Chapter II
Review of Related Literature
CHAPTER-II

REVIEW OF RELATED LITERATURE

The review of related studies in any field forms the foundation upon which all future work will be built. Review of the related studies implies locating, reading and evaluating reports of causal observation and opinions which are related to the individual’s planned research projects. It gives the scholar an understanding of the previous work that has to be done. It also helps in delimiting the research problems and defining it in a better way. Every researcher has to go through and present a review of the literature related with his/her research problem. This literature includes a vast array of things, these and Dissertation, Journals and Magazines, Reviews and Abstracts, Books and Newspapers, Reports and Original documents in print or on some other media like microfilms, video cassettes, computer discs & floppies, movies, filmstrips and internet. Hence the meaning of literature as applied here are quite comprehensive.

Survey of related literature helps us to show whether or not evidence already available solves the problems adequately without further investigation and thus it saves duplication. For the formulation of the hypotheses in any research, it is imperative to discuss the review of literature pertaining to the theory and empirical findings related to the problem. It contributes to the general scholarship of investigators, valuable in formulating the problem and may also suggest the appropriate method of research. Review of related literature also enhances the ability of the individual to make his own contribution towards increasing the previous stock of knowledge either by adding something altogether new or developing the old one with new perspective with its objectives before starting his investigation. A thorough survey is done so as to explore the area for further work that could be meaningfully useful. Taking into consideration the relevance of related literature, the investigator has presented some significant trends related to present investigation.

2.1: STUDIES RELATED WITH COGNITIVE SKILLS

- **Kennedy (1990)** studied enhancing problem solving and cognitive skills through microcomputers. The study compared the teaching of these skills using the microcomputer with a traditional method. The sample consisted of
Review of Related Literature

39 elementary students who participated in a 12 weeks program on thinking skills. The experimental and control groups were pre-tested and post-tested on the test of cognitive skills, the test non verbal intelligence and The California Achievement Tests. Findings indicated significant differences in reading and math achievement of second, third, forth and fifth grade mildly handicapped students after problem solving intervention techniques were taught by a traditional method and by the microcomputer. No significant differences were found in language achievement, vocabulary achievement and problem solving and cognitive skills after problem solving intervention techniques.

- **Jeong (1991)** took over a study on enduring effects of education on cognitive skills, prestige of occupation and affective behaviors of self-concept and locus of control. This study resulted that the long-term enduring effect of education on occupational achievement was substantial. In addition, education increased cognitive skills. However, with a longer-term perspective including a prior measure of aptitude, the effect was much less than those reported in previous studies. As for as affective behaviors of self-concept and locus of control were concerned, the enduring effects of education were nearly non-existent.

- **Studer (1992)** investigated the role of parental resources; maternal work patterns and the type of quality of child care arrangements of accounting for variation in preschoolers’ cognitive abilities. After holding parental resources and maternal work patterns constant, family home care was found to be related to more favorable cognitive outcomes while in home care was associated with less favorable cognitive outcomes as compared to center care. Of the parental resources and patterns of maternal work examined. Present and past family income and 1 to 39 hours of maternal work (as compared to no work or 40 to 60 hours/week) were positively associated with preschoolers’ language skills, above and beyond the other variables in the modal. Continuity of type of care since the age of two was also associated with more favorable cognitive outcomes for all but those in center care. As compared to continuous center care, continuous family home care was associated with higher cognitive skills and recent, non-continuous experience of in home care was associated with lower cognitive skills. Minority status was negatively associative with cognitive skills and no interaction was found between type of care and race.
• **Elmore (1993)** studied the effect of content organization and problem-oriented strategies in the improvement of cognitive skills. The research study involved 51 graduate students in education at the University of Minnesota. The students were randomly assigned to one of the four treatment conditions:
1) Contextual Module Analysis design with content-dependent simulations.
2) Contextual Module Analysis design with content-independent simulation.
3) Taxonomic analysis design with content-dependent simulation.
4) Taxonomic analysis design with content-independent simulation.
The results of the study showed no significant differences in performance between the four treatments. There were large differences in scores on the final simulation, but a high variance, probably due to differences in computer skills, limited the significance of these differences.

• **Campos (1994)** conducted two studies to investigate the interaction of motor and cognitive skills and how they influence children's soccer skill acquisition. Study-1 was designed to investigate the effects of age and skill level on knowledge and decision-making components of soccer in a controlled environment. Subjects at two age levels (8-10 and 12-14) and two levels of soccer skill (skilled and unskilled) were analyzed, and it was found that younger skilled children can perform similar to older skilled children, if they were freely equated on the amount of soccer skill. Since, younger and older unskilled soccer players were also equated on motor skill level across age, they presented similar performance on knowledge and decision-making component. In study-2, skilled and unskilled subjects in the 8 to 10 year old group were analyzed on their ability to execute skills and make decisions during the game. The results indicated that the well-volley and soccer-dribble skills presented the most significant relationships knowledge components were only moderate related to motor skill execution and decision making during game play.

• **Robinson (1995)** undertook a study on implementation of the cognitive model of offender rehabilitation and delinquency prevention. The purpose of this study was to determine the effects of the cognitive skills training on post...
release outcomes of juvenile offenders, i.e., recidivism rates following release from the facility. Results of the study indicated that there was no significant difference in total recidivism between the control group who did not receive the curriculum and the treatment group who received the curriculum. The non-significant differences in recidivism between the two groups could be attributed to the weak potency of the experimental manipulation.

- **Meibers (1996)** investigated the long-term effects of a transition program on the cognitive achievement and academic self-concept of elementary students. The results of the study indicated that there were no statistically significant differences between the transition and promoted students regarding cognitive ability. Likewise, there was no statistically significant difference between the transition group and promoted group regarding the number of days absent from school, general academic self-concept, academic self-concept in reading and math, teachers’ perception of them in the area of maturity and perceptions towards retention. Significant differences were found in reading and mathematics cognitive skills between the transition and promoted students. The transition students, although equal in ability and recipients of an additional year of schooling, achieved significantly lower scores in reading and math skills than the promoted students at the end of the fourth grade. Additionally, the data indicated significant differences in favor of the promoted students regarding the teacher’s perceptions in learner self-concept, attention to work reading and math performance compared to the transition students.

- **Mcgiverin (1997)** compared the test of cognitive skills and the Wechsler Intelligence Scale for children-revised for students with learning disabilities. Subjects were 118 elementary and middle school students enrolled in learning disability services in a midwestern country system. The results suggested that the subjects with weaknesses in reading skills obtained significantly lower CSIs than subjects with average reading skills. The FSIQs of these two groups were not significantly different. Moreover, subjects with weaknesses in attention/concentration skills obtained significantly lower CSIs than subjects with average attention/concentration skills. However, as measured by the
WISC-R, verbal comprehension factor, the cognitive abilities of these two groups were not significantly different.

- **Wang (1998)** studied child social competence: relations with parents social cognitive skills, parent advice – giving and child social cognitive skills. 105 fifth graders (44 girls and 58 boys) and their parents participation in the study and the main findings were: (i) parent desires for their child’s social goal and strategy endorsements were strongly and consistently related to their child’s own social cognitive endorsements, as well as to child social outcomes (ii) Parent advise giving related more strongly to parent perceptions of child social cognitive skills, less so with parent desires for child social cognitive endorsements. (iii) Parent advice giving skills did not relate strongly with either child social cognitive skills or child social outcomes.

- **Noble (1998)**, in a study observational learning: Is a picture really worth a thousand words? (Motor skills, cognitive skills, Arm sequencing task), compared the effects of visual demonstration and verbal description on the performance of the motor and cognitive components of an arm sequencing task. Subjects (N=64) were randomly assigned to receive visual demonstrations or verbal descriptions of the task. Comparing the results of the motor task to the picture test indicated that visual demonstration enhanced the self-efficacy and performance of both task components, but verbal description was most effective for the picture test. Comparison of the results of the motor task to the word test indicated that the verbal group performing the word test during all phases of testing clearly out performed the visual demonstration groups. Performing the motor task was best after receiving a visual demonstration.

- **Lori (1999)** examined the effectiveness of the Taba Teaching Modal on the growth of the higher-level cognitive skills of Bahraini academically gifted students. The SEA test, a test of higher level cognitive skills, developed by Callahan (1981), was used to measure the participants, higher cognitive skills before and after the implementation of the recommended Teaching Modal, four questioning strategies in enrichment classes. The participants were 51 academically gifted students enrolled in grades 7,8,9 and 10 in three government schools in Bahraini. Five different teachers taught these students.
The teaching tool placed in the period between the beginnings of November 1997 to the end of May 1998. The T-test showed significant differences between the participants’ mean on the pretest and posttest. When breaking the total number of participants into small groups according to their teachers’ levels of Teaching modal implementation, grade level and different classroom teachers, the Kruskal-Wallis and Mann-Whitney tests showed differences between the 7th and 10th grade groups and 9th and 10th grade groups of teacher Hana and teacher Mona, the groups of teacher Adel and teacher Mona and the groups of teacher Mona and teacher Nadia.

- **Sahoo (2000)** conducted a study of cognitive and social skills in relation to parental involvement and school intervention at primary level. The sample of students was comprised of 241 primary school children of grades I, II and III, ranging from 5 to 6; 6 to 7 and 7 to 8 year of age groups respectively and their parents. The conclusions were: (i) Mother and father’s qualification were not associated with cognitive skills of children. (ii) Economic status of family was found to be associated with cognitive skills of children. (iii) Grade-I children belonging to high and low parent involvement groups, scored equal on cognitive skills in English. (iv) Grade-II means score of children with low parental involvement surpassed the mean score of children with higher parental involvement. (v) Grade-III children belonging to highly involved parents scored higher on cognitive skills in English compared to children of low involved parents.

- **Canobi (2001)** studied Individual differences in Children’s Addition and Subtraction Knowledge. Relations among patterns of conceptual and procedural knowledge and grade were examined in 90 six- to eight-year-olds in order to explore addition and subtraction development. Examining children’s responses to pairs of problems reflecting various part–whole relations assessed conceptual knowledge. Children solved related problems as part of a Problem-solving Task, judged, and explained part–whole relations in a Judgment Task. Children also solved a random set of addition and subtraction problems. Distinct profiles of problem solving were derived from an analysis of children’s speed, accuracy and self-reported problem-solving procedures on unrelated problems. Problem-solving profiles were associated
with individual differences in part–whole knowledge and grade level but grade and part–whole knowledge was not related. Findings suggested that identifying profiles of procedural and conceptual knowledge was important for understanding children’s mathematical development.

- **Assel and Landry (2002)** studied Precursors to Mathematical Skills: Examining the roles of Visual-Spatial Skills, Executive Processes and Parenting Factors. This study examined, via structural equation modeling, whether children's visual-spatial and executive process skills across 3 to 6 years of age were cognitive precursors to 8-year-old mathematical competence. The extent to which mothers directed their children's behavior at age 2 was examined in the model for its importance as an environmental influence. Full-term (n = 90) and preterm children (n = 160) were seen at 2, 3, 4, 6, and 8 years of age with their mothers to measure children's cognitive and math abilities and observe mothers’ directive interactive style. Hypotheses concerning the negative effects of maternal directive ness at age 2, acting as a direct environmental influence on visual-spatial and executive-processing skills and an indirect influence on later math abilities, were supported. In addition, visual-spatial and executive-processing skills were found to have their own specific effects on math abilities. Visual-spatial skills were found to provide an important early foundation for both executives processing, and later, math abilities. Results were discussed in terms of the importance of the parenting environment and interrelations among a core group of basic skills necessary for understanding children's later math competence.

- **Hultton (2003)** conducted a study of short-term memory and working memory as indices of children’s cognitive skills. In this literature empirical and conceptual distinctions have been drawn between a more or less passive short-term memory (STM) system and a more dynamic working memory (WM) system. Distinct tasks have been developed to measure their capability and research has generally shown that for adults, WM and STM, is a reliable prediclator of general cognitive ability. The research was done regarding reasoning ability, reading and numerical skill along with forward and backward order serial recall of WM and STM with articulator suppression tasks. The results was children’s cognitive skills, STM and WM were rather
similar in term of memory. Neither the opportunity for rehearsal nor task complexity provides satisfactory explanations for differences between memory tests.

