D groups. (8) 'Ego integration' will exist differently both in ND-D groups, as well as in D groups. (9) 'Personality factors' will exist differently both in ND-D groups, as well as in 'D' groups.

The sample was selected by using multistage sampling techniques. The Behavioural Deviance Scale by N.S. Chauhan was administered to 2000 students belonging to nine intermediate colleges of Meerut. Out of these, 375 students were selected for the study. They belonged to five different categories, viz. non-deviants (ND), deviants (D), withdrawing deviants (WD), expectation evasion deviants (ED) and rebellious deviants (RD). A randomized multigroup design was followed. The 16 PF Questionnaire as well as Thematic Apperception Test (TAT) developed by H.A. Munay and Morgon and adapted in India by Uma Chaudhri and the Behaviour Deviance Scale developed by N.S. Chauhan were used in this study. The data were analysed with the help of chi-square technique and analysis of variance.

The findir s were: 1. Blame avoidance, learning, understanding, construction and nurturance were positive needs and related to non-deviance. 2. Non-deviants (ND) had a friendly environment around them. 3. People around non-deviants were achieving, friendly devoted and supportive. 4. Conflicts of non-deviants centred in 'super ego acquisition'. 5. The non-deviants' super ego was very strong. 6. 'Ego strength' in non-deviants was strong. 7. Non-deviants, unlike deviants, possessed emotional intensity-extensity, social boldness, tough mindedness, trusting nature, self-assuredness, group dependence, strong integration of self-sentiment, and relaxation. 8. The general deviants had a greater need for succorance, i.e. helping others, than non-deviants, expectation evasion deviants and rebellious deviants. They possessed a greater need for nurturance than WDs, EDs and RDs. Their need for dominance was greater than NDs and WDs. 9. The WDs had a need for understanding. Their need for aggression and sex was greater than that of NDs. 10. The EDs had the need of 'harm-avoidance'. Their need for sex was greater than that of NDs. Needs of autonomy and acquisition were greater in EDs than in Ds. They were ahead of WDs in their need for affiliation. 11. In RDs, needs for affiliation (greater than WDs) and achievement (greater than EDs) as well as of acquisition (greater than Ds) and order (greater than NDs and WDs) were characteristic features. 12. The Environment of deviants was least dangerous and more exploiting (for EDs) but more friendly than for WDs. 13. People around deviants were counter-aggressive (for EDs and RDs), abasive (for EDs), hostile (for WDs), fearful (for Ds), least friendly (for WDs), withdrawing (for WDs alone) autonomous and acquisitive (for EDs), punishing and devoted (for Eds and RDs), as well as domineering and supportive (for RDs). 14. Anxiety in Ds was oral and towards passivity in WDs and EDs. It was aggression oriented in RDs but flight oriented in WDs. 15. Mechanisms of defence in deviants were those of 'isolation' (in Ds and EDs), of 'repression' and 'denial of reality' (in WDs), of 'projection' and 'regression' (in WDs more than in RDs) of 'projection' and 'reaction formation' (in EDs more than in RDs), and of 'rationalization' (in RDs alone). 16. Weak ego, super ego and self-sentiment were positive correlates of deviance. 17. Deviance characteristically related to dryness of emotionality, threat-sensitivity, suspicious tendency, guilt proneness, imaginativeness, and high urgic tension. 18. Dullness, dominance and conservatism were related to Ds. WDs were associated with submissiveness, conservativeness and high urgic tension. EDs were alone, calm, less dull and more shrewd than Ds. RDs alone were radical, dominant, full of high urgic tension and less dull than Ds.

***498.** SINGHAL, S., *Psychological Development and Learning in Young Children in Rural Poverty and Effects of Interventions, Zakir Hussain Centre for Educational Studies,* JNU, 1981 (NCERT financed)

The objectives of the study were (i) to compare several villages of a district on physical, social and economic characteristics, (ii) to compare several groups of

schoolgoing and non-schoolgoing poor children in selected villages on personal information, family relation data (parents' education and occupation, housing conditions, number of siblings, parental attitudes, aspirations, etc.), (iii) to develop indigenous tools for measuring levels of psychological development, self-concept and locus of control, and to standardize them, (iv) to develop appropriate educational materials to enhance the amount and rate of learning and developmental outcomes, (v) to plan and implement intervention programmes for various groups under study over time and compare the learning and developmental outcomes at subsequent intervals, and (vi) to follow these children even after intervention has stopped to examine the extent of retention and rate of further development.

In order to achieve the objective of the study, five equivalent villages belonging to Churu district in Rajasthan were selected. One of these villages had the Integrated Child Development Scheme. Other villages in the same district having comparable physical and social characteristics were pooled together from which finally four villages nearer to the first were selected. Children selected for the study were in the age group 3-6 years. Data were obtained using observation, interviews and a combination of closed and open ended questionnaires. The typologies were developed using the cluster analysis technique specially suited to the development of a typology. Qualitative data were analysed using content-analysis procedures.

The major findings of the study were: 1. Fifty per cent of the schoolgoing children took a bath in the morning and then ate chapatis made the previous night with chatni, some amount of jaggery or some left over vegetable preparation of the previous night. These children roamed around in the premises of their houses or in the streets of the village with chapatis in their hands even if their parents prevented them. 2. It was observed consistently that parents perceived non-schoolgoing children negatively. Early marriage and involvement in livelihood activities hampered the chances of attaining higher education by the children in most cases. 3. Non-schoolgoing boys, specially in the absence of sisters, took care of their younger siblings and towards the end of their childhood they worked in the fields with their elder siblings. 4. The family, as a unit in the village, showed a particular pattern in composition and structure. There was a tendency to set up a nuclear family when the son got married and had children. In case of the economically well off families, the different members constructed their own houses with separate baithaks. 5. Within the family, the interactions among various family members were patterned, but varied from family to family depending on the caste and economic conditions. Within the house children interacted more with the mother than with the father, because the father was usually away in the fields or relaxing in the baithak. 6. In cases where both the mother and father went out of the village for some job, it was found that the children were more attached to the grandparents. 7. In Gureera-Somkar 90 per cent of the adult males reported regular habits of personal hygiene but the figure was lower in Bodali and Pai, while among women and children it was less. Housing was poor and in 50 per cent of the houses there was no separate cattle shed. Availability of jobs was irregular and more than 60 per cent of the people were illiterate. 8. Eight per cent of the children were active but had average or below average physical build.

*499. SINGHVI, U., *Characteristics of Teacher, Taught and Teaching from Primary to College Levels in Relation to their Psychological Factors: A Developmental Study of Perception of Characteristics through S.D. Technique,* Ph.D. Edu., Jod. U., 1987

The major objectives of the inquiry were (i) to study the developmental pattern in the perception of the concepts—teacher, taught and teaching—among teachers and students from primary school to college level, (ii) to find out the personality differentials and correlates characterizing the three dimensions of each concept's meaning, and (iii) to find out the factorial structure of the variables and the concepts under investigation.

The study was conducted on 800 subjects consisting of 400 teachers and 400 students. After eliminating the high lie scorers, 316 students and 314 teachers were left for the actual study. The data were collected with the help of a 7-point SD Scale on each concept, Personality Tests, L-Scale (Behaviour List) and Job-Satisfaction Questionnaire. The teachers were given the tests individually while the students were administered the tests in groups. Appropriate parametric tests were used as the data were distributed normally.

