Chapter One

INTRODUCTION
People make many decisions every day. Some of these decisions are made as a part of one's daily routine, whereas, others are perceived as being more important and require more attention. Most career-related decisions belong to the latter kind because they typically have significant long range implications on people's lifestyle, the friends with whom they socialize, the vocational activities in which they engage, and hence on their quality of life (Gati & Asher, 2001). Therefore, career decisions are among the most important decisions one has to make, and they are significant for both the individual and the society as a whole.

Choosing a lifelong career is one of the fundamental decisions which students, especially adolescents and young adults, have to make. In the contemporary Indian scenario, it is almost impossible to enter the job market without careful planning, unlike earlier times when jobs were acquired to earn a living or taken simply by chance. As India has made rapid technological advancements and is globalized now, Indian youth is faced with the challenge of choosing careers more wisely, particularly because decisions involve early planning for specialization and training. Making a career decision however, is a complex task. Choosing a career does not begin with the selection of the career itself, but first with an understanding of oneself in relation to work, and then with finding a career at which one could excel. Parsons (1909), often known as the father of guidance for having institutionalized vocational guidance, observed that in the wise choice of a vocation, there are three broad factors: a clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations and their causes; a knowledge of the requirements, conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work; and true reasoning on the relations of these two groups of facts. A century later Parsons’ ideas continues to influence current day theories and views on career choice and development with the emphasis on the need for a match between personal and occupational characteristics.

Career decisions made by young adults have significant implications for their lifestyle as well as their personal and occupational satisfaction. Appropriate decisions place the young person on a path towards discovering a satisfying career, and it is excellence in a satisfying career that brings success, wealth, prosperity and happiness. Hackett and Betz (1995) state that there are few other decisions that exert as profound an influence on people's lives as the choice of a field of work or career. But making
career decision is a difficult and anxious task for most of the students. People typically make their first career-related decisions during adolescence. Adolescent students often have to make decisions concerning their choice of high school and their high school elective courses. These decisions affect the students' educational and vocational opportunities. Although some of the adolescents who are required to make these early career decisions do so relatively easily, many others face difficulties before or during the actual process of decision making.

It has been estimated that 25% of all students entering colleges and universities do so without having decided on a career (Rogers & Westbrook, 1983). About 50% of students change major at least once (Kelly & White, 1993, as cited in Orndorff & Herr, 1996) and many students who visit university counseling centers request help with career decision making issues (Lucas & Berkel, 2005). A survey of 629 undergraduate professional and graduate students at a large university in Minnesota reported career related and financial concerns highest among students' needs for counseling (Volk, 1985). Higher concern levels were found in the undergraduate group. A second survey of faculty, staff, administrative officers and campus ministry workers also rated career related issues highest among student concerns (Volk, 1985). This is consistent with a study of perceived orientation needs of new students by Kramer and Washburn (1983) which found that students consistently ranked perceived academic and career planning needs as most important before and after orientation. Of important issues facing student services professionals delineated by chief student affairs officers, career orientation of students was among the top ten (Valerio, 1980).

Career concerns faced by first year university students include anxiety for being undecided about a career and are also being plagued by the process of career exploration, lack of confidence and uncertainty about an occupation, self assessment and not knowing major strengths and weaknesses, and lack of knowledge of work and what workers do at the workplace (Nile & Bowlsbey, 2009). Ashby, Wall and Osipow (1966) explored three groups while studying career decision making in undergraduate students- decided, undecided and tentative group. Decided group was certain about its educational and vocational plans and undecided group was not having sufficient certainty of their plans. Tentative group had moderate degree of certainty but some hesitation about the goal which led them to choose their respective
careers. Findings showed that decided and undecided groups were academically superior to the tentative group. It is tentative group which is indecisive about career planning and may have various problems. The inability to make a career decision despite the availability of career related data is often related to underlying psychological dysfunction (Fuqua & Hartman, 1983). This construct is labeled as career indecision which is characterized by a generalized maladaptive approach to problem solving and decision making (Herr & Crammer, 1992).

Slaney (1988) noted that career indecision has been used to refer to the problems individuals may have when making career decisions. Generally, career indecision is defined as an inability to make decision about the vocation one wishes to pursue (Guay, Senecal, Gauthier & Fernet, 2003). It also reflects student’s career readiness or maturity as students who are undecided about their career have trouble with decision making (Hagstrom, Skovholt & Rivers, 1997; Lucas & Epperson, 1988). Career indecision may impact career issues such as choosing a major, making career choices or even unemployment. It may also create social problems in future such as untrained labourers, alienated youth and maladjusted adults.

Gordon (1994) noted that many studies tried to determine how undecided students were different from decided ones. Professionals have assumed that if these differences are known, various types of interventions can be developed. According to Gordon (1994), long term benefits will be realized when high school students enter college or the work force with a deeper sense of personal knowledge, a better grasp of educational options and a more realistic appraisal of the world of work. She claimed that both students and their parents will view being undecided (in most cases) as a positive rather than a negative state and that students will not feel as pressured to decide before they are ready and will feel confident in the exploration process by using the excellent resources available to assist them in making stable and satisfying career decisions.

Students may have deficits in problem-solving and decision-making competencies (Brown & Mann, 1991). Friedman (1991) when studying the types of decisions with which Israeli adolescents are faced, found that a large proportion of them considered choices related to their educational future as problematic (43% of the problems expressed concerned academic-career choice). Soresi (2000) reported similar results in a sample of young Italian adolescents.
These problems may lead them to attempt to transfer the responsibility for making the decision to someone else or to delay or even avoid making a decision. This may ultimately lead to a less than optimal decision. Relieving first year students of the stigmas of being undecided and of the pressure to decide during the first year of college could lead to a revitalized and more positive use of career counseling and career exploration programs/resources. The result could be greater student satisfaction regarding their education, and eventually, their occupation. Thus the need to understand educational/vocational decision making is imperative. In the current study, career indecision experienced by undergraduate students was studied and factors predicting career indecision were explored.

**Career Decision Making: Theoretical Background**

Through the ages people's lives have been governed by work like occupations of tilling the soil, hunting, weaving or cooking. It is only the definition of what constitutes work that has changed dramatically over the last century. Work, which has been man's most ancient preoccupation, has gradually evolved into today's concept of a career – an occupational path that one follows throughout the course of one's life. The Concise Oxford Dictionary defines work as the expenditure of energy, striving, application of effort or exertion to a purpose and career is defined as a way of making a livelihood and advancing oneself.

Initially designated the label *vocation*, it pertained to the professional working life of the individual. This evolved to the contemporary conception of career in terms of an all encompassing process of experiencing a variety of occupational roles and personal perceptions throughout life. This distinction reflects the changing context of work within societies during last century. The original concept referred to an orderly progression up a hierarchical ladder within an organization or profession (Watts, 1996). However, in today's post-industrial society and post-modern culture, the construct of career describes a process of life-long learning and decision making as individuals adjust to continual changes in their work activities and life roles (Savickas, 2001).

The terms vocation, occupation, job and work are now used interchangeably to denote activities and positions of employment, whereas career refers to the performance and positions within a vocation, occupation or job, together with a plethora of related activities associated with an individual's lifetime of work (Zunker,
Hence, the way in which the term career is used in contemporary literature is generally more inclusive than it was previously conceived.

According to Arulmani and Nag-Arulmani (2004) all careers can be conceived as forms of work characterized by a number of distinct features:

- **Volition and Choice**: Career decision-making and the exercise of one’s will.
- **Suitability**: Individual’s suitability for a specific set of work skills brought about by the modern concept of specialization. This leads to identification of personal interests, aptitudes and abilities.
- **Preparation**: Developing knowledge about and skills for the career one has chosen through study and training. It also involves developing the right attitude to survive and progress in the world of work.
- **Ongoing Development**: Lifelong learning is integral to career development. Greater opportunities for further development, promotions or branching into other areas of specialization are all part of an individual’s ongoing career development.
- **Social-Personal Dimensions**: The dynamic interaction between the accumulations of personal gain and services the individual renders to society at large.

Thus, we can conclude that career is the progress and actions taken by a person for making a livelihood and advancing oneself with lifelong learning to make adjustment to continual changes in work roles.

But with industrialization and the impact of the information technology boom in India; work has grown from being merely linked to survival needs or cultural and community dictates to something far more complex to a career, requiring increasing amounts of specialization and training. Also it carries with it similar implications of gender, socio-economic status, prestige and self-actualization. As a result, career decision-making is as much of a reality in India as in other parts of the world. Career decision-making includes a process by which one selects an occupation (Zunker, 1998). Brown, Brooks and Associates (1996) defined career decision-making as the thought processes by which an individual integrates self-knowledge and occupational knowledge to arrive at an occupational choice.
In 1964, Locascio described vocational decision-making from the viewpoint of delayed and impaired vocational development. Locascio (1964) hypothesized a model of continuous development in which he stated that individuals, when faced with a vocational developmental task, would apply vocationally relevant behavior from their own backgrounds to their present situations. Vocationally relevant learning would then occur when an individual coped with a vocational developmental task and incorporated this learning into his or her existing behavior. Vocational decision was delayed or impaired if an individual lacked an awareness of the vocational developmental task or was unable to cope with the task to gain more information about the process of career decision making.

Walsh (1987) focused on the process of making a decision from the standpoint of choosing a specific course of action from available alternatives. In describing the process by which an individual chooses a specific course of action, Walsh also described barriers to decision-making and suggested various methods by which an individual could improve the ability to make a decision. Individuals could improve their ability to make a decision by identifying alternatives, gathering information, and using the information gathered to evaluate alternatives. To understand the concept of career decision making, it is necessary to study theoretical background of it.

Career development theories started with the idea that one could match an individual's abilities and interests with occupational factors and then their career decision-making process would be complete (Feldman, 2002). Theorists have introduced the idea that a career decision is developmental in nature, impacted by societal and environmental circumstances, influenced by personality factors, or shaped by observation and interaction in their environment (Osipow & Fitzgerald, 1996).

Historically, one can trace the origin of career decision-making and the interest of career development to Frank Parsons, whose book *Choosing a Vocation* was published in 1909 during America's period of industrial expansion. He established a three-step model of developmental tasks: understanding of self, knowing the requirements of different occupations and using informed reasoning to incorporate the understanding of self and knowledge of occupations to make a vocational decision (Feldman, 2002). Various theories of career decision making are briefly described as follows:
**Ginzberg's Theory of career development (1951).** Ginzberg, Ginsburg, Axelrad and Hernia (1951) construed vocational choice as an irreversible process, occurring in reasonably clearly marked periods and characterized by a series of compromises the individual makes between wishes and possibilities. Fantasy, Tentative and Realistic are the three periods named by these theorists. These periods also have sub stages of development.

This group of developmentally oriented vocational theories place the 17-19 year old in the exploration stage of the Realistic period. This stage is characterized by ambiguity and indecisiveness and involves choosing a direction from two or three interest areas. Upper-class students would be completing exploration and most would reach the crystallization stage (making firm decisions and strengthening commitment to the choice) by graduation. Variability in this process is fairly common, according to Ginzberg.

Ginzberg proposed that occupational choice was related to self identity. This idea was fundamental in that it became the foundation of many studies relating self-image and self-efficacy to decision making.

**Super’s Vocational Development Theory (1957).** Perhaps the best known career development theory is that of Super (1957) who postulated five vocational life stages: growth (birth-age 14), exploration (age 15-24), establishment (age 25-44), maintenance (age 45-64) and the decline stage (65 and older). Each stage is characterized by a series of vocational tasks and behaviors society expects an individual to accomplish. Super (1963) identifies these tasks as crystallizing a vocational preference, specifying it, implementing it, stabilizing in the chosen vocation, consolidating one's status and advancing in the occupation.

Super’s (1980) self concept theory posits that career choices are implementations of attempts to actualize the skills, talents and interests reflective of one's self concept and are based on the completion of developmentally appropriate vocational tasks between the ages of 15 and 25 years. He claimed that stability of the self concept, evidenced by crystallizing (ages 14 to 18), specifying (ages 18 to 21) and implementing (ages 21 to 24) career choices, provides resilience in the face of external influences and facilitates the internalization of coherent goals and values in the career domain. Super's concepts provide the counselor or academic adviser with a
better understanding of the stages, attitudes and behaviors involved in the lifelong vocational development of the individual.

Career Decision-Making Theory by Tiedemann (1963). Another theoretical framework that can enlighten the understanding of career decision making is that of Tiedeman (1963). Career is defined as the imposition of direction into the vocational behavior of a person which is subject to his comprehension and will (Tiedeman, 1964). According to Tiedeman (1963) we are confronted at many points in our lives with environmentally caused study and work discontinuities. These discontinuities are caused by transition events that call for career-related decisions. Some of these transitory events include moving from elementary to high school, selecting subjects to take in high school, selecting a college and selecting a program of study in college. Central to Tiedeman's view of career is that we are responsible for our own behavior at these decision points and are capable of purposeful action. This paradigm of the processes of differentiation and integration in problem solving is rooted in seven stages of career decidedness. The first four stages are incorporated in the anticipatory or planning stage while the last three are seen as aspects of implementation or adjustment.

The first four stages are concerned with planning. Harren (1976) has described them as follows:

- **Exploration**: In the initial stage students are vaguely anxious about the future but they are unable to identify a plan of action. Indeed, students at this stage cannot verbalize what they do not want in a career; they have no negative choices.

- **Crystallization**: Some progress is being made toward a choice in this stage because students are now able to recognize alternatives. They are able to discern the advantages and disadvantages of options and are able to recognize possible conflicts.

- **Choice**: At this point students commit themselves to a particular major, consequently feeling a sense of satisfaction and relief. They are now more optimistic about their future. They begin to formulate a plan of action to implement their career goals.
The consequences of their choices are now internalized; they realize they have made a definite commitment. Images of self and future are now elaborated and perfected.

The action stages of induction, reformation and integration occur as one lives out the decisions and successfully synthesizes the images of self with those decisions. Tiedeman's theory offers a frame-work for understanding all students, but it is particularly helpful in identifying some of the decision-making tasks uncommitted students face.

Student Developmental Model by Perry (1970). William Perry of Harvard had been studying college students since 1953. He found that students' reports of their college experiences seem to manifest a logical order over their four years of college. His scheme reflects the changes that college students seem to undergo intellectually and ethically as they progress to their senior years. Perry (1970) describes the students' cognitive processes as taking place in a series of nine stages or positions as he calls them, which are in a natural sequence of development. Perry's nine positions have been simplified into the four stages outlined below.

**Dualism.** The dualistic student enters college with a simplistic approach to reasoning. The student perceives the counselor or teacher as the authority with the right answer, whether it be choosing a college major or determining the five major reasons for the decline of the Roman Empire. Dualistic students' locus of control is external, so it is natural for them to ask for the test that will decide for them which college major or career to follow. Because the dualistic students' perception of the world is absolute, no self-processing is evident.

