CHAPTER SIX: DISCUSSION

The discussion chapter has the following hierarchy: 1) Prevalence of certainty and indecision, 2) Career decision making difficulties – a) patterns of certainty and indecision b) taxonomy of difficulties, and c) cross-cultural pattern analysis, 3) Effect of Intervention I, 4) Effect of Intervention II.

6.1 PREVALENCE OF CERTAINTY AND INDECISION

The result of the group data of class tenth students (N=518) given in Table 1 indicated that they have expressed slightly more than moderate certainty (M = 5.5) about making choices regarding a school major and career, and have indicated below average indecision (M = 36.93) about making these choices. This result shows an inverse relationship between certainty and indecision, which is as per the description given by Osipow et al (1976).

A similar result was obtained by Schmidt (2001) who reported higher certainty (4.99) than indecision (32.94) among high school students. Sinz (2003) reported a contrary result among college freshman who showed both, low certainty (1.67) and low indecision (36.38).

Levels of certainty

It was seen that 32.24% of the students were highly certain about their school major and career choice. It appears that almost one third of the
student population had crystallized interests in specific occupations and careers, and was sufficiently motivated to pursue these interests. They seemed to be supported in their choices by their parents and significant others as it met their expectations. Also, these careers seemed achievable to the students on the basis of their current and projected academic performance. A further look into the academic and extra-curricular activity profile of these students revealed that they were generally the toppers of their schools, were active in extra-curricular activities and had decided to choose the science stream to pursue their careers.

Researchers have reported the positive links of self efficacy expectations ("beliefs concerning one’s ability to successfully perform a given behavior" Betz, 1994, p.35) with career planning and exploration and overcoming personal challenges in academic and occupational settings (Lapan, Gysbers, Multon and Pike, 1997; O’Brien, Dukstein, Jackson, Tomlinson and Kamatuka, 1999). Schmidt (2001) reported in her study that high school students had shown above average certainty as a group. Bernes and Magnusson (2004) conducted a research project titled “Comprehensive Career Needs Survey” and reported that students generally state that they have career plans and are quite confident about their future.

Within the total number of students, 13.9% were highly uncertain about their educational and career choices. These students appeared to have perceived a gap between their academic performance and their career aspirations which de-motivated them to explore career avenues.
They seemed to be experiencing high parental pressure for career options which were incompatible with their perceived self-competence, which led them to go through a high amount of stress and anxiety regarding their educational and career choices. The academic, co-curricular and counseling records of these students showed a profile that generally indicated that they had low academic performance, their participation in extra-curricular school activities was almost nil, they had demanding authoritarian parents and they were often recommended to the school counselor for counseling of problems like low self-esteem, emotional problems and family adjustment problems.

Researches in the western countries have highlighted a larger percentage of students reporting high career uncertainty. The American College Testing Program (1999), which was taken by one million students, showed that over 66.6% students expressed uncertainty about their career choice. Schmidt (2001) analyzed individual items of the CDS in her study and found that although 57.5% of the students was relatively decided in career choice as seen by responses on item 1, their responses on item 2, regarding choice of major, showed the existence of a majority of indecision (54.6%). Also, a grade wise comparison revealed that tenth graders were the least certain among the total group of students in the study.

Some researchers explored the personality components of career decision making and reported that students with low self-efficacy would be delayed in their decision making (Betz and Voyten, 1997, Taylor
and Betz, 1983); as would be students with an external locus of control (Fuqua and Hartman, 1983; Lucas and Epperson, 1988, 1990); and that high anxiety impeded the students’ ability to decide (Fuqua, Blum and Hartman, 1988; Lucas and Epperson, 1988, 1990; Newman, Fuqua and Minger, 1990).

More than half of the student population of the present study (53.86%) were moderately certain, indicating that they had some confidence about their educational and career choices but were at the same time experiencing choice and decision making conflict. Their uncertainty stemmed from their being unaware about the career decision making process. They had a limited idea about self-exploration and occupations. These students were motivated to seek help but did not know whom to approach for relevant and objective information. They appealed to the researcher to help them with proper career guidance. Their academic records, co-curricular participation records and their interactions with the researcher revealed a profile that indicated a generally good academic performance. However, they did not know how to link themselves with the world of work. Their knowledge of career avenues was inadequate and they did not know how to collate knowledge about their selves with the requirements of the world of work.

Julien (1999) conducted a study on Canadian students and reported that 40% of the students did not know where to go for help with career decision making, 59.7% found it difficult to locate all the information they needed to make a career decision and 38% did not know what
academic scores or courses they needed to achieve their career goals. She further stated that the lack of career information in the students was not due to a lack of trying on the part of the adolescents as 76.6% of these students reported that they had tried to get their questions answered, and of those that did not, 18% stated that their reason for not doing so was because ‘it was too difficult or that there was insufficient information available’ (p.42). Schmidt (2001) reported that 63% of the participant in her study fell within the middle range of certainty.

Looking at the above, it can be said that 67.76% of the students (medium + low certainty) were experiencing moderate to severe degrees of uncertainty about making educational and career choices. This implies that out of 67.76% some students of the present study lacked the confidence to be certain about their educational and career choices (Osipow et al, 1976) while others were uncertain or undecided about their occupational plans (Guay et al, 2003; Schmidt, 2001).

Levels of indecision

The analysis of indecision scores revealed that 37.64% of the students had a high level of indecision. It indicated that more than one third of the student population was experiencing a lot of difficulties with regard to their educational and career choices. The large percentage of students showing high indecision revealed that they had several areas of concern regarding their career decision making.
The high level of indecision of these students seems to be aptly explained by the four factor structure (Osipow, et al, 1976) and Crites’s (1969) and Tyler’s (1969) definitions of career indecisive students.

1) (Osipow, et al’s, 1976) first factor suggested that the students with high indecision lacked confidence in making career decisions and that their career planning activities lacked structure. This made them anxious and unwilling to make decisions at this point of time.

Wanberg and Muchinsky (1992) showed that indecision is associated with poor self-awareness, low knowledge of academic-vocational reality, high levels of anxiety, low self-esteem, and external locus of control. Schmidt (2001) found that although as a group the Indecision score of the high school students in her study was low, individual items revealed the following areas of indecision: 1) 53% reported an interest in many things, as well as the ability to do well, but they were having a difficulty in deciding on one thing for a career and 2) 56% of the participants believed that additional information would help them decide.

2) Osipow, et al’s, (1976) second factor accounted the significant but often hindering role played by the parents of the students who contributed to their high indecision.

Leong & Serafica, (1995) found a strong parental influence for Asian Americans and attributed it to the Asian cultural values that emphasize
respect and obedience toward authority and older individuals. Blustein, Walbridge, Friedlander and Palladino (cited in Super et al. 1996, p.129) stated that “some students’ indecision problems are wrapped in their role as children because they cannot make a choice for fear of disappointing a parent”. Mau et al, (1998) reported that adolescents’ perceptions of parental expectations have an influence on educational aspirations. Taylor, Harris and Taylor (2004) suggested that without parental approval or support, adolescents are often reluctant to pursue – or even explore – diverse career possibilities.

3) Osipow et al’s (1976) third factor, the “approach-approach” problem was also probably experienced by the students. This may have been due to lack of information about occupations and their requirements. For example, a student reported as being interested in engineering and law and wanted guidance on which option to pursue while another expressed a desire to become a doctor but was terrified on blood.

Schmidt (2001) reported that over 48.3% of the participants of her study indicated that they were interested in several careers but were having a difficult time deciding among them.

4) Finally, the pressure of academic performance coupled with high expectation from parents, teachers, school authorities and relatives made the students feel anxious, worried and confused about their career decision making. A high fear of failure affected their self-esteem and
caused personal conflict within them with regard to career decision making, pointing to the fourth factor given by Osipow et al (1976). Leong and Chervinko (1996) reported that the indecisive type of individual has a fear of commitment which is associated with high levels of career indecision.

5) These students also appeared to be chronically indecisive (Crites, 1969; Tyler, 1969). The dependency on parental support for decisions added with lack of decision making skills and low self-esteem contributed to making them chronically indecisive.

Leong and Chervinko (1996) highlighted two aspects of career indecision as “a trait-based vocational problem” and as a part of “a normative developmental process”. Kinnier, Brigman, and Noble (1990) observed that individuals who were more easily influenced by family pressures and who were not able to cope effectively with the interference of significant others were more indecisive when facing problems concerning career decision making. Guay et al’s (2006) study revealed the presence of two indecision groups (chronically undecided and developmentally undecided).

Out of the total number of students, 56.37% reported a medium level of indecision which indicates that more than half of the student population were experiencing moderate levels of anxiety, conflicts (both internal and external), and decision making difficulties. They seemed to have a lack of information and knowledge about the career decision
making process, about self, and about career information. Thus they seemed to constitute the developmentally undecided group (Osipow, 1999).

