Chapter II

Review of Related Literature
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REVIEW OF RELATED LITERATURE

Any worthwhile research study in any field of knowledge requires an adequate familiarity with the work, which has already been done in the same area. A summary of the writing of recognized authorities and of previous research provides evidence that the researcher is familiar with what is already known and what is still unknown and untested. Since effective research is based upon past knowledge, this step helps to eliminate the duplication of what has been done, and provides useful direction in formulating hypotheses and helpful suggestions of significant investigation (Best, 1992). Thus, survey of related literature helps in the following ways:

1. It makes us aware of what has already been done and what is being done in particular field of knowledge.
2. It prepares a suitable background for investigation.
3. It is helpful in making a straightforward statement of the problem for investigation to be undertaken.
4. It gives a better application and thorough comprehension of the study being undertaken.

Practically all human knowledge can be found in books and libraries, yet it is neither possible nor feasible to review all the studies that have been conducted in the particular area. However, related literature is a valuable guide and helps in defining the problem, recognizing its significance and also helps the researcher in selecting the tools, in making appropriate research design, in effective analysis to arrive at fruitful conclusion.

Thus, in the present chapter, an attempt has been made to present a review of those studies which have some similarities with the present investigation. The present study was undertaken to examine career maturity of adolescents in relation to intelligence, self-concept, academic achievement and family environment.
The studies reviewed here have been mentioned under the following heads:

- Studies on Career Maturity.
- Gender Differences and Career Maturity.
- Studies on Career Maturity and Intelligence.
- Studies on Career Maturity and Self-Concept.
- Studies on Career Maturity and Academic Achievement.
- Studies on Career Maturity and Family Environment.

**STUDIES ON CAREER MATURITY**

Ramaiah (1956) concluded that in general the inclination of boys of high school is towards engineering, government services and social service occupations. Literary, clerical and local occupations have been the best favoured ones. 93.4% of the boys have expressed their intention to study further, 39.1% of boys among those that intend to study further have poor financial resources.

Super (1957), and Harren (1979) discovered that the research and theory in career decision-making have indicated that the development of crystallized preferences occurs in a sequential fashion in which an individual clarifies options, decides a preference and then commits to a given vocational choice.

Aggarwal (1958) discovered that the students expressed their greatest interest in social service, clerical, and law. They preferred government occupations. In fact most of them wanted to be teachers, craftsman, clerks or inspectors etc.

Super, Kowalski and Gotkin (1967) found that adolescents are not so systematic and rational. Many flounder after high school, making repeated job shifts with a clear plan based on adequate information.

Elder (1971) found that, adolescents, like most people, make career choices in a haphazard and random way.

Grewal (1971) concluded that the general appropriateness of the choices of students about their vocation was 4.61%.

Bergwall (1975) found personality integration amongst other factors a significant predictor of career maturity in the final regression model in his study.
Westbrook et al. (1976) found that the career decision scale correlated more highly with the attitude scale of the career maturity inventory (CMI, Crites 1973). They concluded that in the career maturity inventory, attitude scale and the career decision scale have more in common with each other than they do with other instruments.

Ware and Pogge (1980) reported that vocationally more mature students were more realistic in making career decisions than less vocationally mature students.

Harmon (1981) found that although women aspired for nontraditional careers in their teens, they changed to more traditional career goals when they reached their twenties. In another study, career aspirations and self-image decreased between matriculation and second year of college.

Osipow (1980), Jepsen and Prediger (1981), Fretz and Leongi (1982) observed that number of recent studies have reported low to moderate correlation between measures of vocational maturity and career decidedness. However, Westbrook (1982) found significant negative relationship between the career decision scale and career maturity attitudes, but not career maturity competencies.

Grotevant and Thorbecke (1982) came out with a research finding that in males occupational identity is revealed in acceptance of challenging tasks, whereas in females it was manifested in the form of willingness to work hard and avoid competition.

Josan (1983) in his study found that sex emerged as a significant determinant of career maturity i.e. favouring females. However Chand (1979) revealed that there existed no sex differences with regard to career maturity.

Royalty et al. (1984), in a study of traditional, nontraditional and home-making oriented freshmen and senior women found no difference among the career women (traditional and nontraditional) on self-esteem and career maturity, especially as freshmen. The only difference found was that homemaking-oriented women differed less on these variables from freshmen and senior women than the career-oriented groups.

Holland (1985) suggested that “realistic” individuals prefer practical jobs; “sociable” individuals are interested in the helping professions; “enterprising” individuals look for power and status.

Klayman (1985) examined the strategic decision behaviour of children, particularly the ability to adapt decision strategies to task characteristics. It was found
that by the age of twelve, children understand many aspects of strategic decision-making, and that they modify their strategies appropriately in response to task complexity, as do adults.

Perrino (1986) concluded that career maturity was promoted through greater internality for both academic and vocational students. The vocational student’s career maturity was also related to achievement.

Gaur (1987) found that the predictor variables of career maturity in the case of non-scheduled caste boys were social values, intellectual self-concept, and total academic achievement. In case of scheduled caste boys, social concept and theoretical values were found to be significant.

Helbing (1984), Lokan (1984), Savics (1983), Blustein (1988), and Blustein et al. (1989) have reported significant relationship between career maturity and career decidedness.

Bhatnagar and Gupta (1988) conducted a study to find the effect of a short-term group guidance programme on career decision-making of ninth class students. The results revealed higher career maturity scores after the guidance intervention programme.

West (1988) studied a sample of college students comprised of both Indian and non-Indian students from Eastern Montana College, to investigate and compare the career maturity of the American Indian and non-Indian students. It was observed that Indian students had lower mean scores on career maturity than non-Indian students within the total sample and within the class levels. It was also found that other than ethnicity, rural or urban background of the students, age, educational grade level, and gender were the factors that influenced career maturity scores in students.

Mann et al. (1989) focused on cognitive aspects of decision-making. Nine indicators of competence were discussed: choice; comprehension; creativity; compromise; consequentiality; correctness; credibility; consistency; and commitment. It was observed that by middle adolescence, most of the adolescents have achieved a reasonable level of competence.

Gaikwad (1989) reported that psychological testing, occupational information and group guidance programme certainly help the students in making appropriate educational and vocational choices.
Dunn and Veltman (1989) suggested that lower career maturity might actually reflect perceptions of restrictive post graduation vocational options. A sense of limited career options may be amplified due to a lack of economic vitality and meaningful employment options found in many rural areas. A third possibility is that the delayed career maturity of risk youth may represent limited exposure to formal career preparation, the influence of age and lack of immediacy to identify potential careers, or both.

Shenoy (1989) conducted a study of traditional and non-traditional career choices of 120 subjects, from various occupations that had been labeled as masculine and feminine occupations. She studied the sex role orientation of the subjects and the psychosocial factors related to their choices. She found that psychological sex rather than biological sex influences choice of occupation, whether traditional or non-traditional and also influences three psychosocial variables under the study: job stress, mental health and fear of success.

Chalungsooth (1989) in a study on South East Asian women of Malaysia, Philippines and Thailand, reported out of the 13 factors that influenced the career decision-making, the effect of family was the most important. Georgiou (1990) reported similar findings.

National Occupational Information Coordinating Committee (1990) conducted a survey of adults and found that nearly two thirds of the respondents had sought more information about career options when they began their careers. Only 40% of working adults followed a definite plan in mapping out their careers. Thirty percent got started through a series of chance circumstances, 18% took the only job that was available and 23% were influenced by family and friends.

Chandana (1990) studied the attitudes of high school students towards career choice process and the relationship of certain psychosocial variables with career choice. It was reported that the factors related to career maturity may differ for males and females and there is relationship between self-concept and career choice attitudes of adolescents.

Haddard (1990) showed that age was significantly related to career maturity. Further, no statistically significant relation was found between gender, major field of study, or years worked in current occupation and career maturity of graduate students.
Westbrook et al. (1990) reported positive relationship between career maturity and appropriateness of career choices.

Farmer et al. (1991) found that a significant predictor of persisting interest in science and technology career was the students’ perception of their parent’s positive attitude towards science. Similar findings were reported by Hilton et al. (1991).

Gupta (1991) found significant relationship of career maturity measures with socio-economic status, intelligence, level of vocational aspiration and participation in school and out of school activities. Swadesh and Gupta (1991) found significant difference in career attitude and planning in favour of academic stream students.