**Multiplicity.** As students move upward into the next positions (stages), they begin to take more responsibility for their own learning. They are still controlled by external forces such as parents, peers, faculty, or the job market. Multiplicity students now understand the possibility of right or wrong career decisions. Because this may cause anxiety, they turn to the counselor or adviser to eliminate the dissonance and reduce the possibility of a wrong decision. Multiplicity students acknowledge that multiple good choices do exist and they realize that evaluating all the choices is part of the decision-making process. At this stage students begin to understand that their advisor or counselor does not have the right answer and they begin to question the process itself.
Relativism. Students moving into the relativistic positions are able to synthesize diverse and complex elements of reasoning. They have made a decision and are finally in charge of their own lives. Life choices are tailored to their own needs and interests. Uncertainty is finally accepted as legitimate.

Commitment. Few individuals reach the commitment stages while in college. At commitment career choices become a conscious part of the individual's identity. In the final position, according to Perry, the individual recognizes commitment as an ongoing process that requires continual effort to integrate new experience and knowledge.

Although most undecided students may be found in the dualistic and multiple positions, the relativistic and commitment stages have been briefly described to indicate the progression from a closed perspective of decision making and accompanying responsibility to a more open and pluralistic view of alternatives. Ultimately, there is a commitment to one career alternative and a realization of one's potential.

Social Learning Theory (1976). A theory of vocational decision making which has received much attention in the literature and which provides a suitable conceptual framework is the Social Learning Theory of Career Selection (Krumboltz, Mitchell & Jones, 1976). It has both the specificity in selecting types of variables for examination and the connection to treatment approaches required. The Social Learning Theory of Career Selection posits four factors which influence career decision making (Krumboltz et al., 1976). First, there are genetic endowments and special abilities which influence career decision making. These include demographic variables such as ethnicity, gender and physical appearance. It also includes special abilities, such as: intelligence, musical ability, or muscular coordination. Second, environmental conditions or events affect career decision making. Such factors as job market and training opportunities, social organization and role expectations and family and economic history are included among this second group of factors. Third, three types of learning experiences affect career decision making. These include: instrumental learning experiences in which the individual is selectively reinforced for certain types of career decision-making behavior, associative learning experiences in which career decision-making behaviors are conditioned or associated with an unconditioned stimulus and observational learning in which the individual observes a
model obtaining positive outcomes associated with his/her behavior. Finally, the fourth factor affecting career decision making is task approach skills. Information-seeking skills and problem-solving skills are two examples of task approach skills which affect career decision making.

**Cognitive-developmental Model (1978).** Knefelkamp and Slepitza (1978) adapted the Perry scheme in their Cognitive-Developmental Model of career development. This model comprises career development stages which relate to each of the Perry positions. The student is described as moving from a dualistic view of career decisions to a committed, relativistic view of career decisions (Knefelkamp & Slepitza, 1978). In dualism the students exhibits external locus of control and simplistic thinking. The student tends to believe there is one right career and that some authority figure has the right answer. The stages proposed during multiplicity involve awareness of an ability to make a right or wrong choice among alternatives and a desire for guidance in this decision process so as to avoid that wrong choice. The development of internal locus of control which allows one to compare outside information with personal experience, the ability to accept responsibility for career choices and integration of self-identity and career-identity are purported to occur within the stages of relativism and commitment.

**Betz's Theory (1981).** Betz's theory involves self-efficacy and the anxiety factors associated with decision-making (1981). It is significant in that it reveals the internal factors that influence making decisions. Betz's research generated additional studies on the importance of self-confidence in making one's own decisions and the importance of locus of control in decision-making. Difficulties in career decision making or barriers to making a decision exist in various forms- Some examples of internal barriers, according to Hackett and Betz (1981), to career decision making would be:

- Lack of self control or reliance on external locus of control
- Self talk *I would try it, but I am too young*. This exhibits lack of confidence, fear of change and other self-defeating stereotypes.
- Emotional reactions (like temper or feeling threatened) which can lead to hasty decisions

Examples of external barriers to career decision-making generally cited are:
Time obstacles like procrastinating, waiting for a decision so long that it makes itself, without having to make a choice.

Information exists to make a decision but this is not specific enough information for a higher level decision.

The tendencies to overdo or collect too much information to be able to sort or use it effectively. Conversely, a decision can be difficult because of getting too little information.

**Cognitive Information Processing Theory (1996).** Peterson, Sampson, Reardon and Lenz (1996) have proposed an eclectic theory of cognitive information processing that incorporates decision-making skills, career information, self-knowledge and cognitive skills into the decision-making process. This theory provides a conceptual framework for effective decision-making and is composed of four main components arranged in hierarchical order. Self-knowledge and occupational knowledge lie at the foot of the hierarchy while generic information-processing skills, including communication, analysis, synthesis, valuing, and execution (CASVE), are located at the intermediate level of this model. The executive processing domain, a set of higher-order cognitive functions (metacognition), is required to monitor, regulate and guide these lower order components of career decision-making and comprises the top layer in the hierarchy.

**Gottfredson’s Theory of Circumscription and Compromise.** In comparison to the more established career development frameworks such as Super’s and Holland’s theories, Gottfredson’s theory of career development is a more recent contribution. Gottfredson (1981, 2002, and 2005) assumed that career choice is a process requiring a high level of cognitive proficiency. A child’s ability to synthesise and organise complex occupational information is a function of chronological age progression as well as general intelligence. Cognitive growth and development is instrumental to the development of a cognitive map of occupation and conceptions of self that are used to evaluate the appropriateness of various occupational alternatives. In recent revisions of her theory, Gottfredson (2002, 2005) elaborated on the dynamic interplay between genetic makeup and the environment. Genetic characteristics play an important role in shaping the basic characteristics of a person, such as interests, skills, and values, yet their expression is moderated by the environment that one is exposed to. Even though genetic makeup and environment play a crucial role in
shaping the person, Gottfredson maintained that the person is still an active agent who could influence or mould their own environment. Hence, career development is viewed as a self-creation process in which individuals looked for avenues or niches to express their genetic proclivities within the boundaries of their own cultural environment.

Thus, since Parson’s time numerous theories have evolved and have made meaningful contributions to the field of career development. This has led to the acquisition of a broad conceptual and empirical foundation of knowledge enlightening many aspects of career-related behaviour. According to Super’s (1957) five stages of vocational life, the behaviour involved in career decision making is influenced by self-concept. According to Tiedeman (1963) the planning stage which includes exploration, crystallization, choice and clarification, leads to implementation stage. Ginsberg’s theory of career development states that exploration stage (17-19 years) is characterized by ambiguity and indecisiveness. Career choice is also related to self-identity and self-efficacy. Perry’s (1970) study on development of cognitive processes and Knefelkam and Slepitza's model (1978) state that students move from dualism to multiplicity where they find multiple good choices of career which they have to evaluate to reach a decision and only a few students reach relativism and commitment stage. Social Learning Theory (1976) provides four factors which influence career decision making. These factors are demographic variables, environmental conditions, learning experiences and task approaching skills. Betz’s theory (1981) involves the association of anxiety and self-efficacy with decision making. Cognitive Information Processing theory (1996) involves decision making skills, career information, self-knowledge and cognitive skills for effective decision making.

**Career Indecision**

The construct of career indecision is one of the cornerstones of career development theory. The concept of career indecision has occupied a central position in the theoretical and empirical literatures on career choice and development (Slaney, 1988). Career indecision has to do with uncertainty about a future career (Sepich, 1987). Although some level of uncertainty is normal, uncertainty becomes a problem when it interferes with an individual’s ability to make sound career decisions (Chartrand & Robbins, 1997). According to Chartrand and Robbins (1997), career indecision is the uncertainty that inhibits individuals from selecting a career or
implementing career plans. Tokar, Withrow, Hall and Moradi (2003) define it as the inability to select and devote oneself to a career choice. Similarly, Feldman (2003) defines early career indecision as the inability to formulate initial career goals and experience commitment to initial vocational choices. Greenhaus, Callanan and Kaplan (1995) define individuals as *career undecideds* if they have not established a career goal or if they have established a career goal with which they experience considerable uncertainty and discomfort.

There are no universally easy or difficult decisions. What makes a decision difficult is often influenced by one’s perceptions, values, personal preferences and gut emotional reaction. The immediacy and vividness of the regret that might occur due to an unwanted outcome may trigger emotions during the decision-making process, such as anxiety, dread, fear, and confusion. The individual’s experience of these negative concurrent emotions may become so overwhelming that he or she is unable to make a decision and feels they are stuck in a decisional prison. This state of indecisiveness is dysfunctional, difficult to maintain, and a threat to the decision-making process (Elaydi, 2006).

Crites (1981) reported that the percentages of undecided students varied from 5% to 61% over a span of 50 years. Astin (as cited in Gordon, 1982) cited data that suggest that the number of undecided students entering colleges and universities continues to vary from year to year. Astin claimed a 10-year nationwide comparison of college freshmen and indicated that the number of students who were undecided about a field of study increased from 5.5% in 1969 to 20.8% in 1979. Gordon (1982) summarized many of the earlier studies and charted the incidence of indecision among high school seniors and college freshmen.

Taylor (1982) recognized that vocational indecision has been the focus of increasing attention in the field of vocational psychology because of two emerging trends: the incidence of vocational indecision among high school and college students has been increasing and undecided students seeking help with vocational decisions comprise a large part of the clientele of most university counseling centers.

According to Salters (1985) the number of undecided students in today’s colleges and universities ranges from 22% to 50%. The number who changes majors is estimated to be between 50% and 60% (Gordon, 1982). She pointed out that research studies in the area have resulted in conflicting data that make the overall
picture on undecided students confusing. Studies by Crites (1981), Foote (1980) and Salomone (1982) are in agreement that undecided students tend to drop out of college at a greater rate than do decided students. Gianakos (1999) noted that students are making vocational decisions very early in their academic training, but that nearly 50% of freshmen surveyed nationwide desired assistance in making career decisions. Based on her research, Gianakos suggested that over 50% of declared students will change their major at least once during college.

In a report on the 2000 Graduating Student and Alumni Survey conducted by the National Association of Colleges and Schools, Nagle and Bohovich (2000) stated that most respondents appeared to have entered college with a fairly good idea of the type of career they wanted to pursue. More than half (52.3%) revealed they had never changed majors. However, more than a quarter of the respondents (27.9%) had changed majors once; 6% had changed majors three times and 1.9% had made the switch four or more times.

Boyd (1988) enlarged the issue of undecided students by recognizing the population of students who declared a major, but who were uncertain of it and those who declared a major and seemed certain of its fit, but later elected to change it. She reported that at the University of Toledo, the administration expected nearly one third of each entering class to change their major at least once throughout their academic career and some as many as three times. She recognized that there were many negative attitudes attached to being undecided and changing majors. Students might feel as though they were without direction, disappointing friends and family, unaffiliated with an academic department, etc. Parents often feel that their child is without direction and regard undecidedness as a financial burden. Boyd reported that administrators often imposed rules on students which make indecision and changing majors detrimental to academic progress.

King and Gressard (1979) conducted research at The University of Iowa and found that students, who did not declare a curriculum major when they first enrolled, graduated at a lower rate than those who did. These undecided students, however, were not shown to differ from their peers in ability, as measured by ACT (American College Testing) scores. This research led to the assumption that many capable students were dropping out of college due to unfocused academic plans.
According to London, Lee, Manuele and Caroline (1985) individuals vary in their readiness to make career decisions. They pointed out that for unprepared young adults, there was often the feeling of powerlessness owing to their inability to cope with or take charge of their lives by making satisfying decisions regarding matters that touched them personally.

Cooper (1986) pointed out that career indecision had emerged as an important dimension of the vocational decision-making process, particularly for those who experienced difficulties choosing an occupation during adolescence and young adulthood. Cooper recognized that as college students were involved in learning and in making academic career and life decisions, they approached these processes from unique and highly personal perspectives and they needed to understand how their decision-making was influenced by the way they incorporated attitudes, perceptions, judgment and other personality variables into their unique approaches.

Simms (1983) supported the view that undecided students were attrition prone by stating that academic indecision was one of the common reasons students leave college prior to graduation. He suggested that the belief that selecting a major and narrowing a career direction served as the sorts of symbolic motivators which formed a sound basis for the academic success of the students. Without selecting a major and narrowing the career focus, academic success became far less likely, and the lack of a clear academic and career focus was a causal factor in increased attrition.

Uncertainty of major had been found to be a contributing factor of attrition. Elton and Rose (1971) found that 17% of their undecided first year student subjects persisted to graduation, while 43% of the decided subjects, even if they changed their majors later, persisted to graduation. Such results have prompted the opinion that it is the attitudes toward being undecided that result in attrition. Foote (1980) also reported that students who were decided were more likely to stay in school than those who were undecided. Thus, external pressures (the university, parents, peers) may be giving negative messages to undecided students (first year students included). These students may not receive adequate support and therefore may be more likely to drop out. It is possible that first year students receive messages from these external sources that being undecided is unacceptable. Often the first question asked of a student after What's your name? is What's your major? The first year student, wanting to appear
mature, please parents or enter certain university programs, may choose a major based on external factors rather than an internal decision process (Grites, 1981, 1983).

Thus, a large number of undecided students tend to change their majors in colleges and universities and dropout rate is increasing day-by-day. Many negative attitudes are attached to their psychology which hinders their progress in academic as well as vocational field.

**The multidimensional nature of career indecision.** Newman, Fuqua and Seaworth (1989) labeled the state of the career indecision literature as confusing and even contradictory. They suggested the root of the problem to be in the practice in empirical studies of treating career indecision as a dichotomous phenomenon. That is, that individuals fall into one of two groups, the career decided or the career undecided (Lewallen, 1995; Long, Sowa & Niles, 1995). This empirical practice reflects an underlying assumption that career decision is a normal developmental process, so that research participants might then be categorized according to their progress in relation to this fundamental developmental task. Other researchers conceive of indecision as one end of a continuum of career decidedness, at the other end is career certainty (Jones & Chenery, 1980). This conception of career decidedness as a continuum has led to the development of numerous psychometric instruments to measure subjects’ level of decidedness. Such instruments are not simply measures of indecision, they may be applied to both decided and undecided subjects. The inclusion of career-decided students in the continuum acknowledges that even students who are truly decided may still benefit from career counseling assistance and that ostensibly decided students may at a later point in time become undecided (Gordon, 1998). In order to evaluate the effectiveness of career indecision interventions, one must take into account multiple factors. Fuqua and Hartman (1983) suggested that attempts to assess an individual's career indecision problems should differentiate developmental, acute situational and chronic personality factors within the dimensions of primary symptoms, barriers to decision making, treatment approaches and desired outcomes.

A potentially useful and fruitful approach for identifying subtypes of the career undecided has been factor analysis and cluster analysis. The difference between the two is in the nature of the elements which get grouped. In factor analysis, variables are grouped by their relationship to underlying latent factors. In cluster
analysis, participants are grouped into clusters based on their similar pattern of scores on the various clustering variables (Borgen & Weiss, 1971; Borgen & Barnett, 1987).

