CHAPTER IV
RESEARCH METHODOLOGY

In this chapter a systematic approach to build awareness about MBTI personality type, self-actualization, EQ, leadership styles and stress management is made for management students. This is also inclusive of intervention programmes to enhance the student’s potential for effective leadership. The details of the research design and the methodology adopted are elucidated in the sections given below.

• Statement of the problem
• Aims and objectives
• Operational definition
• Hypotheses
• Assessment tools
• Procedure
• Sample selection and description

4.1 Statement of the problem

The management Institutes are in great demand ever since there is globalization with financial boom in the market. The students who pass out
these institutes get a handsome lucrative pay packet at the end of their courses. There is a great desire and a rush to these institutes. Many Government and private parties have responded to this felt-need and have started these institutes. These institutes need recognition for accreditation for quality, specifically from All India Council for Technical Education (AICTE) and also from the National Assessment and Accreditation Council (NAAC) of University Grants Commission (UGC) of India. The private organizations who are the future employers seek for quality and standard from these graduates who have been churned out in masses from these institutes. The issue is whether the rigorous training which they are supposed to receive is enough or not? Are they equipped to face different challenges of the profession? Should they be subjected to more internship training to equip themselves with Leadership qualities? Should they have a congenial personality to deal with varied leadership situations? These are the research questions one is encountered with when one looks at the myriads of problems faced by the management students, management institutes and the organization that employ them.

4.2. Aim and objectives of the study

a) Aim

This research is aimed at assessing the personality types that are prevalent in management students and to study other associated psychological factors, such as, self-actualization, emotional intelligence, anxiety and
stress that go along with the effective leadership qualities, and to introduce soft skill intervention programmes that promote students leadership skills.

b) Following are the Objectives of the study:

1. To delineate the most prevalent personality preference types that opts for management courses.
2. To assess the motivational level by way of ‘Time Competency’ and ‘Inner Support’ measures of self-actualization of the selected sample.
3. To evaluate the predominant leadership styles present in the student before and after the intervention programme on the leadership traits.
4. To evaluate the implication of emotional intelligence for successful leadership qualities.
5. To understand the significance of stress and anxiety for personal success.
6. To develop modules on intervention strategies for enhancing leadership styles, team work, emotional Intelligence and stress management.
7. To understand the relationship of various socio-demographic variables for with personality preference types and other variables.

4.3 Operational Definitions

a) Personality

Personality is a dynamic and organized set of characteristics possessed by a person that uniquely influences the cognitions, motivations, and behaviors in various Situations.
b) Personality types

Personality types or personality styles classify people into distinct categories which reflect different interests, views, behaviors and are motivated by different things. In type approach you are either an Extravert (E) or an Introvert (I), Intuitive (N) or Sensing (S), Thinking (T) or feeling (F), Judging (J) or Perceiving (P). A combination of these four classification gives 16 different personality types, namely, INTJ, ENTJ and so on (Myers et al 1998)

c) Leadership

Leadership is a process by which an individual determines direction and focus, influences a group and directs it toward a specific goal or a mission.

d) Potential Leader

Potential Leaders are those who demonstrate high-level of leadership qualities high motivational level, with potential to assume greater responsibility and commitment.

e) Potential Leadership development

Potential Leadership development is that which involves both formal and informal training enhancing the development of the leadership skills required to deal with a varied situations and challenges of one’s career
f) Leadership styles
Leadership style is conceived as the manner and approach of providing direction, implementing plans, motivating people and achieving objectives.

g) Self-actualization
Self-actualization is a process of growing into a fully functioning person, a master motive, to achieve one’s full potential by enhancing one’s abilities, through creativity, independence, spontaneity, and grasp of the world around them and to understand one’s own self.

h) Emotional Intelligence (EI)
Emotional intelligence is the ability to perceive, evaluate and manage one’s own emotions and those of others and, to use this awareness to guide one's thinking and actions in one’s relationships.

i) Anxiety
Anxiety is a state of uneasiness or tension caused by apprehension of possible future misfortune, danger resulting in disturbance in psychological and physiological state.
4.4 Hypotheses

The hypotheses are classified based on 5 different theoretical assumptions and have been given importance to highlight the available applied research in the specific areas. The sections are:

1) Predominant MBTI Personality Preference types of Potential leaders.
2) Personality Preference types and motivational variable as measured on the factors of self-actualization, namely, a) Time competency (TC) and b) Inner Support ('I')
3) Impact of exposure to intervention program on different psychological variables, namely, Leadership Styles, Emotional Intelligence and Anxiety level of potential leaders.
4) Leadership styles and other psychological variables (Self-actualization, Emotional Intelligence and Anxiety)
5) Demographic Variables like Gender, Educational Level of management courses and Monthly Family Income with reference to MBTI personality preference types.