Pennamma (1991) studied the patterns of occupational choices of secondary school pupils and school leavers. It was found that the school pupils and school leavers differ in their choices of ideal, preferred and actual occupations.

Ormond et al. (1991) compared early and middle adolescents on three categories of metacognitive knowledge as they relate to decision-making; personal knowledge; task knowledge; and strategy knowledge. It was determined that by middle adolescence understanding of what is involved in the activity of decision-making is well developed.

Singh (1992) reported in his study of plus two students that science students were vocationally more mature than commerce and arts students.

Kaur (1992) investigated the predictors of career maturity, and the efficacy of self-concept, locus of control and sex to predict the career maturity of eleventh class students from govt. senior secondary schools of Delhi. Self-concept and locus of control were found to be significant predictors of career maturity.

Owens (1992), Young and Friesen (1992), Middleton and Loughead (1993) reported that children’s career choices were strongly influenced by the role of parents.

Lin (1993) found that in two top senior high schools of Taipei city, the gifted freshmen students’ career goals were vague, and a portion of them were irrational, although these students were superior to their non-gifted counterparts in career planning and knowledge of the world of work.

Pharaon (1993) compared the career maturity of college women in two cultures: Saudi Arabia and Lebanon. The results indicated that Lebanese college females had a higher level of career maturity than their Saudi counterparts as a result of greater
opportunities for career exploration and more educational options. The socialization practices of a Saudi society seemed to have produced in women confusion about their self-perceptions and their societal roles.

Sagan (1993) investigated into the relationship of self-concept, career maturity, and locus of control of adult students who were enrolled in the Saskatchewan Skills Development Program. Although no significant changes were found in the variables on pre-test and post-test scores, the results tend to support super’s position that: (1) a high self-concept is important to career development and career decision-making requires a sense of autonomy or internal locus of control; (2) adults with a more positive self-concept and internal locus of control orientation were likely to be mature persons, secure in their level of career development, and not likely to be interested in exploring new occupations; (3) adults with a lower self-concept and a more internal locus of control might not, as yet, have crystallized a preference for a field of work and a specific occupation.

Sharma, Bhargava and Sinha (1993) found that the science math’s group showed significantly favourable career attitude than commerce group. It was also found that both groups showed significant differences in total career competence as well as in planning, problem solving and self-appraisal. Science group showed better total competence as well as in planning and problem solving whereas, commerce group showed better competence in self-appraisal. In another study, Sharma (1993) arrived at the conclusion that the scholastic achievement did not play an important role to influence the attitudes of adolescents towards career maturity.

Sharma and Bhargava (1994) also found that science (Biology) and commerce groups differed significantly in career attitude. It was also found that the commerce group showed better total competence and competence in occupational information and goal selection, whereas, science group showed better in problem-solving competence.

Coetzee (1994) indicated that decision-making was an important factor in the career maturity of adolescents. The readiness to make a decision regarding a career includes psychosocial and cognitive readiness. Socio-economic background and the parental subsystem both influenced career maturity of standard nine pupils. All dimensions of family functioning were related to career maturity.
Neece (1994) compared the career maturity of African American college students studying in Traditionally Black Institution (TBI) and Predominantly White Institutions (PWI). The TBI students were found to have higher levels of career attitude than PWI students. TBI freshmen were much lower in career maturity than TBI seniors, who were similar to PWI freshmen and seniors. Furthermore, findings indicated that seniors scored higher than freshmen in almost all aspects of career maturity. In regard to gender, no differences were found. In general, parental variables and academic achievement were not strongly related to career maturity.

Palmer (1994) found no significant differences between experimental group and the control group on self-esteem, vocational identity or career self-efficacy due to career planning instruction.

Rojewski et al. (1995) examined the impact of gender and academic-risk behaviour on the career maturity attitudes and competence of rural adolescents and found significant main effects for gender and academic-risk status on affective career maturity.

Perry (1995) found that career maturity was positively related with grade point average, academic integration, faculty contact, encouragement from family and friends, and institutional commitment.

Dailey (1995) compared the career maturity of male athletes who participated in swimming and gymnastics and non-athletes in same academic environment. Results indicated that participation in surveyed sports resulted in low career maturity. Demographic factors such as parents’ education, year in college, high school grade point average, and college grade point average were not significant predictors of an athlete’s career maturity. However, these were all predictors for a non-athlete’s career maturity.

Robinson (1995) observed that students who participated in a career course tended to change their choice of preferred occupational group; and participating in a career course positively affected career planning attitudes.

Hoyt and Lester (1995) worked on adults who had no career guidance as adolescents and reported the following findings:

1. Ethnic differences continue to operate as a deterrent to equity of career development opportunities for African Americans as compared with European Americans.
2. Significant differences in career development exist among adults with various kinds of educational experiences.
3. Career development needs exist, significantly, among adults in all age categories.
4. A high priority must be placed on meeting the career development needs of persons who drop out of 4-year colleges and universities before receiving a degree.
5. Special attention must be provided to those youths who either drop out of high school or seek to enter the labor market with only a high school education.

Galotti and Kozberg (1996) conducted a year-long longitudinal study that examined the college decision-making process. It was observed that students do experience stress in making this decision, and in many ways perceive it as a life-framing one. However, they reported feeling more certain of their decision, more comfortable with their approach to the decision, more confident in their ability to make the decision, and more satisfied.

Lundberg (1996) concluded that significant cultural differences existed between Anglo-American and Mexican-American adolescents in the areas of career maturity and personality preference, and that intuition was a strong and consistent predictor of career maturity in both of these adolescent groups.

Neyer (1996) compared the career maturity of elite athletes and non-athletes. No significant difference in career maturity was found between the two groups. Age and years of education were positively correlated with career maturity but the correlation was significant for non-athletes only.

Ranhotra (1996) in her study found that plus-two students were average on all the six measures of career maturity.

In Lundberg et al.'s (1997) study, Anglo ninth-graders had higher career maturity scores than Mexican-American students, which they attributed to the latter's limited access to information about the world of work. They also found significant differences between the two groups on the Myers Briggs Type Indicator, highlighting the key influence of personality on career maturity.

Brown (1997) examined whether sex differences exist in career maturity for African-American urban youth and to study their career choice expectations and educational plans. African-American females were found to have higher career maturity,
as is consistent with other studies of non-minority groups. Educational plans were found to be consistent with occupational expectations for both males and females.

Touma (1997) investigated the effects of gender, race, school type and curriculum on the career maturity scores of high school students. Results indicated a significant main effect for race on the attitude scale of CMI, a significant main effect for curriculum, and interaction between race and curriculum on the competency scale of CMI, a significant main effect for race and curriculum and a significant interaction among school type, race, and curriculum on the total score of CMI. No significant main effect for gender on either scales or total score of the CMI was observed.

Naidoo (1998) observed that career maturity is influenced by age, ethnicity, locus of control, socioeconomic status, work salience, and gender. The complex interaction of these factor affects individual readiness to succeed in mastering the tasks appropriate to various stages of career development.

Perron et al. (1998) found that minority students in Quebec had higher ethnic identity and vocational maturity earlier than the majority population but their maturity scores fell behind by 11th grade. They suggested that increased ethnic identity might lead to greater awareness of potential barriers and thus lower career maturity.

Guss and Adams (1998) explored various issues related to effect of gender on career development. Results demonstrated that career education significantly influenced the non-traditional perception of 6th grade students. But it was also felt that for meaningful changes in beliefs for gender and self-concept, more comprehensive educational approaches may be required. The study has important implications for counseling.

Wood (1998) explored the relationship of career maturity to ethnicity, gender, academic achievement, interests, parental influence, and socio-economic status in African-American and White students. The independent variables better predicted the CMI subscales for White ninth graders than for African American ninth graders. Academic achievement appeared to be the most predictive for the white group. For the African American group, race and interests appeared to be the predictor variables. The independent variables were found to be better predictors for males than for females.
Bianchi (1998) studied the variables influencing eighth grade students' career aspirations and found gender, father's educational attainment, father's occupation, and students' reading skills are significantly related to career maturity.

Wu-Tien Wu (1999) noted that mathematically and scientifically talented male senior high school students' diversity of occupational interest was basically similar to that of their regular counterparts. This is in accordance with Chen's (1993) finding.