Jones and Chenery (1980) developed a multidimensional model of vocational decision status. In this model, individuals are characterized along three dimensions: decidedness, comfort with the decision and a dimension to account for various reasons for being undecided. The reasons for being undecided dimension included assessments of self uncertainty, choice/work salience, the transitional self (that is a person in the transitional period of breaking away from parental influence and involved in self-discovery) and a total score for this dimension. The scale was later revised to improve its reliability and validity and renamed the Career Decision Profile (CDP) (Jones, 1989). The decidedness and comfort dimensions were retained but the reasons dimension was changed to comprise four measures: self clarity, knowledge of occupations and training, decisiveness and career choice importance. Yet, there has not been extensive empirical support for this model (Wanberg & Muchinsky, 1992).

Larson, Heppner, Ham and Dugan (1988) performed a cluster analysis on 87 undecided students. This study sought to use a more stringent definition of being undecided. They found a four cluster solution which generally supported the multidimensional nature of the career indecision construct. They interpreted the four groups with the following descriptions: the Cluster 1 (n=18) participants were the planless avoiders, who were low in career planning and had the most negative problem-solving self-appraisal; the Cluster 2 (n=4) participants were the informed indecisives, who were well informed about career planning but still had trouble making decisions; the Cluster 3 (n=22) participants were the confident but uninformed, who were very positive in their evaluation of their problem-solving abilities but were uninformed about the career planning process and the Cluster 4 (n=43) participants were the uninformed, who were similar to Cluster 3 in being uninformed but whose self-appraised problem-solving skills were only moderate.

Lucas and Epperson (1988) performed a cluster analysis on 302 undecided college students. The authors replicated and refined this study on 196 undecided students (Lucas & Epperson, 1990). The instruments used for clustering variables included two measures of career salience, measure of self-esteem, a measure of state/trait anxiety, internal/external locus of control and career decision-making style. They obtained a five cluster solution which they described in the following manner.
Cluster 1 (n=42) students were anxiously distressed, unclear about their career options and tended to rely on others when making career decisions. Cluster 2 (n=39) and Cluster 3 (n=58) were similar to each other. Both groups were high in work and relationship salience. The authors suggested that this was the type of students who needed to decide on whether to focus on career or relationship concerns. The differences between the two clusters were that Cluster 2 students were more anxious, had lower self-esteem and perceived more barriers to making a career decision than did Cluster 3 students. Cluster 4 (n=36) students were those for which work had the highest salience. The authors suggested that this group had strong needs to be independent in their career choices. However, this group also was high in anxiety. Cluster 5 (n=21) students have relatively high career identity, were not very anxious and had low career and relationship salience.

Work by Jones (1989) suggests that one can categorize a person’s decisional situation into four subtypes: decided-comfortable, decided-uncomfortable, undecided-comfortable and undecided-uncomfortable. The undecided-uncomfortable state most resembles the negative concurrent emotions present when an individual is in a state of indecisiveness. If one defines indecisiveness as undecided-uncomfortable, the undecided component suggests being stuck in the decision-making process and the uncomfortable component reflects the negative concurrent emotions that are experienced.

To identify the diversity found among the career undecided Fuqua and Newman (1989) used a factor analytic approach to examine 13 subscales contained in 4 measures of career indecision. The four measures were: My Vocational Situation (MVS) (Holland, Daiger & Power, 1980), Career Decision Scale (CDS) (Osipow, Carney, Winer, Yanico & Koschier, 1980), Career Maturity Inventory - Attitude scale (CMI-A) (Crites, 1973) and the Career Decision Profile (Jones, 1989). They obtained a three factor solution accounting for 55.9% of the variance. The first factor was interpreted as a component of information about the self and occupations. It was considered the most general of the three factors. The second factor was interpreted as a component of indecisiveness which was positively related to anxiety. The third factor was interpreted as a component representing the degree of affective comfort with the individual's career decision. It was interesting to note that Fuqua and
Newman (1989) did not interpret any of the three factors as being directly related to the decided/undecided status of the participant's career decision.

Mauer and Gysbers (1990) used the Vocational Identity (VI) scale of the My Vocational Situation (Holland, Grottfredson & Power, 1980) in a cluster analytic study. The first cluster was interpreted as being related to anxiety, the second related to confidence, the third related to need for self-assessment, the fourth related to need for occupational information and the fifth related to an unsettled or transitional decision status.

In a study designed to evaluate the invalidity of a dichotomous view of career indecision, Newman, Fuqua & Minger (1990) examined six groups of students using three measures of their career status and two measures of anxiety. The six groups included four groups of career decided participants and two groups of career undecided participants. The career decided students were differentiated into groups on the basis of how comfortable they felt with their career decision: Uncomfortable, somewhat comfortable, moderately comfortable and very comfortable. The undecided students were differentiated by how serious they considered their undecided status: not serious or serious. The authors found that the two least comfortable decided groups more nearly matched the undecided groups than they did the decided and very comfortable group. A dichotomous view of career status would have hopelessly confounded this finding.

Wanberg and Muchinsky (1992) clustered 390 undergraduates of both decided and undecided status. In support of the multidimensional nature of career indecision, they did find a four cluster solution. Cluster 1 (n=77) participants were the confident decided individuals. They were decided and had above average self-clarity and knowledge of occupations. These individuals believed they made good decisions and had control over their lives. They felt good about themselves. Cluster 2 (n=154) participants were the concerned decided individuals. This group was decided, but showed higher levels of anxiety and lower levels of self-clarity, decisiveness and self-esteem. Cluster 3 (n=99) participants were the indifferent undecided individuals. They were undecided and unclear about their interests and had trouble making decisions. Also, this group had the lowest scores on career choice importance. Cluster 4 (n=60) participants were the anxious undecided individuals. This group was undecided and
had low knowledge of self and occupations. This group had very high anxiety and low self-esteem.

Rojewski (1994) suggested that career indecision can be seen among adolescents in three types, namely transitional, tentative and chronic undecided. It is also worth mentioning that in the exploratory factor analysis result, there were no chronic undecidedness revealed but scant traces of items leading to chronic undecidedness. Instead, assertive undecidedness which is also similar to confident and uninformed of Holland and Holland (1977) were supported.

Cohen, Chartrand and Jowdy (1995) divided students who have not yet made a career decision into four groups: (a) Ready to decide-low anxiety, high self-esteem, good vocational identity; (b) developmentally undecided-emotionally stable, but do not yet have a clear picture of themselves or the world of work; (c) Choice anxious-high choice anxiety, little need for career information, low vocational identity; and (d) Chronically indecisive-low vocational identity, high need for career and self-information, low goal directedness and low self-esteem.

In the efforts to provide a more culturally-defined measure of career indecision, San Diego (2010) devised an instrument based on the theory of Rojewski (1994). He used exploratory and confirmatory factor analysis to test the responses of 250 college students. Results of the measure provide a good Cronbach’s alpha of .85. A four factor model of career indecision was obtained namely Transitional undecided (adolescent who feels and think that he needs to shift to another course or program or feels overwhelmed about not able to satisfy his needs and wants in the future due to so many interests and abilities), Tentative undecided (Adolescent is informed of his/her own abilities and interests and able to decide properly and do sequential steps to achieve future goals and in the process of working with his or her plan), Assertive undecided (Adolescent who is well motivated to seek help, anxiety driven, get most information about future career, and do necessary help seeking procedures), Uninformed undecided (Adolescent who is less motivated to do preparations for the future career goals, dependent on others decisions and does not explore his or her career options well).

Mota, Taviera and Araujo (2012) explored different groups in the sample consisting of 272 students of 9th-grade, in the northwestern region of Portugal, of
which 51.5% were girls (N=140) and 48.5% boys (N=132), aged 13 to 18 years (M=14.42, SD=0.78). The performed cluster analysis allowed discriminating four different groups, depending on their career results profile: (a) Informed and Confident (b) Eager Undecided (c) Undecided and Informed and (d) Undecided and Little Informed.

Thus, the multidimensional nature of career indecision has been studied by various researchers through factor analysis and cluster analysis. Multiple factors can be taken into account for effective career indecision interventions.

Career indecision, addressed in the present study is operationally defined as uncertainty in career decision making. Even the career decided students may fall in the continuum of career indecision due to lack of information about requirements of a particular career or experience and high conflict and external barriers. Career indecision is measured by using Career Decision-Making Inventory (CDMI; Singh, 1999). It contains 18 items which measure the degree of certainty and uncertainty that students feel in having made a career decision.

**Approaches to measure career indecision.** Interest in assessing career indecision became widespread in the 1960s and 1970s. It was an era when many individuals had several career options, the result of which often was indecision. In order to better assess counseling outcome, reduction of indecision became an important issue. This was one of the forces leading to the development of more standard measures of career indecision. Holland’s theory also came to the fore during this period. His theory was originally formulated in the 1950s and has been revised and updated several times, most recently in 1997. It presents an ideal way to approach career indecision because one of the outcomes of the discrepancy between one’s personal type and one’s choice or prospective choice is likely to be the inability to decide. It is therefore understandable that one of the events John Holland became concerned with was the measurement of indecision.

Holland’s theory (1985) assigns people to various personality types which correspond to career fields. Those who belong to two or more types equally would be likely to be undecided about their careers. Such indecision would be most likely to result if the two types that the individual scored the highest on were in fields quite different from each other. For example, if a realistic person scored equally high on the social scale, a reasonable prediction is that since these two very different types do not
lead to careers that would logically include characteristics of both or lead to job settings satisfying both types, the result would be indecision. It is also conceivable that a person with low scores on all of the types would not have interests sufficiently crystallized to permit a commitment to one field to be made. A third possibility is that a person with high scores on all fields would similarly have so many interests that a decision might be hard to make. Finally highly talented people who possess many career possibilities as a result of their wide-ranging abilities are likely to have trouble sorting among them. The result of that would be indecision. In an early study dealing with career indecision, Holland and Holland (1977) proposed that indecision is the result of difficulties in personal and vocational identity. This study seems to have led to a more elaborate formulation of My Vocational Situation scale (Holland et al., 1980b). The scale attempts to diagnose the difficulties people have in vocational decision-making. According to Holland et al. (1980b) such difficulties result from issues related to vocational identity, occupational information and career barriers. The Vocational Identity scale measures the clarity of an individual’s goals, interests and talents as they relate to vocational decisions. The Occupational Information scale allows the counselor to determine where, if anywhere, the client’s career knowledge is deficient. The Barriers scale provides a list of those obstacles that clients feel may impede their career decision-making. It should be clear that by using these three categories, the career counselor is in a position to develop a treatment plan for intervening in the client’s career indecision. If Vocational Identify appears to be an issue, counseling to help clarify and define the client’s self-knowledge would be in order. If there appears to be a lack of occupational information, this may easily be corrected through the use of a variety of well-known sources, such as computer based career exploration problems or such occupational guides as the Gottfredson and Holland Dictionary of Holland Occupational Codes (1996). If the Barriers scale reveals significant information about impediments to the career decision-making process, these may be addressed directly in counseling.

At about the same time, Osipow et al. (1976) developed another similar but different approach to assessing career indecision. The Career Decision Scale (CDS) was the result of a series of brainstorming sessions conducted by four of its authors (Osipow, Winer, Koschier & Yanico, 1975) in which an attempt was made to identify all, or at least as many as possible of the reasons people offer to explain the sources of
their career indecision. Originally conceived as an instrument which would identify specific sources of career indecision where each item could stand by itself clearly enough to determine differential counseling interventions, it evolved into a typological measure (Savickas & Jarjoura, 1991). Of the original 16 content items, various factor analyses revealed that the items were not independent but could be separated into factors, usually four. Although there has been some controversy regarding the accuracy or even of the existence of the factors (Schulenberg, Shimizu, Vondracek & Hostetler, 1988; Shimizu, Vondracek, Schulenberg & Hostetler, 1988; Laplante, Coallier, Sabourin & Martin, 1994), it does appear that some organizing substructure exists. Most users of the instrument, however, do not rely on the factor structure, but rather use the total indecision score of the measure as an overall index of one’s level of career indecision. Examination of a person’s responses to individual items can reveal information about the sources of the indecision, which can then be used to direct counseling approaches to the problem. Even more common, the instrument is used as a pre-post measure to establish what, if any, changes have occurred in career indecision after counseling. It is interesting to note that the Career Decision Scale was an instrument derived totally from an empirical approach.

Yet another approach to the measurement of career indecision developed in the 1970s was Harren’s (1976) Assessment of Career Decision-Making. In a manner different from the Career Decision Scale and My Vocational Situation, this measure approached the issue of career indecision using Tiedeman’s and O’Hara’s (1963) framework to career development.

In more recent times, what appear to be second and third generation approaches to the measurement of career indecision have been appearing. Notable among these is the measure of Jones (1989) Career Decision Profile and Chartrand, Robbins, Morrill and Boggs (1990) Career Factors Inventory. These instruments approach career indecision with the view that it is multidimensional. Such an approach allows a more precise diagnosis of the causes of career indecision than do the earlier measures and as a result, may be more effective in leading to counseling interventions. Most recently, Gati, Krausz and Osipow (1996) have developed an instrument called the Career Decision Difficulties Questionnaire. In contrast to many of the earlier measures, this instrument has grown out of a theoretical taxonomy of the difficulties encountered in the career decision-making process. The taxonomy strives
to identify several categories of the sources of career decision-making difficulties. It begins with dividing the difficulties into those that occur prior to beginning the decision making process and those that occur during the process itself. Those difficulties that occur prior to the process involve a lack of readiness resulting from lack of motivation, indecisiveness and those that result from beliefs in dysfunctional myths about career decision making. The difficulties that occur during the decision making process are further subdivided into lack of information about the self, occupations, ways of obtaining information and information about the career decision making process itself. Thus, sophistication in the assessment of career indecision has come a long way since the early efforts of Osipow et al. (1976) and Holland et al. (1980b).

**Variables influencing career indecision.** Career indecision is an issue for both high school (Patton & Creed, 2001; Nota & Soresi, 2003) and college/university students (Gianakos, 1999; Lee, 2005) and has even been shown to be a concern for children in their pre-teens (Hartung, Porfeli & Vondracek, 2005). It is associated with a range of person variables, such as age and gender (Patton & Creed, 2001) and negatively associated with many career related variables, including career maturity (Rojewski, 1994), decision-making style (Mau, 1995), career barriers (Patton, Creed & Watson, 2003), self-efficacy beliefs (Betz & Luzzo, 1996), identity status (Vondracek, Schulenberg, Skorikov, Gillespie & Wahlheim, 1995), knowledge of occupations, self-knowledge (Gati & Saka, 2001) and structure of thinking about careers (Tracey & Darcey, 2002). Career indecision has also been shown to be related to a number of personal and interpersonal variables, including negative affective disposition (Multon & Lapan, 1995), fear of success (Staley, 1996), poor self-awareness and poor social-skills (Nota & Soresi, 2003).