4.4.1: Section 1

Predominant Personality Preference types of potential leaders

Hypothesis 1

*The choice to opt for management studies would significantly delineate the most prevalent Personality Preference Types among the selected group of Management students (N: 155).*

Rationale: It is assumed that students who have opted for management studies in all probability would have certain predominant personality dispositions that would facilitate in opting for Management studies. Myer, et al., (1980) when classifying 16 personality types, had assumed that in
random selection all the 16 personality types will be equally represented in
the population. However, in the later studies by Myers and others (Walck,
1992; Myers and Myers, 1980; Myers et al., 2003; Sieff & Carstens, 2006,
Yiannaki & Taylor, 2009; Cilliers and Coetzee, 2010) it was found that
different functions were categorised for different career options along with
different personality make-up. In this case Myer, et al., (2001) brought
about significantly STJ functions for Managerial culture. However this
hypothesis assumes the population who are determined to be in the
management field may have common personality functions such as STJ
functions since the students have consciously made a choice of this career.
The other personality functions will not be adequately represented in the
management population. (Analysed by Best fitting curve, F ratio and
percentages)

4.4.2: Section 2

Personality Preference types and Motivational variables

Assagioli (1973) stated that at the self-actualization level, individuals
attempt to achieve ‘unfoldment’ and devote their energy to actualizing it. It
is assumed in hypotheses 2 and 3 that in the field of management, the most
effective manager would tend to be a self-actualizing manager. The
research by Knapp (1999) has pointed out that ‘Time Competency’ (TC)
and, ‘Inner Support’ (‘I’) are the two factors that give a good estimate of
self-actualization.

a) Personality Preference types and Time competency

Hypothesis 2:

MBTI Personality Preference types will significantly differ on pre-test
scores of factor ‘Time Competency’ (TC) between PG and UG
Management students (N: 122)
Rationale: The hypothesis assumed that most prevalent Personality preference types of PG students who have opted for management courses will show significantly higher time competency since they have entered the field after going through rigorous screening and testing than the undergraduate students. Studies (Cilliers & Coetze, 2010; Meredith, 2007 and Maak & Pless', 2006) have shown that Time Competency was an important component of leadership, therefore it is considered to measure this variable for the above mentioned population. (Analysed using Chi square)

b) Personality Preference types and Inner Directedness

Hypothesis 3

*MBTI Personality Preference types will significantly differ on pre-test scores of factor 'Inner Support' between PG (Post Graduate) and UG (Under Graduate) Management students (N: 122)*

Rationale: It is hypothesized that the PG management students would significantly score higher on this variable which evaluates their inner strength and personal satisfaction having achieved an entry to coveted PG course than the undergraduate students. The theoretical assumption for inner directedness assumes that the person who is confident, goal oriented is better self actualised. Inner directed persons are guided by internalized principles or motivations, while other directed are influenced by peers or other external forces. (Reisman, Glazer & Denny's 1950; Knapp, 1976). Hence PG students with long term goals, maturity and exposure to management courses in their earlier training would be significantly higher on self actualization variable – 'inner directedness'. (Analysed using Chi square).
4.4.3: Section 3:

Effect of intervention program on leadership styles, EQ and anxiety and demographic Variable – Gender

a) Effect of intervention programme on leadership styles, EQ and anxiety

Hypothesis 4

*The Most prevalent 5 MBTI Personality Preference types will show significant changes from before to after the intervention programme on the scores measured on leadership styles of MLQ (N: 72)*

Rationale: The Leadership styles as measured on Multifactor Leadership scale before and after the intervention program would significantly deviate for different MBTI Personality Preference Types before and after the intervention program to enhance desirable leadership styles. There are no specific research studies to substantiate this assumption where in change is predicted in leadership style vis-à-vis personality types before and after intervention program, however the researcher assumed in this hypothesis to see the effect of intervention on leadership and different personality types. Since there is no research available, the present study attempts to uncover the relationship of leadership style of specific personality type due to interventions proposed. (*N*: 155 analyzed for base line mean and *N*: 72, analyzed on correlated paired t-test)