According to Gaffner and Hazler (2002), inadequate knowledge about the career development process inhibits students from making decisions, and hence, may impact indecision. Kelly and Lee (2002) identified Lack of information, reflecting lack of knowledge about the career decision making process, lack of knowledge about self, and lack of knowledge about career information as a major contributing factor to career indecision. According to Sampson, Reardon, Peterson and Lenz (2004), the undecided career decision maker faces a host of challenges like gaps in self and occupational knowledge combined with decision making deficits which limit the effectiveness of career choice.

An extremely small percentage of students (5.98%) reported a low level of indecision, indicating that they had no significant career decision making difficulties, and that they had made career choices that were congruent with their selves.

An inherent problem in the CDS Certainty scale too seems to have contributed to this result. The certainty of the students is measured by only two items which ask the respondent about the degree of certainty felt about choosing a major and a career. It appears that these two items were inadequate to measure the real certainty felt by the students. It is also possible that students reported being more certain because they felt
it was expected out of them. A similar finding was reported by Stratton (2000) whose interview discussions revealed that while most students can, when asked, voice career aspirations, they may do so because it is expected, rather than because they are deeply committed to that career goal.

Looking at the percentile scores given in the CDS manual (Osipow, et al, 1976) it can be said that almost 94% (high + medium indecision) of the students were undecided and had difficulties in making educational and career choices. This was inline with the initial premise of the researcher and other career counselors that a large number of Indian students lack career plans and are uncertain about their career choices. The above result highlighted the fact that although one third of the students had expressed high certainty, they did have significant decision making difficulties which prevented them from taking concrete career decisions. Hence, their certainty scores could not be taken at face value. Thus, a thorough scrutiny of their indecision scores was essential to gauge the true career decision status.

Different studies have reported varied percentage of students experiencing indecision Crites (cited in Zunker, 1994) suggested that 30% of high school students were undecided about a career, while Fottler and Brain (cited in Zunker, 1994) reported that only 18% of students in their study indicated indecision. Gordon (1995) and Hayes (1997) found that as little as 20% and as many as 60% of students
entering college are undecided about an academic major or career choice. Leong and Chervinko (1996) examined the construct validity of career indecision. Negative personality traits such as perfectionism and fear of commitment were found to account for up to 20% of the variance when career indecision was measured by the Career Decision Scale. Albion and Fogarty (2002) reported over 70% of their high school students sample was slightly or very undecided about their career choice.

6.2 CAREER DECISION MAKING DIFFICULTIES

The career decision making difficulties of the students with career choice problems are discussed in terms of their patterns in career certainty and indecision, followed by the taxonomy of specific career decision difficulties emerging for them and finally, cross-cultural comparisons of their career decision-making difficulties.

6.2.1 Pattern in career certainty and indecision

The 350 students with career choice problems were divided into four groups as per their levels of certainty and indecision (i.e. medium or low level of certainty along with medium or high level of indecision).

These four groups' (LCHI, LCMI, MCHI and MCMI) mean scores (Table 6a) showed that all the students had significant levels of difficulties in each of the ten sub-categories of the CDDQ which
ranged from moderate ("deserves counselor attention") to a severe level ("requires intervention") (Gati, 2005).

It was seen that the group of students with LCHI and MCHI had severe difficulties (i.e. elevated scores of 5 or above) on eight categories each, of the CDDQ while the group of students with LCMI had severe difficulties in only five categories, whereas, the group of students with MCMI had severe difficulties in only two categories of the CDDQ. This implied that higher the level of indecision higher was the number and severity of career decision making difficulties experienced by the students.

The above result also confirmed the suitability of the CDDQ for assessing the career decision making difficulties of Indian students with career choice problems. Thus, the recommendation made by Osipow and Gati (1998) that "the Career Decision making Difficulties Questionnaire can be used as a suitable adjunct to the Career Decision Scale as it enables assessment of systematic categories of difficulties......some of which are represented in the CDS.....only indirectly" (p.361) was validated.

Osipow and Gati (1998) reported that undecided students had significantly higher scores on the CDDQ. Lancaster, Rudolph, Perkins and Patten (1999) found that decided students had a tendency to present themselves as having fewer difficulties in decision making than undecided students. Patton, Creed and Watson (2003) reported
that greater is the perception of barriers among clients higher is their indecision and they have generally less career maturity.

6.2.2 Taxonomy of difficulties

The career decision making difficulties of the students are discussed as per the taxonomy of career decision making difficulties given by Gati, et al (1996). It was seen that the students had difficulties due to Lack of Readiness, which according to Gati et al (1996) preceded the process and prevented from beginning the process. They also had difficulties due to Lack of Information and Inconsistent Information, which occurred ‘during’ the process and could stop the process once it was started or could lead to a less than optimal decision. The students’ specific difficulties under these three major categories of difficulties are discussed below.

Lack of Readiness

1) **Lack of Motivation** - On the difficulty subcategory Lack of Motivation the scores of the 350 students with career choice problems ranged from 2.83 to 3.74 (Table 6a). The total mean score of the group was 3.42. This indicated that the students’ level of motivation deserved the attention of a counselor (Gati, 2005). They needed to be further motivated to begin and follow the career decision making process.

The Indian educational system puts a heavy emphasis on high academic scores in class tenth as these are the basis for future educational options
leading to career choices. These academic pressures combined with expectations from the society and the educational system to make concrete educational choices and have clear career goals create a lot of anxiety within the students as they do not possess the appropriate information and skills to make these choices. This affects their level of motivation negatively. The group of students with career choice problems (N=350) in the present study were motivated to explore educational and career avenues but their level of motivation was affected by the uncertainties and difficulties described above. Also, these students seemed to be more extrinsically motivated. This result made the researcher feel that these students’ motivation could be further improved by counselor attention and/or participation in the career choice intervention program.

Gaffner and Hazier (2002) posited that lack of motivation may indicate an attitude problem. Swanson and Tokar (1991); Luzzo (1995, 1996); Creed, Patton, and Bartram, (2004) have suggested that perceptions of barriers might motivate increased career-related activity. Larson and Majors (1998) suggested that affective distress associated with career decision making among adolescents may be adaptive because it increases the motivation to seek help, thus decreasing the chances of uninformed decisions.

2) **General Indecisiveness** - On the difficulty category General Indecisiveness the scores of the students ranged from 5.51 to 6.45 (Table 6a). The total mean score of the group was 5.98 indicating a
severe level of difficulty (Gati, 2005) where the students had a high fear of failure and fear of commitment due to their general indecisive tendencies. This score was also the highest among all the difficulty subcategories. It appears that the students were indecisive in various areas of their lives besides career decision making and they often changed their minds regarding career choices. This clearly indicated that they lacked knowledge of effective decision making skills. They also had a need to affirm their decisions from significant others.

This result led the researcher to include decision making skills as an important component of the intervention program. It also made the researcher think about addressing parents within the intervention in order to help the students to receive parental support and encouragement in making their decisions about future educational and career options.

Kinnier, Brigman, and Noble (1990) observed that individuals who were more easily influenced by family pressures and who were not able to cope effectively with the interference of significant others were more indecisive when facing problems concerning career decision making. Herr, et al., (1993) pointed out that career indecisive students exist in significant numbers and experience different problems, requiring different interventions. Leong and Chervinko, (1996) reported that the indecisive type of individual has a fear of commitment which is associated with high levels of career indecision. According to Gaffner and Hazler (2002), inadequate knowledge about the career
development process inhibits students from making decisions, and hence, may impact indecisiveness. According to Sampson, Reardon, Peterson and Lenz (2004), the indecisive career decision maker faces a host of challenges like gaps in self and occupational knowledge combined with decision making deficits which limit the effectiveness of career choice.

3) **Dysfunctional Beliefs** - On the sub-category Dysfunctional Beliefs the scores of the students ranged from 5.24 to 6.29 (Table 6a). The total score of the group was 5.94 indicating a severe level of difficulty (Gati, 2005). The high score reflected a distorted perception of the career decision making process. The students showed irrational beliefs and expectations regarding their educational and career decisions.

The students held many wrong beliefs like career choice was a one-time thing and a life-long obligation, that there was an ideal gender stereotypical and socially prestigious career which would fulfill all their aspirations, and that getting a job would solve their personal problems. These dysfunctional beliefs were societal messages imbibed during childhood and were further reinforced during the students' later life by parents and other significant people in the family. The researcher felt that refuting these beliefs via presentation of factual information about the self and world of work in the intervention program would help in guiding the students' towards constructive career decision making. It would help them in making career decisions that were congruent to this information as opposed to decisions made on the basis of dysfunctional
beliefs. It was also important to identify and change the dysfunctional beliefs of the students’ parents.

**Lewis and Gilhousen (1981)** reported that raising awareness of beliefs is as important as knowing one’s interests, aptitudes, and values since this information is of little value if a client cannot put them into realistic perspective. **Mitchell and Krumboltz, (1996)** suggested that career beliefs are, in essence, faulty assumptions or ideas that interfere with career decision making and later career progress. Career myths are incorrect assumptions and generalizations about the career counseling and decision-making process. These myths are common beliefs internalized from family or societal messages. **Amundson (1997)** observed that beliefs that have previously served as guides to career development may no longer be viable in today’s labor market. **Feride Bacanli (2006)** found that a high level of irrational beliefs is also positively predictive of exploratory indecisiveness.