The major findings of the study were: 1. The teachers of different groups perceived the 'teacher', 'taught' and 'teaching' in a very similar way indicating homogeneity in groups. 2. Different groups of students perceived the

concepts 'teacher', 'taught' and 'teaching' in a different manner and greater divergence was in the perception of 'taught'. 3. There was no significant difference between the teachers and students in any dimension of the concept 'teacher'. 4. The students attached significantly higher attributes than their teachers to the concept 'taught' at all levels. 5. The teachers appeared to be more realistic and reasonable in self-perception than the students. 6. Teachers at primary and college levels tended to perceive 'teaching' as highly potent, active and valuable. 7. When compared with the personality attributes of teachers of corresponding school levels, there was very little overlap in the personality factors of those who attributed high to potency (P), activity (A) with higher evaluation (E), i.e. they were of different personality make-up. 8. The personality attributes of teachers and students giving high P, A and E to the concept 'teaching' had very little in common at the educational level. 9. The clusters of personality factors associated with high P, A, and E attributes to 'teacher', 'taught' and 'teaching' had many inconsistent changes from conscientiousness, emotional stability, relaxedness, soberness and seriousness. 10. The rotated factors yielded distinct factorial structures of the three concepts and the personality structures of 'teacher' and 'taught' at each of the four educational dimensions.

500. SINHA, B.P., *Some Situational, Personality and Child-rearing Correlates of Need for Achievement,* Ph.D. Psy., Mag. U., 1976

The major objectives of the study were (i) to find out the effect of personality and situational variables on students' behaviour, (ii) to study defence-orientation in n-Ach (MS) and 'fear of failure' (MAF) persons, and (iii) to study child-rearing antecedents and some of the background variables of n-Ach(MS) and 'fear of failure' (MAF) persons living in and around Gaya. Several hypotheses were examined.

The sample initially included 300 male students of a local college in Gaya. Eight groups, each comprising 20 subjects, were formed in a 2x2x2 factorial design with a total N=160. The strategy of research involved experimental manipulations of success-failure on a level of aspiration (LA) task. Each group was randomly assigned to success-failure manipulations. Data were collected into 'time estimates'. After the experimental session, information was gathered regarding the subjects' perceived child-rearing antecedents and some socio-economic background variables. McClelland's TAT Cards (suitable for Indian students), Mandler-Sarasons' Test Anxiety Questionnaire and Marlowe-Crownes' Personal Reaction Inventory were used to classify subjects as high or low on n-Ach, test anxiety and defensiveness.

The major findings were: 1. Personality explained much greater variances in behaviour than the main effects of either situation or interaction. The MS group obtained significantly higher aspiration, performance and judgement scores than the MAF group in both success and failure conditions. It also obtained lower goal-discrepancy scores than the MAF group, though the differences were not significant. Dispositional factors were more important than situational factors in determining behaviour. 2. The MS avoidance group performed better on LA task than the MS approach group. Failure rather than success was more motivating to the MAF approach and MAF avoidance groups because of their personality structures. In the n-Ach group some people were 'fake'. But the MAF approach and MAF avoidance groups reacted differently in success-failure conditions. Failure conditions were more effective to them. 3. The father appeared to be a dominant figure in fostering a high need for achievement, whereas the mother appeared to be associated with 'fear of failure' development. Parental influence, strictness, reward, expectations, standard of excellence, risk taking, etc. were characteristic antecedents of high n-Ach persons. Besides education and occupation of the father, the subjects' marital status, birth order, social status, family size, living place, etc. were also crucial background factors in the development of need achievement.

501. SINHA, J.K.P., *A Study of Personality Disposition and Achievement Motivation of Prejudiced College Students,* Ph.D. Psy., Mag. U., 1986

The study was primarily aimed at assessing the role of personality disposition and achievement motivation in prejudice. Twenty hypotheses concerned with the association of prejudice with personality factors, achievement motivation, and the role of sex were examined.

A sample of 400 college freshmen (200 males and 200 females) studying in plus two of the intermediate course was selected from colleges of Gaya and Jehanabad by adopting incidental-cum-purposive sampling technique. Gough's Prejudice Scale, Bhushan's Religiosity Scale, Sinha and Krishna's Revised Comprehensive

Test of Anxiety, Maslow's Security-Insecurity Inventory, Cattell's 16 Personality Factor Questionnaire, and Mukherjee's Sentence Completion Test were used. Product-moment co-efficient of correlation and t-test were employed for data analysis.

The major conclusions were: 1. High prejudiced males and females scored significantly higher on anxiety and security-insecurity dimensions than low prejudiced males and females, respectively. 2. High prejudiced females scored significantly higher on religiosity and placid-apprehensive dimensions of personality than low prejudiced females. 3. High prejudiced males and females were significantly more anxious and insecure than their low prejudiced counterparts. 4. High prejudiced females were significantly more religious than low prejudiced females. They were also significantly more affected by feelings. 5. High prejudiced males were tough-minded. They had leanings towards religiosity, were outgoing, more intelligent, affected by feelings, assertive, happy-go-lucky, suspicious, forthright, apprehensive, conservative, controlled, tense and had higher achievement motivation, but to a statistically insignificant level. 6. High prejudiced females were slightly but insignificantly outgoing, more intelligent, assertive, conscientious, tender-minded, imaginative, shrewd, experimenting, self-sufficient, controlled, tense and had higher achievement motivation.

502. SINHA, R.R.P., *A Comparative Study of Tribal and Non-tribal Intelligence,* Ph.D. Arts, Ran. U., 1964

The main purpose of the study was to compare the intelligence of tribals and non-tribals of Ranchi, coming from two different racial stocks. Four hypotheses were tested.

In all 280 male tribal (non-Christian Oraons) and 280 male non-tribal (Hindu and Muslim) students, matched for age, SES, rural-urban influences and educational attainments, were selected from five urban and four rural schools of Ranchi district. Alexander's Performance Scale (Pass along, Block Design and Cube Construction tests) was used to measure intelligence. Mean, SD, chi-square test, t-test, etc., were employed.

The major findings were: 1. There was no significant difference between intelligence of tribals and non-tribals. 2. There was a gradual rise in mean intelligence scores of both tribals and non-tribals for age ranging from 10 to 20 years. 3. Intelligence scores of rural tribals differed significantly from urban tribals. Rural non-tribals did not differ significantly in intelligence scores from urban non-tribals. 4. Rural literate tribals were superior in intelligence to rural illiterate tribals. 5. Intelligence scores of literate and illiterate non-tribals did not differ significantly. 6. The mean intelligence score of non-tribals was greater than that of tribals in rural areas. Rural illiterate tribals differed significantly from rural illiterate non-tribals in intelligence scores. 7. There existed no innate difference in intelligence scores of tribals and non-tribals. Whatever differences existed were due to a difference in their environmental and cultural conditions.

503. SOLANKI, P.S., *An Investigation into the Validity of Screening Effectiveness of Human Figure Drawing (HFD) Test for Dynamic Evaluation of Emotionally Disturbed School Going Children,* Ph.D. Psy., Ran. U., 1976

The main purpose of the study was to test the validity of screening the effectiveness of the Human Figure Drawing (HFD) Test for dynamic evaluation of emotionally disturbed children. Six hypotheses were tested.

In all, 150 emotionally disturbed children (100 males and 50 females) were selected from Children's Homes of Delhi by adopting the purposive method of non-probability sampling technique (clinical group). Again 150 normal children (control group) were also drawn from secondary schools of Delhi. Attempts were made to match the clinical and control groups for age, sex, education, parental income and I.Q. variables. The Human Figure Drawing Test (HFD), Thematic Apperception Test or Children's Apperception Test, Porteus Maze Test and Mooney Problem Checklist were administered. Koppitz's 29 and five additional emotional indicators were considered and Koppitz's scoring system with slight modification was followed.

The major conclusion was that the Test of Human Figure Drawing (HFD) was largely effective with considerable validity to screen emotionally disturbed from normal children for dynamic evaluation.

504. SRIVASTAVA, M., *Neuroticism Among Male and Female Students during Adolescence—A Comparative Study,* Ph.D. Psy., Jab. U., 1982

The objectives of the study were (i) to find out the level of neuroticism among male and female adolescent stu-

dents, (ii) to compare the level of neuroticism among male and female adolescent students, (iii) to compare the level of academic achievement of male and female adolescent students, and (iv) to find out the differences in the level of neuroticism among male and female students with high and low academic achievement.