Hypothesis 5

*The 5 prevalent Personality Preference Types will show significant changes on scores of Emotional Quotient from before to after the intervention programme (N: 72)*

Rationale: Emotional intelligence may be varied for different personality preference types. The intervention program geared to enhance EI would
significantly reflect improvement after undergoing the programme irrespective of personality preference types. As such, there are no specific research studies to substantiate this assumption where in change is predicted in Emotional Intelligence vis-a-vis personality types before and after intervention program. However study by Richmond, et al., (2004) on Emotional Intelligence and general leadership competencies found that EI competencies were vital for leadership effectiveness in the post test results obtained. Therefore it is assumed in this hypothesis that the effect of intervention on Emotional Quotient would change significantly on different personality types. (N: 155, analyzed for baseline Mean and N: 72, analyzed on correlated paired t-test)

**Hypothesis 6**

*The selected 5 prevalent Personality Preference Types and the total participants who attended the intervention will show a significant reduction in anxiety levels after the exposure to intervention programme as measured on Anxiety scale. (N: 72 and N: 89)*

Rationale: It is assumed that anxiety levels as measured on Hamilton's anxiety scale would significantly reduce from pre test to post test, for the five different MBTI personality Types and the total number of participant who attended the intervention program. There are no specific research studies to substantiate this assumption where in change is predicted in Anxiety on personality types before and after intervention. However the general reduction of anxiety level was observed after the program, in studies conducted by Tacón; et al, (2003), Jain, et al., (2007) and Stefansdottir and Sutherland (2005). These researches would support significant reduction of anxiety with effective need based intervention for the research sample. (N: 155, analyzed for baseline Mean and N: 72 and N: 89, analyzed on correlated paired t-test)
b) Effectiveness of intervention and demographic variables

Hypothesis 7

There will be a significant gender differences on scores of emotional intelligence, Hamilton's anxiety scale and leadership style factors before and after the exposure to intervention programme among the Management students

Rationale: The hypothesis assumes significant difference on factors of leadership, EQ, Anxiety based on gender after exposure to intervention. The male and female management students have all been selected after a rigorous entrance test and are assumed to be at par with each other academically but do show subtle differences in their reaction to stress, their choice of leadership styles and their motivation to enhance their EQ after the intervention exposure. In a study by Richmond, et al., (2004) a significant difference was found between males and females after intervention on Emotional Intelligence and general leadership competencies. Some researchers like Tacón, et al., (2003) and Jain, et al., (2007) have shown significant reduction of anxiety both in men and women after intervention. (N: 89 analyzed on correlated paired t-test)

4.4.4: Section 4

Leadership and other psychological variables (self-actualization, Emotional Intelligence and Anxiety)

a) Leadership factors and Self-actualization

Hypothesis 8

There will be significant correlations between pre-test scores of different MLQ Leadership styles and indices of POI factors of Time competency (TC) and Inner support (I) [N=155]
Rationale: Hypothesis assumes a close inter correlation between different factors MLQ and factors of POI, namely Time Competency and Inner support since they are highly loaded with motivational mental state, which is required for successful leaders. Bass & Avolio, (1991) found that Laissez Faire style people to be less self-actualized, particularly with regard to TC and ‘I’ factor of self-actualization. (Bass, 1999). In another study Barbuto (2005) studied the Relationships between leader’s motivation and leadership styles. (Analyzed by Pearson correlation)

b) Leadership factors and Emotional Intelligence

Hypothesis 9

Factors of Emotional Intelligence will be significantly related to different factors of MLQ on pre-test scores. (N: 155)

Rationale: Emotional intelligence is closely related to maturity and stability of the leadership qualities and hence these two tests measuring different factors will be closely related to some if not all leadership styles. Studies have pointed out significance of the emotional needs of followers in the workplace (Caruso, Mayer & Salovey, 2002). Lopes, et al. (2004), pointed out to emotional competencies for communication (Lopes, et al., 2004). Transformational behaviours (Goleman, 1998) have had an impact on organizations, as well as followers. Palmer, Walls, Burgess, and Stough (2000) identified effective leaders who displayed a Transformational rather than Transactional leadership style on MLQ. Burkham’s (August, 2010) findings on emotional intelligence and leadership styles and six EI constructs were statistically significant in relation to high transformational leadership behaviour. Therefore, it was assumed that there would be a significant relationship between EQ and factors of leadership. (Analyzed by Pearson correlation)

c) Anxiety level and Emotional Intelligence
Hypothesis 10

There will be a significant negative correlation between pre-test EQ factor scores and HAS anxiety scores obtained by management students. (N: 155)