McCartney (1999) studied the effect of career interventions on the career maturity of rural high school youth and found no significant difference in career maturity of treatment and control group.

Hinkelman (1999) conducted a study to examine the effects of prior counseling on the career maturity of rural high school students. A sample of grades nine to eleven students was selected. He found significant main effects for time (frequency of treatment) and sex for career maturity, a significant main effect for time as well as group x sex interaction and a group x sex x time interaction for career maturity.

Weisskirch (1999) found significant relationship between career maturity and self-clarity, achievement identity status, moratorium identity status, diffusion identity status, and overall identity status. Relationship between career maturity and knowledge about occupations and training, parenting styles, part-time work attitudes, and school attitudes did not reach significant levels.

Mau (1999) examined the cultural relevance of two important career constructs: career decision-making style and career decision-making self-efficacy. Two distinct cultural group of college students, Americans (N = 540) and Taiwanese (N = 1026), participated in this cross-cultural study. Results suggested that career decision-making styles have differential impacts on career decision-making self-efficacy, depending on the cultural background of the individuals. Results also showed significant differences in career decision-making style and career decision-making self efficacy as a function of nationality and gender.

Kumar (2000) observed that level of vocational maturity of the students at 10+2 stage was below average in career choice attitudes as well as career choice competencies. It was also noted that academic stream students scored higher on vocational maturity inventory as compared to the students from vocational stream.
Reed et al. (2000) found a significant decrease in the negative career thoughts of students after they attended a university career development course based on cognitive information processing theory.

Hardin et al. (2000) investigated whether theories and measurement of career maturity, because of their reliance on independence in career choice attitudes as a crucial variables, may be culturally relative and therefore less valid when working with Asian Americans. Results revealed that as a group, Asian Americans exhibited less mature career choice attitudes than European Americans. However, High Acculturation Asian Americans and those with lower interdependent self- construal did not differ from European Americans in maturity of career choice attitudes.

Jaques (2000) examined the differences on measures of career maturity between female student athletes and female students not participating in college athletic team. No significant difference was found between the two groups on any of the measures of career maturity.

Powell (2000) reported that age, gender, ethnic background, grade point average, and employment status are significantly correlated with increase in career maturity. Older students had higher career maturity than younger ones; females scored higher than males; Caucasian Americans scored higher than African Americans; students with higher grade point average scored higher than their counterparts with lower grade point average; employed students exhibited higher career maturity than unemployed students.

Vatsa (2001) found significant difference in the vocational maturity of adolescents of academic and vocational streams. Students from academic stream scored significantly higher in comparison to their counterparts in vocational stream.

Study conducted by Creed and Patton (2003), with a sample of 365 secondary students from grades 8 to 12, where predicting variables were age, gender, family, socio-economic status, academic achievement and work experience. Together these variables explained relationship, 52% of the attitudinal dimension of CM and 41% of the competency dimension.

Smedley et al. (2003) investigated the level of career maturity of non adjudicated high school students without disabilities and 3 groups of adjudicated high school students; those without disabilities, those with learning disabilities, and those with
emotional disturbance. Also investigated the relationship between career maturity and behavioural functioning, using the behaviour assessment system for children self-report of personality. No significant differences existed between non adjudicated and adjudicated students without disabilities. Adjudicated students with emotional disabilities and learning disabilities scored significantly lower than non adjudicated high school students without disabilities on the overall measure of career maturity.

Coertse and Schepers (2004) conducted a study to determine the personality and cognitive correlates of career maturity. The sample comprised of 1476 first year students from different faculties at a South African university. The career development questionnaire was used to determine the career maturity levels of the respondents. Based on the scores in respect of the career development questionnaire the respondents were divided into career mature, a career immature and a middle group. These groups were then compared in respect of various personality and cognitive constructs. Statistically significant differences were found in respect of most of the personality constructs but not in terms of the cognitive constructs.

Creed, Hyde and Punch (2004) conducted a study on the career development of hard of hearing high school students in Australia, attending regular classes with itinerant teacher support. Sixty five hard of hearing students were compared with a matched group of normally hearing peers on measures of career maturity, career indecision, perceived career barriers, and three variables associated with social cognitive career theory (SCCT), career decision-making self-efficacy, outcome expectations, and goals. In addition the predictors of career maturity and career indecision were tested in both groups. Results indicated that (a) the two groups did not differ on the measures of career maturity (b) the SCCT variables were less predictive of career behaviour for the hard of hearing students than for the normally hearing students, and (c) perceived career barriers related to hearing loss predicted lower scores on career maturity attitude for hard of hearing students.

Okafor (2004) found that most secondary school students selected law, medicine, accountancy, engineering, business, administration, teaching, nursing, secretarial work and military service in that order. On the factors responsible for the students choice of careers, 80% of the students cited material gains in terms of salaries and emoluments;
Patton et al. (2004) investigated the career maturity of 1090 high school students in years 8 to 12 in Australia (n = 656) and South Africa (n = 434) scores on the Australian version of the career development inventory were analysed. While a developmental explanation for career maturity was supported, gender differences between countries and differences at school transition points were found. Manova was used to assess the effects of gender, grade and school on the career development inventory subscale. At the univariate level, significant main effects for gender were found for world of work knowledge, and career decision-making. Significant main effects for grade were found for career planning, career exploration, world of work knowledge. One significant main effect for school was found in career decision-making. Significant interaction effects for school by grade were found for career planning, career exploration and career decision-making. Significant interaction effects for school by gender were found for career exploration, world of work knowledge. There were no differences between Australian females and South African females on career exploration. Australian females scored lower than South African females at year 9 for career planning, higher than South African females at all years for world of work knowledge.

Salami (2004) investigated the relationship between problem solving ability and career maturity of secondary school students in Nigeria. The results showed that the three variables of problem solving ability when combined effectively predicted career maturity among the students.

Anna (2005) investigated the occurrence of possible differences in the time perspective and career maturity for learners of different grades (Grade 11 and Grade 12), genders (male and female) and school environments (advantaged, transit and disadvantaged). The second aim was to establish whether the time perspective of learners could be used to indicate a significant percentage of variance in their career maturity. The findings indicated that differences do exist in time perspective and career maturity for learners of different grades, genders and school environments. It was found that learners from disadvantaged schools were most focused on the future, while learners in advantaged schools were least focused on the future. Also male learners in advantaged
schools were less focused on the future than any other group. Learners from advantaged schools were less focused on the future than any other group. Learners from advantaged schools achieved the highest average in career maturity, while learners from disadvantaged schools achieved the lowest. It was also found that time perspective can be used to predict a significant percentage of variance in the career maturity of Grade 11 and 12 learners.

Booth (2005) found the relationship among career aspirations, multiple role planning attitudes and wellness among a population of under graduate women and to examine differences between African-American and Caucasian undergraduates. Results indicated that multiple role planning and wellness did not predict career choice but did predict career motivation for the overall sample. In addition, cultural differences were observed in career motivation, multiple role planning and wellness. Pearson product moment correlation, stepwise regression and multivariate analysis of variance were used to test the research hypothesis. The results indicated that wellness and multiple role planning attitudes did predict career motivation for women without children and for the total sample of women in this study.

Dhillon and Kaur (2005) conducted a study on career maturity among students of public and government schools. Results showed that boys and girls of public schools differ significantly from boys and girls in the government schools in career attitude and career competence. On comparing the boys and girls of government schools, the girls scored significantly higher on career maturity attitude, career maturity competence, achievement motivation and self-concept. Results further showed that CMA has significant positive correlation with CMC, achievement motivation and self-concept.

Singg (2005) conducted a study on worker status, responsibility and career maturity of college students. The results (3 × 2 Anova) demonstrated that part time workers were more responsible and they displayed greater career maturity than full time and non-working students. Young female students displayed higher levels of career maturity than the young male students, but did not differ on personal responsibility. Sex was not found to be a factor in relationship between worker status and career maturity or personal responsibility.
Collins (2006) found that physiological birth order play a significant role in shaping a child’s career choice. Analysis revealed that there is statistically significant data regarding the relationship between first child personality traits and career choice.

Hasan (2006) found that students with real occupational aspirations have shown higher level of career maturity than students with idealistic occupational aspiration. Realistic occupational aspiration is positively related to career decision-making. It was further observed that male subjects displayed greater career maturity.