Career indecision has demonstrated empirical relationships with other factors in the literature. In particular, emotional factors such as low self esteem (Resnick, Fauble & Osipow, 1970; Stead, Graham, Watson & Foxcroft, 1993; Chartrand, Martin, Robbins, McCauliffe, Pickering & Galliotte, 1994; Germeij & De Boeck, 2002), neuroticism (Lounsbury, Tatum, Chambers, Owens & Gibson, 1999) and anxiety (Holland & Holland, 1977; Ohare & Tamburri 1986; Fuqua. Blum & Hartman, 1988; Larson, Piersel, Imao & Allen, 1990; Serling & Betz, 1990; Wanberg & Muchinsky,1992; Skorupa & Agresti 1998) have contributed to career indecision.
Moreover, cognitive factors such as external decision-making style (Osipow & Reed, 1985), low problem solving confidence (Larson & Heppner, 1985; Larson et al., 1988), external appraisal of control (Taylor, 1982; Fuqua et al., 1988; Larson et al., 1990) and greater self appraised pressure and barriers (Larson et al., 1988) also impair career decision-making. Career indecision has also demonstrated a significant relationship to self defeating beliefs (Sweeney & Schill, 1998), lower career decision making self-efficacy beliefs (Taylor & Betz, 1983), irrational thinking (Stead et al., 1993; Enright, 1996; Skorupa & Agresti, 1998), poor career beliefs (Enright, 1996), and negative career thoughts (Saunders, Peterson, Sampson & Reardon, 2000). Researchers have also identified associations between career indecision and task-specific self-efficacy (Temple & Osipow, 1994), family interaction patterns (Whiston, 1996), students’ perceptions of the parental relationship and career decision-making (Guerra & Braungart-Rieker, 1999). A brief introduction of some of the factors influencing career indecision is being presented herewith.

Vocational interest. Vocational literature defines interests as things that we like and find enjoyable (Hyde & Trickey, 1995). These things are manifested through the activities we pursue, the objects we value and we find fun, exciting or challenging. For that reason interests have an important influence on educational plans and occupational choices. Some researchers highlighted the importance of interests to vocational decisions. Brown and Brooks (1991) support that the assessment of interests contributes in the development of self-awareness, in the identification of occupational alternatives and in the process of career decision making. Spokane (1991) has also demonstrated how interests can be used to uncover underlying dimensions of career decisions dilemmas. That is why the exploration of the relation between career indecision and vocational interests becomes significantly interesting.

Personality. Industrial and organizational psychologists have focused most of their research on the role of personality in vocational choices on the Big 5 personality traits (Costa & McCrae, 1985; Digman, 1990). Of these five traits, the two that appear to be most consistently related to career indecision among young adults are extroversion and neuroticism. Caldwell and Burger (1998) found that extraversion was particularly critical in early career development, since it facilitated seeking out information about careers from faculty members and employees of various companies. Conversely, neuroticism has been linked to problem-solving deficits, a
dependent decision making style and career indecision (Tokar, Fischer & Subich, 1998). Young adults high on neuroticism are more likely to be either hypervigilant in their job searches or impulsive in making decisions simply to decrease stress levels. While extroversion appears to mainly facilitate the cognitive components of career decision making, neuroticism appears to impair its affective components by increasing anxiety and depression (McCrae & Costa, 1991). Burns, Morri, Rousseau and Taylor (2013) found that career indecision is multifaceted and that both personality and vocational interests are more strongly related to career indecision.

**Gender.** Barnes and Carter (2002), Akos, Konold and Niles (2004), Hampton (2006) and Salami (2008) found no gender differences with regards to career indecision. On one hand, Patton’s studies (2001 & 2002) indicated that girls had higher indecision scores as measured by the knowledge score of the Career Development Inventory, a cross-cultural study of British and Chinese International university students by Zhou and Santos (2007) reported that males experienced fewer difficulties than females in career decision-making. Women face obstacles that both impede and add to the complexity of understanding their career development. These obstacles include environmental barriers such as discrimination and sexual harassment (Fitzgerald, Fassinger & Betz, 1995).

Internal barriers that restrict women’s career choices and adjustment include traditional feminine gender role socialization and low self-efficacy. Simply attending college is not sufficient to provide female students with the means necessary to choose, pursue, and attain occupations from the full spectrum of choices. A proportionate amount of women continue to select majors in education, health and library science, signifying the expectation of seeking employment in fields considered traditionally or stereotypically feminine (Fox, 1995). While women today have greater opportunity to prepare themselves for the world of work than women of earlier generations, the fact remains that our male-dominated society’s expectations and social messages about men and women, including gender specific roles and qualities, continue to negatively influence and impact career choice and development. Gender role socialization professionalism, a process in which a person incorporates knowledge, skills, attitude and affective behavior associated with carrying out a particular role e.g. physician, nurse, technologist, etc. might also influence an
individual's career uncertainty, especially for women who intend to pursue positions in traditionally male-dominated fields (Dawson-Threat & Huba, 1996).

**Stream of Study.** The other demographic variable which affects career indecision is the stream of study students have chosen. However, there is inconsistency in terms of the findings related to streams of study and career indecision. Kaur (2007) and Sharma (2012) found no significant difference on the variable of career indecision between Science, Arts, and Commerce students. On the other hand, significant differences were found among levels of career decision status based on the stream of Economics and Arts (Khasawneh, Khasawneh, Hailat & Jawarneh, 2007).

**Career beliefs.** Career beliefs are defined as the beliefs students hold about the world of work (Krumboltz, 1991). Enright (1996) supported the existence of a relationship between certain types of career beliefs and career indecision. Specifically, the results provide empirical evidence that beliefs reflecting self-doubt or a lack of confidence may impair a person's ability to reason logically, which results in poor decisions.

**Intellect.** Hollender (1971) asked 5200 5th - 12th grade students to state a vocational choice or indicate indecision in a cross-sectional study. Overall, significantly more female (69%) than male (59%) students reported a definite vocational choice. The percentage of male students who reported a definite vocational choice was greater in the elementary school (6th grade) and in the senior high school (10th - 12th grades) than in the junior high school (7th - 9th grades) for the students in the two lowest aptitude quartiles. Increasing intellectual ability, assessed by scholastic aptitude measures, was associated with increasing vocational decisiveness for both males and females.

**Irrational beliefs.** Irrational beliefs, in relation to career indecision, have also been an area of investigation receiving considerable attention among researchers. Numerous studies have explored irrational beliefs exhibited by individuals seeking career guidance (Dryden, 1979; Lewis & Gilhousen, 1981; Keller, Biggs & Gysbers, 1982). Larson et al. (1988) concluded that decided students engage in significantly fewer irrational beliefs as compared to vocationally undecided students. Stead et al. (1993) added further credibility to the positive relationship found between irrational beliefs and vocational indecision in their work.
**Knowledge.** Studies have discovered that career-knowledge plays a complex role in career decision-making. For one thing, career-information-seeking behavior may be related to decidedness in a seemingly contradictory way, since both more decided and less decided students have been found to be more inclined to seek knowledge about careers (Barak, Carney & Archibald, 1975). The explanation may be that more decided students seek further career information not to help make a choice, but to confirm a choice. Also, supplying career information to students has been shown to make them less decided (Leso & Neimeyer, 1991), presumably because the additional career knowledge presents previously un-thought-of possibilities. However, other studies show the expected connection that more decided students have more occupational information (Long et al., 1995).

**Career salience.** Career salience refers to the importance an individual assigns to work and career within the context of his or her life. People with lower career salience presumably tend to be fewer careers decided because they have lower motivation to pursue a career (Greenhaus, 1971). Career salience has been shown to be greater in men than in women (Greenhaus, 1971; Greenhaus & Simon, 1977; Taylor, 1982); however, changes in women’s participation in the labor force over the last 20 years may lead to less gender differentiation in career salience in recent years. A study of undecided students showed that vocational indecision for many women is related to their interest in integrating three areas of life: work, relationships and leisure pursuits (Lucas & Epperson, 1990).

**Cognitive style.** One internal person-related variable that is likely to influence whether the individual perceives a barrier as being challenging or defeating is their cognitive style. A useful cognitive style to examine in this context is optimism/pessimism, which is a generalized tendency to expect positive outcomes (Scheier & Carver, 1993). A small number of studies have investigated optimism in the career area (Powell & Luzzo, 1998; Petrone, 2000; Creed, Patton & Bartram, 2002). Creed et al. (2002), for example, found that students who endorsed higher levels of optimism showed greater career planning and exploration were more decided about their career and had more career goals, while those high in pessimism reported less career knowledge were more indecisive and achieved more poorly academically. The findings from these studies suggest that optimism and pessimism might play a functional role in the development of career-related variables.
**Locus of control.** Locus of control refers to the internal or external basis of one's actions, thoughts, beliefs, decisions, etc. The internal-external construct assesses individual beliefs or expectancies concerning control of environmental events, either internally or externally based (Rotter, 1954). The construct of locus of control has been applied often to studies of vocational decision-making as well as many other types of decisions and beliefs. Subjects assessed to have external locus of control are suggested to be more conforming to external forces (Crowne & Liverant, 1963; Getter, 1966). Taylor (1982) found that internal locus of control may facilitate decidedness in high ability students. However, undecided students were found to be externally controlled in studies by Holland and Holland (1977) and Cellini (1978).

**Self-esteem.** Super (1953) claimed that career choice is an expression of the individual’s self-concept in vocational terms. Self-esteem therefore plays a central role in actualizing one’s self-concept (Chartrand et al., 1990), as people tend to choose careers that will allow them to actualize their perceived potential and enhance their feelings of self-worth. Measures of self-esteem have consistently been found to be negatively correlated with indecision measures—the lower one’s self-esteem, the higher one’s indecision (Kishor, 1981; Wulff & Steitz, 1999; Santos, 2001).

**Anxiety.** Researchers have found a positive relation between career indecision and anxiety among high school and college students in general (O’Hare & Tamburri, 1986; Fuqua, Seaworth & Newman, 1987; Lucas & Wanberg, 1995; Constantine & Flores, 2006). Goodstein (1965) hypothesized that some career undecided students may experience anxiety because they lack the information and skills necessary to make a career choice. Career interventions typically help these students make a career decision and reduce their anxiety. However, students who experience choice anxiety, which refers to difficulty in processing and acting on career related information because of personal or interpersonal conflicts, may be unable to make a career choice even when they have the skills and knowledge to do so.

**Career barriers.** Career barriers have been described as any factors that thwart the achievement of career goals (Crites, 1969). Swanson and Woitke (1997) have defined career barriers as events or condition, within the person or in his or her environment that make career progress difficult. Taylor and Betz (1983) found that students who anticipated more career barriers displayed less confidence in their ability to make career plans and decisions resulting in them being undecided on their career.
Patton et al. (2003) found a significant negative relationship between perceived barriers and career development attitude and a significant positive association between barrier and career indecision.

**Academic achievement.** Akos et al. (2004) found a correlation between midyear 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. Blinne and Johnston (1998) in their three-year longitudinal study found no relationship between academic achievement and career indecision in a college student population. A study by Gehlert, Timberlake and Wagner (1992) and Hampton (2006) revealed that career indecision is not related to GPA and mathematics achievement respectively.

**Career decision making self-efficacy.** Career decision making self-efficacy has been defined as confidence in performing tasks related to investigating, selecting, and implementing a career choice (Taylor & Betz, 1983). Taylor and Popma (1990) found a moderate negative relationship between career decision making self-efficacy and career indecision and identified career decision making self-efficacy as the only variable to make a significant contribution to the prediction career indecision. Betz and Voyten (1997) also established self-efficacy beliefs as the best predictor of career indecision. These authors verified indecision as a significant predictor of career exploration intentions amongst women, with those less decided being more likely to make plans to undertake career search activities. Lastly, Osipow and Gati (1998) examined the construct and concurrent validity of the Career Decision Making Difficulties Questionnaire (CDDQ; Gati et al., 1996). These authors also found a moderate correlation between career decision making self-efficacy and career indecision.

**Vocational identity.** Vocational identity has been regarded as important to the career development and decision making process. High vocational identity has been found to be related to decisiveness and self-confidence in decision making process (Holland, Gottfredson & Nafziger, 1975). Holland and Holland (1977) proposed that indecision is the result of difficulties in personal and vocational identity.

**Family interaction patterns.** Interaction between parents and children is a powerful influence. Interaction can include positive behaviors such as showing support and interest and communicating openly or negative behaviors such as pushing
and controlling (Way & Rossman, 1996). Ketterson and Blustein (1997) also support the relational context of career development. They cite research demonstrating that secure parent child relationships are associated with progress in career decision making, affirmative career self-efficacy beliefs and career planfulness. Keller (2007) investigated career indecision from a relational and cross cultural perspective by examining the role of parental psychological separation and attachment orientation in influencing the level of career indecision.

Thus, a large number of factors influence career indecision. But more research efforts are needed to better predict the various factors that influence career indecision among adolescents in India. Although the investigator wanted to see the influence of all these factors on career indecision of adolescents but due to paucity of time and resources, out of various variables influencing career indecision the present study is taken up to investigate the career indecision of undergraduates in relation to career decision making self-efficacy, family interaction patterns and vocational identity.

Career Decision Making Self-efficacy

The concept of self-efficacy, formulated in modern psychology by Bandura (1977) is defined as the beliefs in one’s capabilities to organize and execute the courses of action required for producing given attainments. More specifically, self-efficacy refers to the beliefs in one’s capabilities to meet the demands of a certain role or successfully carry out a certain activity. In short, perceived efficacy is concerned not with the number of skills you have, but with what you believe you can do with what you have under a variety of circumstances. Efficacy beliefs operate as a key factor in a generative system of human competence. Hence, different people with similar skills, or the same person under different circumstances, may perform poorly, adequately, or extraordinarily, depending on fluctuations in their beliefs of personal efficacy.

Individuals need certain types of information to develop self-efficacy. Bandura (1977) states that this information can be obtained from the four sources: performance accomplishments or mastery experiences, vicarious learning experiences, verbal persuasion and physiological arousal. The first source, performance accomplishments, is based on personal mastery experiences (Bandura, 1977). The negative impact of the occasional failure is decreased through repeated success, resulting in strong efficacy expectations. Bandura (1982) stated that people register notable increases in self-
efficacy when their experiences disconfirm misbeliefs about what they fear and when they gain new skills to manage threatening activities. Vicarious learning experiences, the second source, is where persons derive expectations to complete tasks through the observation of others completing like tasks (Checketts, 2001). The observation of others, performing adverse activities without unfavorable consequences can generate expectations in observers. The observers believe that they too will improve if they intensify and persist in their efforts. The third source, verbal persuasion, can be described as the use of conversation and collaboration to reach a level of self-efficacy. This domain’s ease and ready availability results in its wide use. The fourth and final source is physiological arousal. Stressful and taxing situations generally elicit emotional arousal that, depending on the circumstances might have informative value concerning personal competency. Negative affective reactions, generated when people experience unpleasant thoughts and fears about their capabilities can reduce perceptions of competence and activate the stress and frenzy that help ensure inadequate performance (Pajares, 1997).