The sample of the study consisted of 594 students (149 males and 445 females) studying in different higher secondary schools of Jabalpur city. The age of these students ranged from 14 to 18 years. The Kundu Neurotic Personality Inventory was employed to collect data on neuroticism and the annual examination marks obtained by the students in their last examination were treated as the indicators of their academic achievement. The data were analysed by employing the technique of frequency distribution, mean, S.D. and t-test.

The findings of the study were: 1. No significant sex differences were observed among the groups formed on the basis of level of neuroticism (slightly neurotic, moderately neurotic and highly neurotic). 2. No significant differences were observed in the level of neuroticism of students studying arts or science subjects. 3. Normal students were found to have better academic achievement than neurotic students in total. 4. The level of academic achievement was found to go down with the increase in the level of neuroticism among students. 5. Normal male and female students were found to be better than slightly neurotic; slightly neurotic were better than moderately neurotic; and moderately neurotic students were found to be better than highly neurotic students in respect of their academic achievement. 6. No significant differences were observed in the academic achievement of male as well as female students of the science or arts group belonging to slightly neurotic, moderately neurotic or highly neurotic groups. 7. Female students were found to be relatively more normal than males in the context of neuroticism. 8. Male and female students studying science subjects were found to be relatively less neurotic than those studying arts subjects.

505. SRIVASTAVA, P., *An Information Integration Analysis of Developmental Trends in Social Perception,* Ph.D. Psy., Guj. U., 1984

The main purpose of the research was to demonstrate an interaction between age of subject and nature of task in prediction of task performance. Two hypotheses tested in this study were: (1) Integration rules underlying prediction of performance depended upon the nature of task as well as the age of subject. (2) The number of significant main effects in analysis of variance for an individual child and recency effect in children's judgement were also linked with the nature of the task.

A series of three experiments was conducted to test these two hypotheses. Experiment 1 (N=120) studied prediction of examination performance with children of kindergarten and class I to IV over three consecutive days. Information about motivation of the children came from mother and neighbour and about ability from two teachers. Experiment 2 (N=96) studied prediction of performance in puzzle and music competitions by children of classes IV and VIII. These subjects were selected to complete 16 cells of a $2 \times 2 \times 2 \times 2$ design, having standard of subjects (IV and VIII), nature of task (puzzle and music competition), sex of subjects (male and female) and order of presentation of information (motivation ability order and ability motivation order) as factors. Experiment 3 (N=144) required children of kindergarten and classes II, IV, VI and XI to predict performance in a singing competition. Each subject received detailed instructions, worked on practice examples, and rated profiles of three booklets.

Results from the test of three experiments indicated: 1. Cognitive algebra for prediction of task performance varied as a function of the nature of task and developmental level of the subjects. Some tasks such as prediction of performance had just one causal schema while some other tasks such as the singing competiton had multiple causal schemata. With such tasks, the integration rule changed as a function of age of the subjects. 2. Young children in India were able to utilise the multiplying rule when they predicted performance in a singing contest. 3. The hypothesis of interaction between the nature of task and developmental level of judges appeared to have received reasonably good support.

506. SUKUMARAN, P.M., *The Growth of Exclusion of Variables during Adolescence,* Ph.D. Edu., Raj. U., 1982

The objectives of the study were (i) to investigate adolescent thought through a short, reliable and valid test, incorporating Piaget-type tasks, (ii) to deter-

mine the relationship between the scores on certain aspects of exclusion of variables and some outside variables: age, sex, intelligence, personality characteristics and aptitude, (iii) to analyse the structure of exclusion of variables along with three other schemes of thought mathematically, and interpret the same psychologically, and (iv) to determine the characteristics of successful and unsuccessful problem solvers on Piaget type tasks.

The sample consisted of 200 pupils (100 boys and 100 girls) drawn randomly from the private institutions of Mysore city. They belogned to grades VI, VII, VIII, IX and X and were equal in number (20 boys and 20 girls) in each of these grades. The sample pupils were administered the following tools: (i) the Cattell Culture Fair Intelligence Test, (ii) the Cattell Junior Senior High School Personality Questionnaire, (iii) the Differential Aptitude Test (DAT), and (iv) twelve self-developed Piaget type tasks. These tasks were written in questionnaire form and were presented in three separate questionnaires of four, three and five tasks each (stating of hypothesis, testing of hypotheses and some interesting and funny questions).

The findings of the study were: 1. The four problems of stating of hypotheses had attracted a wide spectrum of thought. 2. In the case of problems concerning stating of hypotheses the adolescents were generous in stating them as judged by the total frequency of hypotheses emitted. However, most of the adolescents missed most of the hypotheses as judged by means alone, regardless of the individual hypotheses. 3. Whereas the mean performance of this variable (stating hypotheses) increased with grade and indirectly with chronological age, the variability of the various groups tended to become homogeneous at the closing grade of the study. 4. Sex differences with occasional fluctuation existed, favouring girls, across grades as well as across problems of testing hypotheses. 5. In case of problem of permutations and combinations, all adolescent pupils of the study were not in a position to exhaust all possible combinations. 6. Ability to formulate novel questions with minor fluctuations was found to increase with age. 7. The grade means of problem sensitivity revealed that boys asked more questions than girls in all grades except grade IX. 8. The majority of the adolescents pupils were attracted more by the content rather than the form of the problem. 9. When variables of the Piaget type tasks were factor analysed for the whole sample (N=200) using the principal component method and varimax rotation, four factors appeared, viz., stating hypotheses, testing hypotheses, permutation and combination and problem sensitivity. 10. The successful problem solvers were good hypothesis staters and testers, abstract thinkers, self-disciplined and relaxed, whereas the unsuccessful problem solvers were not good hypothesis testers but were uncontrolled and tense. 11. Boys showed a mechanical bent of mind and girls showed mastery in linguistics. Boys were found to have self-sufficient, concrete thinking, assertive and adventurous personality traits and girls were found to be group dependent, abstract thinkers, obedient and shy. 12. Age was found to be significantly correlated with both (stating and testing of hypotheses) the measures of exclusion of variables. Only certain traits of personality correlated with the measures of exclusions of variables and except a few, the aptitude tests were found to be correlated significantly only with the measure of stating hypotheses and permutation and combination. The grapsing of the essence of the problem was significantly correlated with both the measures of exclusion of variables. 13. Twelve factors were found to be implicit in the entire tasks and tests in the whole sample (N=200). The factors were: (i) language factor, (ii) exclusion of variables (testing hypotheses), (iii) exclusion of variables (stating hypotheses), (iv) super-ego strength, (v) group factor of personality (dominance, guilt proneness and ego strength), (vi) permutation and combination, (vii) mechanical reasoning, (viii) self-sufficiency, (ix) age, (x) parmia, (xi) ego strength and (xii) intelligence.

The study has its implications for teaching science to adolescents. Firstly pre-logical thought present among adolescents needs to be educated through an appropriate methodology by which they are compelled to see the same situation in different contexts. Secondly, through appropriate training it should be possible to raise the level of thinking of adolescents to higher levels and accelerate their thinking substantially. Thirdly, schools should design short learning loops based upon specific problems and concepts for pupils of average and below average ability.

507. SULTANA, M., *Intelligence, Social Competence and Parental Attitude in Normal and Deviant Children,* Ph.D., Psy., Agra U., 1983

The objectives were (i) to study the difference between normal and clinical groups in their intelligence, (ii) to know the difference in social competence between nor-

mal and clinical groups, and (iii) to find out the difference in partental attitudes between normal and clinical groups. The hypotheses were: (1) The children of normal and clinical groups show difference in their intelligence as well as social competency. (2) Fathers as well as mothers of normal and clinical groups show difference in their parental attitudes.