- **Elliot (2004)** studied brain regions where nicotine affects attention and other cognitive skills. The investigator used functional magnetic resonance imaging (MRI) to visualize nicotine’s effect on the brain during a rapid visual information-processing (RVIP) task—a task that requires sustained attention and working memory. Fifteen smokers with and without a 21-mg transdermal nicotine patch performed the RVIP task while undergoing MRI screening. The subjects performed the RVIP task twice—once with a placebo patch and once with nicotine patch—and were scanned during each session. They smoked their last cigarette 15 minutes before performing the RVIP task. When smokers were given a placebo patch for the first scan and a nicotine patch for the second scan, there was improvement in task performance between the two scans. When smokers were given a nicotine patch for the first scan and a placebo patch for second scan, there was no difference in their performance, suggested that nicotine and practice interact. Study findings also suggested that nicotine helped focus attention on task demands by shifting cognitive resources from less “used” parts of the brain to regions required for task performance.

- **Tuminaro (2005)** studied a Cognitive Framework for analyzing and describing introductory students’ use and understanding of Mathematics in Physics. Many introductory, algebra-based physics students perform poorly on mathematical problem solving tasks in physics. There were at least two possible, distinct reasons for this poor performance: (1) students simply lacked the mathematical skills needed to solve problems in physics, or (2) students did not know how to apply the mathematical skills they had to particular problem situations in physics. While many students did lack the requisite mathematical skills, a major finding from this work was that the majorities of students possessed the requisite mathematical skills, yet failed to use or interpret them in the context of physics. In this study, a theoretical framework to analyze and describe students’ mathematical thinking in physics was proposed. In particular, it was attempted to answer two questions. What are
the cognitive tools involved in formal mathematical thinking in physics? And, why do students make the kinds of mistakes they do when using mathematics in physics? According to the proposed theoretical framework there were three major theoretical constructs: mathematical resources, which were the knowledge elements that were activated in mathematical thinking and problem solving; epistemic games, which were patterns of activities that used particular kinds of knowledge to create new knowledge or solve a problem; and frames, which were structures of expectations that determine how individuals interpreted situations or events. The empirical basis for this study came from videotaped sessions of college students solving homework problems. The students were enrolled in an algebra-based introductory physics course. The videotapes were transcribed and analyzed using the aforementioned theoretical framework. Two important results from this work were: (1) the construction of a theoretical framework that offered researchers a vocabulary (ontological classification of cognitive structures) and grammar (relationship between the cognitive structures) for understanding the nature and origin of mathematical use in the context physics, and (2) a detailed understanding, in terms of the proposed theoretical framework, of the errors that students make when using mathematics in the context of physics.

- Desoete and Roeyers (2006) studied cognitive skills in mathematical problem solving in grade 3. The participants were 376 third graders and 107 second graders. The internal structure of the data was analyzed with a principal components analysis. In addition, two MANOVA were conducted to compare children with learning disabilities or problems with age-matched and performance matched subjects. Two components, a semantic and non-semantic one, were needed to account for an adequate fit of the dataset. In addition, children with mathematical learning disabilities had less-developed cognitive skills compared with peers without learning disabilities, but they did not differ from younger children on seven of the nine cognitive skills. This study highlighted that children’s mathematical problem solving was not determined by one general component. The picture was more complex, since two mathematics components were found. In addition, although the findings point in the direction of the maturational lag hypothesis it may be important to
assess the different cognitive skills and especially assess the number system knowledge, since it seemed below average in children with mathematical learning disabilities, compared with the knowledge of younger children with comparable skills in mathematics. Walk at a safer pace. It was a cross-sectional study of 186 cognitively.

- **Holtzer (2007)** studied older people with stronger cognitive skills normal, community-dwelling adults aged 70 and older at New York City’s Albert Einstein Collage of Medicine. Gait speed was tested with and without interference. In the interference conditions, participants had to walk while reciting alternative letters to the alphabet. Performance on cognitive tests of executive control and memory, and to a lesser extent of verbal ability, predicted “gait velocity” (walking speed) testes without interference. For gait velocity tested with interference, only executive control and memory were predictive. Adding interference to the tests of gait allowed the researchers to better simulate the real world, in which walkers continually deal with distractions. The author concluded that executive control and memory function are important when the individual has to walk in a busy environment. The findings suggested that in old age, waking involved higher-order executive-control processes. That was, the intersecting cognitive and motor processes involved in walking may both rely on a common brain substrate, or set of structures. As a result, changes in that substrate would affect both cognition and gait.

- **Burks & Carpenter (2008)** studied Cognitive Skills explain economic preferences, strategic behavior and job attachment. Using a sample of 1,000 trainee truckers’ three findings was reported. First, it was showed a strong and significant relationship between an individual’s cognitive skills and preferences, and between the preferences in different choice domains. A second finding was that measures of cognitive skill predict social awareness and choices in a sequential Prisoner’s Dilemma game. A third finding concerned on the job choices. These results suggested that cognitive skills affect the economic lives of individuals, by systematically changing preferences and choices in a way that favors the economic success of individuals with higher cognitive skills.
Koelsch et al. (2009) studied Functional architecture of verbal and tonal working memory: An FMRI study. This study investigates the functional architecture of working memory (WM) for verbal and tonal information during rehearsal and articulatory suppression. Participants were presented with strings of four sung syllables with the task to remember either the pitches (tonal information) or the syllables (verbal information). Rehearsal of verbal, as well as of tonal information activated a network comprising ventrolateral premotor cortex (encroaching Broca's area), dorsal premotor cortex, the planum temporale, inferior parietal lobe, the anterior insula, subcortical structures (basal ganglia and thalamus), as well as the cerebellum. The topography of activations was virtually identical for the rehearsal of syllables and pitches, showing a remarkable overlap of the WM components for the rehearsal of verbal and tonal information. When the WM task was performed under articulatory suppression, activations in those areas decreased, while additional activations arose in anterior prefrontal areas. These prefrontal areas might contain additional storage components of verbal and tonal WM that are activated when auditory information cannot be rehearsed. As in the rehearsal conditions, the topography of activations under articulatory suppression was nearly identical for the verbal as compared to the tonal task. Results indicate that both the rehearsal of verbal and tonal information, as well as storage of verbal and tonal information relies on strongly overlapping neuronal networks. These networks appear to partly consist of sensorimotor-related circuits which provide resources for the representation and maintenance of information, and which are remarkably similar for the production of speech and song.

Pallesen et al. (2010) studied Cognitive control in auditory working memory is enhanced in musicians. Musical competence may confer cognitive advantages that extend beyond processing of familiar musical sounds. Behavioral evidence indicates a general enhancement of both working memory and attention in musicians. It is possible that training, are better able to maintain focus on task-re which is crucial to working memory. They measured tl level dependent (BOLD) activation signal in musician during working memory of musical sounds to determin
Review of Related Literature

performance, musical competence and generally enhanced cognition. All participants easily distinguished the stimuli. They tested the hypothesis that musicians nonetheless would perform better, and that differential brain activity would mainly be present in cortical areas involved in cognitive control such as the lateral prefrontal cortex. The musicians performed better as reflected in reaction times and error rates. Musicians also had larger BOLD responses than non-musicians in neuronal networks that sustain attention and cognitive control, including regions of the lateral prefrontal cortex, lateral parietal cortex, insula, and putamen in the right hemisphere, and bilaterally in the posterior dorsal prefrontal cortex and anterior cingulate gyrus. The relationship between the task performance and the magnitude of the BOLD response was more positive in musicians than in non-musicians, particularly during the most difficult working memory task. The results confirm previous findings that neural activity increases during enhanced working memory performance. The results also suggest that superior working memory task performance in musicians rely on an enhanced ability to exert sustained cognitive control. This cognitive benefit in musicians may be a consequence of focused musical training.

- Long; Gurka and Blackman (2011) compared the cognitive skills of young children diagnosed with autism spectrum disorder (ASD) to same-aged peers referred for possible developmental delays or behavioral concerns using the Bayley Scales of Infant Development-Third Edition. A retrospective chart review was conducted of 147 children ages 16 to 38 months who were referred to a diagnostic clinic for developmental evaluation. Children with ASD were compared to those without ASD with respect to cognition and language outcomes, both overall and by age. While language skills in children with ASD were more significantly delayed than language skills in children without ASD, there was less discrepancy in the cognitive skills of children with and without ASD. Formal cognitive assessment of children with ASD can provide guidance for developmental expectations and educational programming. Cognitive skills of children with ASD may be underappreciated.
• **Buchner et al. (2012)** studied education, cognitive skills and earnings of males and females. This paper analyzes the relationship between cognitive skills, measured at age 12, and earnings of males and females at the age of 35, conditional on their attained educational level. Employing a large data set that combines a longitudinal school cohort survey with income data from Dutch national tax files, findings show that cognitive skills and specifically math skills are rewarded on the labor market, but more for females than for males. The main factor driving this result is that cognitive skills appear to be better predictors of schooling outcomes for males than for females. Once males have achieved the higher levels of education, they more often choose programs with high earning perspectives like economics and engineering, even if their level of math skill is relatively low.

2.2: STUDIES RELATED WITH STRESS

• **Manning (1990)** made an attempt to evaluate the relationship of stress to burnout and to determine what factors were related to or contributed to stress and burnout in the professorate. The Spielberger State-Anxiety Inventory, Masiach’s Burnout Inventory and a Faculty Questionnaire that assessed age, gender, status, workload and personal and professional activities were administered. Two of the three subscale of Masiach’s Burnout Inventory (emotional exhaustion and personal accomplishment) found to be significantly related to stress (as measured by state-anxiety). Professors who published three or more articles per year and contributed 20% or more of their time to research were significantly more burned out than those who devoted less of their time to research. However, no other significant differences existed. Burnout at Oklahoma State University was so high among faculty that it appeared to supercede all factors other than research load. Stress and burnout did not found to be related to gender, age, and marital status, the presence of children in home, faculty rank or teaching load.

• **Hedstrom (1991)** studied academic stress and marital adjustment in a graduate psychology program. In an attempt to determine whether studying psychology and marriage counseling would ameliorate the stressful effect of graduate study on spouses, 72 psychology graduate students who were...
specializing in marriage, Family, and child counseling completed the Dynamic Adjustment Scale (DAS) and answered questions soliciting demographic information and information on the stressful aspects of graduate level study on personal relationship. The result indicated that the more units of study completed in the program, the lower the dynamic adjustment score. Despite this negative correlation, 72% of the students indicated that psychology courses they had taken had a positive impact on their dyadic relationship. Most subjects (68%) considered time constraints and pressures to be the most stressful aspects of graduate studies. These findings suggested that graduate programs had a moderately adverse effect on dyadic personal relationships.

- Zeidner (1992) examined socio cultural and gender group differences in perceptions of major sources of academic stress in first year Jewish and Arab collage students, in addition to the relationship between reported academic stress and collage achievement. Data were collected via a self-administered student stress inventory given to a sample of 184 Jewish and 209 Arab collage undergraduate studying in major Israel University. They evaluated the personal stressfulness of each of 53 potential sources of academic stress along a 6-point Likert-type scale covering a wide range of potential academic stressors. Arab, lower-status and female students were hypothesized and found to be more stressed then their respective Jewish, upper class and male counterparts respectively. Cultural group background was found to be most silent background predictor of student stress, followed by social class and gender, with each exerting independent (non-interactive) effects. Although group differences were observed in mean rating, there proved to be a strong correspondence in the hierarchy have perceived stressors across socio-cultural and gender subgroups. As a whole, students appeared to be most stressed by pressures originating form course overload and academic evaluation procedure and least stressed by a variety of personal and social factors.

- Ryan (1993) studied the relationship among stress of living situation, health and academic performance. The hypothesis was that, for collage students, stress of living situations and health would be interrelated was tested. To test this hypothesis, 120 undergraduate Loyola University students, both males (28) and females (92), filled out three-part surveys measuring living situation
stress, lifestyle health and academic performance respectively. Stress of living situation was found to be weakly negatively related to GPA ($r = -0.164$, $p=.74$), nutrition was found to be positively related to GPA ($r = 0.192$, $p<.50$), drug and alcohol use was found to be negatively related to GPA ($r = -0.258$, $p<.01$), stress and health were found to be interrelated and housing type was found to be related to GPA and drug and alcohol use. This study expanded the understanding of the factors relating to academic performance, provided insight into college lifestyle and experiences and provided data that could be used by students, parents and college administrators and faculty in order to improve college academic performance.

- **Akgun and Ciarrochi (1994)** studied learned resourcefulness moderates the relationship between academic stress and academic performance. It was hypothesized that highly resourceful students would be more effective than others at protecting themselves from the adverse effect of academic stress and not allowing that stress to impact their grades. A sample of 141 first year undergraduate students completed measures of academic stress and learned resourcefulness. Their first-year grade points averages were obtained from university records. Analyses revealed that academic stress was negatively associated with academic performance. As expected, this negative association was moderated by learned resourcefulness. High academic stress adversely impacted the grades of low resourceful students but had no effect on high resourceful students.