Rationale: EQ is a reflection of emotional stability, maturity and competency. Those high on EQ will be significantly less anxious, could effectively solve interpersonal problems and manage stress to meet the challenges in the work environment. Hence a significant negative relationship is anticipated in this hypothesis. The research by Kumar & Rooprai (2009) has found that emotional intelligence as a good predictor in managing Stress and Anxiety in Management students. The researches by Oginska, et al., (2005), Montes-Berges, et al.,(2007) Naidoo, et al.,(2008) found inverse relationship between EI and anxiety. (Analyzed by Pearson correlation)

4.4.5: Section 5

MBTI Personality Preference types and selected Demographic Variables

According to Hammer’s (2003), in Burchfield (2007)), a detailed gender difference in personality type was analyzed with males as introverted, intuitive and judging and females as sensing and feeling type.

a) Gender in relation to 5 prominent MBTI Personality Preference types

Hypothesis 11

There will be no significant gender difference between PG and UG students based on 5 most prevalent Personality Preference types who participated in the intervention programme on the pre test scores

Rationale: It is assumed that gender differences will not make any significant differences between pre and post test scores of different
variables such as MLQ, EI and anxiety for the five prominent MBTI personality types (N=122), since the sample selected for the courses are on the merit, irrespective of gender. Hence there will not be any difference between UG and PG students on their response to the psychological variables. Review of MBTI types research has pointed out that some helping professions such as nursing have either ESTJs or ISTJs. While females in Air War College, the typical officer type were more of sensing and thinking. This can probably be explained by the desire to adapt, fit in and survive. It may imply that women try to fit and survive in a competitive world with men and therefore their inner effort to succeed makes them strive to be on par with men. (Analysed on Chi Square and bar-graph)

b) Gender and 16 MBTI personality types

Hypothesis 12

There will be no significant gender difference between PG or UG management students on preliminary classification of all the 16 MBTI Personality Preference Types (N=155)

Rationale: The demographic variable gender doesn’t significantly influence the 16 MBTI personality types. Males and females are assumed to be equally distributed in each of the 16 MBTI personality preference type categories. There are no specific previous research evidences available to this hypothesis and hence the researcher was keen to explore the gender differences if any, in different 16 personality types within in the selected study group. (Analysed on frequencies (bar graph), percentages and Chi Square)

c) Family Income and MBTI personality preference types

Hypothesis 13
Family income status will have no significant difference or 5 different Personality Preference types who participated in the intervention programme (N: 122)

Rationale: It is assumed that Family Income will not significantly influence the Personality Preference Type of an individual since Personality Attributes are innate to a persona and income or environment should have no influence in personality makeup of the individuals. Boyce and Wood’s (2011) research has demonstrated that there are strong personality-income interactions where in the individuals who have high levels of conscientiousness obtained more satisfaction in their lives from increases to their household income. Walberg (1984) too concluded that family educational culture and stimulation in the environment could influence children’s behaviour and personality attributes. Thus some personality types have been influenced by their family income levels. (Analysed on frequencies, percentages and Chi Square)

d) Family Income and Psychological variables (EQ, HAS and MLQ)

Hypothesis 14

The family Income status (Low, Moderate or High) will make no significant difference between pre and post test intervention scores as measured on EQ, Anxiety and Multiple leadership styles

Rationale: It is assumed that the response to the intervention programme on MBTI awareness, Emotional Quotient and Stress Management will not be affected by one’s family income. Hence there will not be any significant difference between pre and post test scores. The study by Nasir and Iqbal [2012], Harrod and Scheer (2006) revealed a positive correlation between emotional intelligence and household income. Research conducted in this area found a significant positive relationship between emotional intelligence and family environment (Kaur and Jaswal, 2005; Ozabaci,
The test-anxiety and academic achievement, depression in youth was found to be related to income and family environment (Yousefi, et al, 2010, Melchior, et al, 2010). (Analysed on Mean, SD and t-test)

c) Management Courses and Psychological variables (EQ, MLQ and HAS)

Hypothesis 15

Pre test - post test mean scores on EQ, MLQ and HAS scale will have no significant difference between PG and UG Management students who participated in the intervention programme.