**Lack of Information**

1) **Lack of Knowledge about the Career Decision Making Process** - On the difficulty category Lack of Knowledge about the Career Decision Making Process the mean scores of the students ranged from 4.54 to 6.58 (Table 6a) indicating a severe level of difficulty (**Gati, 2005**). The total mean score was 5.70 reflecting a lack of knowledge about how to reach a decision wisely and specifically a lack of knowledge regarding the steps involved in the career decision making process.
There was a lack of career guidance and counseling services in the schools of the students of the present study. Hence the students were unaware that career choices should not be made arbitrarily but should be arrived at by following the appropriate career decision making steps. These students career decision making process was subjective and based on narrow, parent-reinforced distorted ideas about the world of work which was affected by biases, stereotypes, and limited information about the self and occupations. They aimed for certain socially prestigious jobs irrespective of whether or not such choices were well founded. They were amply encouraged by their parents in this folly. Hence, the researcher felt that it was important to teach about the importance and the steps of the career decision making process to both, the students and their parents.

Lack of knowledge about the Decision Making Process includes not knowing what factors to take into consideration like knowledge of self and occupations. Fretz (1981) showed that one of the parameters of career interventions is their content domain and this content domain includes occupational information, self-knowledge and decision making skills. Austin, Wagner and Dahl (2004) reported that gaps in self and occupational knowledge combined with decision making difficulties limit the effectiveness of career choice.

2) Lack of Knowledge about the Self - On the category Lack of Knowledge about the Self the mean scores of the students ranged from
3.88 to 5.66 (Table 6a) indicating a moderate to severe level of difficulty (Gati, 2005). The total mean score was 4.95 which showed that the students with career choice problems felt that they did not have enough information about themselves to make effective career decisions. The high mean score reflects a lack of objective information about abilities, skills, interests and personality.

As discussed earlier, the lack of career guidance and counseling services deprived the students from getting objective and factual information about their selves. Their choices were based on subjective evaluations of their interests and abilities, which were often unrealistic and mismatched with their true potential. Hence, the researcher felt that the career intervention program should include testing on abilities, interests, career values and personality along with counseling to interpret and apply the test results. Also, both parents and students should be explained the importance of having an objective knowledge of self to make realistic educational and career decisions.

Costa, et al (1995) suggest that personality information can help in understanding the clients’ strengths and weaknesses and result in more appropriate and realistic choices. If clients do not have realistic perspective on their abilities, skills, interests, and values they may strive to reach unattainable goals but experience failure and discouragement (Lent, Brown and Hackett, 1996).
Zunker and Norris (1998) and Jurgens (2000) reported that Self-knowledge can be developed through assessment results which can identify individual characteristics and generate further career development activities. Ryan Krane and Tirre (2005) reported that ability assessments are used to help individuals identify job possibilities in which success is increased. This is done by assessing abilities that can be immediately transferred into job-related skills and by testing aptitudes to predict areas of potential that could be tapped in the future to maximize occupational success.

3) Lack of Information about Occupations - On the category Lack of Information about Occupations the students mean scores ranged from 4.49 to 6.07 (Table 6a). The total mean score was 5.42 indicating a severe level of difficulty (Gati, 2005). The students showed an acute lack of information about the existing array of educational options and subsequent career choices as well as about the characteristics of different career alternatives.

It appeared that the students with career choice problems lacked factual information about the variety and nature of career options available to them. Their information sources were mostly parents, peers or teachers who offered biased and limited information. They were fixated on particular educational streams (most commonly the science stream) and career fields (most commonly medicine or engineering) and were reluctant to explore beyond these options. In fact they were not even aware of the huge variety of options within these particular fields. A lot
of students explored the internet as a resource but often found the information vast and bewildering. Many students also cited lack of time due to academic pressures as an excuse for not gathering career information. Hence, the researcher felt that the career intervention program should provide detailed information about different career avenues under different educational streams which would be congruent with the information about the students’ self that would emerged after testing. Various career resources should also be listed and discussed with the students.

According to Holland (1985), those who have an adequate amount of self-information and occupational knowledge will make better decisions whereas those without this information will make poor decisions. Larson et al. (1988) reported that students who lack career information may enter college and quickly find that their career goals are unobtainable or unsuitable. Gaffner and Hazler (2002) found that progress in career development may become blocked when there is a lack of information about the world of work (occupational information) and ways of obtaining information.

Westbrook (1972) found that career counseling groups incorporating explicit presentations of occupational information led to greater and longer retention of such information. Pilato and Myers (1975) found that giving students’ accuracy of self-knowledge feedback as well as training in an occupational classification scheme was superior to either one separately for improving the appropriateness of occupational
preference level. **Osipow (1997)** suggested that all students, regardless of social background, personality and past experiences, would improve their future career decision making process by having a solid high school educational program and knowledge in how to access career information.

4) **Lack of Information about Additional Sources of Information** - On the category Lack of Information about Additional Sources of Information the students scores ranged from 4.07 to 5.62 (Table 6a). Their total mean score was 5.11 indicating a severe difficulty (**Gati, 2005**) to obtain additional information or help that may facilitate decision making.

The students’ knowledge of additional sources of accurate information for career decision making was completely inadequate. They lacked awareness of various career resources and the capability of using them for effective career decision making. Hence, the researcher felt that this need of the students could be addressed by providing detailed information on different career resources to both, the students and their parents.

**Julien’s (1999)** study revealed that 40 % of the adolescents did not know where to go for help in their decision-making and 38 % felt that they needed to go to too many different places for the information they required.
Inconsistent Information

1) *Unreliable Information* - On the category Unreliable Information the students’ scores ranged from 4.1 to 5.26 (Table 6a). The mean total score was 4.66 indicating that this difficulty deserved the attention of a counselor (*Gati, 2005*). The scores showed the students’ confusion regarding how they perceived themselves and the way significant others portrayed them. Also they felt that the occupational information they had contained contradictions.

At this stage of adolescence the primary sources of occupational and self information for the students were typically parents as well as their peers who often provided biased and contradictory views about the “suitable” occupations. The students’ were caught between peer pressure and parental pressure and at the same time did not know about other objective and trustworthy sources of information. This caused confusion within them. Hence, the researcher felt that the students should be taught how to gather reliable information about the self and occupations and how to match this knowledge to make the best possible choices.

Many respondents in *Julien’s (1999)* study shared that the trustworthiness of the information sources was critical to the ultimate usefulness of the help that they received.

2) *Internal Conflicts* - On the category Internal Conflicts the scores of the students ranged from 4.01 to 5.05 (Table 6a). The total mean score of the group was 4.69 indicating that the difficulty needed the attention
of a counselor (Gati, 2005). The score reflects several types of conflicts within the students such as the necessity to compromise in many factors that are important to them, presence of certain unattractive elements in occupations that are otherwise attractive to them or attraction to different equally attractive career options.

The students thought that they would have to make compromises in their educational and career choices due to an extremely competitive academic and work environment. They doubted their ability to get admission to prestigious educational institutions and later to get high status jobs. This anxiety was often increased due to strong parental emphasis to choose only particular socially acclaimed options. Many a times they were confused between traditionally accepted prominent career options like medicine and engineering and emerging new career fields like biotechnology and Information Technology. All of the above lead to high anxiety and conflict within them. The researcher felt that the students’ anxiety could be reduced through accurate information about their self and the world of work. It was also important to increase their parents’ awareness about different occupational choices and to teach them to give freedom of choice to their children.

Fuqua, Blum and Hartman (1988); Lucas and Epperson (1988), (1990); Newman, Fuqua and Minger (1990) reported that high anxiety is closely tied to a students’ inability to decide.

Scheier and Carver (1993) reported that 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. Creed, Patton and Bartrum (2004) demonstrated that 1) cognitive style was influential in determining the perception of internal barriers and external barriers and 2) career decision-making self efficacy, internal and external barriers and optimistic/pessimistic cognitive style were able to predict career focus and career indecision.

3) **External Conflicts** - On the category External Conflicts the students’ scores ranged from 3.5 to 4.7. The groups’ total mean score was 4.25 indicating a definite need for counselor attention (Gati, 2005). The difficulty reflected the gap between the individual’s preferences and those of significant others. This category, as discussed earlier in the methodology section emerged as a major concern for a majority of students. It was seen that there was a clear bifurcation of the group with career choice problems into two groups, those ‘with’ and those ‘without’ External Conflicts.