- **McKean (1995)** investigated the interrelationship among academic stress, anxiety, time management and leisure satisfaction among 249 university undergraduates by age and gender. Time management behaviors had a greater buffering effect on academic stress than leisure satisfaction activities. Significant gender differences existed among all the measures. Females had more effective time management behaviors than males, but also experienced higher academic stress and anxiety. Males benefited more than females from leisure activities. Freshmen and sophomore students had higher reactions to stress than juniors. Anxiety, time management, and leisure satisfaction were all predictors of academic stress in the multivariate analysis. Anxiety
reduction and time management in conjunction with leisure activities may be an effective strategy for reducing academic stress in college students.

- **Silva (1996)** undertook a study to identify and examine the relationship of stress and social support to adult students’ academic achievement. The entire population of new students from Basic reading to grade IV, enrolled at a private catholic school with a formal adult education program in the city of Rio-de-Janeiro, Brazil, was selected for participation in the study. It was hypothesized that the academic achievements of adult students is negatively associated with stress and positively associated with social support, which was not supported by the present investigation. However, the bi-vitiate analysis between the independent variable and the dependent variable identified a positive and statistically significant achievement.

- **Kouzma (1997)** studied the main sources of stress reported by 423 Australian final year high school students using the academic stress questionnaire. As expected, the highest sources of stress were school related, viz., examinations and outcomes, too much to do, worry over future, making choices about career, studying for examinations, amount to learn, need to do well imposed by others and self-imposed need to do well.

- **Supe (1998)** determined incidence of stress and factors controlling stress in medical students at various stages of MBBS course at Seth G S Medical college, 238 students (First year 98, Second 76, Third 64) were asked to complete a questionnaire on personal data (gender, stay at hostel, mode of travel, time spent in travel every day, medium of study in school, place of school education.), Stress inducing factors, Zung's depression scale, ways of coping, stress relievers, perceived social support and personality type. Statistical tests used were ANOVA, critical ratio and Student’s ‘t’ test. Majority of medical students (175/238--73%) perceived stress. Stress was found to be significantly more in Second and Third MBBS students rather than First MBBS levels (p < 0.05). Stress was not found to differ significantly on the basis of sex, stay at hostel, model of travel, time spent in travel every day, medium of study in school, place of school education. Stress was found to be significantly more in students having more than 95% of marks at 12th Standard as compared to others. Academic factors were greater perceived
cause of stress in medical students. There was no significant difference in the students at different levels of MBBS regarding academic factors and social factors as a stress inducing factors. Physical factors were found to be significantly more in Second and Third MBBS students as compared to First MBBS students. Emotional factors were found to be significantly more in First MBBS students as compared to Second & Third MBBS students. Stress was more common in medical students who have dominant strategy of coping as positive reappraisal, accepting responsibility and planful problem solving. Stress was less common in medical students at Seth G S Medical College who have dominant strategy of coping as escaping and distancing from difficult situation. Family and Friend as perceived social supports were more in Second MBBS than First MBBS medical students. Stress was not found to be significantly more in students having their personality factor contributing to stress (Type A--52/67) as compared to others (Type B--123/171). This indicates that the stress was not trait oriented but was process oriented (p = NS). Stress in medical students is common and is process oriented. It is more in second and third year. Academic factors are greater perceived cause of stress in medical students at Seth G S medical college. Emotional factors are found to be significantly more in First MBBS. It is dependent on person's ways of coping and social support.

- Benson (1999) compared the academic stress levels of 450 college and university students. ANOVA and T-test were used to analyze the data that was obtained from subjects on academic stress scale. There were 225 subjects each in community college group. University group had a statistically significant higher mean stress score than community college group.

- Qureshi (2000) studied effect of examination stress on blood cell parameter of students in a Pakistani Medical Collage. Physiological studies showed that stress could alter the blood cells parameters in healthy individuals. It was tried to determine whether exams in medical schools were stressful enough to produce such changes. A randomized selection of female students from women Medical Collage, Abbottbad, Pakistan, was carried out. After preliminary medical checkup, blood samples were taken before and during exams. Students having temperature or high blood pressure at the start of
study were excluded. Finally, 37 students were included. Estimations of red blood cells, neutrophils, lymphocytes, eosinophils, monocytes, basophils and platelets were carried out. Compared with pre-examination results, the blood samples taken during exams showed a significant decrease in eosinophils, basophil, lymphocyte and monocyte count. An increase in platelet and neutrophil count was also observed. No significant changes were observed in red blood cells and hematocrit readings. It was concluded that examinations in medical schools were stressful enough to produce changes in blood cells parameters which included increase in neutrophils and platelets, while eosinophils, monocytes basophils and lymphocytes decreased in number.

- **Torsheim and Wold (2001)** studied School-related stress, support and subjective health complaints among early adolescents: A Multilevel Approach. A representative sample of 1585 Norwegian grade 8 students (mean age 13.5 years) from 82 school classes completed scales on health complaints, academic stress, the teacher and classmate support scale, decision control, and noise and disturbance in class. Multilevel analysis (MlwiN) revealed that level of health complaints varied across school classes (ICC=5.6%). School class differences in psychosocial environment accounted for 40% of the between-school class variance in health complaints. Tests of cross-level interaction showed a statistically significant interaction between mean school class-level of classmate support and individual level of academic stress. Findings suggested that shared school class contextual factors might have main and stress-moderating effects on adolescent health complaints.

- **Stroud, Salovey and Epel (2002)** studied Sex differences in Stress responses: Social rejection versus achievement Stress. Sex differences in stress responses may be one mechanism underlying gender differences in depression. It was hypothesized that men and women would show different adrenocortical responses to different stressors. In particular, it was predicted that women would show greater responses to social rejection stressors, whereas men would demonstrate greater responses to achievement stressors. Following a rest session in which they habituated to the laboratory, 50 healthy volunteers (24 men and 26 women, mean age 19.1, SD = 1.13) were randomly assigned to achievement or rejection stress conditions. There were no sex differences in
mood ratings following the stressors; however, cortisol responses showed the predicted gender by condition by time interaction. Men showed significantly greater cortisol responses to the achievement challenges, but women showed greater cortisol responses to the social rejection challenges. The main conclusions were that women appeared more physiologically reactive to social rejection challenges, but men reacted more to achievement challenges. Women's greater reactivity to rejection stress may contribute to the increased rates of affective disorders in women.

- **Torsheim; Aaroe and Wold (2003)** studied School-related stress, social support, and distress: Prospective analysis of reciprocal and multilevel relationships. This three-wave prospective study investigated the reciprocal relationships among school-related stress, school-related social support, and distress in a cohort of 767 secondary school students (mean age 13.9 years). Stress, support, and distress were measured at three occasions with six-month lags between. Reciprocal relationships were analyzed with multivariate multilevel modeling (MLwiN). Each of the three factors at baseline predicted change in one or two of the other factors at subsequent measurements, indicating a complex pattern of reciprocal relationships among stress, support, and distress across time. A high level of distress at baseline predicted a lower level of support and a higher level of stress six months later. High levels of stress at baseline predicted a higher level of distress and a lower level of support 12 months later. The results are consistent with a transactional and dynamic model of stress, support, and distress, and indicate the need to view school-related stress, support, and distress as mutually dependent factors.

- **Gireesh (2004)** examined the association between student-life stress and health related quality of life among Doctor of Pharmacy (Pharm-D.) students. The relationship between student-life stress inventory and the physical component (PCS-12) HRQOL scores was not significant for males, females or any of the three years in Pharm.D. Curriculum respectively. Our result suggested a moderate, negative relationship between perceived student-life stress levels and the mental component of health related quality of life between Pharm-D. Students (HPQOL). Student life stress inventory scores
were significantly negatively correlated to mental component SF-12 HRQOL scores for the overall sample, gender and within each professional year.

- **Wilson (2005)** compared sources of stress in college student athletes and non-athletes. Participants (n = 362) in this study were female (n = 235) and male (n = 127) freshmen students at a private division-1 Mid Western University. The participants ranged in age from 17 to 34, with mean age of 18.45. The result was that athletes differed in variety of ways from their non-athletes counterparts. Students athletes reported more stress than did non-athletes in a wide variety of variable; specifically those that dealt with conflicts with a boy friend’s or girlfriend’s family; to having a lot of responsibilities, not getting enough time for sleep and having heavy demands from extracurricular activities. On the other hand, non-athletes reported more stress than their athletes’ counterparts in areas such as financial burdens, making important decisions about their education getting ripped off (e.g. paying too much for services), social conflicts over smoking with a roommate or friend, being ignored, social isolation and being dissatisfied with their physical appearance. The only academic related difference between athletes and non-athletes was that non-athletes reported more stress from making important decisions about their education.

- **Ang and Huan (2006)** examined relations among academic stress, depression, and suicidal ideation in 1,108 Asian adolescents 12–18 years old from a secondary school in Singapore. Using Baron and Kenny’s framework, this study tested the prediction that adolescent depression mediated the relationship between academic stress and suicidal ideation in a four-step process. The previously significant relationship between academic stress and suicidal ideation was significantly reduced in magnitude when depression was included in the model providing evidence in this sample that adolescent depression was a partial mediator. The applied and practical implications for intervention and prevention work in schools were discussed. The present investigation also served as a demonstration to illustrate how multiple regression analyses can be used as one possible method for testing mediation effects within child psychology and psychiatry.
• **Putwain (2007)** studied Academic Stress and Anxiety in students: Some methodological Considerations. Based on the author's experiences of designing an extensive research project, this article explored the conceptual and methodological difficulties encountered when designing and conducting research in this area. First, there was a lack of precision in terminology used. The terms ‘Stress’, ‘Anxiety’ and ‘Worry’ were used interchangeably in the literature as if they referred to the same phenomenon and the domains of ‘examination stress’ and ‘academic stress’ was not clearly defined. As a consequence, it was not clear exactly what phenomenon the literature was actually referring to. Second, it was not always clear in the literature what the term ‘stress’ was referring to. In some cases, it was being used to refer to the properties of a stimulus (e.g. an examination) and in other cases to the subjective experience of distress. Assuming a subjective experience of distress would necessarily follow from a particular stimulus was problematic as it failed to account for the interpretation of that stimulus to the student involved. The much-ignored construct of test anxiety may offer some advantages to the researcher by having a clearly defined domain and referent. Third, there was an overwhelming bias in the research towards quantification and ways of measuring stress and anxiety in students. The usefulness of this approach was considered along with the potential advantages of alternative approaches.

• **Brown (2008)** explored the incidence of stress in international students in relation to the requirements of an international master's programme. The data presented here were taken from a doctoral ethnographic study of the adaptation of international postgraduate students to life in the United Kingdom, involving individual interviews with 13 students during the academic year 2003-2004 as well as participant observation of the entire cohort of 150 masters students. It was suggested that stress related to the academic task is caused by academic cultural differences, particularly in regard to critical evaluation and participation in discussion in class, and by language ability. This study showed that stress was intense at the beginning of the academic programme and declined gradually as a function of a reduction in the academic workload rather than as a function of time.
Review of Related Literature

- **Murphy, Gray, Sterling, Reeves and DuCette (2009)** conducted a Comparative Study of Professional Student Stress. This study was conducted involving a group of 290 medical and dental students to directly compare perceived stress levels encountered during their education. A modified questionnaire based on Garbee et al.’s Dental Environmental Stress survey was provided to the students by either email or paper. The purpose of the investigation was to determine if the sources of stress reported by medical and dental students, both male and female, were due to common factors. A multivariate statistical analysis was also conducted to measure stress differences by year in school. Through factor analysis, the survey question responses were grouped into five causal categories: academic performance, faculty relations, patient and clinic responsibilities, personal life issues, and professional identity. The overall findings show that dental students had greater levels of stress than medical students in three of the five categories. The only category in which medical students demonstrated greater stress levels than dental students was in professional identity. Measures of comparative levels of stress between male and female students for either profession did not demonstrate any significant differences. Stress levels related to clinical work varied significantly between the type of professional student and his or her year in school.