Rationale: The hypothesis assumes that UG and PG course students will be homogeneous in their response to psychological variables before and after the intervention programme. Hence course level will not make any significant difference. No research was available supporting this hypothesis hence the assumption of no differences between PG and UG management students was assumed by the researcher in view of students being in management courses and to establish baseline for this homogenous group career choice students. (Analysed on pre and post test mean, SD and t-test)

4.5: Assessment Tools

1. Socio Demographic inventory (Self-structured)
3. Personal Orientation Inventory (POI, Showstrom, 1974)
5. Emotional Quotient Test (Chadha 2001)
6. Hamilton Anxiety Scale (Hamilton, 1959)
7. Effective Intervention Modules and Feedback (Self-structured)

8. Feedback Questionnaire (Self-structured)

4.5.1. Socio-demographic Inventory (Self-structured, see Annexure 1)

The socio-demographic Inventory was constructed to tap the necessary information about Management students who have opted for career in Management. It has included respondent’s age, gender, education, marital status, family income, birth order, number of siblings, type of residence, parental age, education and occupation, number of languages known, hobbies and recreation activities.

4.5.2: The Myers-Briggs Type Indicator (MBTI, Form G)

The MBTI Form G is a self-reporting instrument that consists of 94 items. The items measure individuals’ preferences with regard to the basic functions of perception and judgment that reflects almost every behavior. It has four separate indices or scales. Each index reflects one of four basic preferences, which direct the use of perception and judgment. The items describe various types of easily recognizable behaviours or reactions in various life settings. It is a Forced Choice Inventory with two sections, wherein, the individuals have to choose between different types of behaviours or reactions and in another section individuals have to choose between word pairs. In choosing a preferred type of behaviour or a word,
individuals actually indicate preferences with regard to the four scales or indices, namely, either Extraversion/introversion (EI), Sensing/Intuition (SN), Thinking/Feeling (TF), and Judging/Perceiving (JP) These are not designed as scales for measurement of traits or behaviours but to tap the habitual choice between opposite alternatives (Myers & McCaulley, 1992).

This inventory is for people who are 14+ years of age, which takes approximately 15 to 20 minutes to complete. It is scored by the qualified professional or by the research scholars by hand. Some items have 3 response options and the Summative Scoring is taken as the score for any particular indice.

The reliability and validity of this instrument have been clearly demonstrated through extensive research (MBTI® Manual, Myers, et al., 1998). The Reliability of personality preferences is in the range of 0.82 to 0.86, the test re-test – for Dichotomies categories was 0.75 to 0.77 and for Continuous Scores was 0.77 to 0.84. The reliability for internal consistencies based on Alpha coefficients, was above 0.70 for all the four scales.

The MBTI manual (Myers, et al., 1998) also provides extensive validity data on construct validity and that being highly correlated with other personality instruments. There is general agreement on its high levels of face validity (McCrae & Costa, 1988; Dulewicz & Higgs, 1999). Pinder and Herriot (1990) reported that the functional attitude dichotomy of
judgment-perception (JP) has been found to be the strongest area of correlation between the MBTI and other measures of personality.

For the present study the reliability and validity of the original authors (Myers, et al., 1998) was considered as applicable since the sample size is small and the study was not aimed at developing any norms for Indian population.

a) The Dichotomies categories indicated are:

i) Extraversion–Introversion (E–I)

The E–I index reflects whether a person is an extravert or an introvert in the sense intended by Jung which are "mutually complementary" attitudes and both are needed for the maintenance of life." Extraverts are oriented primarily toward the outer world, thus they tend to focus their perception and judgment on people and objects. Introverts are oriented primarily toward the inner world, thus they tend to focus their perception and judgment upon concepts and ideas.

ii) Sensing–Intuition (S–N)

The S–N index indicates two opposite ways of perceiving. The process of sensing (S) reports the observable facts or happenings through one or more of the five senses; or alternatively, rely on the less obvious process of intuition (N), which reports meanings, relationships and/or possibilities that have been worked out beyond the reach of the conscious mind.
iii) **Thinking–Feeling (T–F)**