Studies conducted by Alvarez Gonzalez et al. (2007) confirmed that the dimensions of information and decision-making show increasing development as age and years in school increase, and the exploration dimension is what shows the least development.

Amadi et al. (2007) investigated the vocational maturity and occupational preferences of adolescent students in Nigeria. The sample consisted of 600 senior secondary students drawn from a population of 23,229 senior secondary school students. Statistical tools used were the t-test and one way analysis of variance. Some of the findings were: (a) that students were vocationally matured in four dimensions of vocational maturity namely: self knowledge, occupational information, involvement in decision-making and independence in decision-making (b) that gender had no significant influence on three out of four dimensions of vocational maturity.

Blustein and Diemer (2007) examined the component structure of three indices of career development with 220 urban high school students. Analysis revealed a unique four component (connection to work, vocational identity, commitment to chosen career, salience of chosen career) solution best fit the model. In addition to the traditional emphasis on vocational identity and future orientation in theories of career development, the obtained component solution suggests that (in a social context with pressure to disconnect) remaining connected to one’s vocational future in the face of external barriers, vocational hope a particularly important consideration in urban adolescent’s career development.

(George Curran and Smith, 2003; Fraga, 2007; Vila and Perez Gonzalez, 2007) related career maturity with emotional competencies. These studies showed moderate correlations between emotional intelligence and career maturity.
A cross cultural study of British and Chinese International university students by Santos and Zhou (2007) reported that males experienced fewer difficulties than females in career decision-making.

Ciani and Scott (2008) reported that participant's scores on the vocational identity scale revealed that men reported a significantly higher vocational identity than women.

Junqi (2008) examined the relationship between emotional intelligence and career maturity. By conducting correlation and structural equation model analysis, the results revealed that, not only emotional intelligence and general self-efficacy had direct effect on career maturity, but emotional intelligence had indirect effect on career maturity through general self-efficacy.

Factor analysis was conducted by Dybwad (2008) to examine the structural validity of Daidalos, a 20 items inventory designed to assess the factors that might inhibit or promote successful career decision-making, a career maturity. The sample consisted of 776 high school students. 367 were male and 409 were female. Participants ranged in age from 16-54 years (M = 18). The statistics provided had strong support for a two factor hierarchical model and slightly less for a five factor non-hierarchical model. Separate analysis for men and women showed that the model was far more appropriate for women than for men. Item loadings ranged from .46 to .81, first-order factor inter correlations ranged from -.15 to .68 and the correlations between the two higher-order factors was -.42.

Salami (2008) investigated the relationship between gender, identity status and career maturity of secondary school adolescents. Five hundred and eighty one (Male 275; Female 306) senior secondary school adolescents completed the Career Maturity Inventory and the Ego Identity Status Scale. The results showed that identity statuses significantly predicted career maturity of the adolescents but gender did not. Diffused identity status made the highest (negative) contribution to the prediction of career maturity followed by achieved and moratorium identity statuses in that order. No significant differences were found between the males and females in their career maturity and identity statuses.

Heller (2008) conducted a study on psychological predictors of career maturity in college student-athletes. Results indicated that there is a weak positive correlation
between role conflict and career related distress which means that increase in role conflict correspond to career related distress. In addition there was very weak positive correlation between role conflict and athletic identity, as well as role conflict and career related distress. The study found that females reported higher levels of role conflict, however the findings did not find support for gender differences in athletic identity or career related distress. No significant differences were found across undergraduate students for role conflict, athletic identity and career related distress between student athletes.

Talib (2009) studied a sample of 1229 respondents who consisted of undergraduate students from four public universities. The findings of the study suggested that gender was significantly correlated with career indecision. In addition t-test revealed a significant difference of career readiness among male and female undergraduates. Female undergraduates showed higher career indecision when compared to male undergraduate students.

Wu (2009) investigated the influences of gender and work experiences as career maturity, as well as the relationship between advisory monitoring and career maturity. Analytical results from 528 full time MBA students were summarized as follows (a) gender exerted significant differences in advisory monitoring functions (instrumental and career-related functions) but not in career maturity (b) work experiences was significantly related to plan fullness (c) psychosocial function was a strong predictor of plan fullness and independence, whereas career-related function was a strong predictor of both information gathering and involvement.

The Life Orientation Test-Revised (LOT-R) measures of career maturity, career decision-making, career goals, and well being were administered to 504 high school students. Exploratory and confirmatory factor analysis demonstrated bi-dimensionality rather then uni-dimensionality for the LOT-R, with the two factors of optimism and pessimism being largely unrelated. Those with high optimism reported high levels of career planning and exploration, were more confident about their career decisions, and had more career related goals, those with high pessimism reported low levels of career and decision-making knowledge, were more career indecisive and reported low levels of school achievement. For well-being, those with high levels of optimism reported high levels of self-esteem and low levels of psychological distress, whereas those with high
levels of pessimism reported low levels of self-esteem and more psychological distress. [Bartrum, Creed and Patton (2009)].

Lim et al. (2010) conducted a study to find out about the effectiveness of a cognitive-behavioural program for nursing students on career attitude maturity, decision-making style, and self esteem in Korea. The subjects were 40 nursing students from one college located in Gyeonggi province; twenty participants were randomly assigned to an experimental group, and 20 were assigned to a control group. Data was analyzed chi test and t-test. After treatment with cognitive-behavioral therapy, the experimental group significantly increased in the mean score of career attitude maturity, self-esteem for nursing students in Korea.

Kaur (2010) revealed that the female college students belonging to urban areas are significantly higher in career values than those in rural areas and family values of the female college students are not influenced by parental attitude towards girls education, employment and location of residence. It was found that the female college students are more career oriented than being family oriented, especially in case of those having favourable parents attitude and urban background.

GENDER DIFFERENCES AND CAREER MATURITY

Smith (1971) found significant differences in vocational attitude maturity across sexes for eighth and tenth grade students and further concluded that females proved to be vocationally more mature than males.

Burkhart (1973) found significant differences in the career maturity of men and women at three levels of education. He also found that girls were vocationally more mature than boys.

Holland (1985) and Stocking et al. (1992) indicated considerable differences in occupational aspirations between male and female high school students

Aggarwal (1981), also found significant sex differences for school students on self-appraisal, occupational information, planning and career choice attitudes. Similar results were reported by Currie (1973), Mintzer (1976), Margonoff (1978), Dean (1981) and Pernicano (1981).
These findings were, however, not supported by Gribbon (1960), Davis et al. (1962), Smith (1974), Dye (1975), Anderson (1976), Pile (1977), MacCaffery (1980), Moni (1979), Vornholt (1979), Niece and Bradley (1979), Bhatnagar and Gupta (1988), Kaur (1992), and Neece (1994). They did not find any difference in career maturity arising on account of sex.

Tyler (1965), Putnam and Hansen (1972), in their research in the area of sex differences in career maturity indicated that females tend to lag behind males in career development and career maturity, and may be less likely to be able to make appropriate career decisions.

Martinez (1980) concluded that male students were significantly more career mature in their attitude towards career decisions than females.

Kishor (1981) also found males to be more mature in career choices than females.

Wu and Hung (1981) indicated considerable differences between male and female high school students.

Stewart (1986) showed that males had lower mean scores than females in each of the career development stages.

Studies have alternatively shown that female adolescents are more career - decided than males (Vondracek et al., 1990).

Naidoo (1993) examined that career maturity of African American male and female university students and found greater career maturity in favour of girls.

In a study by Rojewski et al. (1995) on effects of gender and academic risk behaviour on the career maturity of rural youth, it was found that that females were more involved and independent in their career development than their male counterparts.

Robinson (1995) reported that females demonstrated a greater level of career maturity than males. Melton (1995) and Ranhotra (1996) also reported that girls showed higher level of career maturity than boys.

Although women in Luzzo’s (1995) study had higher career maturity scores than men, they were more inclined to perceive role conflicts and barriers as obstacles in their career development process. Women may balance their career preferences with what seems possible, regardless of whether their career behaviour is appropriate for their career development stage (Farmer et al., 1997).
Brown (1997) examined whether sex differences exist in career maturity for African-American urban youth and found females to have higher career maturity.