- **Kauts and Sharma (2009)** assessed the effect of yoga on academic performance in relation to stress. The study started with 800 adolescent students; 159 high-stress students and 142 low-stress students were selected on the basis of scores obtained through Stress Battery. Experimental group and control group were given pre test in three subjects, i.e., Mathematics, Science, and Social Studies. A yoga module consisting of yoga asanas, pranayama, meditation, and a value orientation program was administered on experimental group for 7 weeks. The experimental and control groups were post-tested for their performance on the three subjects mentioned above. The results show that the students, who practiced yoga performed better in academics. The study further shows that low-stress students performed better than high-stress students, meaning thereby that stress affects the students’ performance.
• **Archibong; Bassey and Effiom (2010)** studied stress sources among university academic staff with regards to 4 occupation related areas—interpersonal relationships, research, teaching and career development, and determined if gender difference existed in stress level of academic in the study variables. The sample consisted of 279 (168 males and 111 females) academic staff. Questionnaire was used for data gathering. Findings revealed that students were the greatest source of stress to academic staff with respect to interpersonal relationships, with respect to research, sourcing funds for research was the highest source of stress. With regards to teaching, it was collation of results, while sourcing funds for career development was the highest with respect to career development. Overall result showed that career development was the greatest source of stress to academic staff. The results also indicated that male and female academic differed in perceived stress level in teaching. Recommendation made include making more funds available to academic staff for research and career development purposes.

• **Kauts and Saroj (2010)** conducted a study of Teacher Effectiveness and Occupational Stress in relation to Emotional Intelligence among teachers at Secondary Stage. The present study is based on the assumption that application of emotional intelligence can increase teacher effectiveness and reduce occupational stress among teachers at secondary school stage. Six hundred secondary school teachers were selected as a sample for the study. Emotional Intelligence Scale (EIS) by Anukool Hyde, Sanjyot Pether, Upinder Dhar was used to measure the emotional intelligence of teachers, Teacher Effectiveness Scale (TES) by Pramod Kumar and Dr. D.N. Mutha was used to measure the effectiveness among teachers and Occupational Stress Index (OSI) by A.K. Srivastava and Dr. A.P. Singh was used to measure the stress among teachers. After analysis it was found that teachers with high emotional intelligence were having less occupational stress and more teacher effectiveness, whereas, teachers with low emotional intelligence were having more occupational stress and less teacher effectiveness. Thus, emotional intelligence was found to be helpful in reducing occupational stress of teachers and enhancing their effectiveness in teaching.
Sharma; Wavare; Deshpande; Nigam and Chandorkar (2011) assessed stress and its effects on vital parameters during academic examination in final year medical students. The study was carried out at Sri Aurobindo Institute of Medical Science, Indore. The final MBBS students of academic year 2010-11 were selected for study. The height, weight, pulse rate and blood pressure were taken before and during examination. Zung’s scale was used for assessment of stress. Out of 71 students 68 participated in the study. There was highly significant difference in vital parameters [Pulse rate (t= 8.89, p< 0.001), Systolic Blood Pressure (t= 3.89, p< 0.001) and Diastolic Blood Pressure (t= 2.86, p< 0.006)] during examination. It was also observed that the stress level was high. SDS Index of stress was more in girls as compared to boys. No significant change was observed in weight. It was observed that academic examinations for medical students were stressful and produced changes in vital parameters which may affect their academic performance. Girls had more stress as compared to boys. The conclusion of the study is that academic and examinations are the most powerful stressors in medical students.

Pulido; Augusto & Lopez (2012) identified the main sources of stress for students of nursing and the evolution of the stressors when training in nursing competences. A systematic review of the scientific literature on stressors in nursing students was conducted. The search comprised all the articles published at the end of 2010. The most common sources of stress relate to academics (reviews, workload and problems associated with studying, among others). Other sources of stress include clinical sources (such as fear of unknown situations, mistakes with patients or handling of technical equipment). In general, no changes occur at the different years of the student's education.

2.3: STUDIES RELATED WITH ASPIRATIONS

Mc Cracken, Barcinas and Wimns (1991) studied aspirations of 12th grade students from rural communities in Ohio and Southwest Georgia. They concluded that rural schools had some definite advantages over urban schools including the support they receive from community, the degree of satisfaction
of the parents with the education of their children, and the establishment of a good environment in which to learn. They also find that rural youth often aspire to higher status jobs than those held by their parents.

- **Haas (1992)** conducted a study *What Can I Become: Educational Aspirations of Students in Rural America*. Research indicated that in comparison to urban youth, rural young people felt their parents were much more supportive of their taking full-time jobs, attending trade schools, or entering the military rather than attending college. These lower educational aspirations accompanied lower values for making a lot of money and higher values for simply making good incomes, having secure jobs, and maintaining friendships. The circumstances that contributed to lower educational aspirations among rural youth included: 1) the strong relationship between socio-economic status and educational outcomes; 2) a poverty rate that was higher in rural America than elsewhere; 3) the low educational level of rural parents which tended to influence the educational aspirations of their children; 4) the lack of managerial and technical jobs requiring college degrees since such jobs had shifted increasingly to urban areas. Rural students cited economic and personal reasons more frequently than their urban and suburban counterparts for dropping out of high school. This report offered recommendations for schools, communities, parents and policy makers for working together to raise the aspirations of rural youth.

- **Waugh (1993)** conducted a study *Student Job and Educational Aspirations*. This study reported on the preliminary analysis of a study of the job and educational aspirations of 1183 students from year 8 to year 11 in Perth, Western Australia. Four aspects: a realistic short term choice, a realistic long term choice, an idealistic short term choice, an idealistic long term choice were considered to be indicators of two underlying traits, level of educational aspirations and level of job aspirations. Students responded to questions on each of the four aspects in terms of a list of educational levels ranked by status, and separately, in terms of a list of jobs ranked by status. The results supported the view that the four aspects were indicators of the underlying trait, level of educational aspirations when the items were related to educational status levels. However, while the results also supported the view that the four
Review of Related Literature

aspects can also be the indicators of the underlying trait, level of job aspirations when the items were related to jobs ranked by status. The analysis showed that the items of this measure needed refinement, possibly by making the job descriptions more general. The educational choices of the students showed that most students wished to stay on, at least to year 12, and most wanted to go further to TAFE and university studies. The job choices showed that while most students were aiming for high status jobs, with many probably making unrealistic choices, the choice of the older students were more realistic than those of the younger students, while there were many similarities between the job choices of the males and females, there were still some strong differences.

- **Ponec (1994)** conducted a study **African-American Females: A Theory of educational aspirations**. Although 76% of African-American students graduate from high school, only 25% of these graduates enter institutions of higher education. A systematic analysis of the aspirations among African-American females for post-high school education was conducted. Initial portions of the study focused on characteristics of support in the areas of familial assistance, academic preparation, college and career counseling, and self-image issues. African-American females (N=21), in either their junior or senior year of high school, participated in the study. A total of 76 interviews were conducted. Results indicated that aspiration was a difficult concept to define, being based in each young woman’s experience and context. Some similarities, however, were apparent regarding the influence of role models, self-understanding, and participation in academic, college and career counseling services, or community activities. These similarities were encompassed in a theory of education aspiration that described the influence of role models, the realization of selfhood, and the promotion of preparedness in understanding these women’s educational goals. The participants made recommendations for educators, peers, parents, and community members for fostering African-American women’s educational advancement.

- **Durndell (1995)** studied gendered career choice: Is sex-stereotyping the cause or the consequence? The interaction between school pupils' schematic representations of 'social' and 'technical' roles and the impact that the 'sex-
Review of Related Literature

typing' of careers had on occupational choice were investigated using stimulus vignettes. Questionnaire data pertaining to occupational choice were collected from first-year University students enrolled on courses designated as either 'social' or 'technical'. The prototypical in-group positions for the two occupational areas were calculated and used as the basis of vignettes depicting either a male or female school pupil experiencing difficulty in deciding whether to pursue a technical or socially oriented career. The vignettes were presented to 107 school pupils aged 16-18 who was asked which career area they thought the target pupil was likely to choose. Results indicate that subjects were able to identify correctly the prototypical characteristics utilized in the vignettes and that these were of greater importance in their expectation of course choice than the 'sex' of the target pupil.

Singh and Gantes (1996) examined the relation of English language proficiency to the educational aspirations of Mexican American eighth graders. Research consistently had documented low levels of participation in postsecondary education by Hispanic youth. The present study proposed that English language proficiency had a significant relation to the educational aspirations of Mexican American eighth graders and estimated the proposed relation, controlling for other relevant causes of educational aspirations. The sample consisted of 1,641 Mexican American eighth graders. Results indicated that there was a significant although moderate direct relation of language proficiency to educational aspirations and academic achievement. The findings are of theoretical and practical significance and provide support that better English language skills might lead to improved educational outcomes for Mexican American students. The study also underscored the need for more empirical research on language issues and their relation to educational and psychosocial outcomes for language-minority youth.

McCormick (1997) conducted a study Changes in Educational Aspirations after High School: The Role of Postsecondary Attendance and Context. This study used longitudinal data from the High school and Beyond study to examine how individual’s educational expectations change after high school, especially as related to postsecondary education. Data were from a nationally representative sample of high school seniors in 1980 and follow-up four years
Review of Related Literature

later. The dependent variable was student’s expectations of amount of schooling. Independent variables included demographic characteristics, occupational expectations, parental support, duration of college plans, high school preparation, academic ability, high school grades, type of postsecondary institution attended, institutional selectivity, first enrollment as a full or part-time student, and whether postsecondary enrollment was immediate or delayed after high school. Analysis indicated that change in educational expectations reflects two underlying dynamics: resilience, which contributed to stability of expectations; and isomorphism, which motivates adaptation. Among the specific findings were: any form of engagement in postsecondary education maintained or increased bachelor’s degree expectations (though this was significantly less for students who attended two-year institutions); early expectations retained an independent effect; delayed entry and part-time attendance exhibited independent, depressant effects on educational expectations; women were less likely to maintain high expectations; and students at highly selective institutions were most likely to aspire for completing a graduate or professional degree.

- Wentzel (1998) conducted a study Parents’ Aspirations for Children’s Educational Attainments: Relations to Parental Beliefs and Social Address Variables. The researcher examined social address variables (race, community, and children’s sex and age); and parental beliefs (parents’ confidence in their children’s academic abilities, beliefs about their own ability to teach their children, beliefs about the nature of children’s intelligence, and achievement related childrearing values) in relation to parents’ aspirations for their children’s educational attainment. Based on a sample of 363 parents (42% African-American and 58% European-American) of elementary school aged children, results of regression analysis indicated that each parental belief was significant independent predictors of parents’ aspirations. The social address variables were related to parental aspirations indirectly, by way of significant relations to parental beliefs; community was the most consistent predictor of parental beliefs.

- Rojewaski (1999) studied Occupational and Educational Aspirations and Attainment of Young Adults with and without Learning Disabilities (LD) 2
Year after High School Completion. A national longitudinal database was used for this study. Analyses revealed that individuals with LD reported lower graduation rates, were more likely to aspire to moderate–(men) or low-prestige (women) occupations, and were more likely to be employed and less likely to be enrolled in some type of postsecondary education program than their non-disabled peers. High educational aspirations in Grade 12 and successful completion of an academic or college-prep high school program were equally important in predicting 2-year postsecondary status for adolescents enrolled in postsecondary education regardless of disability status. However, depending on disability status, different predictors were identified for individuals who were either employed or out of the workforce. These results pointed to a continued need for transition planning and support for young adults with LD and suggest ways in which professionals can anticipate and adjust for identified differences in aspirations and postsecondary attainment.

- **Chung (2000)** examined the effect of maternal employment on school children’s educational aspirations in Korea. The sample consisted of 1,294 fifth- and tenth-graders and their mothers. These students in 1996 were attending public schools and living in two-parent families in Taegu, Korea. The results showed that children whose mothers were working full-time had lower educational aspirations, compared with those whose mothers were not in the labor force. Girls whose mothers were working full-time had lower educational aspirations than girls whose mothers were not working.

- **Meinster and Karen (2001)** conducted a study Longitudinal Influences of Educational Aspirations and Romantic Relationship on Adolescent Women’s Vocational Interests. The influence of educational aspirations and romantic relationships on the development of vocational interests in adolescent women in a single sex educational environment was investigated. A sample of 92 high school students from a private high school for young women was followed from freshman year until senior year in high school. Contrary to expectations, all students endorsed more strongly interests in traditionally female dominated occupations. Students with relatively lower educational aspirations who engaged in relatively more dating, however, had an overall lower and less
differentiated interest profile by senior year than was true for other students. As was expected, students with relatively higher educational aspirations expressed more investment in work roles than family roles, but students with relatively lower educational aspirations expressed equivalent investment in work and family roles.

- **Chung and Choe (2001)** conducted a study Sources of Family Income and Expenditure on Children’s Private, After School Education in Korea. They examined the relationship between sources of family income and household expenditure on private, after-school education for children in secondary schools in Korea in the context of educational 'credentialism', which values evidence of college education highly. Data from a survey of 514 parents of secondary school students were used. Estimated ordinary least squares coefficients indicated that the wife’s income, but not the husband’s was positively associated with amount of spending on children’s education of private, after school programs. This finding suggested that some married women with children in Korea seemed employment in order to earn the money needed for their children’s private, after school education.