The sample consisted of 200 subjects (100 normal and 100 clinical). The post-test experimental and control groups design was followed. The normal group was the control group while the clinical was the experimental group. To assess intelligence a Hindi adaptation of the Stanford-Binet Form L-M was used. For studying social competence, the Vineland Social Maturity Scale was used. Parental attitudes were studied by the Parental Attitude Research Instrument by Uma Saxena and SES was assessed with the help of an SES Scale (Urban) by G.P. Srivastava. The data were analysed with the help of t-test.

The findings were: 1. There was a significant difference in intelligence between normal and clinical subjects. Normals were more intelligent. 2. Deviant children were less socially competent in comparison with the normal group. 3. There was a significant difference between the fathers of the two groups in their attitude regarding fastening dependency, breaking will, harsh punishment, deception, marital conflict, non-punishment, irresponsibility of father, suppression of aggression, deification of parent, exclusion from outside influences, strictness and suppression of sexuality. 4. There was a significant difference between the mothers of the two groups in their attitude regarding encouraging verbalization, fostering dependency, reclusion of mother, martyrdom, fear of harming the baby, marital conflict and suppression of aggression. 5. The fathers of both groups were more accepting. 6. The mothers of the normal group were found accepting, possessive and the mothers of the clinical group were found domineering, possessive and over protective in their child-rearing practices. 7. Marital conflict and disharmony were found predominat among the parents of the clinical group. 8. Mental retardation was found common among low and very low social class people. 9. Behaviour disorders like stammering, enuresis, adjustment and personality problems, anxiety reactions and school problems were found to be more common among boys, whereas conversion reaction, hysterical reactions and psychosomatic disorders were found more common among girls. 10. Educational background had a definite effect on the types of child-rearing practices.

508. SUMAN, S., *A Socio-psychological Study of Goals and Aspirations of Female Students*, Ph.D. Psy., Mag. U., 1986

The main aim of the study was to find out the educational and vocational goals and aspirations of arts and science students and the various factors reported by them to be responsible for their goals and to find out the various personal and social characteristics associated with different levels of educational and vocational goals.

The sample consisted of 200 arts and 100 science Hindi-knowing intermediate students of Arrah. A Student Information Blank, an Educational-Vocational Goals Questionnaire, an Academic Inventory (Self-Concept of Academic Ability and Academic Motivation), Edward's Personal Preference Schedule (n-Ach), Maudsley's Personality Inventory, Maslow's Security-Insecurity Inventory and Raven's Standard Progressive Matrices Test used. The chi-square test was employed for data analysis.

Some of the major conclusions were: 1. For arts students, the most important educational goal was a bachelors degree in education followed by a simple bachelors degree (pass course) and a masters degree; and for science students the goal was a bachelors degree (Honours course) followed by a bachelors degree in education, medicine, a simple bachelors degree and a masters degree. 2. Advice of friends, and ability was the most importnat determinant of educational goal for arts and science students, respectively. 3. Opportunity of recreation and getting employment were important objectives behind educational goals for arts and science students respectively. 4. For arts students, a masters degree was an important educational aspiration; teaching was an important vocational goal; good salary was a very important determinant of vocational goal; prestige was a valued thing in life; and college teaching was an important vocational aspiration. For science students the same findings were a bachelors degree in medicine, teaching, good salary, prestige and college teaching, respectively. 5. Economic status, self-concept of academic ability, ability or intelligence, academic motivation, need achievement and extraversion had significantly positive association with educational and vocational goals. 6. Unmarried girls had significantly higher educational and vocational goals than married girls. 7. Father's education had a significant positive association with educational goals. 8. Neuroticism was not significantly associated and insecurity had significant nega-

tive association with educational and vocational goals. 9. There was a good deal of similarity between responses of arts and science students. Arts and science students combined together had favourable attitudes towards marriage of girls (82 per cent) and were in favour of employment of girls (38.7 per cent).

509. SUNITA, *Motor Ability as a Factor in Home: Social and Emotional Adjustment in Adolescents (13+ to 16+)*, Ph.D. Phy. Edu., Kur. U., 1986

The objectives of the study were (i) to find out the relationship of motor ability of adolescents with their emotional adjustment, (ii) to explore the relationship of motor ability of adolescents with their adjustment in the society, and (iii) to study the relationship of motor ability of adolescents with their adjustment at home.

The sample of study consisted of 200 boys and 200 girls belonging to schools and colleges of Haryana. Their age ranged from 13+ to 16+ years. They were administered the following tools: (i) the Bell Adjustment Inventory, (ii) the Scott Motor Ability Test which included an obstacle run, a basket ball throw, and a standing broad jump.

The findings of the study were: 1. The scores of sample subjects on motor ability for the whole group were not distributed normally. The mean score for motor ability for boys was 143.05, and for girls it was 132.50, with SD of 29.39 and 30.60 respectively. 2. Boys who performed better on motor ability also had better home adjustment. 3. Girls were better adjusted at home than boys. 4. Boys scored more on motor ability than girls. 5. Motor ability played a positive role in promoting social adjustment. 6. Boys were more socially adjusted than girls. 7. The coefficient of correlation between social adjustment and motor ability was more in boys than girls. 8. Motor ability and emotional adjustment were positively related. 9. Boys were more emotionally adjusted than girls. 10. The coefficient of correlation between motor ability and emotional adjustment was higher in boys than in girls.

510. TERAIYA, J.C., *Self-perception in Various Learning Situations*, Ph.D. Psy., Guj. U., 1981

The main objective of this investigation was to study the effect of the common learning variables—reward and punishment—on the self-perception of school-going children of age group 11 to 13. The sex and the IQ variables were added as further factors for studying their effect.

Self-perception of the subject was measured by the special inventory prepared by Kusum Bhatt. It contained five sub-areas, namely, physical appearance, family relations, school life, personality, and social behaviour. The tool was in the form of a closed-type questionnaire in which there were specific questions associated with specific number of responses. The spilt-half reliability (N=60) of the inventory was 0.91. A group of subjects (N=60) was given the self-perception inventory by the questionnaire method as well as the structured interview method in the counter-balanced design. The correlation was 0.48. Its correlation with incomplete sentence blank—a semi-projective technique was found to be 0.62 on a group of 35 school students. The design of the study was experimental in nature in which three variables were introduced as the experimental variables—reward, punishment and work experience. The total sample consisted of 240, divided equally into four groups—reward group, punishment group, only work group, and control group. Each group was again divided into three sub-groups of 20 each, according to IQ level—above average, average, and below average, measured by Shah's IQ test. Comparisons were made among the four groups applying t-test, sexwise as well as IQ-category-wise.

Major findings were: 1. Self-perception was a very well established factor in the personality by the time the child reached eight to ten years. 2. Any attempt to change self-perception in a very short period was definitely going to be useless. 3. There was also a possibility of the effect of the artificiality of the experimental situation on the subjects. 4. The results of the research of the research work were found to be inconclusive.

511. TIWARI, M.K., *A Study of Some Personality and Motivational Dynamics of Employed, Underemployed and Unemployed Educated Youths*, Ph.D. Psy., Mag. U., 1986

The major objectives of the study were (i) to examine whether or not unemployed, underemployed and employed groups would differ in terms of their personality factors (anxiety, neuroticism, extraversion and security-insecurity), (ii) to explore whether or not the three groups under study would differ in terms of their dependence proneness, and (iii) to ascertain whether or

not the three groups under study would differ in terms of their risk-taking behaviour. Seven hypotheses were examined.