Touma (1997) studied the career maturity of high school students and found no main effect of gender on either the attitude or the competence scale of career maturity inventory.

Smith (1998) examined the perception of students enrolled in vocational education courses (11th and 12th grade students) towards work and career related issues. The results of the study did not yield any significant mean differences between or among the assessed variables i.e. grade level of students, gender and educational levels of mother and father.

Ohler et al. (1998), studied the career maturity of college students in relation to gender and disability. Females in the study demonstrated higher levels of overall career maturity and career knowledge, including decision-making and the world of work.

Powell and Luzzo (1998) found that men perceived more of control over their decision-making than did women.

Career maturity research showed conflicting results for gender, some studies finding higher levels in males, others in females (Naidoo, 1998). The complex interaction of other influences may make career maturity development different for women and men.

McCartney (1999) showed that females scored better on the career development inventory than did males.

Petrone (2000) found significant differences between males and females on career decision-making. Females scored higher on measures of career competency and were better equipped to make a career choice than did males. Powell (2000) and Kumar (2000) also arrived at the same conclusions.

Vatsa (2001) observed significant difference in the vocational maturity of female and male adolescents of academic as well as vocational streams; differences were in favour of females.

A study of career maturity among the adolescents was carried out by Gulmathur and Sharma (2001) with the objective of finding out the difference among boys and girls. The results showed that both boys and girls had average level of career maturity.
Significant difference was found between boys and girls in attitude towards career choice. The results showed that both boys and girls had equal level of career competency. Patton and Creed (2002) found that females had higher work commitment scores than males.

Dhillon and Kaur (2005) found that on comparing the boys and girls of government schools, the girls scored significantly higher on career maturity attitude and career maturity competence.

Singh (2005) studied that young female students displayed higher levels of career maturity than the young male students.

Hasan (2006) observed that male subjects displayed greater career maturity.

Amadi et al. (2007) found that gender had no significant influence on three out of four dimensions of vocational maturity.

Santos and Zhou (2007) reported that males experienced fewer difficulties than females in career decision-making.

Ciani and Scott (2008) observed that men scored significantly higher on the vocational identity scale than women.

Salami (2008) found no significant differences between the males and females in their career maturity.

Talib (2009) studied that female undergraduates showed higher career indecision when compared to male undergraduate students.

Bartram, Creed and Patton (2009) conducted a study on gender differences for optimism, self-esteem, expectations and goals in predicting career planning and exploration in adolescents. The study tested a career mediational model based on social cognitive career theory (SCCT) and cognitive-motivational-relational theory (CMR). It was hypothesised that stable person inputs of optimism and self-esteem influenced career expectations, sequentially predicting career goals, career planning and career exploration. A different pathway was identified for females, with optimism directly influencing career goals, which subsequently predicted career planning and career exploration, self-esteem predicted career expectations, which then directly influenced career planning and career exploration bypassing career goals.
Rafeedali (2010) found that there is significant difference in the vocational interest of secondary school students in relation to their achievement motivation. The results showed that vocational interests of girls is greater than that of boys.

In the light of the research studies/evidence, following major trends emerged:

- Studies referred above illustrate that career maturity of an individual is a gradual process that develops through age, experience, and grade level. It increases as he/she grows through different age and grade levels. Moreover, choice process is not a single and independent act; rather a number of other factors cast their influence on the career behaviour and maturity of an individual.

- Research studies offer contradictory and inconsistent conclusions in respect of gender differences in career maturity. Many studies have demonstrated significant gender-related differences on career maturity while some others found no differences. Still others have provided support in favour of females having greater career maturity while many studies existed, which did not substantiate these findings.

**STUDIES ON CAREER MATURITY AND INTELLIGENCE**

Many researchers have traced the importance of intellectual ability in career development and in achieving career maturity. The more intelligent an individual is, the more capable he is in dealing with the various development tasks and hence vocationally more mature.

Super and Overstreet (1960) assessed the vocational maturity of ninth grade boys in career pattern study and demonstrated that vocational maturity and intelligence had a positive correlation significant at 0.01 level. Conclusions drawn from this study revealed that more intelligent boys were more capable in dealing with various vocational development tasks and hence were vocationally more mature.

On a sample of 116 twelve years old 6th graders, Davis et al. (1962) tested the influential factors of occupational choices. The results revealed that the more mature choice correlated positively with intelligence.

Joshi (1963) found a positive relationship between intelligence and level of vocational aspirations.
Dilley (1965), on high school students and Hollander (1971), on 5200 students of grade VI through XII, found increasing intellectual ability associated with increasing vocational decisiveness.

Crites (1971) demonstrated that VDI scores moderately and positively correlated with intelligence.

Smith’s (1971) study revealed that for tenth grade boys and eighth grade boys and girls, mental ability and achievement were the only significant predictors of variation in vocational maturity.

Scheri (1972) studied a sample comprising of 181 boys of eleventh grade and administered a vocational development inventory (VDI) to measure their career maturity. A correlation analysis revealed that a linear relationship (+0.46) existed between IQ scores and CMI scores.

Smeda (1972) also found intelligence as an important factor in determining vocational choice.

Whiteman (1972) studied the career maturity of disadvantaged eighth and twelfth grade students in relation to many variables and concluded that mental ability was the only statistically significant variable in the prediction of vocational attitudes of boys and girls.

Parlikar (1973) reported that intelligence is the most significant variable for the prediction of career maturity.

Harkness (1973) found intelligence as a single predictor of occupational knowledge at elementary stage while Lawrence (1974) revealed it as a significant predictor of career attitude, self-appraisal, occupational information, goal selection and planning for twelfth grade students.

English (1974) conducted a study on senior high school students to compare the effects of two methods of disseminating occupational information on vocational maturity and found that there is no significant difference between high I.Q. and low I.Q. students in terms of increased vocational maturity level after they were exposed to experimental conditions.

Kelso (1975) found positive relationship between choice attitudes and I.Q.
Bloomer (1976) discovered that level of intelligence and interaction of intelligence with career maturity was significantly related to the scores of the occupational information subtest of the competence test (CMI).

Lawrence and Brown (1976) in their study on 12th grade students found intelligence highly related to some aspects of CMI than others.

Hoppock (1976) noted that there was a contrast between the reactions of children with low and high I.Q. towards different professions.

Seaward (1976) while comparing 240 females participating in co-operative vocational office training, intensive business training and regular business programme in selected high schools in Missisipuri, found significant correlation between intelligence and vocational maturity.

Mintzer (1976), however, found intelligence as a weak predictor of vocational maturity for seventh, ninth and tenth grade students.

Clark (1977) established that students with middle range I.Q. in the comparison group made uniformly greater scores than the students with middle range I.Q. scores in the treatment group on the attitude scale, for all the five parts of competence test, while reverse was the case for the students in the groups with lower and higher I.Q. scores.

Pillai (1977) studied intelligence as a determinant of occupational aspiration of high school students and found that intellectually superior children aspired for higher level of occupations and vice versa.

Harris and Wallin (1978) reported that high ability students choose career fields earlier, and their career choices are more stable than the choices of low and average ability students.

Rice (1978) asked 111 students in grades eighth, tenth and twelfth to write down three of their favourite vocations, and then classified their intelligence according to their preferences on the Otis Mental Ability Test. It was interesting to find out that a considerable portion of students chose professional and management vocations, especially those with lower I.Q. This suggests that the less intelligent might have unrealistic life goals.
Chand (1979) conducted a study on correlates of vocational maturity and found positive and significant correlation between intelligence and vocational maturity of adolescents.

Wilson (1979) found that attitude scale of CMI was significantly related with intelligence.

Yadav (1979) found that intellectually brighter students went to science and commerce streams and poorer ones to arts, and in turn their vocational preferences were by and large, in tune with their courses of study.

Clawson (1980) reported that the experimental group showed a significant positive difference over the control group in problem solving and a very nearly significant difference on goal selection, choice, attitude and planning.

Rogers (1980) found that career indecision and mental abilities are not highly correlated.

Wu and Hung (1981) found that bright and normal pupils had similar factor structures in vocational preference.

Aggarwal (1981) found a significant correlation between intelligence and vocational maturity.

Pavlok (1981) found intelligence to be the best predictor of vocational attitude. Steven (1981), in his study, found that there was no difference between curriculum groups on measures of intelligence and their relationship to career maturity.