- **Hilaire (2002)** studied The Social Adaptation of Children of Mexican Immigrants: Educational Aspirations beyond Junior High School. This article draws on the concept of segmented assimilation to analyze the value toward, aspirations for, and realistic expectations of pursuing formal education among Mexican-origin students in Southern California. Survey data inform the analyses, which include regression of educational aspirations and expectations on a series of potentially significant independent variables. The evidence of segmented assimilation was mixed. Informants were nearly unanimous in professing positive values toward formal education. However, length of residency in the United States was negatively and fluent bilingualism in Spanish and English was positively associated with educational aspirations and expectations. At the cusp of entering high school, Mexican-origin students profess positive educational values, aspirations, and expectations, belying documented elevated rates of high school drop out and low rates of college attendance.
Rottinghaus, Lindley, Green and Borgen (2002) studied Educational Aspirations: The Contribution of Personality, Self-Efficacy and Interests. In the sample of 365 college students, the investigators examined the incremental role of personality, self-efficacy and interests in explaining level of educational aspirations. Measures were the Adjective Check List, the Skills Confidence Inventory and the Six General Occupational Themes of the Strong Interest Inventory. The investigators predicted that each of these domains would make independent contributions to explaining level of educational aspirations. Sequentially following Social Cognitive Career Theory, the blocks of big five personality dimensions, six General Conference Themes and six GOTs were entered into a hierarchical regression predicting educational level. With the addition of each block, $R^2$ rose from .10 to .26, to .29 for the total sample; similar incremental predictions were obtained separately for women (.13, .29 and .32) and for men (.13, .30 and .37).

Marjoribanks (2003) conducted a study Learning Environment, Family Contexts, Educational Aspirations and Attainment: A Moderation-Mediation Model Extended. In this extension of a previous study, a moderation-mediation model was constructed to examine relationships among learning environments, adolescents’ educational aspirations and the educational attainment of young adults from different family contexts. Data were collected as part of a longitudinal survey of Australian Youth (4382 females, 3940 males). The findings from the two investigations indicated that when distal family contexts were defined conjointly by family social status and parents’ aspirations: 1) distal family contexts, academic performance and learning environments combined to have large associations with adolescents’ educational aspirations; 2) distal family contexts, adolescents’ learning environments and educational aspirations combined to have large associations with young adults’ educational attainment; and 3) there were family context differences in the linear and curvilinear nature of the relations among measures of individual characteristics, learning environments and educational outcomes, and these also varied between females and males in those family contexts.
Review of Related Literature

- **Civita, Pagani, Vitaro and Tremblay (2004)** conducted a study *The Role of Maternal Educational Aspirations in Mediating the Risk of Income Source on Academic Failure in Children from Persistently Poor Families*. They examined the influence of income source within the context of persistent poverty (from ages 8 through 11) on academic failure by age 12, and whether associations were mediated by maternal educational aspirations for their children assessed at ages 10/11. Using a sub-sample (N=1112) of the data from the Quebec Longitudinal Study, they coded four economic circumstances on the basis of persistent poverty (income-to-needs ratio less than 1.50 times the poverty line) and income source (working-poor, welfare-dependent, work-and-welfare-dependent, Vs. never-poor working) from ages 8 to 11. Relative to their peers in never-poor working families, children in both welfare-dependent and working-poor families were at greater risk of having experienced academic failure, net of demographic characteristics, child gender, and early inattentiveness. The risk of academic failure for these children partially explained by mothers’ lower educational aspirations for their children.

- **Yun and Michal (2004)** studied *School Racial Composition and Student Educational Aspirations: A Question of Equity in a Multiracial Society*. This study used survey data on 15,800 high school students from 3 urban school districts to investigate the impact of school level support for higher educational attainment and school racial composition on students’ actual educational aspirations. The researchers examined students’ perceptions of school support for postsecondary participation and test alternative measures of school racial composition in order to account for the increasingly multiracial make-up of today’s urban high schools. It was included both school-level and student-level characteristics in a multilevel logistic regression model to see if perceived school support for higher educational attainment differed by school racial composition. The results provided support for the hypothesis that school racial composition and school support had an effect on students’ reported educational aspirations and that alternative specifications of school racial composition provide different interpretations of these important relationships.

- **Marjoribanks (2005)** studied *Family Background, Adolescents’ Educational Aspirations, and Australian Youth Adults’ Educational Attainment*. In this
Review of Related Literature

longitudinal study, relationships were examined between educational aspirations and educational attainment for Australian young adults from different ethnic and social status backgrounds. Participants included 6,811 (3,547 women and 3,264 men) young adults (mean age=20.3 years) who were in year 9 when the study began. In the analysis, the Am statistical software was used to take into account the design features of the sample. The results indicated a) that family background and adolescents’ aspirations combined to have large associations with young adults’ educational attainment; b) there were gender differences in the linear and curvilinear nature of relationships among family background, adolescents aspirations and young adults’ attainment and c) for young adults from lower social status families there were ethnic group differences in attainment at all aspiration levels, whereas for young adults from higher social status families, ethnic group difference in attainment were minimized at high aspiration levels.

- **Dennison (2005)** studied Educational Aspirations of High School Graduates in British Columbia. In the last two years, students enrolled in postsecondary educational institutions in British Columbia had developed an erratic and largely unpredictable pattern. University enrollment, particularly in the humanities, has stabilized, while technical and vocational institutions were attracting increasing numbers of students. In an attempt to open new insights into this phenomenon, a study of the educational plans and aspirations of graduating high school seniors in the province’s 144 high schools was initiated. Data were gathered from 18,899 students in a total population of 27,593, a response rate of almost 70%. Subjects identified age, sex, high school program, grade point average, various social-economic characteristics and their intentions regarding postsecondary education, if they intended to continue, when and where. The results produced a considerable amount of new evidence, which, in part, provided answers to many previously unexplored questions. For example, while 90% of high school graduates indicated their intention to continue in tertiary education, only 50% started that this step was imminent. The comprehensive community college proved to be more popular than the university in areas where colleges existed. Socio-economic factors appeared to be closely related to students’ intentions.
Review of Related Literature

- **Howley (2006)** studied Remote Possibilities: Rural Children’s Educational Aspirations. To better understand the influence of rural context on youth’s life chances, this study took up the question of rural children’s educational aspirations. The experience of rural life may, as some clam, limit students’ educational aspirations. Yet there were indications that rural communities simultaneously generate important social benefits that tend to be devalued by educators and researchers alike. Survey data from the 2002 Child Development Supplement to the Panel Study of Income Dynamics were analyzed to explore this debate. Findings indicated rural children were as likely to aspire to a high school or an undergraduate education, as were non-rural youth. The significant difference in aspirations between rural and non-rural children was in terms of postgraduate education. Findings also suggested that rural youth came of age in familial contexts of attachment to place, with rural families being more likely than non-rural families to have turned down a job to remain in their communities.

- **Schoon, Ross and Martin (2007)** conducted a study Science Related Careers: Aspirations and outcomes in two British Cohort studies. Understanding the factors and processes facilitating entry into science related occupations was a first step in developing effective interventions aiming to increase a skilled science base. This study intended to address individual as well as family and school related influences on uptake of science, engineering, technology and health related careers. Drawing on data collected for two British birth cohorts: the 1958 National Child Development Study and the 1970 British Cohort Study, a development-contextual model of career development was tested, comparing the experiences of over 17,000 men and women during the transition from school to work. The findings suggested that there was a persisting gender imbalance both in terms of aspirations and occupational attainment. Interest and attainment to a science related career were formed early in life, often by the end of primary education. School experiences, in particular, were crucial in attracting young people to a career in science.

- **Geraldine (2007)** studied Teachers’ Expectations and Children’s Educational Aspirations in Gansu, China. Children’s educational aspirations were a powerful and important measure of their self-conception and assessment of the
relevance of schooling in their lives. With data gathered in 2000 through the Gansu Survey of Children and Families, this study used multivariate regression analysis to investigate the influence of teacher expectations on the educational aspirations of 9 to 12 year olds in rural China. Notably, results indicated those teachers’ expectations influence children’s educational aspirations even when child background measured and teacher characteristics were taken into account. In addition, although findings suggested that teachers’ expectations exerted a direct effect on children’s educational aspirations, they also indicated that mothers’ expectations played an intervening role linking teacher’s expectations to children’s educational aspirations. In rural China, where teachers were accorded substantial authority over children’s education, this finding opened the door for policies that support the development of teacher training and education to better empower students’ educational achievement and attainment in the country’s vast educational system.

- **Michael and Karen (2007)** conducted a study advancing the Assessment of Women’s Career Choices: The Career Aspiration Scale. The results of five studies illustrated sound psychometric properties of the CAS when used with adolescent, college and post college samples comprised predominantly of white women. The final eight-item measure demonstrated strong test-retest reliability over a 2- week period and evidenced moderate internal consistency. Convergent validity was supported by correlations with measures of career decision self- efficacy, multiple role self-efficacy, occupational self-efficacy, and attitudes toward women’s roles, instrumentality, and relative importance of career versus family. Discriminate validity was demonstrated through the absence of relations between the CAS total score and measures of attachment to parents. Finally, a two-factor solution consisting of the Leadership and Achievement Aspiration scale and the Educational Aspirations scale accounted for substantial variance in career aspiration among samples of mostly white women.

- **Shawn, Thomas, Michael and Robyn (2008)** studied College students’ perspectives on their career decision-making. This mixed methods study examined how college student participants discussed their approach to making
career decisions, with a focus on how their perspective may be consistent with various models of career decision-making. Brief telephone interviews were conducted with 20 college students and the narrative data were analyzed using qualitative methods informed by grounded theory and consensual qualitative research (CQR). Based on themes, generated by qualitative analysis, a rating instrument was developed. Two individuals who dually served as auditors of the qualitative findings and as independent raters used the instrument. Themes, as well as correlations and frequency data derived from ratings, were discussed. It was found that the views of the participants in terms of how they thought decisions should be made and how they were approaching their own decisions were consistent with models of career decision-making that included notions of interdependence, experience, intuition and emotion.

- Park (2008) studied Effects of single parenthood on Educational Aspiration and student disengagement in Korea. The recent rapid increase in divorce, along with its distinctive cultural and welfare environments for single-parent families made Korea an interesting case for examining effects of single parenthood on children’s education. The stratified cluster sampling method was used to select respondents: regions were first stratified, schools were selected within each region in proportion to the number of students residing in the region, and finally students were sampled within each school. The sampling was conducted separately for each group of the targeted population: middle school seniors (9th graders), academic high school seniors (12th graders), and vocational high school seniors (12th graders), yielding the final sample of 2,000 students for each group (i.e. a total of 6,000 students). The levels of educational aspiration and student disengagement between students with two parents and those with a single parent, distinguishing divorced single fathers, widowed single fathers, divorced mothers and widowed single mothers were compared. Logistic regression analyses showed that students with a divorced single parent, regardless of gender of parent, were much less likely to aspire to four-year university education and more likely to be disengaged than their counterparts with two parents. The effects of widowhood disappear once control variables were held constant. Lower household income among single-parent families explains in part the poorer
Review of Related Literature

educational outcomes of their children. Parent-child interaction was another important mediating factor for the effect of single fatherhood but not for single motherhood. The relevance of the extended family system and distinctive features of post-divorce living arrangement in Korea was discussed to understand the effects of single parenthood.

- **Dubow, Boxer and Huesmann (2009)** examined the prediction of individuals’ educational and occupational success at age 48 from contextual and personal variables assessed during their middle childhood and late adolescence. They focus particularly on the predictive role of the parents’ educational level during middle childhood, controlling for other indices of socioeconomic status and children’s IQ, and the mediating roles of negative family interactions, childhood behavior, and late adolescent aspirations. Data come from the Columbia County Longitudinal Study, which began in 1960 when all 856 third graders in a semi-rural county in New York State were interviewed along with their parents; participants were reinterviewed at ages 19, 30 and 48. Parents’ educational level when the child was 8 years old significantly predicted educational and occupational success for the child 40 years later. Structural models showed that parental educational level had no direct effects on child educational level or occupational prestige at age 48 but had significant indirect effects that were independent of the other predictor variables’ effects. These indirect effects were mediated through age 19 educational aspirations and age 19 educational level. These results provide strong support for the unique predictive role of parental education on adult outcomes 40 years later and underscore the developmental importance of mediators of parent education effects such as late adolescent achievement and achievement-related aspirations.