A sample of 300 youths, male graduates in arts and science (100 unemployed, 100 underemployed and 100 employed), was drawn by adopting an incidental-cum-purposive sampling technique. The three groups were matched in terms of age, educational level and socio-economic status. In no case did the duration of service exceeded more than five years. A personal data schedule, Sinha and Krishna's Revised Comprehensive Test of Anxiety, Eysenck's Personality Inventory (Hindi version of Form A by Sinha), Maslow's Security-Insecurity Inventory (Hindi version by Singh), Sinha's Dependence-Proneness Scale, Bhatia's Achievement Motivation Test, and Choice-Dilemma Questionnaire (Hindi version by Krishna) were used. Mean, medium, mode, SD of each variable were computed. One-way analysis of variance was employed to compare groups in respect of personality. t-test was also applied to examine the various group differences.

The major conclusions were: 1. Unemployed educated youth manifested more free-floating anxiety as compared with their underemployed counterparts. 2. Neuroticism and extraversion were not good predictors of personality dynamics of the groups. 3. Unemployed and underemployed educated youths felt more psychological insecurity as compared with employed cases. 4. Underemployed educated youths exhibited more dependent proneness than unemployed cases. 5. Employment had a significant linkage with achievement motivation. 6. Unemployed educated youth took less risk as compared with suitably employed cases.

512. TIWARI, RITA, *A Study of the Achievement Motivation, Intelligence and Personality Traits of Privileged and Deprived Children*, Ph.D. Psy., RSU, 1984

The objectives of the study were (i) to find out the differential level of achievement motivation of the deprived students and to compare them with the advantaged class, (ii) to study and compare the intelligence of the deprived and privileged children, and (iii) to investigate as how the personality traits of the deprived children were different from those of the privileged ones.

The sample of the study comprised 600 students of grades IX and X studying in different higher secondary schools of Raipur city, identified as privileged and deprived by a panel of five experts. The data were collected by employing the Achievement Motivation Inventory constructed by D.R. Bhatia, the Culture Fair Intelligence Test of Cattell and Cattell adopted in Hindi and the High School Personality Questionnaire (HSPQ) adapted by Kapoor and Mehrotra. The data were analysed by computing the measures of central tendency, percentages and t-values.

The findings of the study were: 1. Privileged students scored significantly higher in achievement motivation than deprived ones. 2. Privileged children displayed significantly higher general mental ability than the deprived students. 3. With respect to A and B factors of HSPQ, privileged pupils and privileged girls did not differ significantly from their deprived counterparts, whereas privileged boys scored significantly higher score than deprived ones on these factors. On factors C, D, G and Q_3 of HSPQ, deprived pupils and deprived girls outscored privileged pupils, whereas privileged and deprived boys did not differ significantly amongst themselves on these factors. Privileged pupils and privileged girls scored significantly higher than deprived pupils and deprived girls respectively, on factors E, Q_1 and Q_4 of HSPQ, but no significant differences were observed among privileged and deprived boys on these factors. Privileged pupils, boys and girls, scored significantly higher than the deprived pupils, boys and girls, on factors F and J of HSPQ, whereas with respect to factor H, I, Q_2, deprived pupils, boys and girls outscored the privileged ones.

513. TRIPATHI, A., *Self-Image, Self-Disclosure and Self-Observation of the Behaviour Pattern among Socially Advantaged and Disadvantaged Schoolgoing Adolescents*, Ph.D. Edu., Pan. U., 1986

The objectives of the study were (i) to study the different environments in schools in district Ambala of Haryana state, (ii) to study the self-image, self-disclosure and self-observation of normal adolescents studying in different school environments, (iii) to study the interrelationship of areas of behaviour patterns of normal adolescents studying in different school environments, (iv) to make a comparative study of areas of behaviour patterns of normal adolescents studying in different school environments, (v) to examine the differ-

ence in self-image, self-disclosure and self-observation among male and female students, and (vi) to examine the differences in self-image, self-disclosure and self-observation among upper caste and lower caste adolescents.

The sample was selected through a multistaged randomized procedure. Firstly two schools each belonging to four different socio-economic status categories were selected. These categories were high socio-economic status schools, moderately high socio-economic status schools, moderately low socio-economic status schools, and low socio-economic status schools. From each school 100 students were taken. These students were those who in the opinion of their teachers on Rutter's Behaviour Rating Scale, did not show any serious behaviour problem in the school environment and had an average IQ of 90-110. In this way 400 adolescents of 13+ to 16+ years formed the sample of students. Apart from students, five teachers from each of these schools and eight principals in all formed the sample of the study. The study was a normative survey. The tools used in the study were: (i) the Jalota General Mental Ability Test (1984), (ii) the Kulshreshtha Socio-Economic Status Scale, (iii) the Sinha Self-Disclosure Inventory, (iv) the Sharma Sociometric Questionnaire (1977), (v) the Rutter Child Behaviour Rating Scale, (vi) the Sharma Socio-Economic Status Scale of Schools, (vii) the Sharma Self-Image Questionnaire (1977), (viii) the Self-Observation Scale having areas such as impulse control, emotional tone, body and self-image, moral and sexual attitude, family relations, external mastery, vocational and educational goals and superior adjustment.

The findings of the study were: 1. The total self-image of students was higher in low socio-economic status schools as compared to that in high socio-economic status schools. 2. None of the adolescents had a low level of self-image in any type of socio-economic status schools. 3. Moderately high socio-economic-status schools and moderately low socio-economic-status schools did not differ in the area of self-image. 4. Self-disclosure was the highest in low-social-economic status schools as compared to that in high socio-economic status (SES) schools. 5. The area 'Study' was most disclosed and 'Sex' least disclosed in all the four types of schools. 6. 'Mother' was the most preferred figure as target person in all the types of SES schools and 'teacher' was the least preferred figure. 7. Self-observation was higher in low SES schools than the high SES schools. 8. In self-observation, the highest mean was found in family relations and the lowest in sexual attitude in all the types of SES schools. 9. Only sexual attitude showed a negative direction in adolescent self-observation; intelligence level in high SES schools and moderately high SES schools was significantly higher than that of moderately low and low SES schools. 11. Intelligence was not significantly correlated with self-image, self-observation and self-disclosure. 12. Only the areas of 'vacation' in self-disclosure was significantly correlated with intelligence. 13. Total self-disclosure and total self-observation were not significantly correlated in all the four types of SES schools. 14. Total self-image and total self-observation were significantly correlated in all the four types of SES schools. 15. Sociometric status was significantly correlated with total self-disclosure in high and low SES schools. 16. Sociometric status did not differ significantly in different types of SES schools. 17. Socio-economic status did not influence sociometric status. 18. Normal adolescents were not rejected by their peers in any type of SES schools. 19. The more the emphasis on sophistication and the more the complexities in the environment at the school, the lower were the behaviour patterns. 20. Female adolescents were higher in self-image, self-disclosure and self-observation in all the types of SES schools as compared to their male counterparts. 21. Significant differences were found between male and female adolescents, except in the varible of intelligence. 22. Significant differences were found in males in the variables of self-image, self-observation, self-disclosure, intelligence and socio-economic status in all the types of SES schools. 23. Female adolescents differed significantly in all the four types of SES schools on self-image, self-disclosure and self-observation. 24. Lower caste adolescents had higher self-image, self-observation and self-disclosure in all types of SES schools. 25. Upper caste and lower caste adolescents significantly differed from each other in self-disclosure, and SES in middle and low SES schools.

***514.** TRIPATHY, A.N., *Home and Personality Determinants of Intelligence and Social Competence of Tribal and Non-Tribal Children,* Ph.D. Psy., Utkal U., 1986

The main objectives of the inquiry were (i) to study the effect of home environment on intelligence, social

competence, academic achievement, and aspirations of children, (ii) to study the relationship between personality, intelligence, and social competence, (iii) to study the contribution of personality variables in predicting academic achievement of tribal and non-tribal children, (iv) to find out the major independent dimensions of teacher-rated social competence of children, and (v) to study the way in which tribal and non-tribal children differed in connection with their home environments, personality patterns, intelligence, social competence, academic achievement and aspirations.