Bedi (1982) revealed that educational and occupational aspirations of adolescents were significantly correlated with intelligence.

Westbrook (1982) reported correlation between measures of career maturity and mental ability to be ranging between 0.08 and 0.86 with a median of 0.54.

Over a period of two decades, it has been found by various researchers that there is positive and significant relationship between intelligence and vocational maturity (Crites 1969, McGee 1973, Tinney 1973, Seaward 1976, Chand 1979, Aggarwal 1981, Simpson 1983).

Khan and Alvi (1983) reported that CMI scores were generally correlated with self-estimates of their general ability.
Josan (1983) concluded that the high scoring groups of both verbal and non-verbal intelligence scored higher than average and low scoring groups on attitude scale, occupational information, goal selection, problem solving and total maturity (CMI) with the exception of self-appraisal and planning where low scoring group scored the highest.

Tulsi (1983) explored that the average intelligence group scored significantly higher in vocational maturity as compared to low intelligence groups.

Chodzinski (1983) found that intelligence emerged as the best predictor of vocational maturity.

Adequnloye (1984) reported that vocational maturity was positively and significantly correlated with intelligence. Sujata (1984) also found similar results between intelligence and vocational choice.

Madan (1984) found that intelligence significantly influences the choice of arts students in the fields of social service, general culture, and arts and entertainment.

Holland's research (1985) showed that decisiveness among senior high school students varied with the intellectual characteristics of students.

Mangat (1988) concluded that intelligence was significantly related to various areas of vocational maturity viz. self-appraisal, occupational information, goal selection, planning, total competence and total maturity.

Gaikwad (1989) studied the factors that affect class tenth student's decision-making abilities. The findings revealed that the students who were above average in intelligence showed definiteness about the further course of study whereas students who were below average in intelligence were not certain about further studies. Also those with higher intelligence had more occupational information as compared to those with low intelligence.

Saxena (1989) found intelligence to be the correlate of vocational maturity, both career choice competency totals (CCC) and career choice attitudes (CCA). It plays more significant role in the vocational developmental task, depicting maturity in realistic career selection process.

Chandana (1990) revealed a significant positive correlation between intelligence and vocational maturity.
Gupta (1991) found that intelligence contributes significantly to the prediction of career maturity.

Kochar (1992) reported girls to have higher scores on intelligence as compared to the score of boys.

Lin (1993) reported that gifted students were superior in career planning and working world knowledge in comparison to their non-gifted counterparts.

Chen (1993) found that there were no significant differences in vocational trends and career directions between gifted and non-gifted senior high school students.

Shukla (1994) arrived at the conclusion that verbal intelligence is negatively related with vocational interest.

Ránhota (1996) reported significant differences in favour of girls and academic stream in respect of intelligence.

Wu-Tien Wu (1999) noted that gifted students had better career attitudes in career planning and better career knowledge in decision-making, than did regular students, which resulted in greater career maturity.

Petrone (2000) reported significant relationship between measures of career maturity and level of intelligence.

Vatsa (2001) observed significant differences in the vocational maturity of adolescents of high and low intelligence groups in case of academic and vocational streams. In both the streams, those who possessed high intellectual ability scored higher on vocational maturity inventory as compared to those with low intellectual ability.

Lounsbury et al. (2004) examined intelligence and personality in relation to career and job satisfaction using a sample of 36 managers and 100 hourly employers of a utility company, the correlation between career satisfaction and intelligence was not significant for the total sample, but was significantly negative for hourly employees, and significantly positive for managers.

Junqi (2008) conducted a study on emotional intelligence and career maturity. The results revealed that, emotional intelligence have direct effect on career maturity.

Sharma and Sharma (2008) studied career preference of senior secondary students in relation to their intelligence and found that level of intelligence of the students have direct relation in their career preference.
Thus research has largely shown that higher intelligence contributes to better handling of vocational development tasks and thus leading to higher level of career maturity.

**STUDIES ON CAREER MATURITY AND SELF-CONCEPT**

Super et al. (1957) pointed out that individuals with high self-concept have high aspirations and make choices that are higher in status in comparison to those who have low self-concept. Moreover, such individuals choose occupations in which there is demand for leadership and power.

Super et al. (1963) claim that one’s vocational choice is the “implementation of one’s self-concept. Additionally, the actual vocational choice is the result of an extended developmental process, which can be assessed in terms of “career maturity”. One aspect of the self-concept, which seems particularly relevant to the study of women’s career development, is that of self-esteem, which is the self-evaluative component of the self-concept.

Bimbaum (1975) examined life patterns and self-esteem in gifted, family-oriented and career-committed women in their forties and fifties. Her findings indicated that of the three groups; (homemakers, married professionals, and single professionals), the homemakers were the ones with the lowest self-esteem and the lowest sense of personal competence; even concerning childcare and social skills.

Thomas and William (1978) found that career decision-making was influenced by the self-concept of the students.

Montemuro (1979) found that the self-concept oriented treatment group scored significantly higher than control group on four of the five sub-scales of CMI and attitude survey scale.

Mehta (1980) has emphasized on the concept of self-awareness and career consciousness, decision-making and preparation for the transition from school to work.

Salomone (1982) reported that individuals who were unable to make their future career choices possessed low self-confidence and low self-esteem.

Fitzgerald and Betz (1983) found that women with a positive view of themselves were not only more likely to be career-oriented and innovative in their choices of careers...
but also more likely to make actual choices consistent with their early aspirations, and those leading to consistent and manageable life styles.

Khan and Alvi (1983) and Helbing (1984) found that students with high self-esteem have greater vocational maturity than those students who had low self-esteem.

Crook et al. (1984) suggested that self-esteem influences career attitude directly.

A positive relationship between self-esteem and satisfaction with career choice was reported by Stafford (1984), who found that congruence between present and preferred occupation was positively related to self-esteem. Women who worked in their preferred occupation felt better about themselves, regardless of the type of work performed.

Georgia et al. (1984) observed that persons high in self-esteem are better able to make more realistic career decisions.

Helbing (1984) reported that vocationally immature students possessed low confidence and self-esteem.

Gottfredson (1985) found that one of the major psychological determinants of vocational choice is self-concept. It plays an important role in understanding the choice of a career.

Brewer and Kramer (1986) applied the self-concept implementation theory to vocational choice and arrived at the conclusion that individuals of high self-esteem tended to implement self, when making career choices, whereas individuals of low self-esteem did not.

John and Andrew (1987) observed that career exploration leads to more certain self-concept.

National Occupational Information Coordinating Committee (1990) suggests self-knowledge as the first of three integral competency areas in the National Career Development Guidelines. The guidelines address the progressive acquisition throughout life of (1) knowledge of the influence of a positive self-concept; (2) skills to interact positively with others; and (3) understanding of the impact of growth and development.

Chandana (1990) also found that career choice attitudes of adolescents are related with their self-concept.
Gecas and Seff (1990) studied the role of psychological centrality and compensation in maintaining self-esteem. They found that when work was a central aspect of men’s self-concept, occupational variables (occupational prestige, control at work) were more strongly related to self-esteem than when they were not; similarly, when home was important, home variables (control and satisfaction at home) were strongly related to self-esteem.

Starkey (1990) observed that choice of an educational goal and his/her career aspirations are significantly effected by self-assessment of one’s abilities.

Forest and Gainor (1991) emphasized upon the need to consider African-American women’s self-concept while studying their career decisions.

Kaur (1992) found that self-concept is a significant predictor of career maturity.

Sagan (1993) emphasized the importance of high self-concept in career development. Individuals with a more positive self-concept were likely to be mature persons.

Finch (1993) studied self-concept and career maturity of high school students. The students were divided into three groups: (1). Vocational students: those who chose vocational technical training (2) Traditional students: those who were eligible for vocational training but chose not to attend, and (3) Traditional students: those who were ineligible for admission for vocational training. The findings revealed that traditional students manifested better self-concept attitudes than vocational students, and that vocational and eligible traditional students exhibited higher level of career maturity than did ineligible traditional students. The basic conclusion drawn was that self-concept and career development play an important role in the total growth and development of an individual.

Greene (1994) found women’s strong sense of self as one of the four factors that influence the women’s decision-making.