People guide their lives by their beliefs of personal efficacy. Such beliefs influence the courses of action people choose to pursue, how much effort they put in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental demands and the level of accomplishments they realize. Thus, an important factor that may affect a person’s ability in making a career decision is his or her perceived career decision-making self-efficacy, that is, an individual’s beliefs regarding his or her ability to successfully accomplish certain tasks connected with career choice (Taylor & Betz, 1983; Betz, Klein & Taylor, 1996; Amir & Gati, 2006). While low self-efficacy expectations regarding a behaviour or behavioural domain may lead to avoiding dealing with tasks and challenges in that domain, increases in self-efficacy expectations may increase the frequency of approach versus avoidance behaviour. For example, in career decision-making one may avoid collecting relevant information, clarifying preferences, planning, or implementing decisions (Betz & Luzzo, 1996; Taylor & Betz, 1983).

Since Betz and Hackett (1981) first explored the potential utility of self-efficacy in understanding women’s career choice and development. This concept has been applied to many areas of academic and career development, with a wide range of
populations and groups (Gainor, 2006). Because of systematic differences in exposure to positive experiences with different types of career-related activities, self-efficacy theory is viewed as having a particular potency for increasing the understanding of the career development of diverse and underserved populations (Betz, 2000).

A comprehensive review of the ways in which self-efficacy has influenced career assessment and practice during the past 25 years reveals that a number of researchers have developed interventions drawing directly from the basic postulates of social cognitive career theory (SCCT). Interventions have focused on one or more of the four sources of efficacy expectations as a method for improving self-efficacy and other social cognitive processes (e.g. outcome expectations, interests). Many programs have focused on career decision-making self-efficacy. Those programs that implemented the four sources of efficacy expectations were quite effective in increasing career related self-efficacy. Gainor (2006) reports that these studies provide much support for the use of social cognitive career theory and measures derived from the theory, in designing, implementing and evaluating programs designed to facilitate career choice and development. Overall, participants whose career development has been stalled by low confidence in the career decision-making process or specific occupational areas may benefit from interventions designed to improve the participants' efficacy beliefs.

Adding to the utility of career self-efficacy theory is the ability to accurately measure the general and specific constructs associated with the model. Several assessment instruments have been developed to measure these various self-efficacy constructs and have been used extensively with various populations as a means of identifying and assisting groups and individuals who may be experiencing lower levels of confidence or expectations about their abilities. Examples of these instruments include the Occupational Self-Efficacy Scale (OSES) (Betz & Hackett, 1981), the Task-Specific Occupational Self-Efficacy Scale (TSOSS) (Rooney & Osipow, 1992), the Generalized Self-Efficacy Scale (GSES) (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs & Rogers, 1982), and the Mathematics Self-Efficacy Scale (Betz & Hackett, 1983). The Career Decision-Making Self-Efficacy Scale (Taylor & Betz, 1983) and its subsequent shorter version, the Career Decision-Making Self-Efficacy Scale-Short Form (Betz, Klein & Taylor, 1996), are both used
to assess an individual’s confidence level in terms of engaging in the career selection process.

Research on career self-efficacy has examined gender differences (Betz & Hackett, 1981; Lent, Brown & Larkin, 1986; Church, Teresa, Rosebrook & Szendre, 1992; Betz, Harmon & Borgen, 1996). One of these studies (Betz & Hackett, 1981) found that, although the sample of 235 college undergraduates exhibited the same ability levels, females reported significantly lower efficacy for non-traditional (30% or less women employed) than traditional occupations (70% or more women employed). The males’ efficacy expectations were the same for occupations, no matter whether they were traditionally chosen by males or not. Similarly, Church et al. (1992), using a sample of 85 minority high school equivalency students, found both men and women experienced stronger self-efficacy beliefs in relation to occupations dominated by their own gender. This pattern of gender differences was in evidence when data were analyzed at an aggregate level or at the level of specific occupations (Hackett & Betz, 1995).

Temple and Osipow (1994) postulated that, whereas men are a somewhat homogeneous group regarding career attitudes, the same is not true for women. As a follow-up to that postulate, it was, therefore, predicted that the relationship between career self-efficacy and career indecision would be higher for women with less female-stereotyped sex role attitudes, who share more similar attitudes with men than do women with more female-stereotyped sex role beliefs. Their results provide limited support for that hypothesis. They inferred that the career decision process for women is more complex than for men, because women need to take more variables into account in making their decisions, thus weakening the impact of any given variable on the final result.

Career decision making self-efficacy, addressed in the present study, is operationally defined as the beliefs or confidence in one’s capabilities to successfully engage in the activities of selection and planning of occupational goal, gathering information regarding professional courses and occupations, solving various problems regarding choice of majors/occupations, planning for future and self evaluation of abilities and values, which is measured through Career Decision Self-Efficacy Scale-Short Form (CDSE-SF; Betz et al., 1996).
Career indecision and career decision making self-efficacy. Career indecision has been found to be related to various personal constructs and career decision making self-efficacy is one of them. Many studies have found that self-efficacy influences the career indecision of college students (e.g. Taylor & Betz, 1983; Taylor & Popma, 1990; Mathieu, Sowa & Niles, 1993; Bergeron & Romano, 1994; Arce, 1996; Betz & Voyten, 1997; Osipow & Gati, 1998; Guay et al., 2003; Creed, Patton & Bartrum, 2004; Betz, Hammond & Multon, 2005; Argyropoulou, Dimakakou & Besevegis, 2007; Nota, Ferrari, Solberg & Soresi, 2007; and Reed & Skaar, 2010).

Taylor and Betz (1983) field-tested the Career Decision Self-Efficacy Scale (long form) in a study of 347 college students attending both public and private institutions of higher education in the Midwest. The students participating in the study were given a demographic information questionnaire, the Career Decision Self-Efficacy Scale, and the Career Decision Scale (Osipow et al., 1980). The results of the study indicated career self-efficacy expectations of the students were relatively strong and levels of self-efficacy were significantly predictive of levels of career indecision. Students who were less confident in their ability to complete decision-making tasks were more undecided than students who reported higher levels of confidence and the confidence level was not related to the students’ ability levels, as measured by scores on the college entrance examinations. Self-efficacy did not differ significantly as a function of gender or as a function of the five specific decision-making tasks assessed. The findings of the study suggested career-related self-efficacy expectations could be useful in understanding, assessing and treating career indecision.

Taylor and Popma (1990) found a moderate negative relationship between career decision-making self-efficacy and vocational indecision on a sample of 203 female and 204 male college students, by using multiple regression analysis. The obtained correlation coefficient of $r = .54$, which accounted for 29% of the variance in indecision scores, established career decision-making self-efficacy as the only variable to make a statistically significant contribution to the prediction of vocational indecision. Mathieu et al. (1993) examined within-gender differences in women’s self-efficacy expectations, looking at four groups: women with preferences for traditional careers, those for nontraditional careers, those for gender-neutral careers, and those undecided about career. The Career Decision Making Self Efficacy Scale
(Taylor & Betz, 1983) and a self-report form asking current choice of occupation were given to 101 female undergraduates. It was found that women who were undecided reported lower levels of career self-efficacy than women in nontraditional, gender neutral and traditional occupational preference groups. They did find that women who had expressed a career preference (whether traditional, nontraditional, or gender-neutral) had higher career self efficacy than those who were undecided, supporting the idea that career self-efficacy is related to career indecision.

Focusing on the process of career choice, Bergeron and Romano (1994) examined the effect of self-efficacy on college major indecision and vocational indecision, focusing on three levels of indecision: decided, tentatively decided, and undecided. Two measures were given to 124 undergraduate students, the Career Decision Making Self Efficacy Scale (Taylor & Betz, 1983) and a demographic questionnaire including items to determine vocational and college major indecision. Significant results were found between career decision making self-efficacy, college major indecision and vocational indecision. Differences were found in the relationship between career self efficacy and the level of career or major indecision as well as a positive relationship between college major decidedness and career decidedness. Students who were less confident in their ability to complete the tasks required for effective decision making were more likely to report being vocationally undecided.

A comparison of differences in students' career planning/choice of major on an international scale can be seen in a study conducted at the University of Pittsburgh and the Universidad Del Pacifico (Arce, 1996). The sample in the study consisted of 140 students, undecided about major choice, from both schools. Students from two different cultural and social backgrounds showed significant differences in results based on the effects of indecision. Variables surveyed in the study were demographics, social support and self-esteem. A Pearson-Product Moment Coefficient, multiple regression and t-test statistical methods were all used. Instruments used in the study were the Career Decision Scale, the Social Support Scale and the Self-Esteem Adult Inventory (Adult Form). The author found a positive correlation between social support, self-esteem and career indecision for both samples. This finding indicates that indecision and lack of social support contributed to lower self-esteem/efficacy; however, as predictors of career indecision, there was
no significance for the Pennsylvania students as Peruvian students showed more
significance between self-esteem, social support and career indecision.

Betz and Voyten (1997) reported a strong and negative relationship between
career decision self-efficacy and career indecision, citing correlations ranging from -.40 to -.51 using the Career Decision Scale (Osipow et al., 1980) and the Career Decision Self-Efficacy (Taylor & Betz, 1983) and a correlation of -.56 using the Career Decision Scale and the CDSE-SF. These authors verified indecision as a significant predictor of career exploration intentions amongst women, with those less decided, being more likely to make plans to undertake career search activities.

Osipow and Gati (1998) found a moderate correlation between career decision
self-efficacy and career indecision and recommended Career Decision Difficulty Questionnaire as a suitable adjunct to the Career Decision Scale (Osipow et al., 1980).

Guay et al. (2003) used a self-determination theory perspective (Deci & Ryan, 1985) to test the predictors of career indecision, including career decision-making self-efficacy. Self-determination theory hypothesizes that levels of autonomy, competence and relatedness are motivational antecedents to behaviors and that individuals who are intrinsically motivated, confident and receive support from others have less career indecision.

Creed et al. (2004) studied one hundred and thirty final year high school
students. It was found that career decision-making self-efficacy, internal and external barriers and optimistic/pessimistic cognitive style were able to predict career focus (males and females) and career indecision (males only).

Betz et al. (2005) have reported correlations of -.54 and -.52 between the
CDSE-SF total score and the Career Decision Scale across two different college samples. In keeping with the literature, they found a negative relationship between
career decision self-efficacy and indecision; however, these correlations were modest.

Creed, Patton and Prideaux (2006) surveyed 166 students when they were in
Grade 8 of high school and then again when they were in Grade 10, using measures of
career indecision and career decision-making self-efficacy. Consistent with social-cognitive theories they hypothesized that changes in self-efficacy over time would be causally associated with changes in career indecision over time. Using latent variable analyses, they estimated a two-wave, longitudinal cross-lagged panel design and
found that contrary to expectations changes in career decision-making self-efficacy did not result in changes in career indecision, despite significant contemporaneous associations at both times.

Lopez and Ann-yi (2006) reported that, in groups of minority women, when anticipated career related barriers and barrier-related coping beliefs were controlled, career decision-making self-efficacy scores did not significantly enhance the prediction of career indecision. But in White participants, perceptions of current educational (but not career) barriers, career barrier coping beliefs and career decision-making self-efficacy perceptions emerged as unique predictors of career indecision. A criticism of studies in this area generally is that they cannot determine causal relationships between career self-efficacy and career indecision over time. Despite currently applied theories hypothesizing a causal relationship from self-efficacy to career indecision and despite the continued assumption on the part of researchers that the causal relationship operates in this direction, the temporal relationship between career decision-making self-efficacy and career indecision is not known.

Argyropoulou et al. (2007) examined the dimensions of career indecision among a sample of Greek high school students (N = 848) and classified the students of the sample in regard to their career decision status. The results suggest that four factors contribute to career indecision: absence of structure, need for career guidance, diffusion of interests and personal conflict. The clustering procedure indicates that the students of the sample could be classified in three career indecision cluster groups: decided, exploring possibilities and undecided. These cluster groups differed in all four career indecision factors, generalized self-efficacy, coping strategies and vocational interests.

Nota et al. (2007) found that, for male adolescents attending a university-preparation high school, career search self-efficacy partially mediated the relationship between family support and career indecision. Contrary to expectations for female adolescents family support was directly associated with career search self-efficacy and career search self-efficacy was associated with career indecision.

Reed and Skaar (2010) explored outcomes in a constructivist career course. Using a pre test/post test design, the authors assessed the empowerment (operationalized as career decision self-efficacy) and career indecision of 82 culturally
diverse college students at a large, midwestern university. Data were analyzed using a multivariate analysis of variance. Results indicated a significant negative correlation between career decision self-efficacy and indecision on posttests \((r = -0.33, p < 0.01)\) with an alpha level of 0.05 and no significant correlation on pretests \((r = -0.22, p = 0.052)\).

Di Fabio, Palazzeschi, Asulin-Peretz and Gati (2013) found no correlation between career decision self-efficacy and career indecision in a study on 361 college students.

Diverse samples have been used to study the relationship between self-efficacy and career indecision; e.g. Taylor and Betz (1983) used a sample of college students attending both public and private institutions of higher education in the Midwest, Taylor and Popma (1990) and Bergeron and Romano (1994) used a sample of college students, Arce (1996) used a sample of University of Pittsburgh and the Universidad del Pacifico, Creed et al. (2004) studied one hundred and thirty final year high school students, Lopez and Ann-yi (2006) studied White participants, Argyropoulou et al. (2007) used a sample of Greek high school students and Nota et al. (2007) studied male adolescents attending a university-preparation high school.

Gender differences have been studied by Osipow, Temple and Rooney (1993). In a study of college students examining the relationship between career self-efficacy and career indecision, Osipow et al. (1993) found limited results indicating that career indecision and career self-efficacy were related for men to some extent but not for women. Bergeron and Romano (1994) examined no gender differences with respect to self-efficacy and vocational indecision, suggesting that the specific tasks and behaviors necessary for effective career decision making may not be gender linked. Creed et al. (2004) found that career decision-making self-efficacy was not able to predict career indecision in females.

Thus, career decision-making self-efficacy is a significant predictor of career indecision and also acts as a mediator between less proximal variables and career indecision in diverse samples. But, there are evidences that there is no significant relationship between career decision making self-efficacy and career indecision (e.g. Prideaux & Creed, 2001; Creed et al., 2004; Creed et al., 2006; Lopez & Ann-yi, 2006; and Di Fabio et al., 2013) which prompted this study for further investigation.
Family Interaction Patterns

The social group that seems to be most universal and pervasive in the way it shapes human behavior is the family. Family systems theory is a philosophy that searches for the causes of behavior, not in the individual alone, but in the interactions among the members of a group.

Family interaction is the hub of the family system. It is the process of interaction among family members that determines the rules by which the family is governed. This is the family’s level of cohesion, its adaptability and its communication style. Finally these interactions work together to serve individual members and collective family needs. Family function is the output of the interactional system. Utilizing the resources available through its structure (input), the family interacts to produce responses that fulfill its needs.