- **Yates; Harris; Sabates and Staff (2010)** studied Early Occupational Aspirations and Fractured Transitions: A Study of Entry into ‘NEET’ Status in the UK. There has been significant recent research and policy interest in issues of young people’s occupational aspirations, transitions to employment and the antecedents of NEET (not in employment, education or training) status. Many have argued that changes to the youth labour market over the past 30 years have led to transitions to work becoming more individualised, complex and
Review of Related Literature

troublesome for many, particularly those from poorer backgrounds. However, little research has examined the connection between early uncertainty or misalignment in occupational aspirations and entry into NEET status. This paper draws on the British Cohort Study to investigate these issues, and finds that young people with uncertain occupational aspirations or ones misaligned with their educational expectations are considerably more likely to become NEET by age 18. Uncertainty and misalignment are both more widespread and more detrimental for those from poorer backgrounds.

- **Howard et al. (2011)** examined the influence of gender, socioeconomic status, and race/ethnicity on the career aspirations of over 22,000 8th and 10th grade youth. The top five occupations identified by youth as aspirations included artist, lawyer, musician, FBI agent, and actor/actress. Top occupations were also reported for each gender x socioeconomic status x race/ethnicity group. Aspirations were coded by social prestige level, minimum education requirements, and median salary. Results revealed significant main effects for socioeconomic status and race/ethnicity as well as significant interaction effects. Further, significant gender main effects and a significant gender x ethnicity interaction were found for occupational prestige and educational requirements.

- **Barry; Chaney and Chaney (2011)** studied the Impact of Truant and Alcohol-Related Behavior on Educational Aspirations: A Study of US High School Seniors. This study conducted a secondary data analysis of the Monitoring the Future project data, 2006. Logistic regression was conducted to assess how alcohol use and truancy affected educational aspirations. Subsequent interaction effects were assessed in the final multivariable model. Demographic variables such as age, sex, race, and father and mother's educational level were included as covariates in the regression model. Results indicate that as students engage in increased alcohol use and/or truancy, educational aspirations decrease. Thus, students who indicated a desire to attend a 4-year college/university were less likely to engage in high-risk drinking behavior and/or truancy. Moreover, in testing the interaction between truancy and alcohol use, as it relates to educational aspirations, the logistic regression model found both of these independent variables to be statistically
significant predictors of the likelihood students would attend a 4-year college/university. To ensure that adolescents further their education and maximize their potential life opportunities, school and public health officials should initiate efforts to reduce alcohol consumption and truancy among students. Furthermore, future research should examine the risk and protective factors that may influence one's educational aspirations.

- **Archer et al. (2012)** studied Science Aspirations, Capital and Family Habitus: How Families Shape Children’s Engagement and Identification with Science. Low participation rates in the study of science, technology, engineering and mathematics (STEM) post-16 are a matter of international concern. Existing evidence suggests children’s science aspirations are largely formed within the critical 10 to 14 age period. This article reports on survey data from over 9,000 elementary school children in England (age 10/11) and qualitative data from 160 semi-structured interviews (92 children aged 10/11 and 78 parents), collected as part of an ongoing 5-year longitudinal study in the United Kingdom tracking children from 10 to 14. It is argued that while family habitus is not deterministic, social inequalities in the distribution of capital and differentially classed family habitus combine to produce uneven (classed, racialized) patterns in children’s science aspirations and potential future participation.

- **Beaman et al. (2012)** studied that Female leadership raises aspirations and educational attainment for girls: A policy experiment in India. A 1993 law reserved leadership positions for women in randomly selected village councils. Using 8453 surveys of adolescents aged 11 to 15 and their parents in 495 villages, it was found that, relative to villages in which such positions were reserved, the gender gap in aspirations closed by 20% in parents and 32% in adolescents in villages assigned a female leader for two election cycles. The gender gap in adolescent educational attainment was erased, and girls spent less time on household chores. No evidence of changes in young women’s labor market opportunities was found, which suggests that the impact of woman leaders primarily reflects a role model effect.
2.4: STUDIES RELATED WITH SOCIO-ECONOMIC STATUS

- **Ford & Merritt (1991)** studied physical activity habits—leisure-time physical activity, job-related physical activity, household physical activity, and walking—among 172 lower socioeconomic status women and 84 lower socioeconomic status men and compared their habits with those of 208 higher socioeconomic status women and 95 higher socioeconomic status men. Lower socioeconomic status women, the least active group, averaged 1,536 ± 1,701 minutes/week (±standard deviation) of total physical activity, whereas higher socioeconomic status women, the most active group, averaged 2,079 ± 1,807 minutes/week (p < 0.0001). Higher socioeconomic status men averaged 1,952 ± 1,799 minutes/week, and lower socioeconomic status men averaged 1,948 ± 1,916 minutes/week. Higher socioeconomic status women spent significantly more time each week in leisure-time physical activity, job-related physical activity, and household physical activity than did lower socioeconomic status women. Lower socioeconomic status men spent significantly more time each week walking and doing household chores, whereas higher socioeconomic status men tended to be more active in leisure-time physical activity.

- **Frank & Winkleby (1992)** studied socioeconomic status and health: how education, income, and occupation contribute to risk factors for cardiovascular disease. There were 2380 participants in this study. The relationship between SES measures and risk factors was strongest and most consistent for education, showing higher risk associated with lower levels of education. Using a forward selection model that allowed for inclusion of all three SES measures after adjustment for age and time of survey, education was the only measure that was significantly associated with the risk factors (P less than .05).

- **Pappas & Fisher (1993)** studied the Increasing Disparity in Mortality between Socioeconomic Groups in the United States, 1960 and 1986. The records from the 1986 National Mortality Follow back Survey (n = 13,491) and the 1986 National Health Interview Survey (n = 30,725) were used. The inverse relation between mortality and socioeconomic status persisted in 1986 and was stronger than in 1960. The disparity in mortality rates according to income and education increased for men and women, whites and blacks, and
family members and unrelated persons. Over the 26-year period, the inequalities according to educational level increased for whites and blacks by over 20 percent in women and by over 100 percent in men. In whites, absolute death rates declined in persons of all educational levels, but the reduction was greater for men and women with more education than for those with less.

- **Dohrenwend (1994)** studied socioeconomic status and psychiatric disorders: the causation-selection issue. This classical epidemiological issue is tested by focusing on ethnic status in relation to socioeconomic status. Ethnic status cannot be an effect of disorder because it is present at birth whereas socioeconomic status depends on educational and occupational attainment. A birth cohort sample of 4914 young, Israel-born adults of European and North African background was selected from the country’s population register, screened, and diagnosed by psychiatrists. Results indicated that social selection may be more important for schizophrenia and that social causation may be more important for depression in women and for antisocial personality and substance use disorders in men.

- **Centerwall (1995)** studied Race, socioeconomic status and domestic homicide. A study of 222 interracial domestic homicides in Atlanta, Ga, found that when black and white populations were unstratified, the relative risk of homicide in black populations was 5.8 (95% confidence interval [CI], 4.3 to 8.0); when black and white populations were stratified by rates of household crowding, the relative risk of homicide in black populations was no longer significantly elevated (relative risk [RR], 1.2; 95% CI, 0.7 to 2.0). The current study sought to replicate, or not replicate, these findings in New Orleans, La. Retrospective study of 349 interracial domestic homicides perpetrated against residents of Orleans Parish in 1979, 1982, 1985, and 1986. Relative risk of homicide in the black and white populations of New Orleans when they are stratified by rates of household crowding. When black and white populations of New Orleans were unstratified, the relative risk of interracial domestic homicide in black populations was 6.3 (95% CI, 4.3 to 9.5). When black and white populations were stratified by rates of household crowding, the relative risk of homicide in black populations was no longer significantly elevated (RR, 1.2; 95% CI, 0.4 to 2.9).
Marmot & Shipley (1996) assessed the risk of death associated with work-based and non-work-based measures of socioeconomic status before and after retirement age. The sample was of 18,133 male civil servants aged 40-69 years who attended a screening examination between 1967 and 1970. For men dying at ages 40-64 the lowest employment grade had 3.12 times the mortality of the highest grade (95% confidence interval 2.4 to 4.1). After retirement the ability of grade to predict mortality declined (rate ratio 1.86; 1.6 to 2.2). A non-work-based measure of socioeconomic status (car ownership) predicted mortality less well than employment grade before retirement but its ability to predict mortality declined less after retirement.

Hemingway & Nicholson (1997) measured the association between socioeconomic status and the eight scale scores of the Medical Outcomes Study short form 36 (SF-36) general health surveys in the Whitehall II study of British civil servants. A questionnaire containing the SF-36 was administered at the third phase of the study to 5766 men and 2589 women aged 39 through 63 years. Socioeconomic status was measured by means of six levels of employment grades. There were significant improvements with age in general mental health, role-emotional, vitality, and social functioning scale scores. In men, all the scales except vitality showed significant age-adjusted gradients across the employment grades (lower grades, worse health). Among women, a similar relationship was found for the physical functioning, pain, and social functioning scales. For physical functioning, the effect of grade was found in those with and without disease.

Smith & Hart (1998) investigated the association between social circumstances in childhood and mortality from various causes of death in adulthood. The sample was of 5645 men aged 35-64 years at the time of examination. Men whose fathers had manual occupations when they were children were more likely as adults to have manual jobs and be living in deprived areas. Gradients in mortality from coronary heart disease, stroke, lung cancer, stomach cancer, and respiratory disease were seen (all P<0.05), generally increasing from men whose fathers had professional and managerial occupations (social class I and II) to those whose fathers had semiskilled and unskilled manual occupations (social class IV and V). Relative rates of
mortality adjusted for age for men with fathers in manual versus non-manual occupations were 1.52 (95% confidence interval 1.24 to 1.87) for coronary heart disease, 1.83 (1.13 to 2.94) for stroke, 1.65 (1.12 to 2.43) for lung cancer, 2.06 (0.93 to 4.57) for stomach cancer, and 2.01 (1.17 to 3.48) for respiratory disease. Mortality from other cancers and accidental and violent death showed no association with fathers' social class. Adjustment for adult socioeconomic circumstances and risk factors did not alter results for mortality from stroke and stomach cancer, attenuated the increased risk of coronary heart disease and respiratory disease, and essentially eliminated the association with lung cancer. Adverse socioeconomic circumstances in childhood have a specific influence on mortality from stroke and stomach cancer in adulthood, which is not due to the continuity of social disadvantage throughout life. Deprivation in childhood influences risk of mortality from coronary heart disease and respiratory disease in adulthood; although an additive influence of adulthood circumstances is seen in these cases.

- **Naylor et.al (1999)** studied the effects of Socioeconomic Status on Access to Invasive Cardiac Procedures and on Mortality after Acute Myocardial Infarction. The study cohort consisted of 51,591 patients. With respect to coronary angiography, increases in neighborhood income from the lowest to the highest quintile were associated with a 23 percent increase in rates of use and a 45 percent decrease in waiting times. There was a strong inverse relation between income and mortality at one year (P<0.001). Each $10,000 increase in the neighborhood median income was associated with a 10 percent reduction in the risk of death within one year (adjusted hazard ratio, 0.90; 95 percent confidence interval, 0.86 to 0.94).

- **Kennedy & Kawachi (2000)** determined the effect of inequalities in income within a state on self rated health status while controlling for individual characteristics such as socioeconomic status. It was a Cross sectional multilevel study. Data were collected on income distribution in each of the 50 states in the United States. Random probability samples of individuals in each state were collected by the 1993 and 1994 behavioral risk factor surveillance system, a random digit telephone survey. The survey collects information on an individual's income, education, self rated health and other
health risk factors. When personal characteristics and household income were controlled for, individuals living in states with the greatest inequalities in income were 30% more likely to report their health as fair or poor than individuals living in states with the smallest inequalities in income. Inequality in the distribution of income was associated with an adverse impact on health independent of the effect of household income.

- **Lindström & Hanson (2001)** studied socioeconomic differences in leisure-time physical activity: the role of social participation and social capital in shaping health related behavior. The baseline questionnaire used in this cross-sectional study was completed by the 11,837 participants. Socioeconomic differences were seen as odds ratios 1.5 for skilled and 1.5 for unskilled male manual workers, compared to the high level non-manual employees. An OR 1.6 was observed for female unskilled manual workers. Self-employed men and female pensioners also had a significantly increased risk of low leisure-time physical activity. Adjustment for age, country of origin and previous/current diseases had no effect on these SES differences. Finally, adjusting for social participation almost completely erased the SES differences. Among the psychosocial variables, social participation was the strongest predictor of low physical activity, and a strong predictor for socioeconomic differences in low leisure-time physical activity. It therefore seems possible that some of the socioeconomic differences in leisure-time physical activity are due to differing social capital between socioeconomic groups.