Anderson (1995) and DaGiau (1995), in their studies, demonstrated that better understanding of one’s self-concept increases the influence of self-concept upon career maturity. According to Anderson (1995), “self-knowledge is a domain with many pathways”. Historical self-knowledge-understanding of past experiences and influences that led to one’s current level of development-is a key to shaping the future.
Ranhotra (1996) observed no significant difference in self-concept between academic and vocational stream students.

Tomiyasu (1997) found significant relationship between self-efficacy and career decision-making behaviour in undergraduates.

Asha and Johnson (1997) mentioned that urban and rural students with better self-concept were homogenous with respect to vocational maturity. Among students having high self-concept, those from urban background seemed to be vocationally more mature than those from rural background.

Weisskirch (1999) studied career maturity of adolescents and observed significant relationship between career maturity and self-clarity and achievement of identity status. Those who were highly career mature were found more aware of their traits, interests, strengths and weaknesses in making career choices.

Hardin et al. (2000) found that high-acculturation Asian Americans did not differ from the European Americans in career maturity and self-construal (“how individuals see themselves in relation to others”).

Erez and Judge (2001) studied the relationship of core evaluation to goal setting. They suggested that self-esteem, locus of control, generalized self-efficacy, and neuroticism form a broad personality trait termed core self-evaluations. Results revealed that the core self-evaluation trait was related to goal setting behaviour. In addition, when the four core traits were investigated as one homological network, they proved to be more consistent predictors of job behaviors than when used in isolation.

The findings indicated by Coertse and Schepers (2004) showed that career mature students gather information about the self and the environment in order to make effective career decisions. Statistical significant differences were found between career mature and career immature students in respect of self-confidence, self-esteem and self-control.

Haktanir and Kargi (2004) investigated the relationship between self-images and career maturity of students in pre-school teacher education. The results showed that more positive the self-image of the students, higher the level of career maturity. They also found that factor of living in the country affects the relationship between the self-image and the level of career maturity in a significant way.
Niles and Trusty (2004) found that relationship exists between career indecision and student's achievement of self-awareness, knowledge of occupations and the development of planning and capability.

Dhillon and Kaur (2005) investigated the relationship between career maturity and self-concept of school going children. Results indicated that the girls of government schools scored significantly higher on career maturity attitude, career maturity competence, achievement motivation and self-concept. Significant positive relationship had been obtained between career maturity attitude (CMA) and career maturity competence (CMC), between internal locus of control and achievement motivation, and between CMA and self-concept.

Hasan (2006) revealed that adolescent students with higher self-concept showed higher level of career maturity than the students with low level of self-concept.

Ching (2007) proposed a study on career maturity, career decision-making, self-efficacy, interdependent self-construal, locus of control and gender role ideology of Chinese adolescents. The statistical results of career readiness model suggested satisfactory goodness of fit, with 15% of the total variation in career maturity explained by the career related attributes in combination. Gender role ideology had a direct positive effect on career maturity, with the indirect effect mediated by interdependent self-construal and career decision-making self-efficacy. Locus of control had a direct negative effect on career maturity and indirect effect mediated by career decision-making self-efficacy. With the exception of the effects of gender role ideology on career decision-making self-efficacy and interdependent self-construal on career maturity all the other hypothesized paths were supported by the data.

Ciani and Scott (2008) conducted a study on effects of undergraduate career decision-making, self-efficacy and vocational identity. Manova was used to assess 88 students pre course and post course self-efficacy for five tasks related to career decision-making. Results revealed that students reported significantly more adaptive self-efficacy beliefs following the career course. Pearson product-moment intercorrelations among pre intervention and post intervention rating on each scale were analyzed. The intervention was especially effective for women who reported significant gains in self-efficacy for self-appraisal, gathering occupational information, goal selection, planning and problem
solving. Men reported significant gains in self-efficacy for each of the above mentioned tasks, with the exception of problem solving, where there was no change.

Kaur (2010) found that female college students with high self-esteem are more career-oriented as compared to their counterparts with low self-esteem. Further career orientation is positively related to the achievement motivation of female university students.

The research studies have largely shown that an appropriate choice of a career depends upon knowledge about the self. Higher level of self-concept results in greater career maturity.

STUDIES ON CAREER MATURITY AND ACADEMIC ACHIEVEMENT

Students at the plus one stage have to select certain courses, so they have to be conscious of their decisions, as good academic scores are in a way related to one's career choice.

Holden (1961) in a sample of 109 students from grade 8\textsuperscript{th} to 11\textsuperscript{th} concluded that students tend toward those vocational choices that are most suitable to their scholastic ability.

Reddy (1971) observed significant relationship between occupational choices and academic achievements of students.

Smith (1971) concluded that achievement is a significant predictor of vocational maturity for eighth grade boys and girls.

Parlikar (1973), working with 75 boys and 75 girls of 8\textsuperscript{th} to 11\textsuperscript{th} grade of Gujarati medium schools of Baroda city, found that those students who have better academic records tend to be vocationally more mature individuals than those whose academic achievements were poor.

Bloss (1972) and Cosby (1974) emphasized that it is now a scientifically well-established fact that those students who have better academic records tend to be vocationally more mature individuals than those whose academic achievements are poor.

Walsh and Hanle (1975) concluded that academic achievement correlates positively with career maturity.
Bloss (1972), Harris (1976), and Hamby (1977) found no significant effect of academic achievement on vocational maturity.

Gasper (1976) found that students who perceived themselves as doing well in school possessed higher vocational maturity than those who perceived themselves as being less successful in school.

Vohra (1977) found that students scoring high academically were opting for technology, general culture, social service, and arts and entertainment.

Arredonodo (1977) concluded that students' academic achievement did not have a significant effect on career maturity. However, when controlling for age, significant differences were found in the planning for total scale. In both instances, the data revealed that students in the A grade average group had significantly higher mean score than the C grade average group.

Chand (1979) studied the correlates of vocational maturity of 480 boys and girls of urban and rural high schools of Chandigargh and showed that academic achievement of students was directly related to their vocational maturity.

Perrone et al. (1979) found that talented persons sometimes have a tendency to commit themselves to career choices prematurely, based on subject matter fields in which they achieve considerable recognition and success.

Successful completion of college study represents a channel for greater earnings and upward career mobility, and also increases the likelihood that one's offspring will have better prospects for earnings and employment (Havighurst and Levine, 1979)

Ashby et al. (1966) and Taylor (1979) found negative relationship between high academic achievement and indecision.

Osipow and Waddell (1980) examined the relationship between career decision scale and grade point average for the first term freshmen and found insignificant relationship between achievement and career decision. Rogers (1980) reported similar results.

Ware and Pogge (1980) suggested that students might accept or reject career possibilities because of their level of dissatisfaction with their educational attainment.

Pavlok (1981) reported that grade point average (GPA), along with other variables was the best predictor of vocational attitudinal maturity for ninth grade students.
Robinson (1981) and Khan and Alvi (1983) found that academic achievement was positively and significantly related to vocational maturity.

Westbrook (1982) reported correlation between academic achievement and vocational maturity to be ranging between -0.10 to 0.77 with a median of 0.57. Different subjects were found to have different effects on vocational maturity, which ultimately help in the development of a realistic self-image of an individual.

Bourjaily (1984) found a significant relationship between academic performance and occupational aspirations. Students reporting high academic performance indicated an orientation towards academic occupations; students reporting lower academic performance indicated an orientation towards vocational occupations.

Gaur (1987) discovered academic achievement as one of the predictor variables of career maturity in case of non-scheduled caste boys.

In a sample of college students comprised of both Indian and non-Indian students from Eastern Montana College, West (1988), found that career maturity was positively and significantly related to age and GPA but not to gender for the total sample. A significant positive correlation was also found between career maturity and GPA for the group of American Indian students in the sample. A low positive correlation was found for the non Indian students in the sample, but this correlation was not significant.

Mangat (1988) concluded that academic achievement was significantly related to occupational information, goal selection, planning, total competence and total maturity.

Studies have shown that career maturity, realistically dealing with occupational choices, correlates positively with academic performance in most student populations, including college groups (West, 1988). Some distinct subgroups, however, are exceptions (Burkhead and Cope, 1984), and minority ethnic groups have been found to score consistently lower on career maturity than comparison Caucasian groups (Loesch et al., 1979; Pelham and Fretz, 1982).