In trying to understand more about families, it is important to look at various characteristics within each family. The five main characteristics of the family system include: external and internal family boundaries, family rules, family role organization, power distribution among family members and the communication process.

Hartman (1979) has defined the external boundary of a family as that invisible line that separates what is ‘inside the family and what is outside’ the family. This outside boundary defines the whole family in relation to other systems such as schools, churches, or other families and outside individuals. A family has many attitudes, rules and communication patterns, which help to define its boundaries. There are rules about who is included in or given access to the family, such as extended family, in-laws, friends and neighbors. The nature of a family’s boundaries might range from an extreme closed quality to an extreme open quality. The degree of openness and closeness may vary with family style, preference, culture and circumstances. It would be extremely rare to find a family which fits neatly into any of these categories, though most families tend toward one type or another. Most families have a mixture of open and closed boundaries, which can change depending on circumstances.

In addition to external and internal boundaries, a family is organized in terms of roles. Every family has to work out such things as who cares for the children, who
does what work around the house, who makes what decisions and who handles the money. To function well, a family must have some clarity and agreement about these roles. However, roles need not be so rigid and narrowly defined that there cannot be changes. Role organization and expectations in any family are influenced by many factors -- culture, ethnic background, experience in the family in which one grew up, life style and family size and composition. It is possible for example to find a child fulfilling parental responsibilities in certain families. In some cultures, children are given responsibility as part of their training. The way in which a family organizes itself in terms of roles is not necessarily a statement of how well or how poorly that family is functioning. Suspending value judgments and avoiding applying one's own version of the ideal type of role arrangement is sometimes very difficult. In reality, there are a variety of role arrangements and any of them can be functional in a given family.

Over a period of time, family members develop rules about how they relate to each other and to the external environment. Many of these rules are silent contracts; not openly recognized. There are rules about communication, such as parents never argue in front of the children. There are rules about how decisions are made, how problems are solved and about how people are supposed to think, feel and behave. The rules are repetitive, predictable and stable, although, like many traditions, how and why certain rules were established may be lost or forgotten. To understand families it is important to learn about the operating rules and the behavioral patterns that maintain them. The rules that are developed by the family system ensure its stability, promote cohesiveness and help to establish the identity of a family as distinct from other families. The way in which the rules themselves are made, whether or not they are openly recognized and how they can be changed is also important. When the family experiences a good deal of anxiety about discussing rules or is unable to make necessary changes in rules as time and the situation require, there can be serious problems. In one family these rules may be changed by democratic family process initiated by the children. In another the old rules may not be open for discussion and may remain rigidly in place, leaving the adolescent to choose between obeying inappropriate rules and rebelling.

All families must have ways to make decisions and to resolve conflict. In most families all members have and need to have a certain amount of power and influence
in some areas. As Aponte (1976) has pointed out that family members must have enough power in the family to be able to protect their personal interests in the family at all times, while keeping the well being of the other members and of the family as a whole, in mind. Normally, one thinks of power and decision-making as being vested primarily in adult members of the family. However, there can be a great variation in how power is distributed and used in families. Some families strive for equality and permit everyone to participate in decision-making. Others have a clear and rigidly defined system in which one member of the family holds most of the power. The distribution of power can shift over time as the children grow and exercise autonomy. Children come to have a voice in such matters as how the family money is spent and where the family goes on vacation.

The family that has an orderly pattern of power distribution needs one that is reliable, permits the family group to carry out its operations in a reliable fashion and yet is flexible enough to change as circumstances change. Overly concentrated power in one member of the family or an arrangement that is so diffuse in distribution that members assume no responsibility can hinder family operations and individual growth.

Even silence is a message. A family works out its role organization, its rules of operation, all of its activities, through a process of communication. The communication system parallels the relationship system, since it is through communication that relationships are defined. Communication patterns express what is going on in relationships in a family. Families could be located on a scale ranging from open to closed kinds of communications. On one end would be those in which messages are clear and unambiguous. Individuals can reveal their needs, requests and desires in a relatively free manner. Expectations are clear and well-defined. On the other end would be those in which messages are distorted and ambiguous. Individuals do not freely reveal their needs and there is little congruence between what is felt, said and done.

A family has an invisible boundary that helps to define it as separate and different from other systems. There is a wide range of boundary styles ranging from open to closed. Role organization varies greatly among families. Ideally, roles within the family are both clear and flexible. Families maintain stability by developing rules about how to live together. Families have rules about everything. Some rules are
explicit and some are not. Some can be discussed and some cannot. Families develop characteristic ways to make decisions and to resolve conflict. It cannot be emphasized too strongly that there are all sorts of workable and effective communication and relationship patterns. Culture and ethnicity are significant variables to keep in mind.

Family interaction patterns, addressed in the present study, are operationally defined as degree of openness and closeness in the family behaviour in terms of competitive framework, cohesion, expressiveness, independence, moral orientation, organization of family responsibilities and recreational orientations. It is measured by using Family Environment Scale (FES; Vohra, 1997). It gives information about the family environment in a rapid, objective and standardized manner. Present scale uses seven clearly defined independent dimensions to measure family environment.

Many of the major career development theorists provide frameworks that can be helpful to parents in understanding the career development process and the role they play in it. Roe (1956) was the first to formally present a theory of parents' influence on their children's career development. The current thinking is that parents' influence on career development begins in early childhood and takes place in everyday family interactions as well as career related discussions and activities (Super, 1957; Krumoltz et al., 1976; Lent, Brown & Hackett, 1996; Mitchell & Krumoltz, 1996 and Super, Savickas & Super, 1996).

Super, Savickas and Super (1996) have outlined the process in terms of recycling stages of development that lead to a career choice. This career development process progresses and recycles through five stages. These stages are growth, exploration, establishment, maintenance and decline. According to Super, parents are influential because they provide the experiences and environment in which these stages are played out and the more successful children are in progressing through these stages the more likely it is that they will be successful and satisfied in their future occupational roles (Super, 1980). What is also significant for parents to note is that it is not unusual for their children to be indecisive about their careers well into their twenties. Parents need to be prepared to accept this uncertainty and to try to provide the resources their children will need to help them make these decisions (DeRidder, 1990).

Parents are responsible for a number of factors that affect children's career decisions. Values are developed through interactions with significant others,
particularly parents, as well as learning experiences throughout the life time. Those values can be differentially expressed in different fields of interest and will affect career choice (Lent, Brown & Hackett, 1994). Parents need to be aware of their influence in the development of values in children and should make deliberate decisions about what types of values (and work values in particular) they want to instill in their children.

The influence of the family on career decision making has long been recognized as an important factor by most vocational theorists. Shoffner and Klemer (1973) suggested that parents affect their children's career choices by acting as role models, influences on children's self-concept, occupational motivators, job information resources and providers of the developmental environment.

Interactions between parents and children and among siblings are a powerful influence. Interactions can include positive behaviors such as showing support and interest and communicating openly, or negative behaviors such as pushing and controlling (Way & Rossmann, 1996). Overall family functioning, a broader concept that encompasses parenting style, includes such factors as parental support and guidance, positive or negative environmental influences and family members' interaction styles. Parental support and guidance can include specific career or educational suggestions as well as experiences that indirectly support career development. The absence of support, guidance and encouragement can lead to floundering, the inability to develop and pursue a specific career focus. Lack of support can also take the form of conflict when a parent pressures a child towards a particular career and may withdraw financial and emotional support for a career path not of the parent's choice (Altman, 1997). By sharing workplace stories, expressing concern for children's future, and modeling work behaviors, parents serve as a context for interpreting the realities of work. Parent-child connectedness facilitates risk taking and exploration, which are needed for identity formation in general as well as for the formation of vocational identity (Blustein, 1997).

Ketterson and Blustein (1997) also support the relational context of career development. Secure parent-child relationships are associated with progress in career decision making, affirmative career self-efficacy beliefs and career planfulness. Parents encourage the adolescents to explore vocational interests and abilities as well as various occupational options, and helped him or her to reflect on career choice.
relevant experiences (Schultheiss, Kress, Manzi & Glasscock, 2001). The adolescents consider these behaviors to highly promote their motivation to engage in the career preparation process (Phillips, Blustein, Jobin-Davis & White, 2002 and Kracke & Noack, 2005). However, some individuals also reported that their parents were controlling their career actions and choices too much. Some of these parents may have wanted to implement or enforce their own ideas about their offspring’s occupation regardless of the adolescent’s wishes (Young et al., 2001).

When exploring the role of parents in adolescents’ development, gender differences should be considered (Collins & Laursen, 2004). Disengagement, for instance, is more typical of conflicts with sons than of conflicts with daughters. Furthermore, Grotevant and Cooper (1988) reported that parental over control was correlated with greater overall inhibition and lack of exploration, particularly for boys. Blustein, Walbridge, Friedlander and Palladino (1991) showed that a lack of conflicts with parents in combination with a warm relationship buffered premature career choices for girls whereas for boys this relationship was absent. In addition, boys’ career commitment profited from some attitudinal dependence on fathers i.e., adopting fathers’ beliefs, whereas for girls the reverse was true. In the career domain, Vignoli, Croity-Belz, Chapeland, de Fillipis and Garcia (2005) found that attachment to parents related to girls’ but not to boys’ career exploration. They concluded that close relationships may play a greater role for girls’ development of vocational identity.

However, little is known about career-specific parental behaviors, because gender differences were often not addressed explicitly. Some previous studies addressing specific career-related behaviors have shown mean differences, indicating that girls perceived more career-related autonomy support and received more positive feedback from parents than boys (Guay et al., 2003; Paa & McWhirter, 2000). Mean differences were less clear for parents’ interference since girls experienced a little less interference in a study conducted by Guay et al. (2003), whereas Paa and McWirther (2000) found no difference. In contrast to the considerations stated above, Kracke (1997) reported that independent of adolescents’ gender, parents’ supportive behaviors seemed to have the same effect on career exploration. Likewise, Guay et al. (2003) found no gender differences in the associations of career-related autonomy support and control with career decision-making self-efficacy.
Researches in the area of career development have also stressed the need to look at cultural differences in the role of the family in career planning. It has been observed that variability in the effects of parenting style is a function of the child’s cultural background (Darling & Steinberg, 1993). Early adolescence can be a critical time in which parental and familial influences shape adolescents’ career development (Blustein, Prezioso & Schultheiss, 1995; Otto, 2000; Rush, 2002). Some researchers have speculated that parental influences on African American youths’ career development may be stronger than those of their white counterparts (Lee, 1984). In line with cultural values that emphasize familialism and communalism, African American adolescents who are in the process of making career decisions might place greater priority on familial goals and community needs (e.g., staying close to their family to provide or obtain emotional or financial support) over individual goals (e.g., moving far away from home to attend college to establish emotional autonomy from parents). Moreover, consistent with the Africentric values of affiliation, interdependence and respect for elders, African American adolescents may rely strongly on parental influences and support throughout their career development (Cheatham, 1990).

Characteristic differences do exist between Western and Indian culture with respect to childrearing practices and in India, observations by experts have consistently revealed that two distinctive characteristics are associated with the Indian family environment: interdependence and authoritarianism, both of which have evolved from its unique child-rearing practices. A few studies have focused on these two characteristics of the Indian culture. In the West, child-rearing practices and educational philosophy nurture decision making skills and independent decision-making is expected at quite an early age. On the other hand, observations made in the Indian situation have pointed out that Indian child-rearing practices do not directly foster the development of independent decision-making (Ramanujam, 1979; Sinha, 1979). The assertion of individuality may quite often be frowned upon (Neki, 1976). Indian childrearing practices, family structure, hierarchical social organisation and value systems promote social support and interdependence (Ramanujam, 1979). Other studies indicate that the Indian family emphasizes the importance of family cohesion and loyalty rather than individual competence, particularly when the two are perceived to be antagonistic. There are minimal demands for autonomy and
independent functioning in individual members. Thus, ego boundaries of the members are poorly formed and permeable (Hoch, 1993; Roland, 1988) and internalisation of conduct rules poorly developed (Anandalakshmy, 1993). The role of the parents in shaping the career decision-making abilities of adolescents, may therefore, have serious implications not only on the selection of a career area of their choice, but on their ability to become successful workers in challenging jobs which offer personal satisfaction.

Unlike parents in the West, most Indian parents, especially in the urban and semi-urban areas, tend to be overly involved in their children’s career decisions because they not only want their off-spring to be more content in a career than they are in their own jobs, but also to ensure that their children are financially secure. Many make it clear that it is more important to earn a high salary than to pursue a career that is personally satisfying. Unlike in Western societies where adolescents are encouraged to explore the world of work informally through their hobbies and interests, because of the immense burden put on the Indian child to focus purely on studies that will result in a lucrative job, opportunities to explore one’s interests through leisure activities are rarely provided.

The parent-adolescent relationship in the Indian context, where independence and autonomy are discouraged, may be seen as a relationship where the more powerful help the less powerful through both care and control. Since a parent-child relationship is a highly interdependent and involved relationship, such relationships are likely to have an even more rigid quality to them in a hierarchical society like India. Indian parenting has been predominantly authoritarian in nature, with little scope for young people to exercise their freedom and choice in most important matters of life. Minturn and Lambert (1964) found that Indian child-rearing practices involved sparing use of positive reinforcement, frequent use of don’ts in guiding behaviour, lack of training in self-reliance and responsibility for self, lack of problem solving skills and inculcation of dependency. Bharat (1997) argues that families in India train children for conformity, dependency, mutual interdependence and gender specific roles.

Thus, we can conclude that career development is a topic of career-related family communication and actions. Thus, specific parental career-related behaviors may go along with adolescents’ progress in career preparation. For example,
adolescents who are very active in preparing their career choice may consult their parents to discuss career choice-related issues. Parents may react with support, ideas, and reflections which in turn may enhance adolescents’ career exploration. Again, these ideas provide some evidence for the importance of investigating parental behavior in specifically career-related contexts, such as career-related support, interference, and lack of engagement.

**Career indecision and family interaction patterns.** Career indecision is a central aspect in adolescents’ career development. It has been studied frequently as being influenced by the quality of the parent-adolescent relationship. Various findings have suggested that family environment is correlated with career decision making e.g. Lopez and Andrews (1987), Kinnier, Brigman and Noble (1990), Blustein et al. (1995), Phillips, Christopher-Sisk and Gravino (2001), Whittaker (1995), Orndorff and Herr (1996), Larson and Wilson (1998), Young et al. (2001), Guay et al. (2003), Lee (2003), Dietrich and Kracke (2009), and Keller and Whiston (2008).

Eigen, Hartman and Hartman (1987) used the Family Adaptability and Cohesion Scales (Olson, Bell & Portner, 1978), a measure of family environment and found that career indecision was not associated with family emotional cohesion. It seems that there is some support for family relationship variables in relation to career indecision, with closer relationships that are free from conflict being associated with less indecision, however these findings are not conclusive.