- **Kuh & Hardy (2002)** examined premature mortality in adults in relation to socioeconomic conditions in childhood and adulthood. The sample was taken of 2132 women and 2322 men born in March 1946 and followed until age 55 years. Study members whose father's occupation was manual at age 4, or who lived in the worst housing, or who received the poorest care in childhood had double the death rate during adulthood of those living in the best socioeconomic conditions. All indicators of socioeconomic disadvantage at age 26 years, particularly lack of home ownership, were associated with a higher death rate. Manual origins and poor care in childhood remained associated with mortality even after adjusting for social class in adulthood or
Review of Related Literature

home ownership. The hazard ratio was 2.6 (95% confidence interval 1.5 to 4.4) for those living in manual households as children and as adults compared with those living in non-manual households at both life stages. The hazard ratio for those from manual origins who did not own their own home at age 26 years was 4.9 (2.3 to 10.5) compared with those from non-manual origins who were home owners.

- **Poulton et al. (2003)** investigated that children’s experience of socioeconomic disadvantage is associated with a wide range of health risk factors and outcomes in adult life. The sample was an unselected cohort of 1000 children (born in New Zealand during 1972–73) who had been assessed at birth and ages 3, 5, 7, 9, 11, 13, and 15 years. At age 26 years, these individuals were assessed for health outcomes. Compared with those from high socioeconomic status backgrounds, children who grew up in low socioeconomic status families had poorer cardiovascular health. Significant differences were also found on all dental health measures, with a threefold increase in adult periodontal disease (31·1% vs. 11·9%) and caries level (32·2% vs. 9·9%) in low versus high childhood socioeconomic status groups. Substance abuse resulting in clinical dependence was related in a similar way to childhood socioeconomic status (eg, 21·5% vs. 12·1% for adult alcohol dependence). The longitudinal associations could not be attributed to life-course continuity of low socioeconomic status, and upward mobility did not mitigate or reverse the adverse effects of low childhood socioeconomic status on adult health.

- **Danielzik et al. (2004)** studied that Parental overweight, socioeconomic status and high birth weight were the major determinants of overweight and obesity in 5–7 y-old children. The sample was a total of 2631 5–7-y-old German children and their parents. The prevalence of overweight (290th BMI percentile of reference) was 9.2% in boys and 11.2% in girls, respectively. Considered univariately, family-, environment- and development-related determinants showed some relations to overweight and obesity. In multivariate analyses parental overweight, a low SES as well as a high birth weight were the strongest independent risk factors of overweight and obesity in children. Additionally, there were sex-specific risk factors: parental smoking and single households were risk factors in boys, whereas a low activity was associated
Review of Related Literature

with obesity in girls. Birth weight was associated with obesity, but not with overweight. The prevalence of obesity reached 29.2% in boys and 33.4% in girls with all the three main risk factors. Overweight families of low SES have the highest risk of overweight and obese children. Future prevention programmes must also take into account sex-specific risk factors.

- **Ball & Crawford (2005)** studied socioeconomic status and weight change in adults: a review. It was hypothesized that, compared with persons of higher SES, persons of low SES would show greater weight gain or risk of weight gain over time. A search of electronic databases identified 34 relevant articles from developed countries reporting on studies that assessed the relationship of various measures of SES with weight change over time in adults (there were too few papers from developing countries (n=1) to include). Results of the methodologically strongest studies (those which obtained objectively measured adiposity data and used a follow-up period of 4 years or more) showed that, among non-black samples, there were relatively consistent inverse associations between occupation and weight gain for men and women. When SES was assessed using education, evidence was slightly less consistent, but still provided some support for the hypothesized relationship. However, when income was used as the indicator of SES, findings were inconsistent, although there were fewer studies available. There was little support for a relationship between SES and weight gain for black samples.

- **Cohen et al (2006)** assessed whether socioeconomic status (SES) is associated with dysregulation of the cortisol diurnal rhythm and whether this association is independent of race and occurs equally in whites and blacks; and to determine if an association between SES and cortisol can be explained (is mediated) by behavioral, social, and emotional differences across the SES gradient. Seven hundred eighty-one subjects from a multisided sample representing both whites and blacks provided six saliva cortisol samples over the course of the day: at awakening, 45 minutes, 2.5 hours, 8 hours, and 12 hours after awakening, and at bedtime. Both lower SES (education and income) and being black were associated with higher evening levels of cortisol. These relationships were independent of one another and SES associations with cortisol were similar across racial categories. The evidence
was consistent with poorer health practices (primarily smoking), higher levels of depressive symptoms, poorer social networks and supports, and feelings of helplessness (low mastery) mediating the link between SES and cortisol. However, we found no evidence for psychosocial or behavioral mediation of the association between race and cortisol response.

- **Hedlund & Eriksson (2007)** assessed the association between socio-economic status and impaired respiratory health in a 10-yr follow-up of a population-based postal survey in Northern Sweden. The study comprised 2,341 males and 2,413 females. Cumulative incidences were generally lowest in professionals, including executives and civil servants at intermediate and higher levels, who were chosen as reference group. Manual workers in industry showed a significantly increased risk of developing asthma, recurrent wheeze, attacks of shortness of breath or a combination of the two, and chronic productive cough. Manual workers in service showed a similar pattern for attacks of shortness of breath, recurrent wheeze, or a combination of the two, and chronic productive cough. The corresponding population attributable risks were ~10%. Low socio-economic status was a risk factor for the development of asthma, symptoms common in asthma and chronic productive cough.

- **Goesch & Schwarz (2008)** investigated the influence of socio-economic factors on the use of bed nets by mothers in Gabon. A cross-sectional study was conducted completing pre-tested, interviewer-administered questionnaires exploring socioeconomic proxy measures with 397 mothers or guardians of young children. Respondents were grouped according to their socio-economic situation, using scores. The condition of the bed nets was evaluated during a home visit. Socio-economic factors of wellbeing were negatively associated with bed net use, such as living in a stone house (OR 0.26, 95% CI 0.14–0.48), running water in the house (OR 0.44, 95% CI 0.21–0.92), shower/flush toilet in the house (OR 0.39/0.34, 95% CI 0.21–0.75/0.16–0.73), ownership of a freezer (OR 0.50, 95% CI 0.26–0.96) and belonging to the highest group in the economic score (OR 0.32, 95% CI 0.15–0.67). In contrast, similar factors were positively associated with a good maintenance condition of the bed nets: higher monthly income (OR 5.64, 95% CI 2.41–13.19) and belonging to the highest group in the economic score (OR 2.55, 95% CI 1.19–5.45).
Review of Related Literature

- **Karlamangla et al. (2009)** studied Trajectories of Cognitive Function in Late Life in the United States: Demographic and Socioeconomic Predictors. This study used mixed-effects modelling of data from a national sample of 6,476 US adults born before 1924, who were tested 5 times between 1993 and 2002 on word recall, serial 7’s, and other mental status items to determine demographic and socioeconomic predictors of trajectories of cognitive function in older Americans. Mean decline with aging in total cognition score (range, 0-35; Standard Deviation, 6.00) was 4.1 (0.68 Standard Deviations) per decade (95% confidence interval: 3.8, 4.4) and in recall score (range, 0-20; Standard Deviation 3.84) was 2.3 (0.60 Standard Deviations) per decade (95% confidence interval: 2.1, 2.5). Older Cohorts (compared with younger cohorts), women (compared with men), widows/ widowers and those who never married (both compared with married individuals) declined faster and non-Hispanic blacks (compared with non-Hispanic whites) and those in the bottom income quintile (compared with the top quintile) declined slower. Race and income differences in rates of decline were not sufficient to offset larger differences in baseline cognition scores. Educational level was not associated with rate of decline in cognition scores. It was concluded that ethnic and socioeconomic disparities in cognitive function in older Americans arise primarily from differences in peak cognitive performance achieved earlier in the life course and less from declines in later life.

- **Wild et al. (2010)** studied Socio-Economic Status and diabetes-related hospital admissions: a cross-sectional study of people with diagnosed diabetes. A cross-sectional study was performed using data for 35,925 people with diagnosed diabetes in Scotland and an area-based measure of SES using linked hospital and population-based diabetes register records. Comparisons by quintile of SES were made before (with p values presented for trend across quintiles given below) and after adjusting for other factors using multivariable logistic regression. People in the most deprived quintile were more likely than people in the most affluent quintile to have hospital records for diabetic kidney disease (2.4% vs 2.0%, p=0.049), diabetic ketoacidosis (3.5% vs 3.0%, p=0.11), hypoglycaemia (1.8% vs 1.4%, p=0.008), ischaemic heart disease (22% vs 17%, p<0.0001), stroke (6.8% vs 5.1%, p<0.0001) and peripheral...
arterial disease (4.1% vs 2.1%, p<0.0001). An independent effect of SES persisted for cardiovascular disease outcomes after adjusting for age and sex. There were minimal differences in disease management measures by SES. Managing current risk factors equitably is unlikely to remove socioeconomic inequalities in diabetes-related outcomes. Measures of SES may be valuable in risk scores and in making valid comparisons of the quality of diabetes care.

- **Gustafsson et al. (2011)** studied Socioeconomic Status over the life course and allostatic load in adulthood: Results from the Northern Swedish Cohort. The sample comprised a 27-year prospective cohort (n=1071) from northern Sweden. Participants (n=855, 79.8%) completed questionnaires at the ages of 16, 21, 30 and 43 years. A health examination was performed at age 43 years after an overnight fast, including physical examination and blood sampling, and participants completed 1-day salivary cortisol sampling (four samples). SES was based on parental occupation at age 16 years and participants' own occupation at ages 21, 30 and 43 years. Information on daily smoking, snuff use, high alcohol consumption and physical inactivity was reported by the participants. An AL index was constructed from tertiles of 12 biological parameters. Cumulative socioeconomic disadvantage was related to AL in both women and men. The association was largely explained by health behaviours in men, but was independent of health behaviours in women. In women, an association was observed between AL and SES in adolescence, whereas in men only current SES was related to AL, independently of current health behaviours. SES over the life course influences the level of multi-systemic dysregulation in mid-adulthood, with the strongest support for the cumulative risk model.

- **Doubeni et al. (2012)** studied Neighborhood Socio-Economic Status and Use of Colonoscopy in an insured population- A Retrospective Cohort Study. Researchers assembled a retrospective cohort of 100,566 men and women, 50-74 years old, who had been enrolled in one of three US health plans for ≥1 year on January 1, 2000. Subjects were followed until the date of first colonoscopy, date of disenrollment from the health plan, or December 31, 2007, whichever occurred first. Data was obtained on colonoscopy use from administrative records. Screening colonoscopy is defined as an examination
that was not preceded by gastrointestinal conditions in the prior 6-month period. Neighborhood SES was measured using the percentage of households in each subject’s census-tract with an income below 1999 federal poverty levels based on 2000 US census data. Analyses, adjusted for demographics and comorbidity index, were performed using Weibull regression models. The results showed that the average age of the cohort was 60 years and 52.7% were females. During 449,738 person-years of follow-up, fewer subjects in the lowest SES quartile (Q1) compared to the highest quartile (Q4) had any colonoscopy (26.7% vs. 37.1%) or a screening colonoscopy (7.6% vs. 13.3%). In regression analyses, compared to Q4, subjects in Q1 were 16% (adjusted HR= 0.84, 95% CI: 0.80-0.88) less likely to undergo any colonoscopy and 30% (adjusted HR=0.70, CI: 0.65-0.75) less likely to undergo a screening colonoscopy.

2.5: SIGNIFICANCE OF THE STUDY

The review of related research studies revealed that Cognitive Skills are mental skills that are used for the purpose of acquiring knowledge. These skills include reasoning, perception and intuition. In this competitive world, cognitive skills are the base of the success of a child. Stress, Aspirations and Socio-Economic Status are such major factors which affect Cognitive Skills very much. The present investigation has put forth a multidimensional representation of Stress, Mathematical Cognitive Skills, Aspirations and Socio Economic-Status.

With the dramatic changes in society over a few decades, Cognitive Skills provide a more powerful tool to fit today’s teachers’ needs. Today’s teachers must make tough decisions about how to spend their classroom time. Clear alignment of educational objectives with local, state and national standards is a necessity. Like pieces of a huge puzzle, everything must fit properly. Cognitive Skills have given rise to educational concepts including terms such as high and low level thinking. It has also been closely linked with multiple intelligences, problem solving skills, creative and critical thinking, and more recently, technology integration. A positive look at the Cognitive Skills, especially related to Mathematics, would add more to the significance of this study.
In today’s hectic life of materialistic pursuits of cut throat competition at all levels, everyone goes through a life full of stress of different types - physical, emotional and behavioral. Stress effects on mental functioning such as concentration, thinking, reasoning and memory. At moderate levels of stress are considered optimal for mental operations such as attention, learning, problem solving and creativity. At lower levels of stress, one fails to be attentive enough and at higher levels, cognition may become highly distorted. Since stress is something every student experiences, it is important to include links to sites addressing this issue.