The sample of the study consisted of 119 tribal and 130 non-tribal children, with two more intra group variations, i.e., grade (VII and IX) and six from three high-schools of a tribal district of Madhya Pradesh. The subjects were administered the Home Environment Questionnaire, High School Personality Questionnaire of R.B. Cattell, and Cattell's Culture Fair Test of Intelligence. Other instruments used for data collection were Teachers Rating for Social Competence, and Academic Achievement Measures. ANOVA, factor analysis, multiple regression, canonical correlation and discriminant function analysis techniques were used for analysis of data.

The main findings of the study were: 1. Tribal and non-tribal children differed significantly in their family SES, personality patterns, intelligence, but not in their total achievement and social competence scores. 2. Ten factors, viz., SES, parental physique, parental withdrawal, rejective control by parents, family crowding, material richness, lack of promotion of social personal maturity, parental support, educational simulation, and parental companionship from home scores emerged from the principal component analysis. 3. Similarly, seven factors, viz., general competence, interaction style, task persistence, considerateness, fickleness, aggression, and dependency emerged from the social competence scale. 4. Home and personality scores together predicted intelligence and achievement almost equal (40 per cent) both in tribal and non-tribal groups. 5. Canonical correlation revealed that high SES with parental support, promotion of social personal maturity, educational simulation and rejective control on children were associated with high intelligence, reflectiveness, self-sentiments and a lesser degree of enthusiasm. 6. Low family education, low SES, lack of cognitive and educational aids and promotions, and lack of parental affection were found to be associated with less emotional stability, easy annoyance, dissatisfaction with the family, and peer group unpopularity.

515. TRIPATHI, R.C., *Achievement Motivation and Its Correlates of High School Students of East U.P.*, Ph.D. Edu., Gor. U., 1986

The objectives of the study were (i) to make a comparative study of achievement motivation of boys and girls, (ii) to compare the scores of boys and girls on the socio-economic status, intelligence, level of aspiration and adjustment, (iii) to compare the scores of students belonging to different academic streams and localities in the above variables, (iv) to study the relationship between n-achievement and intelligence, socio-economic status, adjustment, level of aspiration and academic attainment on the basis of scores of boys and girls separately, (v) to determine the amount of effect of intelligence, SES, adjustment, level of aspiration and academic attainment on achievement motivation scores of boys and girls separately, and (vi) to predict the n-achievement of students on the basis of their scores on the independent variables.

The study was confined to East UP including nine districts, namely, Asamgarh, Basti, Deoria, Gorakhpur, Ballia, Ghazipur, Varanasi, Jaunpur, Mirzapur, placed in two divisions, Gorakhpur and Varanasi. In all, 500 high school students (300 boys and 200 girls) were selected for sample. The tools used were (i) the Test of General Mental Ability by Joshi, (ii) the Test on Level of Aspiration (Dwivedi, C.B.), (iii) Achievement Values and Anxiety Inventory (Mehta Prayag), (iv) Vyaktitva Parakh Prashnavali (Saxena) and (v) a questionnaire on socio-economic status. The mean, percentiles, product-moment and multiple correlations, and critical ratio were applied to analyse the data.

The conclusions were: 1. The average level of achievement motivation of boys and girls was found to be low. 2. Girls showed better average scores in intelligence and belonged to a higher socio-economic status. 3. In general, boys were better adjusted. 4. Both the boys and girls had a poor level of aspiration. 5. The scores of boys and girls in Hindi revealed a moderate level of attainment in the subject. 6. Intelligence appeared to be influenced by the difference in sex, academic streams and localities. Urban science girls generally secured better scores on the intelligence test. 7. Urban science students, particularly females, belonged to a higher socio-economic status. 8. Urban science boys were generally better adjusted. 9. The level of aspiration of students of different sex and academic streams, showed no significant difference. 10. Students belonging to different sex, localities and academic streams showed more or less

equal average scores in Hindi. 11. The boys' scores in achievement motivation appeared to be significantly related with intelligence, socio-economic conditions, adjustment and Hindi achievement. 12. Socio-economic background, adjustment and level of aspiration did not appear to have a significant relation with achievement values and anxiety. 13. Achievement made a remarkable contribution to the variance in the achievement values and anxiety scores. 14. Achievement in Hindi appeared to be the main variable responsible for making a major contribution to the variance in scores. 15. Achievement values and anxiety level of boys and girls could be predicted successfully from achievement marks alone. 16. It was found that achievement motivation of boys and girls was highly correlated with intelligence and achievement. Among the five correlates of achievement motivation, academic achievement proved to be the most dominant factor.

516. TYAGI, K., *A Clinical Study of Deviants and Non-deviants and Their Family Setting,* Ph.D. Psy., Mee. U., 1984

The objectives of the inquiry were (i) to study school deviants with a view to determining atypical characteristics of deviance as related to personality, need, anxiety, frustration, conflict, action, etc., (ii) to study the family background of deviants in terms of effectivity of parenting roles, parental ideology and nature of sibling's interactions, (iii) to reveal the totality of deviant personality through the study of the content and dynamics of interpersonal relationships and its pscho-dynamic patterns, and (iv) to provide an empirical verification for the basic assumption that school deviance was a 'carry over' phenomenon of the family. The hypotheses were: (1) Deviance affects personality make-up of adolescents. (2) Deviance affects individual motivation of behaviour. (3) Deviance relates to non-effectivity of parental role. (4) Deviance relates to characteristic value-orientation of parents. (5) Deviance relates to atypical motivation in sibling interactions.

The sample comprised 150 students belonging to classes IX to XI. The age ranged from 14 to 18 years. Out of 150 students, 30 belonged to each of five categories, i.e. non-deviants (NDs), deviants (Ds), withdrawing deviants (WDs), expectation-evasion deviants (EDs) and rebelling deviants (RDs). The study was designed on the basis of *ex post facto* design. The independent variables were deviance and family setting. The dependent variables were needs, environment, conflict, anxiety, defence mechanism, ego, integration, severity of super-ego, 16 personality factors, sociogenic needs, frustration, anxiety, actions (individual), parental effectivity, parental value orientation and action group. Thematic Apperception Test and 16 PF were used for measuring personality variables. The Sociogenic Need Satisfaction Scale developed by N.S. Chauhan and U. Dhar was used to measure sociogenic need satisfaction. Its test-retest reliability ranged from 0.46 to 0.83 and validity coefficient from 0.68 to 0.91. Anxiety was measured with the help of Sinha's Comprehensive Anxiety Test developed by A.K.P. Sinha and L.N. Sinha. The test-retest reliability coefficient was 0.85 and validity coefficient was 0.62. Frustration was measured with the help of the Nairashya Maapa (Frustration Scale) developed by N.S. Chauhan and G. Tiwari. The test-retest reliability coefficient was 0.88 and validity coefficient was 0.93. A multi-dimensional Scale for Parenting developed by C.P. Khokhar and N.S. Chauhan was used for measuring parenting style. The test-retest reliability coefficients ranged from 0.44 to 0.88 and validity coefficients from 0.63 to 0.83. The Value Orientation Scale developed by N.S. Chauhan was used to measure value orientation. The test-retest reliability coefficients ranged from 0.50 to 0.87 and validity coefficient from 0.70 to 0.93. The deviant behaviour was measured with the help of the Behavioural Deviance Scale (BDS) developed by N.S. Chauhan. The test-retest reliability coefficients ranged from 0.52 to 0.89 and validity coefficient from 0.72 to 0.93. The Action Schedule was developed by the investigator. The data were analysed with the help of chi-square, analysis of variance and Duncan's Range Test.