The group of students ‘with’ External Conflicts had spiritedly disclosed that their parents were the biggest cause of conflict and created difficulty for them in making or even expressing educational and occupational choices which they wished to pursue in the future. This group evidently was experiencing parental pressure to a great extent. They seemed to be a victim of traditional collectivistic trends and experienced discord due to their aspirations for individualistic experiences. This difficulty obviously needed exclusive attention and was duly addressed in the present study by framing an intervention program (SPCI) especially for them.
On the other hand, the group of students ‘without’ External Conflicts expressed other reasons as barriers for their projected career decisions with no indication at all of any opposition from parents about implementing their desired choices. They expressed that they just needed guidance for information about their self and occupations. One reason for this could be that the students had internalized their parents’ wishes and felt that they were capable of achieving them through their academic performance. Hence, they did not feel pressurized. On the other hand, the parents of these students had probably realized the importance of giving their children the freedom to make choices and desisted from unduly restricting them in doing so. Thus, these students’ career decision making difficulties arose from their lack of knowledge of the decision making process including knowledge of self and occupations along with lack of knowledge of how to pool this information to make appropriate career decisions. Hence, an intervention (SCI) was framed for them that specifically targeted these difficulties.

Auyeung and Sands (1997) studied the relative influence of career-choice factors on students from different cultural backgrounds. They reported that the factors: parental influence, peer influence, teacher influence and association with others in the field, have greater impact on career choices for Hong Kong and Taiwanese students, whereas Australian students tended to be more influenced by aptitude for subject matter. Kracke (1997) found that parents who encouraged their children to think independently and encouraged career exploration
tended to have children who participated in much more career exploration than parents who did not implement these strategies. Rainey and Borders (1997) reported that adolescents who are overly dependent on their parents may eliminate potential career paths. Often times, children feel that their parent’s expectations are unattainable, which then places too much pressure on the children to succeed. Mau et al (1998) reported that adolescents’ perceptions of parental expectations have been shown to have an influence on educational aspirations. Tang, Fouad, and Smith (1999) suggested that the strong parental influence is associated with more traditionally acceptable career choices, such as engineering, medicine, and computer science, for Asians.

6.2.3 CROSS-CULTURAL PATTERN ANALYSIS

The researcher also compared the CDDQ scores of the 350 students with career choice problems in the present study with those of similar populations with career choice problems across different countries around the world which represented the Asian, American and European cultures. This comparison helped to understand the cross-cultural pattern of career decision making difficulties, which further helped during the design of the career intervention programs.

The cross-cultural comparison yielded the interesting fact that there existed both, commonalities as well as distinct differences in the severity of career decision making difficulties across the different cultures. Also the antecedent causes appeared to be different due to the differences
between the individualistic cultures of American and European countries and the collectivistic culture of Asian countries.

The comparison of scores can be seen in Table 27, given below.

Table 27: Cross-cultural comparison of CDDQ scores

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rm</td>
<td>2.72</td>
<td>2.89</td>
<td>2.80</td>
<td>2.31</td>
<td>2.51</td>
<td>4.71</td>
<td>3.42</td>
</tr>
<tr>
<td>Ri</td>
<td>4.52</td>
<td>4.38</td>
<td>3.80</td>
<td>4.72</td>
<td>6.13</td>
<td>5.79</td>
<td>5.98</td>
</tr>
<tr>
<td>Rd</td>
<td>5.11</td>
<td>4.88</td>
<td>4.52</td>
<td>4.42</td>
<td>3.77</td>
<td>5.24</td>
<td>5.94</td>
</tr>
<tr>
<td>R</td>
<td>4.16</td>
<td>4.05</td>
<td>3.71</td>
<td>3.91</td>
<td>4.13</td>
<td>5.21</td>
<td>5.11</td>
</tr>
<tr>
<td>Lp</td>
<td>3.63</td>
<td>3.88-4.08</td>
<td>4.04</td>
<td>5.27</td>
<td>6.31</td>
<td>4.90</td>
<td>5.70</td>
</tr>
<tr>
<td>Ls</td>
<td>3.51</td>
<td>3.88-4.08</td>
<td>3.44</td>
<td>4.29</td>
<td>5.38</td>
<td>5.26</td>
<td>4.95</td>
</tr>
<tr>
<td>La</td>
<td>3.96</td>
<td>3.88-4.08</td>
<td>4.62</td>
<td>4.96</td>
<td>6.21</td>
<td>6.12</td>
<td>5.42</td>
</tr>
<tr>
<td>Lo</td>
<td>3.22</td>
<td>3.88-4.08</td>
<td>3.52</td>
<td>4.17</td>
<td>5.41</td>
<td>5.28</td>
<td>5.11</td>
</tr>
<tr>
<td>L</td>
<td><strong>3.60</strong></td>
<td><strong>3.88-4.08</strong></td>
<td><strong>3.84</strong></td>
<td><strong>4.61</strong></td>
<td><strong>5.80</strong></td>
<td><strong>5.51</strong></td>
<td><strong>5.29</strong></td>
</tr>
<tr>
<td>Lu</td>
<td>3.34</td>
<td>NA</td>
<td>3.12</td>
<td>3.85</td>
<td>4.41</td>
<td>5.42</td>
<td>4.66</td>
</tr>
<tr>
<td>Li</td>
<td>3.57</td>
<td>NA</td>
<td>3.42</td>
<td>3.98</td>
<td>4.80</td>
<td>4.96</td>
<td>4.69</td>
</tr>
<tr>
<td>Le</td>
<td>2.64</td>
<td>2.43</td>
<td>2.28</td>
<td>2.54</td>
<td>2.97</td>
<td>4.54</td>
<td>4.25</td>
</tr>
<tr>
<td>L</td>
<td><strong>3.27</strong></td>
<td><strong>NA</strong></td>
<td><strong>3.04</strong></td>
<td><strong>3.59</strong></td>
<td><strong>4.09</strong></td>
<td><strong>5.02</strong></td>
<td><strong>4.53</strong></td>
</tr>
</tbody>
</table>

NA = data not available

Table 27 showed that for all the samples across the world General Indecisiveness and Dysfunctional Beliefs were significant difficulties.
deserving either counselor attention (American, Australian, Israeli samples) or definite intervention (Canadian, Chinese and Indian samples) which contributed to making Lack of Readiness a major barrier which created problems for the students even before the beginning of the career decision making process. Gati et al, (1986, 2005) had reported that the internal reliability of the sub-category Dysfunctional Beliefs was low indicating that endorsement of the same myth may be different in different cultures. The comparison of scores indicated that despite different interpretations by students of different cultures, dysfunctional beliefs did hamper effective career decision making for all. There were clear differences in the samples on the sub-category Lack of Motivation. Overall the scores of the Asian samples of China and India showed that they required a sizeable amount of counselor attention as compared to the other samples in the Western countries that appeared to be sufficiently motivated to initiate and go through the career decision making process. This result can probably be attributed to collectivistic tendencies in the Asian samples who are more extrinsically motivated as compared to the Western samples who are more intrinsically motivated.

A comparison on the Lack of Information sub-categories of process, self, occupations and additional information showed that although all the samples across the world had difficulties in each of them, the Canadian, Chinese and Indian samples had significantly higher scores than their counterparts in the American, Australian and Israeli samples. The table further highlighted the fact that for all samples except the
American one, Lack of Information was the difficulty with the highest severity as compared to the other two major categories. Thus, Lack of Information appeared to be a widespread difficulty which prevented the students from making effective decisions regarding their career choice, despite differences in the availability and accessibility to career counseling services in the Western and Asian countries.

The Asian samples from China and India showed higher degree of difficulties due to Inconsistent Information as compared to the western samples. This was especially evident on the sub-category External Conflicts where the western samples showed almost no difficulty, thus, demonstrating individualistic independence in their career choice making whereas the Asian samples were considerably hampered by the prevalent collectivistic restraints. The collectivistic Asian culture demands unquestioning obedience to parents who control all the decisions of their children. Increasingly, this seems to be resented by a section of the modern adolescents and youth of Asia. The Western culture is individualistic in nature which encourages independent decision making from an early age. This is also reflected during career decision making in adolescence. The adolescents in the Western cultures do consult their parents for educational and career choices but they are free to take the final decision on their own.

The implications of the above comparison helped during the design of the intervention programs where the collectivistic influences were acknowledged and dealt with. The commonalities in the difficulties due
to Lack of Information indicated that the western interventions for these difficulties could be adapted for the Indian population.

6.3 EFFECT OF INTERVENTION I (SCI)

The SCI was a counselor-led program which was comprehensive in terms of giving information about the self, occupations and decision making skills. Its effect on the students’ certainty and indecision and their specific career decision making difficulties is discussed below.

6.3.1 Effect on Certainty and Indecision

The ANCOVA for Certainty scores (F = 23.671, p<.001) was highly significant for the students in the SCI program as seen in Table 10. This indicates that there was a significant difference between the certainty of treatment Group 1 and Control Group 3a at posttest. The mean difference between these two groups (2.037), as seen in Table 11, was significant indicating that the posttest adjusted mean of Group 1 was higher than that of Group 3a. These results show that the intervention I received by Group 1 was successful in increasing the certainty felt by the students regarding their educational major and career choice.