Singh (1990) and Dewan (1996) found that performance of girls academically is higher in comparison to boys.

Sharma (1993), however, found that the scholastic achievement did not play an important role in influencing the attitudes of the adolescents towards career maturity.
Results also revealed the inference that boys irrespective of their scholastic achievement tend to have similar attitudes towards maturity.

As regards the career competence, high achiever boys have better competence in comparison to their counterparts. It was also found that boys having high achievement were significantly higher in problem solving and planning as compared to their counterparts.

Neece (1994) also arrived at the conclusion that academic achievement was not related to career maturity.

Perry (1995) also found a positive relationship between career maturity and grade point average.

Melton (1995) observed that there was statistically significant difference in career maturity between high academic ability group and the middle and lower academic groups. Females, from all the three academic groups were found to have higher career maturity when compared to males.

Bhargava and Sharma (1995) concluded that both high achieving and low achieving students did not differ significantly in career attitude. However, high achievers and low achievers showed significant difference in total career competence as well as competence in self-appraisal, occupational information, planning and problem-solving. Low achievers showed better competence in goal selection.

Dailey (1995) compared the career maturity of male athletes and non athletes in same academic environment. It was observed that grade point average was a significant predictor of career maturity for non athletes only.

Ranhotra (1996) observed no significant difference in academic achievement of academic and vocational students.

Brown (1997) found that educational plans of African-American urban youth (both males and females) were consistent with occupational expectations.

Wood (1998) noted academic achievement to be one of the predictor variables of career maturity.

Wu-Tein Wu (1999) found significant relationship between career variables and academic attributes among senior high school students. It was also observed that gifted group surpassed the regular group in academic interest and performance in both science
and mathematics, but the trend was opposite in some courses (i.e. Chinese literature, Living arts, and Social studies).

Powell (2000) reported that students with higher grade point average scored higher in career maturity inventory than their counterparts with lower grade point average.

Akos et al. (2004) found a correlation between mid year calculations of Grade – Point Average (GPA) and career indecision and suggested that career indecision might relate to scholastic aptitude, as a cognitive career choice process.

The results by Coertse and Schepers (2004) indicated that statistically significant differences were found between career mature and career immature students in respect of academic performance as derived from the matric marks.

However a study by Hampton (2006) revealed that career indecision is not related to GPA and mathematics achievement.

Talib (2009) indicated female undergraduates with high academic achievement and low occupational information, and vocational identity were more unlikely to have decided on their career.

Various studies have indicated that higher academic achievement is positively associated with mature career behaviour. It may be assumed as one of the predictor variables of career maturity.

STUDIES ON CAREER MATURITY AND FAMILY ENVIRONMENT

Roe (1957), recognized the role of the family as an important influence on educational and vocational development. He found that parents attitudes have effect over the child’s eventual occupational choice.

Lee and King (1964) concluded that mothers have a greater influence on the level of occupational choice of girls than fathers. Also girls seem to be more realistic in their choices than their parents.

Roe and Seigelman (1964) found no significant evidence that affectionate parent-child relationships determine choice of person oriented vocation.

Wert (1968) found that children with assertive or dominating parents may implicitly accept their parents plan for their vocational future.
Fong (1973) reports that in many Chinese and Korean families, the choice of career is not seen as the young person's decision, rather it is made by the parents regardless of the child's occupational interests.

Rao (1973) found that there is a positive and significant relationship between parents and their wards in the choice of vocation of wards.

Shoffner and Klemer (1973) suggested that parents, affect their children's career choice by acting as role models, and also influences the children's self-concept. They seem to act as occupational motivators, job-information resources and providers of the developmental environment.

According to the National Institute of Education (1980) in rural areas, mothers exert the strongest influence on their daughters career decisions.

Although mothers have been found to influence students career decisions, several writers have suggested that father is also an important determinant of career choice (Auster and Auster, 1981; Reider, 1977; Vetter et al., 1979; Lahikainen, 1985).

Women physicians indicated that family influence and extra family encouragement had been important motivations towards their career choice (Heins, 1982).

The degree to which adolescents engage in the process of decision-making, depends on the family situation, temperament and family life style (Schvaneveldt and Adams, 1983).

Lee (1984) reported that parental influence has a greater impact on career choice attitudes of Native American students than on that of white students.

Family was reported as the most helpful and important factor that helps in career decision-making by Noeth et al. (1984); Garfinkel (1986); Galbraith and Mariah (1989).

Poole and Gelder (1985) investigated family cohesiveness and adolescent autonomy in career decision-making in a sample of 292 females and 227 males. Findings indicated that family cohesiveness and autonomy emerged as two independent factors with females higher on both dimensions.

Lopez and Andrews (1987) advise parents to encourage autonomy in their children's decision-making of vocations. Rather than directing, prescribing to or pressuring their children independent career exploration and decision-making.
Eigen et al. (1987) identified no significant relations between family adaptability, cohesion and career indecision.

Palmer and Larry (1988) found that parents function effectively in fostering the career development of their children, when provided with a structured programme that can follow.

Chalungsooth (1989) in a study on South East Asian women of Malaysia, Philippines and Thailand found that of the 13 factors that influenced that career decision-making, the effect of family was the most important factor. Similar findings were reported by Georgiou (1990).

Sartor (1990) found that parents influenced their children's choice and decisions.

Hilton et al. (1991) reported that a significant predictor of persisting interest in a science or technology career was the student's perception of their positive attitude toward science. Similar findings were reported by Farmer et al. (1991).

Hoffman et al. (1992) reported that parents were found to be the primary influences on their off springs career choice.

Owens (1992), Middleton and Loughead (1993) concluded that parents have a strong and active role in influencing children's career choices.

Ranhotra (1996) found that family environment has significant relationship with career decision-making.

Bianchi (1998) studied the variables influencing eight grade students career aspirations and found gender; father's educational attainment, father's occupation and students reading skills are significantly related to career maturity.

Haktanir and Kargi (2004) investigated that the parent's education level did not affect the development of career maturity level. They also found that career maturity level points do not differentiate due to the occupation of the father.

Hargrove (2005) conducted a study to examine how perceptions of family interaction patterns as defined along three dimensions of family environment predict vocational identity and career planning attitudes among male and female adolescents living at home. One hundred twenty three high school students completed measures of family environment, vocational identity and career planning attitudes. Analysis revealed that the quality of family relationships (i.e. degree to which family members are
encouraged to express feelings and problems) played a small, yet significant role in predicting career planning attitude of adolescents.

Ferry (2006) reported that cultural and social content of family and community were found to be instrumental in how youth learn about careers and influential in the choice process.

Goliath (2007) suggested that several factors influenced the career decision-making process of Chinese immigrant youth. Most participants considered their family to be traditionally Chinese and described academic and career-related pressure and expectations from their parents. Not only did the parents have high expectations for their children, they wanted their children to pursue careers that are highly regarded in Chinese culture such as doctor, teacher or engineer. Participants were encouraged to pursue different careers depending on their gender.

Hall (2008) studied the role of parental influences on young adolescents career development. Regression analysis revealed that parental behaviors did relate to the career development of middle school students. After controlling for student grade level and gender parental behaviors tended to relate more to career decision making self-efficacy than to career maturity, and general psychosocial parenting behaviors appeared to be more salient than career-focussed parent behaviours. The discrepancy between adolescents and parents views of family relationships was also shown to relate to the adolescents career decision-making self-efficacy.

Lee and Sook (2009) examined the relationships between family systems and high school students career development. Family adaptability and family cohesion were considered as indicators of family function, and career attitude maturity was conceptualized as representative factor explaining adolescents career development. A total of 634 high school students participated in this study. Overall, the results showed that family adaptability and family cohesion were both significant predictors of tenth graders career attitude maturity. The effects of parent's educational backgrounds on career attitude maturity were negligible. However, the relationships were inconsistent across gender. For female students, family cohesion was a more influential predictor of career attitude maturity than family adaptability, while the opposite pattern was observed for the male students.
Louis (2009) conducted a study to examine the relationship between family interaction patterns and career development of the college students. A number of 274 college students from two private institutions and one public institution was taken. The study revealed that the relationship between family interaction patterns and career development was weak. The study also showed that family interaction patterns contribute less than 10% of the variance in career decision. No gender differences were observed.

Hence, a conductive family environment helps in making of wise career choice without much difficulty.