The findings were: 1. Deviance was associated with characteristic pathological structuring and functions of parenting. It was associated with ansemic ego whose dysfunctionality appeared pronounced in general and withdrawing deviants. They remained invested with acuteness of anxiety of passivity, flight and orality anxiety. Expectation-evasion deviants resorted to passivity and aggression. Rebelling deviants were characterized by aggressive anxiety. 2. Deviance was associated with atypical personality constitution in general and withdrawing deviants in terms of emotional dryness, low intelligence, low integration of self-sentiment, suspicious threat sensitivity, guilt proneness and high urging tension. The least severe and the least lenient super-ego of man-deviants became severe in withdrawing

expectation-evasion deviants and prominence was noted in its leniency in general, expectation-evasion and rebelling deviants. 3. Deviance possessed extensive use of defence mechanisms and perceived external environment as hostile and dangerous wherein frustration oriented expectation-evasion and rebellion deviance craved for achievement, dominance and friendship to avoid social blame against sex involvements but general and rebelling deviants resorted to terroristic acts for personal safety and harm avoidance. 4. In deviance, parental acceptance and identification reached the bottom with acute rejection in general deviants. Acute rejection and profound identification of parents went with withdrawing deviants. Expectation-evasion deviance got profound encouragement from parents. It was a carry-over phenomenon of family maladjustment.

517. UPADHYAYA, U., *A Study of Sense of Deprivation Among High School Students,* Ph.D. Edu., BHU, 1982

The objectives of the study were (i) to find out the nature and extent of the sense of deprivation among high school students, (ii) to study the relationship of the sense of deprivation with sex, intelligence, socio-economic status (SES), number of siblings and birth order, and (iii) to find out the effect of the sense of deprivation on the self-concept and scholastic achievement of high school students.

The sample comprised 770 students of class X of both sexes, drawn from 19 high schools and intermediate colleges of Varanasi by stratified random sampling techniq ıe. The tools used were a Self-Expression Inventory to measure the sense of deprivation of high school students, Samanya Mansik Yogyata Pariksha by M.C. Joshi, SES Index by R.P. Varma and P.C. Saxena, Swatva Bodh Parikshana by G.P. Sherry, R.P. Varma and P.K. Goswami.

The major findings were: 1. The high school students of the sample did not have a very severe sense of deprivation. 2. The sense of deprivation in the school situation was significantly higher than that in the home situation. 3. There were institutional differences in the students' sense of deprivation. 4. The boys had a higher sense of deprivation than the girls. 5. Intelligence and SES were negatively correlated with the sense of deprivation. 6. The number and order of siblings in the family were positively correlated with the sense of deprivation. 7. Self-concept and scholastic achievement were negatively correlated with the sense of deprivation. 8. The analysis of data revealed that actual deprivation usually considered in terms of low SES did not account for more than one-fifth of variance in the sense of deprivation.

As far as the educational implications are concerned, the study provides a handy tool to measure the sense of deprivation of students fairly reliably. It provides new criteria for identifying deprived children inasmuch as it suggests that the deleterious effects of deprivation do not depend only on the extent of actual deprivation but on the sense of deprivation it induces among students. Finally, the study provides broad guidelines for organizing compensatory educational programmes or remedial treatment for deprived children. The organization of any educational programme for the upliftment of deprived children should give due emphasis on the felt aspect of deprivation—a major dynamic force operating through deficient environment.

518. VEERESHWAR, P., *A Study of Mental Health and Adjustment Problems of College-going Girls, Urban and Rural, Dept. of Psychology,* Mee. U., 1979 (ICSSR financed)

The main objective of the study was to survey the mental health and adjustment problems of undergraduate college-going girls of urban and rural areas in and around Meerut. The hypotheses formulated were: (1) The college-going adolescent girls (age 18-20) will have adjustment problems in many areas such as home, college, social, emotional and health. (2) The college-going girls of urban and rural areas will show significantly different problems in adjustment areas. (3) Cocurricular outdoor programme like the National Service Scheme (NSS) will lead to better adjustment specially in social and emotional areas.

A sample of 406 girls in the age group of 18-20 years was drawn from the undergraduate students of Meerut University by the sequential list method. The sample was further divided into NSS and non-NSS groups. The NSS group had 182 students and the non-NSS group had 224 students. The research tools used were: (i) a Standardized Adjustment Inventory for college students (A.K.P. Sinha and R.P. Singh, 1974), and (ii) a Youth Problem Inventory (M. Verma, 1975). The data were analysed calculating mean, SD, and t-test.

The major findings were: 1. Adjustment problems for girls existed in all the areas but the percentage of

extreme cases was meagre. 2. There was a significant difference in the area of family adjustment between urban girls and rural girls. Family problems were more unsatisfactory for rural girls. The percentage of cases requiring help was very low for both the groups. 3. The scores of urban and rural girls in the area of education showed a significant difference. The college or educational area was a problem for rural girls more than for urban girls. 4. The social area held problems for both urban and rural girls. The difference between the two was significant, i.e. the percentage of rural girls showing unsatisfactory adjustment in the social area was higher. 5. Personal emotional problems were shown less by urban girls than by rural girls and the difference was significant. 6. The difference in adjustment of urban and rural girls was not significant in the area of health. Both groups showed quite satisfactory health adjustment. 7. The NSS and non-NSS groups did not differ significantly in home adjustment, educational area and health. 8. In the social area, though the difference was not statistically significant, the NSS group showed a little better adjustment. 9. The non-NSS group showed better emotional adjustment than the NSS group and the difference was statistically significant.

519. VERMA, N.P., *A Study of Rural Students of Secondary Schools Reading in Towns and Villages in Respect of Certain Psychological (Cognitive and Personality) Variables,* Ph.D. Psy., Bhagalpur U., 1975

The main purposes of the study were to explore the differences, if any, between the Rural (R), Rural Urban (RU) and Urban (U) secondary school students in their intelligence, interests and personality adjustment, and to examine whether their scores were influenced by age, sex and economic status.

The sample was selected randomly. It included 300 class IX and X male students (100 rural, 100 rural-urban and 100 urban) belonging to middle and lowermiddle income group families, with age between 11 and 15 years, from Patna, Bhagalpur and Muzaffarpur (from rural areas also). Chatterjee's Non-Language Preference Record Form 962, Nafde's Non-verbal Test of Intelligence, Jalota's Group Test of General Mental Ability, and Saxena's Vyaktitva-Parakh Prashnawali (Adjustment Inventory) were used. T-test and analysis of variance were employed for data analysis.

The major findings were: 1. There were significant differences in intelligence, interest and overall adjustment among rural, rural-urban and urban groups. 2. Residence in rural or urban areas, age and financial status made significant differences on the test and sub-test scores and response of the subjects, except between rural-urban and urban groups in outdoor interest, home adjustment, emotional adjustment, and adjustment as a whole. 3. No significant differences were found between rural and rural-urban and rural and urban groups in their outdoor and fine arts interests.

520. VISHAL, *A Study of the Personality Pattern and Motive Structure of Yogis and the Effect of Yogic Practices on Certain Psychological Parameters,* Ph.D. Psy., Kur. U., 1985

The objectives of the study were (i) to find out the differences in the personality pattern of yogis and general population, (ii) to find out the differences in the motive structure of yogis and the general population, (iii) to find out the differences in the value system of yogis and the general population, (iv) to study the relationship between personality factors and measures of motives, (v) to study the relationship between personality and measures of values, (vi) to study the relationship between measures of motives and measures of values, (vii) to have a factorial analysis of the scores of yogis on the measures of personality, motivation and values, (viii) to study the effects of yogic practices on certain psychological parameters, and (ix) to study the effects of yogic practices on certain physiological parameters.