The T–F index is designed to reflect a person's preference between two contrasting ways of judgment. A person may either rely primarily on thinking (T) to decide impersonally on the basis of logical consequences, or rely primarily on feelings (F) to decide on the basis of personal or social values.

iv) **Judgment–Perception (J–P)**

The J–P index describes the process a person uses primarily in dealing with the outer world. A person who prefers judgment (J) would report a preference for using a judgment process (either thinking or feeling) for dealing with the outer world. A person who prefers perception (P) would report a preference for using a perceptive process (either S or N) for dealing with the outer world.

b) **The Sixteen Types of Personality**

In these personality types, one pole of each of the four preferences is preferred over the other pole for each of the sixteen MBTI types. The preferences on each index are independent of preferences for the other three indices, so that the four indices yield sixteen possible combinations called "types," denoted by the four letters of the preferences (e.g., ESTJ, INFP). The theory postulates specific dynamic relationships between the preferences. For each type, one process is the leading or **dominant** process and a second process serves as an **auxiliary** process. Each type has its
own pattern of dominant and auxiliary processes and the attitudes (E or I)
in which these are habitually used. The characteristics of each type follow
from the dynamic interplay of these processes and attitudes.

The following Type table 4.1 typically represents 16 personality types as
illustrated by Myers and Briggs.

Table 4.4.1 Indicates 16 different Personality Preference Types

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<th>ISTJ</th>
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STEP I identifies fundamental personality type, which includes the eight
preferences and how they combine to form an individual's personality
preference type.

Following are the characteristics of different personality preference type

1. **ISTJ** have distinct traits of being quiet, serious, dependable, thorough,
practical, and responsible. These people are organized and use logic and
principles.
2. **ISFJ** includes traits of friendliness, commitment, painstaking and thorough. They are loyal and considerate about others' feelings and work hard to balance a healthy home and work life.

3. **INFJ** look out for meanings and connections and love to look into people. They are organized on the whole and always watch out for common good.

4. **INTJ** people are motivated and original. They immediately perceive typical patterns in events and thereby develop perspectives. They are competent and independent, always perfecting themselves.

5. **ISTP** refers to traits such as flexibility and tolerance. They wait for the problem and then find a solution quickly. They infer cause and effect by logic and thus, organize facts and events.

6. **ISFP** are lovable, enjoying every bit of the present, do not like deadlines and are committed to loved ones. They do not like arguments and conflicts, and do not impose their opinions.

7. **INFP** people are loyal, curious, and always have new ideas. Such people easily adjust and accept mostly all values.

8. **INTP** are interested in ideas and do not like much of social interaction. They are skeptical and try to analyze everything.

9. **ESTP** are focused, objective and dislike theories and concepts. They love to be spontaneous and are always keen on style and practical solutions.
10. **ESFP** are friendly and are of accepting nature. They love life and love others company. They are full of energy and look for solutions to all problems.

11. **ENFP** are warm and imaginative. They do not see problem as end of life and always look for possibilities. They establish connections between what they see and the set patterns.

12. **ENTP** are energetic, spontaneous, quick, speak unambiguously and good observers. Routine life bores them. They always look out for new interests.

13. **ESTJ** are practical. Their pragmatic nature helps them in taking quick decisions and be precise about routines and details. Keen on logic and like to implement plans forcefully.

14. **ESFJ** are easy going and friendly, co-operate and maintain harmony in the surroundings. They like to deliver work on time but not without others’ cooperation.

15. **ENFJ** are warm and responsible. They give due importance to emotions and needs of others. Always look out for others’ capabilities and act as catalysts for others’ growth.

16. **ENTJ** people are very outspoken and have great leadership qualities. They love to work with set goals and stick to long term plans.

c) **Interpretation of the MBTI Form G**
Preference scores reflect the relative preference for one pole over the other. The letters indicate which of each pair of alternatives the person prefers or can develop to a greater degree. For example, a preference score letter E suggests that the person prefers activities that call for extraversion tendencies. The characteristics associated with a preference are often less apparent when the numerical portion of the preference score is low. A low score shows almost equal votes for each pole of the preference. While letters indicate the direction of the preference, the number indicates the strength of the preference (Myers, et al., 1998).