Aspirations are strong desires to reach something high or great. A research in the concept of student aspirations, suggests that the degree to which students think about and are motivated to achieve their goals predict their level of aspirations. Although research is still needed to clarify further the outcomes of student aspirations, available research suggests that significant educational and psychological benefits are associated with high level of aspirations. Students' educational aspirations can influence what they learn in school, how they prepare for their postsecondary lives and their ultimate academic and career attainment (Walberg, 1989). Educational Aspirations is a psychological construct, which reflects a cognitive type of motivation of the individual.

Another significance of this research is Socio-Economic Status of students. Socio- Economic status is the background or standing of one or more persons in the society on the basis of both social class and financial situation. Families with different socio-economic status often have different sources for information regarding their children’s health, as well as social, emotional and cognitive development.

Although direct or indirect evidence for the links of these dimensions with each other is available in the past literature, but that does not exist in an integrated form. The available results are on one or the other dimensions in different cultural settings. Investigators with regard to Indian socio-cultural settings have not reported much work in this area. The observations of review of literature and the theoretical framework of these issues led to design the present investigation. The statement of the problem was framed as follows:-


2.6: STATEMENT OF THE PROBLEM

A Study of Cognitive Skills of X graders in relation to their Stress, Aspirations and Socio-Economic Status.

2.7: DELIMITATIONS OF THE STUDY

The present study was delimited as follows:
- The sample was limited to 600 students of Muktsar district of Punjab.
- The study was delimited to only grade X students.
- The study was delimited to Academic stress and Social stress. Each type of stress was studied at three levels: High, Average and Low.
- Effect of all the four dimensions of stress viz. Anxiety, Frustration, Pressure and Conflict were studied separately.
- The study was delimited to Mathematical Cognitive Skills viz. skill of Knowing, skill of Understanding, skill of Analysis, skill of Applying and skill of Solving.
- The study was delimited to Educational Aspirations which was studied at three levels – High, Average and Low.
- Socio-Economic status was studied at three levels – High, Average and Low.

2.8: OBJECTIVES OF THE STUDY

The study was undertaken with following objectives:
- To plan, design and validate the Cognitive Competency Test on the selected Mathematical cognitive skills.
- To study the effect of Academic Stress on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.
- To study the effect of Educational Aspirations on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.
• To study the effect of Socio-Economic Status on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.

• To study the interaction effect between Academic Stress and Educational Aspirations on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.

• To study the interaction effect between Educational Aspirations and Socio-Economic Status on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.

• To study the interaction effect between Socio-Economic Status and Academic stress on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.

• To study the effect of Social Stress on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.

• To study the interaction effect between Social Stress and Educational Aspirations on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.

• To study the interaction effect between Socio-Economic Status and Social stress on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.

• To study the interaction effect between Academic Stress, Educational Aspirations and Socio-Economic Status on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.

• To study the interaction effect between Social Stress, Educational Aspirations and Socio-Economic Status on Mathematical Cognitive Skills (Total Scores and scores on each of the selected mathematical cognitive skills) for X graders.
2.9: HYPOTHESES OF THE STUDY

Following hypotheses were formulated for the present investigation:

SECTION I (With Academic Stress)

- For Analyses on Mathematical Cognitive Skills (Total Scores) in Relation to Academic Stress × Educational Aspirations × Socio-Economic Status:
  
  **H0.1:** X graders having High, Average and Low Academic Stress will not be significantly different on total scores of Mathematical Cognitive Skills.
  
  **H0.2:** X graders having High, Average and Low Educational Aspirations will not be significantly different on total scores of Mathematical Cognitive Skills.
  
  **H0.3:** X graders having High, Average and Low Socio-Economic Status will not be significantly different on total scores of Mathematical Cognitive Skills.
  
  **H0.4:** There will be no significant interaction effect of Academic Stress and Educational Aspirations on total scores of Mathematical Cognitive Skills for X graders.
  
  **H0.5:** There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on total scores of Mathematical Cognitive Skills for X graders.
  
  **H0.6:** There will be no significant interaction effect of Socio-Economic Status and Academic Stress on total scores of Mathematical Cognitive Skills for X graders.
  
  **H0.7:** There will be no significant interaction effect of Academic Stress, Educational Aspirations and Socio-Economic Status on total scores of Mathematical Cognitive Skills for X graders.

- For Analyses on Skill of Knowing in Relation to Academic Stress × Educational Aspirations × Socio-Economic Status:
  
  **H0.8:** X graders having High, Average and Low Academic Stress will not be significantly different on scores of skill of Knowing.
  
  **H0.9:** X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Knowing.
  
  **H0.10:** X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Knowing.
  
  **H0.11:** There will be no significant interaction effect of Academic Stress and Educational Aspirations on scores of skill of Knowing for X graders.
  
  **H0.12:** There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Knowing for X graders.
  
  **H0.13:** There will be no significant interaction effect of Socio-Economic Status and Academic Stress on scores of skill of Knowing for X graders.
  
  **H0.14:** There will be no significant interaction effect of Academic Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Knowing for X graders.
Review of Related Literature

• For Analyses on Skill of Understanding in Relation to Academic Stress × Educational Aspirations × Socio-Economic Status:

Ho.15: X graders having High, Average and Low Academic Stress will not be significantly different on scores of skill of Understanding.
Ho.16: X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Understanding.
Ho.17: X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Understanding.
Ho.18: There will be no significant interaction effect of Academic Stress and Educational Aspirations on scores of skill of Understanding for X graders.
Ho.19: There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Understanding for X graders.
Ho.20: There will be no significant interaction effect of Socio-Economic Status and Academic Stress on scores of skill of Understanding for X graders.
Ho.21: There will be no significant interaction effect of Academic Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Understanding for X graders.

• For Analyses on Skill of Analysis in Relation to Academic Stress × Educational Aspirations × Socio-Economic Status:

Ho.22: X graders having High, Average and Low Academic Stress will not be significantly different on scores of skill of Analysis.
Ho.23: X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Analysis.
Ho.24: X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Analysis.
Ho.25: There will be no significant interaction effect of Academic Stress and Educational Aspirations on scores of skill of Analysis for X graders.
Ho.26: There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Analysis for X graders.
Ho.27: There will be no significant interaction effect of Socio-Economic Status and Academic Stress on scores of skill of Analysis for X graders.
Ho.28: There will be no significant interaction effect of Academic Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Analysis for X graders.

• For Analyses on Skill of Applying in Relation to Academic Stress × Educational Aspirations × Socio-Economic Status:

Ho.29: X graders having High, Average and Low Academic Stress will not be significantly different on scores of skill of Applying.
Ho.30: X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Applying.
Ho.31: X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Applying.
Ho.32: There will be no significant interaction effect of Academic Stress and Educational Aspirations on scores of skill of Applying for X graders.
Review of Related Literature

Ho.33: There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Applying for X graders.

Ho.34: There will be no significant interaction effect of Socio-Economic Status and Academic Stress on scores of skill of Applying for X graders.

Ho.35: There will be no significant interaction effect of Academic Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Applying for X graders.

For Analyses on Skill of Solving in Relation to
Academic Stress × Educational Aspirations × Socio-Economic Status:

Ho.36: X graders having High, Average and Low Academic Stress will not be significantly different on scores of skill of Solving.

Ho.37: X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Solving.

Ho.38: X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Solving.

Ho.39: There will be no significant interaction effect of Academic Stress and Educational Aspirations on scores of skill of Solving for X graders.

Ho.40: There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Solving for X graders.

Ho.41: There will be no significant interaction effect of Socio-Economic Status and Academic Stress on scores of skill of Solving for X graders.

Ho.42: There will be no significant interaction effect of Academic Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Solving for X graders.

SECTION II (With Social Stress)

For Analyses on Mathematical Cognitive Skills (Total Scores) in Relation to
Social Stress × Educational Aspirations × Socio-Economic Status:

Ho.43: X graders having High, Average and Low Social Stress will not be significantly different on total scores of Mathematical Cognitive Skills.

Ho.44: X graders having High, Average and Low Educational Aspirations will not be significantly different on total scores of Mathematical Cognitive Skills.

Ho.45: X graders having High, Average and Low Socio-Economic Status will not be significantly different on total scores of Mathematical Cognitive Skills.

Ho.46: There will be no significant interaction effect of Social Stress and Educational Aspirations on total scores of Mathematical Cognitive Skills for X graders.

Ho.47: There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on total scores of Mathematical Cognitive Skills for X graders.

Ho.48: There will be no significant interaction effect of Socio-Economic Status and Social Stress on total scores of Mathematical Cognitive Skills for X graders.

Ho.49: There will be no significant interaction effect of Social Stress, Educational Aspirations and Socio-Economic Status on total scores of Mathematical Cognitive Skills for X graders.
• For Analyses on Skill of Knowing in Relation to

Social Stress × Educational Aspirations × Socio-Economic Status:

Ho.50: X graders having High, Average and Low Social Stress will not be significantly different on scores of skill of Knowing.

Ho.51: X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Knowing.

Ho.52: X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Knowing.

Ho.53: There will be no significant interaction effect of Social Stress and Educational Aspirations on scores of skill of Knowing for X graders.

Ho.54: There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Knowing for X graders.

Ho.55: There will be no significant interaction effect of Socio-Economic Status and Social Stress on scores of skill of Knowing for X graders.

Ho.56: There will be no significant interaction effect of Social Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Knowing for X graders.

• For Analyses on Skill of Understanding in Relation to

Social Stress × Educational Aspirations × Socio-Economic Status:

Ho.57: X graders having High, Average and Low Social Stress will not be significantly different on scores of skill of Understanding.

Ho.58: X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Understanding.

Ho.59: X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Understanding.

Ho.60: There will be no significant interaction effect of Social Stress and Educational Aspirations on scores of skill of Understanding for X graders.

Ho.61: There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Understanding for X graders.

Ho.62: There will be no significant interaction effect of Socio-Economic Status and Social Stress on scores of skill of Understanding for X graders.

Ho.63: There will be no significant interaction effect of Social Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Understanding for X graders.

• For Analyses on Skill of Analysis in Relation to

Social Stress × Educational Aspirations × Socio-Economic Status:

Ho.64: X graders having High, Average and Low Social Stress will not be significantly different on scores of skill of Analysis.

Ho.65: X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Analysis.

Ho.66: X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Analysis.

Ho.67: There will be no significant interaction effect of Social Stress and Educational Aspirations on scores of skill of Analysis for X graders.
Review of Related Literature

**Ho.68:** There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Analysis for X graders.

**Ho.69:** There will be no significant interaction effect of Socio-Economic Status and Social Stress on scores of skill of Analysis for X graders.

**Ho.70:** There will be no significant interaction effect of Social Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Analysis for X graders.

- **For Analyses on Skill of Applying in Relation to Social Stress × Educational Aspirations × Socio-Economic Status:**
  
  **Ho.71:** X graders having High, Average and Low Social Stress will not be significantly different on scores of skill of Applying.
  
  **Ho.72:** X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Applying.
  
  **Ho.73:** X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Applying.
  
  **Ho.74:** There will be no significant interaction effect of Social Stress and Educational Aspirations on scores of skill of Applying for X graders.
  
  **Ho.75:** There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Applying for X graders.
  
  **Ho.76:** There will be no significant interaction effect of Socio-Economic Status and Social Stress on scores of skill of Applying for X graders.
  
  **Ho.77:** There will be no significant interaction effect of Social Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Applying for X graders.

- **For Analyses on Skill of Solving in Relation to Social Stress × Educational Aspirations × Socio-Economic Status:**
  
  **Ho.78:** X graders having High, Average and Low Social Stress will not be significantly different on scores of skill of Solving.
  
  **Ho.79:** X graders having High, Average and Low Educational Aspirations will not be significantly different on scores of skill of Solving.
  
  **Ho.80:** X graders having High, Average and Low Socio-Economic Status will not be significantly different on scores of skill of Solving.
  
  **Ho.81:** There will be no significant interaction effect of Social Stress and Educational Aspirations on scores of skill of Solving for X graders.
  
  **Ho.82:** There will be no significant interaction effect of Educational Aspirations and Socio-Economic Status on scores of skill of Solving for X graders.
  
  **Ho.83:** There will be no significant interaction effect of Socio-Economic Status and Social Stress on scores of skill of Solving for X graders.
  
  **Ho.84:** There will be no significant interaction effect of Social Stress, Educational Aspirations and Socio-Economic Status on scores of skill of Solving for X graders.