Lopez and Andrews (1987) articulated a family systems perspective of career indecision consistent with traditional psychodynamic theories of adolescent development. Specifically, they posited that ego identity formation, psychological separation-individuation from parents and career decision making are interrelated processes. That is, if an adolescent is prevented from constructing an identity separate from her or his parents, later in life that individual may manifest career indecision as a way to maintain the close attachment relationship. Conversely, sufficient psychological separation-individuation from parents, through the development of a functional, autonomous ego identity is believed to promote effective career decision making.

Kinnier et al. (1990) examined the relationship between career indecision and family-of-origin enmeshment. Six hundred and four under-graduate and graduate students were administered the Career Decision Scale and two scales
(Intergenerational Individuation and Triangulation) from the Personal Authority in the Family System Questionnaire. A simultaneous multiple regression analysis on the indecision scale, using four predictor variables, yielded three significant variables (age, graduate/undergraduate status and individuation) that accounted for 11% of the variance. Graduate students were more decided than undergraduate students and those who were more decisive tended to be older and more individuated.

Taking a somewhat different perspective, Blustein et al. (1995) proposed that the experience of felt security should promote aspects of career development, including effective career decision making. Felt security was theorized to derive from secure attachment relationships (e.g. with parents) and/or internal working models (i.e. schemas) of such attachment relationships.

Whittaker (1995) found that the dimensions of adaptability and cohesion alone were significant predictors of what type of career indecision a student might express. Results showed that students who indicated higher, more favourable, levels of adaptability and cohesion had significantly lower career indecision, meaning that these students were more career decided than students who indicated lower levels of adaptability and cohesion.

Ranhotra (1996) examined the interrelationship between family environment and career indecision of students at the plus 2 stage. Significant relationship was observed between career indecision and only one sub dimension, moral-religious subscale of family environment at 0.05 level ($r =.119$) and that too, in case of boys only. No significant relationship was found between other dimensions of family environment and career indecision.

Orndorff and Herr (1996) examined differences and similarities in career uncertainty and levels of involvement of parents in the career development process between decided and undecided college students. A career decision scale and a survey of career development were given to 93 declared and 96 undeclared undergraduate students. Findings indicated that decided students possess higher levels of career and major decidedness and lower levels of career uncertainty. Decided students developed their interest by using a greater depth of exploration, such as experiencing and observing occupations, than undecided students, who developed tentative interest from academic courses. The analysis indicated that the people most affecting the
choice of major of undecided students were their parents, while the decided students’ choices reflected a more balanced influence from teachers, professionals and parents.

Whiston (1996) examined the interrelationships between family interaction patterns (as measured by three dimensions of the Family Environment Scale: relationship, personal growth and system maintenance), career indecision and career decision-making self-efficacy beliefs among male and female college students. Results showed that career indecision was related inversely to the System Maintenance Dimension for women alone. Second, there were inverse relations between two Personal Growth Dimension factors (independence and achievement orientations) and self-efficacy in using occupational information. While Whiston (1996) concluded that there was some support for the link between family dimensions and career indecision and career decision-making self-efficacy, additional research is needed to clarify the surprising and inconsistent results.

Larson and Wilson (1998) examined the ability of Bowenian family systems theory (Bowen, 1978) to explain career decision problems in 1,006 college students (aged 17-23 yrs). Bowenian theory asserts that anxiety is the mediator of dysfunctional family dynamics and career decision problems. Analyses supported the mediating role of anxiety for fusion and intimidation; triangulation was not related to career decision problems.

Another study looking at career indecision and parental psychological separation in Portuguese students did not find significant relationships between psychological separation and career indecision as measured by the Career Factors Inventory (Chartrand, Robins, Morril & Boggs, 1990), which is a measure of antecedents of career indecision (Santos & Coimbra, 2000).

Adolescents who engage very actively in career exploration may also elicit their parents’ support. They may turn for advice to their parents (Phillips et al., 2001), resulting in augmented parental interest in the child’s preparation of career choice.

The results of Young et al. (2001) also point to the reciprocity of career-related activities. One could expect a positive cycle over time - adolescents’ intense exploration leading to increased parental support which in turn fosters intensified exploration activities - as well as a negative cycle with diminishing parental support.
as both antecedent and consequence of low engagement in the career exploration of the adolescent.

Concerning career decision-making difficulties, the results showed associations with parental interference and lack of engagement, though interference stayed as only significant variable when predicting decision problems simultaneously. It is also likely that parental interference is a reaction to either adolescent’s passivity in career preparation or inability to commit to a career goal. Parents may observe their children’s decision problems and may start to intervene. The adolescents, in turn, may experience this probably well-intentioned behavior as pressure (i.e., too much involvement) resulting in passivity as reactant behavior or due to lowered decision-making self-efficacy as suggested by Guay et al. (2003).

Lee (2003) examined the influence of Korean high school girls’ perceived family adaptability and cohesion on maturity with regards to career attitude. It was found that a high school girl’s perceived family adaptability and cohesion significantly influenced her maturity with regards to her career attitude. Particularly, the sub-variables such as democratism, participation, supportiveness and unity of family adaptability and cohesion had significant relevance to career attitude maturity. In general, family adaptability and cohesion had an R square of 47.3% with regards to a female 10th grader’s career attitude maturity.

Tokar et al. (2003) used Structural equation modeling to test theoretically based models in which psychological separation and attachment security variables were related to career indecision and those relations were mediated through vocational self-concept crystallization. Results based on a sample of 350 college students indicated that some components of separation and attachment security did relate to career indecision in a theoretically supportable direction. Students who experienced greater psychological separation from and freedom from negative feelings toward their mother reported greater vocational self-concept crystallization and less career indecision. Conversely, psychological separation from father was related to less vocational self-concept crystallization and, through its effect on vocational self-concept crystallization, greater indecision. In terms of attachment’s contribution to the model, results indicated that students who experienced greater levels of attachment anxiety also reported less vocational self-concept crystallization and greater global indecision.
Constantine, Wallace and Kindaichi (2005) examined the extent to which perceived occupational barriers and perceived parental support predicted career certainty and career indecision in a sample of African American adolescents. Perceived occupational barriers were positively predictive of career indecision and perceived parental support was positively associated with career certainty. The results provided support for the importance of considering contextual variables, such as perceived occupational barriers and perceived parental support, in the career decision-making processes of African American adolescents.

Kracke and Noack (2005) found that girls reported more parental support, whereas boys reported more parental interference. The finding that girls experience more parental career-related support may be due to more frequent and deeper communication between girls and parents, especially mothers. Gender differences were however small.

Ma and Yeh (2005) studied influence of intergenerational and all family conflict and relational-interdependent self-construal on the career decision status of Chinese American youths. Participants were 129 Chinese American youths, with ages ranging from 14 to 21 years. Results from regression analysis indicated that high intergenerational family conflict was predictive of career indecision. High relational-interdependent self-construal, on the other hand, was predictive of career certainty.

Dietrich and Kracke (2009) studied parental career-related behaviors associated with adolescents’ exploration and problems with decision making. For example, the more adolescents experienced parental career-related support, the more they engaged in career exploration activities. In a short-term longitudinal study of Dietrich (2008) higher parental career-related support at the first measurement was found to be associated with more career exploration two months later and vice versa.

Galit (2007) examined the contribution of ethnic identity, parental attachment and career decision self-efficacy to the career difficulties of 232 college students from different racial and ethnic backgrounds (i.e., African, Asian, Hispanic and White Americans). Contrary to the predictions indicated by this study, ethnic identity and parental attachment did not emerge as significant predictors of career difficulties. However, there was strong support of a relationship between career decision self-efficacy and career difficulties. However, there was strong support of a relationship between career decision self-efficacy and career difficulties.
In a study by Keller (2007), partial support was offered for hypothesis that low levels of career indecision for White Americans were predicted by high levels of maternal conflictual independence; however, paternal conflictual independence and adult attachment avoidance and anxiety failed to account for significant unique variance. The findings of research question one suggested that for Asian Americans lower levels of career indecision were predicted by high levels of maternal conflictual independence and low levels of attachment anxiety and avoidance.

Nota et al. (2007) found that family support influence both career self-efficacy beliefs and career decision making. The purpose of this study was to verify whether career search self-efficacy could mediate the relationship between family support and career indecision. Using a sample of 253 Italian youth, the study found that, for male adolescents attending a university-preparation high school, career search self-efficacy partially mediated the relationship between family support and career indecision. Contrary to expectations, for female adolescents there was no direct relationship between family support and career indecision; however, family support was directly associated with career search self-efficacy and career search self-efficacy was associated with career indecision.

Keller and Whiston (2008) assessed the relationship between specific parental behaviors and the career development of young adolescents. Regression analyses 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-focused parent behaviors. Five specific behaviors were found to be predictive of participants’ career development. The discrepancy between adolescents’ and parents’ views of family relationships was also shown to relate to the adolescents’ career decision-making self-efficacy.

Emmanuelle (2009) investigated the mediating role of adolescents’ global self-esteem, based on the relationship between adolescents’ mother or father attachment and their career indecision; as well as the mediating role of adolescents’ career indecision on the relationship between mother or father attachment and self-esteem. Two hundred and forty-one adolescents completed a self-report questionnaire that measured the difficulty in making decisions about their future academic and
vocational careers, their global self-esteem and their attachment to their parents. Results showed that the more adolescents felt attached to their mother and father the easier it was for them to make career decisions. The self-esteem mediation hypothesis is supported as a function of parent and adolescent gender. Similarly, the mediating role of career indecision is confirmed and depends on the gender of both parents and adolescents. Interpersonal context, identity development, adolescent career development and the relationship between them are discussed.

Rohner, Rising and Sayre-Scibona (2009) studied association of sex differences in career indecision's with different levels of self-reported psychological adjustment and different remembrances of maternal and paternal acceptance and behavioral control in childhood. 126 participants responded to the Career Decision Scale, the Adult version of the Parental Acceptance-Rejection/Control Questionnaire, and the Adult version of the Personality Assessment Questionnaire. Results showed that career indecision among women but not men was significantly correlated with remembered maternal and paternal acceptance in childhood, as well as with self-reported psychological adjustment and age.

Koumoundourou, Tsatsou et al. (2011) explored the influence of family characteristics (family function and parental authority styles) and core self-evaluations (CSE), in adolescents’ career formation. Using a sample of 289 Greek students, it was found that for male students the permissive and authoritarian parenting styles and the family cohesion contributed significantly to the prediction of CDM difficulties. Females’ decision-making difficulties were influenced negatively only by the parents’ authoritarian style.

Mojgan, Kadir, Noah and Hassan (2012) studied 158 Iranian freshmen and sophomores who had completed the Career Decision Scale (Osipow et al., 1976) and had been identified as career-undecided, completed the Inventory of Parents and Peer Attachment-Revised (Armsden & Greenberg, 1987). The results revealed that a significant negative relationship was found between career indecision and attachment to mother, whilst the relationship between career indecision and attachment to father was not significant. However, regression analysis showed parental attachment did not significantly predict career indecision of students.

Tokar et al. (2003), Guay et al. (2003), Constantine et al. (2005), Ma and Yeh (2005), Ranhotra (1996), Emmanuelle (2009) have found correlation between various
family dimensions and career indecision. Eigen et al. (1987), Whiston (1996), Santos and Coimbra (2000), Keller (2007), Nota et al. (2007) and Mojgan et al. (2012) have not found any relationship between family interaction patterns and career indecision.

**Vocational Identity**

The identity is defined as a subjective sense as well as an observable quality of personal sameness and continuity, paired with some belief in the sameness and continuity of some shared world image. Identity is the structure for understanding who one is, a sense of personal control and a consistency, coherence and harmony between values, beliefs and commitment (Erikson, 1968).

Josselson (1987) articulated identity as the integration of personality parts with the social world, resulting in a sense of significant relatedness to the real world as well as a sense on internal consistency. Josselson postulated that by focusing on comfort with appearance/body, sexual orientation and gender; sense of self within a cultural, historical and social context; self-concept clarification through life-style and life roles; sense of self in reaction to feedback from others whom one values; self-esteem and self-acceptance; and integration and personal stability, one could observe the components that make up a solid sense of self.

Erikson (1968) described stages of psychological development which occur across the lifespan from both inner psychological conflicts as one matures and the demands of the environment. In his theory of psychosocial development, Erikson (1963) identified eight major crises that build upon each other during the lifespan, such that the outcomes of all childhood stages contribute to the establishment of an identity during adolescence. Erikson (1968) posited that the process of identity development begins when infants first recognize their mother and deem her trustworthy. In the autonomy stage, toddlers develop the courage to be independent individuals and the willpower to choose and guide their futures. Preschool children in the initiative stage bring a sense of purpose to their identity through curiosity and experimentation. In the industry stage, school age children build the foundation for a sense of duty in life. Whereas these identifications are optimal, adverse outcomes can occur during these childhood stages. An individual who develops a negative self-image during these early crises enters the fifth stage with a lack of trust, experiences of shame and doubt and a sense of failure in competency. The central task of Erikson’s fifth stage of psychosocial development is the resolution of an identity.
crisis. The resolution of the crisis of identity achievement vs identity diffusion is the task facing adolescents and young adults. The issues to be resolved are selecting a vocation and finding and committing to ideological or value issues (occupation, religion, politics and philosophy domains) and finding and committing to relationship issues (friendship, dating, sex roles and recreational domains). A lack of resolution of these issues causes a sense of identity confusion and hinders development in later adult stages. Erikson says that society offers a moratorium during which time the adolescent is expected to explore these identity issues and begin to make commitments. Erikson states that this identity formation occurs best in environments that provide an opportunity for exploration and that college environments specifically provide this type of environment.

Marcia (1966) formulated a more specific operationalization of Erikson’s identity stages. He developed a model of four statuses of identity development, differentiated by whether one is aware of one’s developmental issues and whether exploration and/or commitment on identity issues have occurred. These four statuses are labeled foreclosed, diffused, moratorium, and identity achieved. Foreclosed indicates those individuals who may or may not be aware of their identity issues, have not explored options but have made decisions on the identity issues generally based on external expectations, such as parents. Hence, they are foreclosed on identity issues and their decisions are made from outside the self. Diffusion represents those who are not aware of identity issues, currently are not exploring options on the issues, and also have not made choices that might resolve their identity issues. Those in moratorium are aware of identity issues and are in the process of actively exploring alternatives on these issues. They have not yet made any decisions or commitments, however. Identity achieved status is depicted as having experienced awareness of identity issues, having explored alternatives on identity issues and as having made commitments to choices based on this self-exploration.

Identity is constructed when one makes decisions about who to be, what beliefs to adopt, what values to accept and what occupational direction to take. In the identity statuses, those who have constructed an identity are Identity Achieveds, those with conferred identities from the outside are Foreclosed, those with no identity are Diffuse, and those still searching for a constructed identity are in Moratorium. Those with either a conferred or constructed identity have a core that is oneself, a sense of
coherence. However, those with a constructed self-selected identity have a sense of having participated in developing that identity and know who they are, how they became and that they were an author of that process.