The effect size of the intervention on certainty, as seen in Table 16, was .65. This indicates that 73 percent of the students of treatment Group 1 benefited from the SCI Program (intervention I) and it helped to
increase their certainty about making educational and career choices. Cohen (1977) described this effect size as a medium effect.

The above result indicates that 73% of the students in the SCI program felt that the information they got through the intervention about their self and the world of work and the training in decision making skills they received to utilize this information in a meaningful manner was very helpful. It made them feel confident about making suitable educational choices which further would lead to satisfying job opportunities, thus ensuring a fulfilling career life. Their attitude about making career choices became more positive and optimistic as a result of receiving the intervention.

The ANCOVA for Indecision scores ($F = 28.735, p<.001$) was highly significant as seen in Table 14. This indicates that there was a significant difference between the indecision of treatment Group 1 and Control Group 3a at posttest. The mean difference between these two groups (-11.960), as seen in Table 15, was significant indicating that the posttest mean of Group 1 was lower than that of Group 3a. These results show that the SCI Program received by Group 1 was successful in decreasing the indecision felt by the students regarding their educational major and career choice.

The effect size of the intervention on indecision, as seen in Table 16, was .77. This indicates that 76 percent of the students in the SCI program benefitted from intervention I and it helped to decrease their
indecision about making educational and career choices. Cohen (1977) described this effect size as a medium effect.

This result indicates that the SCI program helped to reduce the career choice problems of 76% of the students receiving the intervention. They learned to successfully deal with the various barriers that prevented them from making effective career choices which lead to a significant reduction in their indecision level.

It can be concluded from all of the above that almost ¾ th of the students in the SCI program were able to profit from it. They learnt to make educational and career decisions that were aligned with their self. There were positive changes in their attitudes towards career decision making, as reflected by their increased certainty, and increases in their career choice competencies, as reflected by their reduced indecision. Thus, the students’ career decision status improved substantially with respect to their educational and career choices (Osipow, Carney, Winer, Yanico, & Koschier, 1976). This career decision status was enhanced by an increase in the students’ decidedness and a decrease in the indecision experienced by them (Swanson and Achiardi, 2005).

Thus, the first hypothesis that the career certainty of the students of Group 1 receiving intervention I will significantly increase as compared to that of the control group 3a was supported.
The third hypothesis that the career indecision of the students of Group 1 will reduce significantly as compared to that of the control group 3a was also supported. These findings echoed previous studies that confirmed that comprehensive intervention programs were effective in reducing career indecision and increasing career certainty (Osipow, Carney and Barak, 1976; Sutera, 1977; Carney, 1977a and b; Taylor, 1979; Cairo, 1983; Rayman et al, 1983; Harris et al. 1985; Cooper, 1986; Fukuyama et al. 1988; Quinn and Lewis, 1989; Savickas, 1990; McAuliffe and Fredrickson, 1990; Peterson et al. 1991; Johnson and Smouse, 1993; Mawson and Kahn, 1993; Niles, 1993; Oliver and Spokane, 1998; Peng and Herr, 1999; Jurgens, 2000; Huiling Peng 2001; Hung 2003; and Prideaux, 2003).

6.3.2 Effect on Career decision making difficulties

The pre-post comparison of CDDQ mean scores of treatment Group 1 seen in Table 22 shows a significant reduction in the level of difficulties in all the three major categories.

Effect on Lack of Information

The Lack of Information category (t = 7.268, p<.0001) as seen in Table 22, shows the maximum amount of change. This indicates that the SCI Program, which offered objective, factual information about the self, occupations and their matching (based on the Parsonian model) was perceived as highly beneficial by the students. 83.87% of the students reported this benefit.
The reduction of difficulties on the sub-categories of the Lack of Information category is discussed below.

The students’ knowledge of the Career Decision Making Process (t = 6.420, p < .001) as seen in Table 22, improved phenomenally due to the detailed explanation of the career decision making process which was given in the ‘Gearing up’ step of the SCI program. It successfully convinced them that career decision making required a systematic, scientific approach and that adhering to it ensured subsequent satisfaction and success in educational courses and occupational choices. 83.87% of the students reported a change in their perception of this difficulty. The small percentage of students who did not show improvement probably require more time to understand the process and grasp its utility.

The biggest effect of the SCI program was on the perception of Lack of Knowledge of Self (t = 7.135, p < .001) as seen in Table 22, with 87.09% of students reporting that the ‘Mapping of the Self’ step of the intervention helped them to realize that they had to be congruent with their ‘Real self’ to be happy and successful in their work life. Further, the psychological tests gave them objective information about their aptitudes, personality, career values and interests and this had boosted their knowledge about their self. The above result also proves the suitability of the combination of the MBTI and SII tests for highlighting the congruence between the personality, interests and career choices based on them of Indian students.
These tests are commonly used in the career counseling procedures of schools and universities in the Western culture. However, this research used them for the first time in the Indian setting for an adolescent population. The small number of students who still had difficulty on this sub-category probably need more time to align their Social self with their Real Self to in order to make better career choices.

Out of the total number of students in Group 1, 83.87% reported that the factual occupational information they received during the intervention step ‘Exploring Career paths’ on the list of ‘promising’ careers that best suited them, broadened their occupational knowledge \( (t = 5.681, p<.001) \) as can be seen in Table 22. They became aware of new career options that suited to their potential. They also learned to relate their educational choices with their future career goals through the occupational information. The few students who continued to have a difficulty on this sub-category probably had problems in giving up their old incompatible dream careers. They were reluctant to accept the suitable careers suggested to them after matching with their personality and potential. They probably will benefit from individual counseling to deal with their reservations about these new careers.

Out of the total number of Group 1 students, 80.06% of the students also valued the increase in their Knowledge of Additional Sources of Information \( (t = 4.133, p<.001) \), as seen in Table 22. The information on various career resources (given in the ‘sources of occupational information’ section of the ‘Exploring career paths’ step of the
intervention) like books, websites, career counselors, job shadowing, networking which they received in the intervention apparently contributed to increasing their motivation to explore, compile and utilize occupational information from numerous sources. They reported feeling confident about using this knowledge for all their future career decisions as well.

Hadsal (1978) developed and tested a thirteen-week career development program, which included areas concerning assessment of the self, career options and training in job search skills. The program was useful in assisting students to clarify career objectives and in developing an effective search strategy. Dean (1981) in a study of eighth grade students found that the treatment group, exposed to a career education program scored higher on career attitude maturity, goal selection and problem solving. O’Brien, Dukstein, Jackson, Tomlinson and Kamatuka, (1999) evaluated the effect of Career Horizons, a one week six hour a day intervention with students and reported that the intervention demonstrated increases in career planning and exploration efficacy, educational and vocational development efficacy, number of careers considered and congruence between interests and career choice. O’Hara (2000) studied the effects of a two semester career exploration intervention called Senior Bridge, on the Career Development Inventory scores of high school students. The results showed that the intervention significantly improved the students’ awareness, concern, and career exploration behaviors. There was
significant improvement on the Attitudinal measures of the Career Development Inventory.


The structural framework of the Trait & Factor model provided by Parson’s theory (1909) was validated by the SCI program by giving the students 1) an accurate knowledge of their self (including abilities, aptitudes, interests, and personality), through the use of psychological tests, 2) knowledge of job specifications which matched their test results and 3) matching their personal and job traits to suggest the best possible career options to them. 83.87% of the students reported benefiting from the above model.

Along with Parson’s theory, the SCI program also adopted Super’s (1963) idea of ‘self-concept’ that states that how individuals define themselves has a major effect on their career choices. The biggest effect of the SCI program was seen on the sub-category lack of knowledge of
self with 87.09% of the students reporting a positive change due to the intervention. This result, thus, validated Super’s concept. **Holland’s (1985) RIASEC model** of matching six different personality types with six types of work environments to achieve congruence was also validated by the SCI program through the use of the Myers-Briggs Type Indicator and the Strong Interest Inventory.

**Effect on Inconsistent Information**

The difficulties due to Inconsistent Information which were halting their smooth progress in making effective career choices were reduced ($t = 3.369, p<.002$) for 70.96% of the students, as seen in Table 22. This indicates that access to unbiased and impartial information during the intervention program helped them overcome this difficulty.

The reduction of difficulties on the sub-categories of Inconsistent Information is discussed below.

The Unreliable Information that was confusing the students about various occupational choices were reduced ($t = 4.810, p<.001$), as seen in Table 22, via the intervention, with 77.41% reporting that they realized that they should utilize factual information (which was imparted to them through the psychological tests to know about the self and through the objective occupational information) for career decision making instead of relying solely on biased information from peers or parents. This was further emphasized by the knowledge of reliable additional career resources like books, career counselors and websites.
given in the SCI program. The program also motivated the students to explore and collate relevant career information.