In the study pretest post-test experimental design was followed. The study was conducted in two phases. In the first phase 'yogis' (N=218) who had been practising Yoga for at least two years were taken. In the second phase such subjects (N=20) who attended a six-month training programmme in Yoga were drawn for the sample. The following tools were used in the study: (i) Cattell's Anxiety Scale Questionnaire, (ii) Tiwari and Singh's Security and Insecurity Inventory, (iii) Handsteadiness Test, (iv) Memory Test, (v) Pulse Rate, (vi) Breath Holding Time, (vii) Oral Temperature, (viii) Blood Pressure (systolic and diastolic), (ix) Body Weight, (x) Ojha's Study of Values, (xi) Cattell's Sixteen Personality Factor Questionnaire, and (xii) Cattell's Motivation Analysis Scale. The data so collected were analysed through factor analysis and t-test.

The findings of the study were: 1. The yogis differed

from the general population in their mean scores on certain factors of personality and values. 2. In case of yogis the intercorrelations among variables of values, motivation variables of personality and value, and motivation and values were very low, almost approaching zero. 3. In case of yogis the measures of personality, motivation and values showed a reasonable amount of overlap among themselves. 4. The results of factor analysis in case of yogis revealed four factors of motivation, three factors of values, and one additional factor of personality. These factors were interpreted but no names were given to these factors. 5. Yogic practices affected significantly certain psychological and physiological parameters.

521. WALIA, M., *Implication for Orthogonality Hypothesis of Dual Coding Theory*, Ph.D. Psy., Kur. U., 1983

The objectives of the study were (i) to find out if verbal cues were as accessible as non-verbal cues to brightness and colour information, (ii) to study the processing of information about object colours in memory, that is whether verbal mechanisms were implicated in the processing of memory information concerning object colours, and (iii) to study the analogy-discrete characteristics of internal representation of colour information in memory.

The study was conducted through three different experiments. In the first experiment a sample of 40 subjects of postgraduate and Ph.D. scholars was taken. Half of the subjects participated in word condition and the other half of the subjects in picture condition. The pair of line drawings and the names of familiar objects were presented as stimuli. Half of the pairs in both picture as well as word conditions, consisted of two items involving greater symbolic distance and the remaining half contained items with smaller symbolic distance. The judgement latencies were recorded as the dependent variable. In the second experiment 60 subjects from among the postgraduate and Ph.D students were taken. There were 20 subjects in each of the three conditions, viz., analog, mixed and discrete. In the analog condition the items were in the form of pairs of different colour circles with their names written on the top. The task of the subject was to indicate as quickly as possible whether the names of colour circles were written in the same hue or in a different one. In the discrete condition the items were in the form of pairs of colour names written in their original or in a different hue. In the mixed condition, one member of the pair was of analog and the other member was of discrete nature. Within every condition the items varied at three levels of symbolic distance—high, medium and low. In this experiment also judgement latencies of the subjects were recorded in all conditions. In the third experiment, 40 subjects from among postgraduate and Ph.D students were taken. They were categorized as low and high imagery ability subjects on the basis of the Minnesota Paper Form Board Test. They were presented two conditions—analog and discrete. Thus, except the mixed condition, which was not taken in the third experiment, the material was the same in this experiment as it was in the second one.

The findings of the study were: 1. There was no difference between judgement latencies for picture and word conditions. 2. The judgement latencies were faster under greater symbolic distance conditions than under smaller symbolic distance conditions. 3. There was no significant difference in the judgement latencies for picture and word presentation conditions. 4. The mean judgement latencies among analog, mixed and discrete presentation forms did not differ significantly. 5. The mean judgement latencies between high versus low symbolic distance and medium versus low symbolic distance were not significantly different. 6. There was no significant difference in the mean judgement latencies under high and medium symbolic distance conditions. 7. The mean judgement latencies were significantly faster for high imagery, the low verbal and the high verbal subjects. 8. There existed significant differences in analog versus discrete conditions. Mean judgement latencies under the discrete condition were faster than under the analog condition. 9. There was no difference in mean judgement latencies for high and low verbal ability. 10. The findings were consistent with orthogonality hypothesis of dual coding theory of Paivio, because (a) superiority of discrete (or verbal) over analog (or non-verbal) presentation form supported the ideas that colour information might be more easily accessible to verbal cues; (b) the superiority of high imagery ability on all other kinds of subjects in judgement latencies implicated the non-verbal mechanisms in the processing of memory information concerning object colour.

*522. ZAHIR, SAIDA, *Study of Relationship Between Perceived Maternal Behaviour and Personality as well as Scholastic Achievement of Adolescents*, Ph.D. Edu., Luc. U., 1988

The investigation was designed to study the relationship between perceived maternal behaviour and personality as well as scholastic achievement of adolescents.

The sample for the study consisted of 624 adolescents randomly selected from government approved higher secondary schools in Lucknow. The data regarding students' perception of maternal behaviour were collected with the help of the Indian Adaptation of Schulderman and Schulderman's Children's Report of Paternal Behaviour Inventory by Saxena and Saxena. Bernreuter's Personality Inventory was used for the assessment of personality of the students. Kapur, Singh, Jalota and Pandey's Socio-Economic Status Scale was used for the assessment of the socio-economic status of the students. The Progressive Matrices Test was administered for the assessment of intellectual level of the students and data regarding the scholastic achievement of the students were collected from the college concerned.

The main findings of the study were: 1. Maternal acceptance helped in the development of dominance, self-confidence and tendency of extraversion. 2. Neuroticism was developed by the mother's detachment. 3. Child-centredness made adolescents more sociable and introvert. 4. Enforcement did not develop independence. 5. Maternal acceptance promoted scholastic achievement. 6. The mother's negative attitude towards the child had an adverse effect on the child's academic performance.

*523. ZAIDI, REHANA, *Effect of Parental Deprivation and Some Socio-Psychological Factors on the Scholastic Achievement of Primary School Children*, D.Phil. Edu., All. U., 1986

The specific aims of the study were (i) to find out the differences among three groups of children, viz., maternally deprived, paternally deprived and non-parentally deprived on the achievement and socio-psychological factors, namely, SES, personality traits and self-concept, (ii) to find out the relationship between the dependent variables of achievement and independent variables of socio-psychological factors, and (iii) to find out whether SES, self-concept and measured personality factors made a significant contribution to prediction of achievement.

The sample comprised 300 boys of class V in which 200 boys were parentally deprived and 100 were non-parentally deprived. The sample was drawn from the Hindi medium primary schools of Allahabad city. The tools used were Raven's Coloured Progressive Matrices, the Socio-economic Scale Questionnaire-Urban by S.D. Kapoor *et al.* (1879), Cattell's CPO adopted in Hindi by S.D. Kapoor and Sharadamba Rao, and the Indian adaptation of Pier's Harris Children Self-Concept Scale by S.P. Ahluwalia. Apart from these, four achievement tests, each in mathematics, science, language and social studies constructed by the researcher were used.

The findings of the study were: 1. A significant difference was found between the achievement of parentally deprived and non-parentally deprived students. 2. Parentally deprived children (both maternally deprived and paternally deprived) were found to be underachievers while the non-parentally deprived were found to be average in achievement. 3. Language achievement of maternally desprived children was poorer than that of paternally deprived children. 4. Both the deprived groups (paternally deprived and maternally deprived) had low or negative self-concept while the non-parentally deprived had average self-concept. 5. Both parentally deprived groups were emotionally less stable as compared to the non-parentally deprived group. 6. SES and self-concept were found to be significantly and positively related with all the three groups. Maternally and paternally deprived children differed significantly on some of the personality traits. The former children were more affected by feelings. They were excitable, obedient and tender-minded while paternally deprived children were more phlegmatic, dominant, expedient and forthright. 7. Language achievement of the maternally deprived group could be predicted on the basis of personality trait 'affected by feelings *vs.* emotional stability', while in the paternally deprived group, it could be predicted on the basis of dullness. 8. The most powerful predictors of aggregate achievement in both the deprived groups were self-concept and SES.

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