For Super (1957) vocational development is the process of development and implementation of the concept of the self, therefore, the people choose occupations that allow them to express themselves. He defines vocational identity as a set of vocational behaviors expected at a particular stage of an individual's career development. Some of the choices are already made when one goes from high school to college or job. The vocational identity is crystallized as a result of some processes of self-exploration and exploration of the environment. As a result of these, the adolescents and the young adults become aware of their own interests, values, skills, competences on the one hand and the preference for certain types of activities, working and interaction styles and working environments, on the other hand. The multiple learning and working experiences have an important influence on its forming.

Ginsberg (1972) describes his vision on the process of development of the vocational identity, which goes through three stages: The fantasy stage (3-10) - the child identifies himself with various significant persons from his school or family environment, including at the level of occupations as he can perceive them at this stage of development; there appear many vocational preferences the child expresses through play, imitating concrete observed behaviors. It is a very important stage for the development of vocational training, because it exercises and strengthens the child’s wish of having an occupation when he grows up and prepares him psychologically for taking decisions in this area. As he grows up, these preferences become differentiated, largely due to the influence of school, which makes the child understand his skills, preferences and values and to connect them more and more to reality, as a result of the requests of the family or community.

Second stage is of selection based on interests (11-16/17) - the debut of adolescence should mean the beginning of the exploratory behavior in terms of one’s vocational interests; the adolescents experience different activities and start to understand the relationship between interests and skills and the need to take this into account when making educational and career choices. Oscillations often occur between different choices that can be adopted or abandoned one by one and the
interests may not always match one’s skills, but rather the general life aspirations that develop more intensely during this period.

In the realistic stage (18-25) which is the last stage, the vocational identity is crystallized and particularized through professional training, an overview of the factors influencing the choice of the educational and professional trajectory occurs and decisions are more pragmatic and more realistic. The professional and sociocultural sub identities appear with their related roles and statuses which require adequate knowledge, skills and abilities.

Occupational identity, in Erikson view, is the most central domain of identity formation (as well as religious and political identity). Occupational identity emerges to the individual in regard to values, beliefs and commitment to work and help an adolescent find commitment to education, work and occupation. Knefelkamp, Widick and Parker (1978) suggested that vocational identity formation requires experiences that help individuals clarify their attitudes, interests and skills, thus aiding them in making commitments.

In a study by Lucas, Gysbers, Buescher and Heppner (1988) the hypotheses that women would have lower vocational identity scores than men, was explored. To answer the research questions, the study used three groups: 1) all freshmen entering a large Midwestern university; 2) a subgroup of freshmen with undeclared majors; and 3) adults seeking career counseling. Overall, the aggregate results of their study did not reveal any statistically significant differences between men and women on the Vocational Identity (VI). Gender differences in vocational identity development tend to be small (Gushue, Clarke, Pantzer & Scanlan, 2006; Skorikov & Vondracek, 1998).

Vocational identity, addressed in the present study, is operationally defined as the possession of a clear and stable picture of one’s goals, interests, talents, strengths and various occupations and world of work, measured using Vocational Identity subscale (VIS) of My Vocational Situation (Holland et al., 1980a). The VIS consists of eighteen true-false questions which measure degree of clarity and stability of interests, strengths, abilities and information of world of work one possesses.

Career indecision and vocational identity. Links between identity development and career decision processes have been proposed in theoretical literature and supported with empirical study by Holland et al. (1980a); Blustein,
Devenis and Kidney (1989); Wallace-Broscious, Sarafica and Osipow (1994); Cohen et al. (1995); Vondracek et al. (1995); Leung (1998); and Talib and Aun (2009).

Failure to form a stable vocational identity often results in career indecision (Holland et al., 1980a). Identity development has been linked to career choice in that those with poorer identity formation have been found to display greater career indecision (Holland et al., 1980b). Indecision involves difficulties in forming a stable, independent personal and vocational decision and a positive self-concept. General self and identity-related variables such as personal and vocational identity variables have been found to be correlated with career indecision (Blustein et al., 1989).

Brisbin and Savickas (1994) used the Career Decision Scale, My Vocational Situation (Holland et al., 1980a) and the Career Decision Profile (Jones, 1989) to discriminate between identity status groups. Diffused and moratorium groups were successfully discriminated from identity achieved and foreclosed groups, but the measures were found to be insensitive to differences in the two committed statuses (i.e., foreclosed and achieved).

Wallace-Broscious et al. (1994) examined the correlation between identity development and the processes of career development, including exploring and decision making. Findings indicated that the Identity Achieved status was positively related to career planning and certainty and negatively related to career indecision. Moratorium and Diffused statuses were negatively related to career planning and certainty and positively related to career indecision. They concluded that the student’s commitment to an identity is associated with increased career planning and decidedness.

Cohen et al. (1995) studied the relationships between career indecision subtypes and ego identity development. Four cluster groups of career-undecided college students (N = 423) were formed from Career Factors Inventory scores. Career decision groups were compared across Erikson’s first 5 stages of ego identity development as measured by the Ego Development Scale (Ochse & Plug, 1986). It was predicted that career decision groups would differ in level of ego identity resolution, with groups that experienced the most indecision reporting the least successful resolution. Using profile analysis, overall profile parallelism, level and shape were examined and comparisons of career decision groups within the substages were made. Results indicated that the four career decision groups differed in their degree of successful identity resolution in the predicted direction.
Vondracek et al. (1995) examined the relationship between the four identity statuses and a four factor model of career indecision including, 1) Diffusion, reflecting confusion and lack of experience or information; 2) Support, showing relative decidedness but uncertain about how to proceed and needing support; 3) Approach-Approach, reflecting conflict when several possible careers are appealing; and 4) External Barriers, including both external barriers to career choice as well as lack of interest in making a decision. Two measures were given to 407 junior high and high school students: The Extended Objective Measure of Ego Identity Status (Bennion & Adams, 1986) and the Career Decision Scale (Osipow et al., 1976). Findings showed a significant relationship between identity status and the nature and amount of career indecision. *Identity Achieveds* had lower career indecision scores than the other statuses and surprisingly, *Forecloseds* were similar to *Moratoriums* and *Diffuseds* in the amount and type of indecision experienced. They concluded that rather than regarding indecision negatively, it may be more helpful to look at it as exploration. Rather than emphasizing a decision as the ultimate goal, perhaps the goal for adolescents should be meaningful exploration.

Leung (1998) examined the career development of gifted high school juniors in terms of vocational identity. Gender differences in vocational identity were found. Students who had tentative career and college major choices were found to have a higher level of vocational identity than those who did not have tentative choices.

Skorikov and Vondracek (1998) noting a gap in assessment research between vocational identity development and overall identity development, examined vocational identity status in 1099 high school students, measured by the Extended Objective Measure of Ego Identity Status (Adams, Bennion & Huh, 1987) looking for the emergence of the identity development process. They relied on evidence that the process begins with occupational identity formation and found a stronger association between vocational and overall identity status than among the other domains. They found that the transition to more advanced statuses occurred earliest in the vocational domain, concluding that vocational advancement may facilitate general developmental processes. They suggested that differences in career decision making may be related to the progression of identity development rather than just individual differences and that such information would be beneficial in career counseling.

Gushue et al. (2006) explored the potential relationship between the social cognitive variables of career decision-making self-efficacy and perceptions of barriers
and the outcome variables of vocational identity and career exploration behaviors in a sample of 128 urban Latino high school students. The results indicated that higher levels of career decision-making self-efficacy were related to both a more differentiated vocational identity and a greater engagement with career exploration tasks. Perception of fewer barriers was also found to be related to a more integrated vocational identity.

Khasawneh et al. (2007) determined the level of vocational identity and career decision status of students at the Hashemite University. A total of 641 students participated in the study by completing the Vocational Identity Scale (VIS) and the Career Decision Scale (CDS) selected for the study. The results indicated that students had a high sense of vocational identity and greater career decidedness as represented by their overall mean values. Furthermore, there were no significant differences among university students in perceiving the vocational identity and career indecision that are attributed to their gender and academic standing.

According to Erikson, the formation of a vocational identity is one of the main tasks of adolescence. There is ample evidence to suggest that during this period of vocational identity formation, many adolescents experience periods of indecision regarding their career. Hirschi and Lage’s study (2007) of 358 Swiss students shows that vocational identity is a direct measure for career-choice readiness attitude reflected in career decision making.

Talib and Aun (2009) determined predictive factors of career indecision among Malaysian undergraduates. Data for this study were collected using a self-administered questionnaire. There were 1229 respondents who consisted of undergraduate students from four public universities. The respondents were identified via multistage stratified sampling. The Career Factor Inventory (Chartrand et al., 1990) was used to measure career indecision while the My Vocational Situation (Holland et al., 1980a) was used to measure the three core dimensions of career identity namely vocational identity, occupational information and career barriers. The multiple regression analysis indicated that female undergraduates with high academic achievement and low occupational information and vocational identity were more unlikely to have decided on their career. The findings provide evidence that vocational identity was significantly correlated with career indecision among Malaysian undergraduates ($r = -0.339, p \leq 0.01$).
Hocson (2012) determined the factors relating to career indecision among freshmen college students as basis for the formulation of a comprehensive career counseling program for the psychological well-being of freshmen university students. This study utilized 386 undecided freshmen college students in identifying the significant predictors of career indecision. Results reveal the respondent’s profile of vocational identity. Out of the 386 respondents, 279 (72.28%) scored low on vocational identity while 107 (27.72%) scored high on vocational identity. Vocational identity with t-value of 3.02 and P-value of 0.002 was found to be a significant factors relating to career indecision.

Thus, various findings provide evidence that vocational identity is significantly correlated with career indecision and development of vocational identity can be helpful in increasing career planning and decidedness among students.

The Need for the Study

One major reason of the Indian college students’ career uncertainty is the educational system in India which is from first to twelfth grade. Most students are encouraged to perform well on a variety of achievement tests in order to earn admission to excellent universities. The students spend too much time in study and do not have enough opportunities for self-exploration, nor do they have the chance to explore the world of work. At the college and university stage, the students suddenly feel uncertain about what they really want to do or what they might be able to do regarding a career. Also careers are destined to change dramatically with the infusion of currently available and emerging technology. Thus, there is need to understand educational/ vocational decision-making of first year students of colleges and explore the sources of career uncertainty. Effective interventions can be developed to address the multidimensional and crucial career counseling issues of career indecision.

Career indecision has been studied widely and the etiology of career indecision has been found to be complex and confusing. Studies have linked career indecision to a wide array of predictors such as trait anxiety, external locus of control, perfectionism (Fuqua et al., 1988; Leong & Chervinko, 1996), inadequate family support and problematic interaction patterns (Hargrove, Creagh & Burgess, 2002), vocational identity related factors (Guerra & Braungart-Rieker,1999; Tokar et al., 2003), family interaction patterns (Way & Rossman, 1996; Ketterson & Blustein, 1997) and perhaps most consistently, weak self-efficacy beliefs regarding one’s
career planning and decision making skills (Betz & Klein, 1996; Betz, Klein & Taylor, 1996; Betz & Luzzo, 1996; Betz & Voyten, 1997; Guay et al., 2003).

But, there are virtually no Indian studies (to the best of this researcher’s knowledge), which looked into the impact of career decision making self efficacy, family interaction patterns and vocational identity on the career indecision of adolescents, despite the overwhelming research evidence from the West. The present study is an attempt in that direction and was thus conducted to examine the role of career decision making self efficacy, family interaction patterns and vocational identity in predicting career indecision of undergraduate students in Doaba Region of Punjab (India). Undergraduates addressed in the present study are operationally defined as college or university students who are pursuing bachelors’ degree.

Statement of the Problem

The present study henceforth is an endeavour to find the aforementioned relationships. The title of this study thus reads as:

PREDICTING CAREER INDECISION AMONG UNDERGRADUATES: THE ROLE OF CAREER DECISION MAKING SELF-EFFICACY FAMILY INTERACTION PATTERNS AND VOCATIONAL IDENTITY

Objectives of the Study

The specific objectives of the study are:

1. To identify status of career indecision among the undergraduate students.
2. To examine the impact of gender and stream of study on career indecision, career decision making self-efficacy, family interaction patterns and vocational identity.
3. To study gender wise and stream wise relationship among career indecision, career decision making self-efficacy, family interaction patterns and vocational identity.
4. To find out the predictors of career indecision from among the independent variables of career decision making self-efficacy, family interaction patterns and vocational identity.
5. To suggest the implications of the findings for career counseling.
Hypotheses of the Study

On the basis of above mentioned objectives following null hypotheses were proposed to be tested:

\( H_{01} \)  Students at undergraduate level do not exhibit career indecision.

\( H_{02} \)  Students at undergraduate level do not exhibit significant difference in career indecision, career decision making self-efficacy, family interaction patterns and vocational identity with regard to demographic variables of gender and stream of study.

This hypothesis covers the following domains:

Gender

\( H_{02.1} \)  Students at undergraduate level do not exhibit significant gender difference in career indecision.

\( H_{02.2} \)  Students at undergraduate level do not exhibit significant gender difference in career decision making self-efficacy.

\( H_{02.3} \)  Students at undergraduate level do not exhibit significant gender difference in family interaction patterns.

\( H_{02.4} \)  Students at undergraduate level do not exhibit significant gender difference in vocational identity.

Stream of Study

\( H_{02.5} \)  Undergraduate students from various streams of study do not differ significantly on the variable of career indecision.

\( H_{02.6} \)  Undergraduate students from various streams of study do not differ significantly on the variable of career decision making self-efficacy.

\( H_{02.7} \)  Undergraduate students from various streams of study do not differ significantly on the variable of family interaction patterns.

\( H_{02.8} \)  Undergraduate students from various streams of study do not differ significantly on the variable of vocational identity.
Relationship among career indecision, career decision making self-efficacy, family interaction patterns and vocational identity

H03-1 There is no significant relationship among career indecision, career decision making self-efficacy, family interaction patterns and vocational identity in case of total sample of undergraduate students.

H03-2 There is no significant relationship among career indecision, career decision making self-efficacy, family interaction patterns and vocational identity in case of male undergraduate students.

H03-3 There is no significant relationship among career indecision, career decision making self-efficacy, family interaction patterns and vocational identity in case of female undergraduate students.

H03-4 There is no significant relationship among career indecision, career decision making self-efficacy, family interaction patterns and vocational identity in students from Arts stream.

H03-5 There is no significant relationship among career indecision, career decision making self-efficacy, family interaction patterns and vocational identity in students from Commerce stream.

H03-6 There is no significant relationship among career indecision, career decision making self-efficacy, family interaction patterns and vocational identity in students from Science stream.

Predicting career indecision from among the independent variables of career decision making self-efficacy, family interaction patterns and vocational identity

H04-1 Career decision making self-efficacy does not predict the career indecision of undergraduate students.

H04-2 Family interaction patterns do not predict the career indecision of undergraduate students.

H04-3 Vocational identity does not predict the career indecision of undergraduate students.
Theoretical (Hypothesized) Model

The study aims at testing and validating the following theoretic model.

Figure 1.1: Theoretical (Hypothesized) Model