The dominant function associated with a combination of the four index preferences is determined by understanding which function each type will use as their favourite option. Thus Extraverts use the first function mainly in the outer world of experience, whilst Introverts use the first function mainly in the world of concepts and ideas. Working from this it is possible to map the dominant functions within the MBTI model and associated profiles. Using this analysis the individuals can benefit from identifying their predominant behaviour preferences and work on the development of their weaker function preferences for holistic behaviour (Myers, et al., 1998).
4.5.3. The Personal Orientation Inventory (POI)

The POI was devised by E. Shostrom (1974) to measure Self-actualization, a concept developed by Maslow (1954). The POI consists of 150 two-choice comparative value judgment items, reflecting values and behaviours that are important for developing self-actualizing individuals. The items are paired opposites and empirically derived from significant value judgment problems seen by therapists at the Institute of Therapeutic Psychology, over a five years period of time.

The self-actualizing is basically reflected on first two main scales namely ‘Time Competency’ (TC) and ‘Inner Support’ (‘I’). There are 10 more sub scales closely correlated to these main scales such as, Self-Actualized Value (SAV), Existentiality (Ex), Feeling Reactivity (Fr), Spontaneity (S), Self-Regard (Sr), Self-Acceptance (Sa), Nature of man- Constructive (NC), Synergy (Sy), Acceptance of Aggression (A) and Capacity for intimate Contact (C). Since the two main scales give the best estimation of self-actualization these scales were scored for this present research analysis.

For research it was necessary to have a single overall estimate of self-actualization. As the POI manual (Shostrom, 1974, p.6) suggests a quick estimate of self-actualization could be obtained by scores on factors Time Competence (TC) and Inner Directed/Support (‘I’) scales. A simple combination of raw scores from the ‘I’ and TC scales can be a predictor of
an overall measure of the POI. Hence, the present study used the sum of TC and ‘I’ to yield a single total Self-Actualizing Score (SAS).

The two main scales that were considered important criteria for self-actualization have been derived from May and Perl’s concept of Time Orientation (Knapp, 1976), and Reisman, Glazer & Denny’s (1950) concept of Inner and Outer Directedness (Knapp, 1976) which measures Support Orientation.

9. **Time Competence (TC):**

The self-actualized person is time competent and appears to live more fully in the here and now, with an ability to join the past and future to the present in meaningful continuity, is less burdened with guilt, regrets and resentments from the past, has faith in the future without rigid or over idealistic goals. When the person experiences lack of Time Competence (TC) she / he is excessively concerned with the past and future than the present and may be characterized as affected by guilt, regret, blaming and resentment as well as fears, and worries about the future.

10. **Inner support (‘I’):** It implies Support Orientation and it is also used synonymously with the **Inner Directed** measure. Here the person’s mode of reaction is characteristically Inner Directed, or other oriented. Inner directed persons are guided by internalized principles or motivations, while other directed are influenced by peers or other external forces.
Reliability measured by Alpha coefficient for TC and ‘I’ was $\tau_{rt}: 0.53$

Correlations of SAS with all 10 sub scale scores was high in the normative study i.e., with SAV 0.57, with Existentiality 0.70, with Feeling Reactivity 0.58, with Spontaneity 0.60 with Self-Regard 0.46, with Self-Acceptance 0.72, with Nature of man 0.53, with Synergy 0.58, with Acceptance of Aggression 0.66, and with Capacity for Intimate Contact 0.70. The significance level for all 10 correlations was $p<01$. Test Retest Reliability Coefficients of the POI scales with a one week interval for the main scales as reported in the manual were 0.71 for TC and 0.77 for I. Validity of the POI shows that it discriminated between clinically judged self-actualizing and non-self-actualizing groups on 11 of the 12 sub scales.