There was a resolution of anxiety felt by the students regarding which option to choose due to the intervention which helped to lessen the Internal Conflicts ($t = 3.846$, $p<.001$) they had. Elements of various intervention steps like ‘Gearing up’, ‘Mapping of the self’, ‘Exploring career paths’ and ‘Decision making skills’ contributed to this result by increasing the confidence of 64.51% of the students’ for career decision making and motivating them towards new educational directions and career goals. The rest of the students who did not show a reduction on this difficulty sub-category probably need more practice in decision making skills as well as an increase in their career maturity to help them gain higher confidence in their decisions.

**Mitchell and Krumboltz (1987)** found that a cognitive restructuring intervention was more effective that both decision making training and control condition in reducing anxiety about career decision making and in encouraging vocational exploratory behavior. **Sirois-LeBlanc and Landine (2006)** found a significant reduction in the Unreliable Information and Internal Conflicts subcategories of career decision making difficulties of the CDDQ following a series of workshops titled “taking the fear out of career choice”.

**Effect on Lack of Readiness**

Table 22 shows that on the Lack of Readiness ($t = 4.023$, $p<.0001$) category 63.44% of the students reported alleviation of the difficulties
that had prevented them from initiating their career decision making process.

The reduction in difficulties on the sub-categories of Lack of Readiness is discussed below.

The students had difficulty in being motivated due to their doubts about their abilities, worries about the existing competitive work conditions and their capability to achieve success in the world of work. There was an increase in the motivation ($t = 2.559$, $p<.05$) of 61.29% of the students of Group 1, as seen in Table 22. This was probably due to participation in the intervention program, the concrete training they received to know their self, the world of work and decision making skills to make suitable educational and career choices and finally, the boost of the intervention step ‘Venturing out’ to practice and continue with the career decision making process. These students’ attitudes towards career decision making became more positive. For the rest of the students whose difficulties persisted on this sub-category, specific motivational programs will probably increase their motivation.

There was a significant decrease in the General Indecisiveness scores ($t = 2.313$, $p<.05$) for 61.29% of the Group 1 students, as seen in Table 22. This indicates that learning decision making skills in the intervention step ‘Promoting effective decision making’ helped these students realize that it involves systematic planned progress to make rational, realistic decisions. They understood that this promoted individual decision
making. Their commitment anxiety about the consequences of making a career decision also reduced. It also showed that by and large the students were not procrastinating on their career decisions either. The post-test score (4.72) of the group was still high enough to deserve further attention from the counselor. This indicates that the students’ old needs for reassurance and confirmation from significant others probably continue to persist and needs individual counseling sessions to reduce the difficulty.

On the difficulty category Dysfunctional Beliefs there was a significant reduction ($t = 3.551, p < .001$) for 67.74% of Group 1 students, as seen in Table 22, indicating that the SCI Program improved their ability to create more effective reframes of dysfunctional career thoughts, through the initial part of the intervention step ‘Exploring career paths’ where the counselor explained and refuted their dysfunctional beliefs. The students also learned to have positive expectations from the career decision making process which further boosted their motivation. However, the post-test score (3.98) of the entire group was still at a level that needs further attention. This indicates that since, they had a delayed application of the skill for reframing their dysfunctional career thoughts i.e., after their class tenth exams, they need further continuing practice to imprint and reinforce the rational beliefs. It is also possible that there existed some more dysfunctional beliefs, beyond those that were refuted in the SCI program, which arose from the perceptions of the idealized ‘Social Self. These need individualized counselor attention to be identified and tackled.
Schmeiding and Jenson (1968) in an attempt to change attitude and impressions regarding work, of eleventh and twelfth graders, observed a trend in the positive direction due to an occupational unit course of 22 sessions. Gold, Lois M (1981) investigated the extent to which a career education module improves ninth grade adolescents’ vocational behavior. Significant gains to the p< .05 level were achieved by the treatment group in the following – students’ knowledge and willingness to use a variety of resources for career exploration, their knowledge of career decision-making principles and knowledge of preferred occupation i.e. regarding a specific career field. Savickas (1990) designed a course that adhered to the Crites Career Decision Making Course model to help tenth graders develop the decisional attitudes and competencies that increase readiness to deal with career choice tasks and facilitate behavioral responses that meet these tasks. He found that the course reduced the participants’ career decision making difficulties and increased their foresight in terms of personal direction.

Mitchell and Krumboltz (1987) found that a cognitive restructuring intervention was more effective that both decision making training and control condition in reducing anxiety about career decision making and in encouraging vocational exploratory behavior. Reed, Reardon, Lenz and Leierer (2001) assessed a university career development course based on cognitive information-processing theory. Students who took the course showed a significant decrease in their negative career thoughts when the Career Thoughts Inventory was used as a pretest and posttest measure. Nota and Soresi (2003) evaluated the effectiveness
of an assertiveness training program for indecisive university students. Their analysis showed that the training they had devised to improve the assertive abilities of the group of indecisive students was effective. **Austin, Dahl and Wagner (2003)** evaluated the efficacy of a community centered career decision making program based on cognitive information processing's career decision making model. Results showed that the career decision-making intervention greatly reduced negative career thoughts which are strongly associated with career indecision. **Austin, Wagner and Dahl (2004)** showed that a career decision making intervention could reduce career indecisiveness in adults. Their results indicated that individuals with greater levels of indecisiveness may reduce their indecisiveness following a career decision making intervention more effectively than individuals with low indecisiveness. **Sirois-LeBlanc and Landine (2006)** found a significant reduction in the unreliable information and internal conflicts subcategories of career decision making difficulties of the CDDQ following a series of workshops titled “taking the fear out of career choice”.

The SCI program taught decision making skills to the students and motivated them through the use of elements of the Cognitive Information Processing (CIP) theory posited by Peterson, Sampson & Reardon (1991). The student’s post-test scores on the subcategories General Indecisiveness and Lack of Motivation validated the postulate of the CIP theory that ‘as persons “think through” their career problems and make decision, their emotions can help motivate them to choose and follow through to make an appropriate choice’. The SCI program
validated the Expected Utility Model proposed by the Multiple Career Decision making Theory given by Gati (1986) and Gati and Tikotzki (1989). The students learnt to make separate evaluations of the advantages and disadvantages of various occupations and then choosing the occupation with the highest overall value.

Overall it can be said that the steps of Intervention I were well suited to address the career decision making difficulties faced by the students in the SCI program. Thus, the fifth hypothesis that Intervention I will significantly reduce the elevated scores of students of Group 1 on the CDDQ sub-categories Lack of Motivation, Indecisiveness, Dysfunctional Beliefs, subscale Lack of knowledge about the Decision making Process, Self, Occupations, Additional Sources of Information, Unreliable Information, and Internal Conflicts was supported.

This intervention program can be implemented in Indian schools in order to help students overcome their career decision making difficulties. Its impact can be further enhanced by an increase in the duration of the program and inclusion of individual counseling for eradicating the residual problems thereby increasing its efficacy for them.
6.4 EFFECT OF INTERVENTION II (SPCI)

The SPCI was a counselor-led, parent-involved program which consisted of brief information about the self and occupations but had parental involvement which was assumed to enhance rational and independent career decision making in the students.

The researcher could not give detailed psychological testing and occupational information that matched the test results to the students, as had originally been planned (as explained in section 4.4). However, the researcher felt that through improvement in the parent-child relationship the right career decision making process would be initiated and sustained for the students. The Self-Awareness Inventory, Career Information about various career options under the different educational streams and the comprehensive listing of Career Resources given to these students would further strengthen the process for them thus helping to reduce their career decision making difficulties.

The effect of the SPCI program on the students’ certainty and indecision and their specific career decision making difficulties is discussed below.

6.4.1 Effect on Certainty and Indecision

The ANCOVA for Certainty scores ($F = 1.703$) was not statistically significant as seen in Table 19. This indicated that there was no significant difference between the certainty of treatment Group 2 and
Control Group 3b at posttest. This result implies that the intervention received by Group 2 did not significantly increase the certainty felt by the students regarding their educational major and career choice.

The effect size of the intervention on certainty, as seen in Table 24, was .20. This indicates that **58 percent** of the students of treatment Group 2 benefited from intervention II and it helped to increase their certainty about making educational and career choices. **Cohen (1977)** described this effect size as a small effect. *This result highlights the fact that although the change in the students' certainty level was not statistically significant, almost 60% of them did gain some amount of confidence about making future plans that were in accordance with their own wishes rather than those dictated by their parents.*

The ANCOVA for Indecision scores (F = 14.929, p<.001) was highly significant as seen in Table 22. This indicates that there was a significant difference between the indecision of treatment Groups 2 and Control Group 3b at posttest. The mean difference between these two groups (-7.191), as seen in Table 23, was significant indicating that the posttest mean of Group 2 was lower than that of Group 3b. **These results showed that the intervention 2 received by Group 2 was successful in decreasing the indecision felt by the students regarding their educational major and career choice.**

The effect size of the intervention on indecision, as seen in Table 24, was .35. This indicates that **62 percent** of the students of treatment
Group 2 benefited from intervention II and it helped to decrease their indecision about making educational and career choices. Cohen (1977) described this effect size as a small effect. *The effect size indicates that, by and large, many students experienced positive changes due to the SPCI program.*

Based on the need of the second group of students (described in section 6.3), the researcher had involved parents in this intervention hoping that its effects would be evident in the students’ perceptions and confidence in making career choices. The parents responded positively to the SPCI workshops ‘Building healthy parent-child relationships’ and ‘Parents as facilitators in career decision making’. They had reported that they had changed their own attitudes and behavior about their children’s career decision making and had further tried to convey this to their children.

It is possible that about 40% of the students could not comprehend this change or were still doubtful about these changes in their parents. They probably feared that the transformation in parental attitudes towards their career decision making was a temporary thing and that eventually they would go back to pressurizing them. The above affected their level of confidence in expressing their choice.

However, about 60% of the students could interpret their parents’ changed behavior correctly and respond to it in a positive manner. Hence, they felt an increase in their level of certainty regarding their career choice. There was a significant improvement in the parent-
adolescent relationship which reduced these students’ negative perception that their parents were a barrier to their career decision making process and lowered the consequent indecision level. Overall, these students’ parents appeared willing to allow more freedom to their children in making choices while students appeared more open to the idea of discussing their preferred educational and career options with them.

Thus, it can be said that the SPCI program was effective in increasing the certainty and reducing the indecision of those students who received the changed relationship with their parents positively.

It can be concluded from the above that the second hypothesis that the career certainty of the students of Group 2 receiving intervention II will significantly increase as compared to that of the control Group 3b was partially supported while the fourth hypothesis that the career indecision of the students of Group 2 will reduce significantly as compared to that of the control Group 3b was supported.

Castricone et al., (1982); Otto and Call, (1985); Jeffrey et al., (1992); and Kush and Cochran, (1993) reported positive results of career intervention programs which trained parents to deal with the occupational needs of their teenaged children. These programs were often an abbreviated form of traditional career counseling facilitated by
parents and included assessment, job search, occupational and educational planning, and implementation. The results indicated that parent involvement enhanced a sense of agency in the adolescents regarding their career decision making and that they showed clearer assessment of themselves in terms of their suitability to future career options. They also showed greater career certainty, less indecision, greater confidence and more career motivation.

6.4.2 Effect on career decision making difficulties

The effects of both, parent involved activities and the counselor-led activities on the specific career decision making difficulties of the students are discussed below.

The pre-post comparison of CDDQ mean scores of treatment Group 2 seen in Table 26 showed the specific CDDQ difficulties that were alleviated due to intervention II. It can be seen that there was a significant difference in the pre and posttest scores of the students of treatment Group 2 in seven out of the ten sub-categories of the CDDQ.

This indicated that by and large, there was a positive change in the perception of the students about their career decision making difficulties and this change was due to both, the counselor-led activities as well as the involvement and educating of the students’ parents in the SPCI program.
Effect on Lack of Information

The second major category Lack of Information, showed the maximum amount of improvement in the students’ post-test scores ($t = 4.091, p < .001$) as seen in Table 26, with 73.80% of the students reporting that their difficulties on it had reduced. This indicated that firstly, these students’ parents gained clarity about the career decision making process; they learned that their correct role in this process was that of supporters of their children and not decision makers. Secondly, due to the decrease in parental pressure these students’ willingness to understand and follow the career decision making process explained by the counselor, increased. Also, the counselor-led exercises and activities enlarged their knowledge of self and the world of work.

The reduction of difficulties on the sub-categories of the Lack of Information category is discussed below.

The sub-category of Lack of knowledge of the Career Decision Making Process showed the biggest change ($t = 4.089, p < .001$) as seen in Table 26, with 85.71% of the students reporting a reduction of difficulties on it. This result implies the success of the intervention step ‘Career Development’ in which the parents were educated about the fact that career decision making is a systematic, scientific process. They became aware that their correct role in their children’s career choice was to be a role model, to encourage and provide information about the self and world of work to their children, to discuss career choices without putting pressure and to help their children in making appropriate
educational choices. The students appeared to be very much encouraged by their parents’ changed attitude in attempting to help them know more about their self and in gathering of occupational information. They felt happy to note that their parents seemed open to the idea of mutually discussing and reaching a decision about making educational choices and then allowing them the freedom of making subsequent career choices. Also it seemed that the detailed explanation in the intervention step ‘Career decision making process’ given in the SPCI program taught the students about the need for following a logical, step-by-step, scientific process in their career decision making. **Overall, the core need of the students to know about the career decision making process and receive parental support and guidance for it seems to have been successfully addressed by the SPCI program.** The small number of students who still had difficulties on this category can be helped by individual inquiry into their difficulties and by further encouraging the parents to implement the intervention steps correctly and communicate this to their children in a clearer manner.

The SPCI program significantly helped to boost knowledge about the self \( (t = 3.147, p<.001) \), as seen in Table 26 for 71.42% of the students. This indicated that the parents of these students apparently perceived the information about aptitude and personality make up as useful; they began to provide support for their children’s interests, and tried to link the students’ curriculum with future career paths. They also probably discussed career choices through open-ended questions, as was learnt by them in the intervention step of ‘Career Development’ of the SPCI
program. Further, it appeared that the self-awareness inventory given to
the students in the second part of the intervention step of ‘Mapping of
Self’ guided them to think about the acquired self-information in terms
of making career choices. Since, they were encouraged to discuss the
results and interpretation of the Self-Awareness inventory with their
parents it appeared that the students could find a common ground with
them where they could discuss and add to their self knowledge in a non-
threatening atmosphere. The students who did not show a reduction on
this difficulty may be the ones who reported to the researcher after the
intervention that they additionally wanted in-depth psychological testing
to know their aptitudes, personality and interests, to help them make
fact-based choices. Thus, for these few students, the inclusion of
psychological testing to get in-depth knowledge about their self, besides
having a healthy relationship with their parents will reduce the difficulty
level on this sub-category to a great extent.

The mean difference on the sub-category of Lack of knowledge of
Occupations was significant (t =2.003, p<.05) as seen in Table 26, with
66.66% of the students reporting a positive effect. This indicates that
these students’ parents had probably started discussing and exploring
career options with them in an open and helpful manner. The
intervention step of ‘Career Development’ taught them to do this, while
the intervention steps of ‘Career Resources’ guided them on valid
sources of occupational information. The brief aptitude tests received by
the students in the third part of the intervention step of ‘Mapping of
Self’ gave them a broad idea about their potential and the occupational
information on career options under different educational streams educated them about the variety of choice available to them. This information coupled with inputs from parents helped to reduce the students’ perception of difficulty on this category. However, the 33% of the students who continued having a difficulty reported that they were looking for specific occupational information on career options that matched with their true potential. They expressed that they wanted this information to come from the counselor and seemed reluctant to work on it on their own or with their parents. It is possible that these students’ parents had not been able to communicate effectively with them or maybe had initiated open dialogue about career options but had been unable to follow it through due to time or other constraints. The students’ difficulty can be reduced through detailed aptitude testing and individual counseling along with increased parental involvement.

The mean difference on the sub-category Lack of knowledge about Additional Sources of Information was significant \( (t = 3.345, p < .001) \) as seen in Table 26, with 71.42% of the students showing a decrease in the level of difficulty on it. This indicates that both, the students and their parents found the respective intervention steps of ‘Sources of occupational information’ and ‘Career resources’ that listed objective sources like libraries, websites, career counselors and subjective sources like friends, co-workers and relatives, to be very useful. The remaining number of students who continued having a difficulty on this sub-category probably expected that this information should have been provided to them by the counselor. They probably felt hesitant to search
for the information on their own or were reluctant to devote time and efforts for the same. These students needed motivation and additional help in knowing about how to utilize the career resources. It is also possible that their parents needed to be motivated further to help them in understanding the importance of occupational information and in gathering it.

Castricone et al., (1982) reported the positive effects of the Focus of Career Search Program, which was a day-long program designed to help meet students' career needs. It included activities like testing of interests, values and aptitude, and helping students and parents become knowledgeable about the key elements in a career search. It also helped the students in exploring educational alternatives. Horan and Clark (2001) reported the effectiveness of an interactive internet program where the parents in the experimental group showed greater career development knowledge. The program increased the career guidance behavior of parents with their children.

The SPCI program validated Super's (1963) Exploration stage and Ginzberg, et al's., (1951) Tentative stage by highlighting the need to address parents of adolescents for navigating this stage, where they have the important responsibility of exposing their children to a variety of fields of interests, provide support and reinforcement for exploring those fields and developing work values in their children. The SPCI program educated parents about career development and choice where Holland's (1997) postulate that children often develop personality types
similar to their parents’, which is partially determined by their heredity and partially by the values, beliefs, activities and fields of interest to which they are exposed, was validated. **Parson’s (1909)** trait-and-factor model was also supported by the SPCI program as evidenced by the significant gains made by 73.80% of the students in their knowledge of the career decision making process, self, occupations and sources of occupational information.

**Effect on Inconsistent Information**

The third major category of Inconsistent Information showed a significant improvement \( t = 4.733, p<.001 \) as seen in Table 26, with 65.07% of the students reporting a reduction in their difficulties on it. This indicates that these students’ difficulties due to conflicts with parents, conflicts within themselves regarding various career options and those due to unreliable information had been successfully reduced by the SPCI program.

The reduction of difficulties on the sub-categories of Inconsistent Information the category is discussed below.

The reduction of difficulties on the sub-category of Unreliable Information was not statistically significant. However, it was seen that 61.90% of the students still reported a decrease in their level of difficulty on this sub-category. This indicates that these students thought that the broad information about their self and their abilities that they had received in the intervention step of ‘Mapping of self’ was appropriate,
important and reliable. Also they appreciated the information about career resources given in the intervention step ‘Sources of occupational information’. The improved communication between the students and their parents also may have made them feel that the information given by their parents was worthwhile but they should always get factual information from different resources to make suitable career choices. The students who continued to have a difficulty on this sub-category probably need to be encouraged through individual counseling to work with their parents in searching for self and occupational information using psychological testing and reliable career resources. Their parents also have to provide continuous encouragement to the students for the same.

There was a significant reduction of difficulties on the sub-category of Internal Conflicts (t = 3.238, p<.001) as seen in Table 26, with 71.42% of the students reporting a decrease in their degree of difficulty on it. This reflects the willingness of the parents of these students to allow them the freedom to explore and make career choices that may not be congruent with parental wishes. The students also felt less anxious and more confident due to the reduction in parental pressure for particular socially prestigious career choices. They felt that they could now work on those options that appealed to them or which they felt would be congruent with their abilities and interests. It also seemed that they could resolve their inner conflict of being attracted to several career options. This result was probably due to elements of various intervention steps like ‘Career Beliefs’, ‘Career Development’, ‘Career
Resources’, ‘Mapping of Self’ and ‘Sources of Occupational Information’ given to parents and the students. The students whose post-test scores did not reflect a reduction in difficulty level probably need individual counseling to deal with their internal conflicts. It was also necessary to encourage their parents to communicate their willingness to give freedom of career choice to the students in a more effective manner.

The sub-category External Conflicts showed a significant mean difference (t = 3.472, p<.001) as seen in Table 26, with 61.90% of the students reporting a reduction in the difficulties due to it. This indicates that these students’ parents had correctly understood what had been taught in the SPCI program through the various intervention steps of ‘Building healthy parent-child relationships’ and ‘Parents as facilitators in career decision making’ and had implemented it due to which their children benefited. For the students, their parental barrier was removed and their progress on the career decision making process smoothened due to the improvement in the parent-child relationship. However, some students still had a difficulty in this sub-category. This was probably because the students did not perceive a positive change in their parents’ behavior regarding their career choice. It is possible that the parents may or may not have made an attempt to do so or it is also possible that they had not been able to communicate the change effectively. Finally, it was also possible that these students had some other ongoing issues with their parents that needed resolving for them to focus on career decision making. Thus, for these students individual counseling along with their
parents was essential. Also, increasing the number of sessions with the parents and the students will help to resolve inter-personal issues which in turn will affect the students’ career decision making positively.

**Palmer and Cochran (1988)** reported that high school adolescents had increased career orientation and a strengthening of parental bonding due to the Partners Program. They concluded that parents can function effectively in fostering the career development of their children, when provided with a structures program that they can follow. **Amundson and Penner (1998)** reported positive effects of a Parent Involved Career Exploration program where the adolescents felt more understood by their parents due to increased and improved communication with them. This led to better career decision making on the part of the children. **Clark and Horan (2000)** reported the effectiveness of an interactive internet program which taught parents to understand and tackle career myths effectively.

The SPCI program underlined the importance of parental involvement in adolescents’ career decision making. It highlighted 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. Thus, **Roe’s (1956)** postulates which explicated linkages between early childhood experiences and vocational behavior were validated. The influence of the factors like genetic endowment, environmental conditions and past learning experiences given in **Krumboltz’s (1979)** social learning theory were endorsed by the SPCI
program. Similarly, the factors like gender and cultural stereotypes and beliefs and behaviors of the child’s primary socializers (parents) outlined by Eccles’ (1987, 1994) expectancy-value model, which are assumed to influence both, the expectations held by the students for future success and the subjective value attached to various career options, were validated by the SPCI program.

**Effect on Lack of Readiness**

There was a comparatively smaller effect of the SPCI program on the first major category Lack of Readiness which was not statistically significant, as seen in Table 26. However, 53.96% of the students reported a decrease in the level of difficulty on it. This indicated that these students felt that there was an effective reduction in the difficulties that were preventing them from initiating the career decision making process.

The reduction of difficulties on the sub-categories of lack of Readiness is discussed below.

The sub-category of Lack of Motivation did not show a significant mean difference, but 42.85% of the students reported a reduction of difficulty on it. This indicated that due to the SPCI program these students’ willingness to make a career decision increased. This was probably due to the removal of parents as a barrier to their career decision making and due to the gain in their knowledge about the correct decision making process through the intervention step of ‘Career Decision Making
Process’ of the SPCI program. Thus, the students’ need for extrinsic motivation was fulfilled by both, the counselor and their parents. However, a large number of students did not show an increase in their motivation. This was probably due to their inability to perceive the delayed application and benefit of the SPCI program. These students will probably benefit from individual motivational sessions with the counselor.

There was a significant improvement in the post-test scores on General Indecisiveness (t = 2.861, p<.05) as seen in Table 26, for 66.66% of the students. This indicated that these students had begun to get the support and affirmation for independent decision making from their parents. Their parents probably realized the importance of nurturing and promoting decision making skills in their children, which was emphasized in the refutation of the first belief in the intervention step ‘Career Beliefs’. Thus, they began to allow them to express their preferences and take appropriate action on them. This encouragement for general decision making was also slowly being extended for career related decisions. Hence, the students reported lesser difficulty on this category than before. However, it was just a beginning which needed continued and sustained efforts on the part of parents to help the students reap the benefits of independent decision making. The students who did not report a benefit on this sub-category probably had parents who were willing to share and explore occupational information with them but were reluctant to hand over the responsibility of decision making. It is also possible that these students could not perceive
themselves as capable decision makers and thus, this fear of failure made them indecisive. Individual counseling and additional intervention steps to teach them appropriate decision making skills can probably help these students to reduce their indecisiveness.

The mean difference on the sub-category Dysfunctional Beliefs was not statistically significant, as seen in Table 26. However, 52.38% of the students still reported a reduction of difficulty on it. This indicated that these students’ parents understood and implemented each of the suggestions given in the intervention step of ‘Career Beliefs’ of the SPCI program. They learnt the importance of giving freedom to the students for making their career choice; they became aware that for making appropriate choices it is important to have objective information about the child’s personality, abilities, and interests; and they comprehended that they could actively contribute to the career decision making process of their child through open and unbiased involvement. However, for almost half of the students Dysfunctional Beliefs were still a significant difficulty. It is possible that these students’ parents were unable to translate their learning from the intervention program to their actual interactions with their child in everyday life. Hence, the effect of their learning did not percolate down to the students. Inclusion of a specific component for the students to address their difficulties on this sub-category as well as an additional session with parents to both, reinforce and practice the rational beliefs in their minds will probably help to reduce the students’ level of difficulty.
Kush and Cochran (1993) showed the effectiveness of a program for parents to help their adolescent children develop a greater sense of agency regarding a career and reported that through career planning with a parent the adolescents showed more career motivation and greater confidence in their career decisions. Young et al (2001) reported the results of a qualitative analysis where several dimensions like joint goals, communication, goals-steps congruence and individuation facilitated the family career development project.

The SPCI program educated the parents about how career aspirations of the students are circumscribed from early childhood based on gender-stereotyped notions of what careers are appropriate. The intervention taught them to challenge these stereotyped ideas and communicate their changed ideas to their children. Thus, the postulates of Gottfredson’s (1996) theory of Circumscription and Compromise were validated.

Overall, the above results imply that the SPCI program was by and large successful in alleviating the career decision making difficulties of the students through its involvement of parents in the program and through its counselor-led activities. However, all the difficulties could not be significantly reduced. Hence, it can be concluded that the sixth hypothesis that Intervention II will significantly reduce the elevated scores of Group 2 on the CDDQ sub-categories External Conflicts, Indecisiveness, Dysfunctional Beliefs, Decision-making Process, Self, Occupations, Additional Sources of Information, Unreliable information and Internal conflicts was partially supported.
This intervention program highlights the need, importance and usefulness of involving parents in career intervention programs for Indian adolescents. The successful elements of the program can be implemented in Indian schools along with some additional ingredients like increased number of sessions with parents, use of psychological testing for the students and individual counseling sessions with both, parents and students together. It is also important to raise the awareness among school authorities about the importance of involving parents in their children’s career guidance and counseling programs.