4.5.4. Multifactor Leadership Questionnaire {MLQ} Form 5x-short.

(Dubey & Pal, 2004, Hindi to English, translation by the researcher. Annexure2). This scale is an Indian adaptation of the MLQ, originally standardized by Bass and Avolio (1995). The authors (Dubey, S.N & Pal, R.K, 2004) standardized four forms of questionnaires in Hindi language for Indian Population of which Form L with 45 items was for the leaders to rate their style of leadership. This Form was found to be suitable for current sample of potential leaders. It has four measurable dimensions, namely, Transformational, Transactional, Laissez-faire leadership style and Outcome Factors of leadership. The question items were rated on five point
scale ranging from 0 to 4. The interpretation of the dimensions is as follows.

a) Transformational leadership: It consists of five sub scales namely, individualized consideration, intellectual stimulation, inspirational motivation and idealized influence (charisma). Each subscale consisted of four items. In transformational leadership it is assumed that leaders enable their followers to view their work from differing perspectives by inspiring and motivating them to work for achievement of goals as well as self-actualization, devoid of any personal interest. This style is able to facilitate the followers to gain higher levels of their potential and stimulates a high sense of collective identity of self and a greater sense of self-worth. The personality and values of the leader are the key aspects to be considered in this style of leader role.

The different aspects of transformational leadership measured are:

i) Idealized Influence-Attributed (IIA): Provides a role model for high ethical behavior, instills pride, gains respect and trust from their followers.

ii) Idealized Influence-Behavioural (IIB): This factor identifies leaders with integrity who manifest positive and highly valued behaviours, like dominance, consciousness, self-control, high moral judgment, optimism and self-efficiency.
iii) Inspirational Motivation (IM): The leader sets high standards, communicates optimism about future goals, and provides meaning for the task at hand.

iv) Intellectual Stimulation (IS): Leader stimulates and encourages creativity and independent thinking.

v) Individualized consideration (IC): The leader mentor's listens with empathy, supports each follower's needs and instills intrinsic motivation for self-development.

b) Transactional leadership style: This consists of three subscales, namely, Contingent Reward, Management-by-Exception [Active] and Management-by-Exception [passive] with four items in each. Here the leader will adjust goals, directions and mission for practical reasons, emphasizing the pay performance link. If this is not understood, there is likely to be confusion, uncertainty, and minimal transactional impact in leader - follower relationship.

The 3 sub scales measured are:

i) Contingent Reward (CR) - This approach provides for various kinds of rewards in exchange for mutually agreed-upon goal accomplishment. The reward is therefore contingent on the achievement of set and agreed-on objectives and goals.
ii) Management-by-Exception [Active] (MBE-A) - Leader identifies and focuses on monitoring mistakes as well as takes action when major deviations occur.

iii) Management by Exception [Passive] (MBE-P) - This involves the setting of standards and reluctant intervention by the leader if the standards are not met.

c) Laissez-faire leadership (LF):

It identifies leaders who tend to avoid involvement. This leadership style could be easily defined as "non-leadership" and is the exact opposite of an efficient transformational leadership style.

d) Outcome Factors of leadership: These factors facilitate leaders to execute their role and assumes a supportive role:

i) Extra effort (EE) - It identifies leaders who are able to generate extra effort in their followers.

ii) Effectiveness (EFF) - This identifies efficient leaders who satisfy their followers.

iii) Satisfaction (SAT) - It identifies leaders who generate satisfaction in their followers.

The Reliabilities by Cronbach alpha coefficient for total items and for each leadership factors ranged from 0.71 to 0.93. (Dubey & Pal, 2004, MLQ)
Manual). For adequate convergent and discriminant validity, the overall pattern of factor loadings reflected satisfactory constructs.

The test, though suitable for leaders, there were some sub cultural issues that had to be taken care of before administration of the test to management students. A pilot testing was done on 10 Mumbai post graduate management students to assess its difficulty level in understand the literal Hindi language presented in the test. Hence a translation was found necessary in English. The test was translated with the help of three experts in Psychology and one in Hindi by series of forward and backward translations and reviewed and finally accepted only when there was total consensus given by the experts. The translated English version test was once again administered to 10 students to assess the difficulty level of the test. The test thus translated in English was unanimously reported to be clear and unambiguous. Thus the content validity was tested with the consensus from 5 psychology experts and also the students taken up in the pilot sample keeping the original constructs constant in the test.

The second point that was considered for scoring the scale was to club the sub scales under transformational leadership style and also the transactional leadership style which was inclusive of different indices of the same construct, namely, Transformational Leadership style as well as transactional leadership style. This clubbing was to facilitate the comparison of MBTI Personality preference between different leadership
styles. A summated mean rating of different indices was taken as the mean score for the different leadership style.

4.5.5: Emotional Quotient questionnaire (Chadha, 2001)

The terms ‘Emotional Intelligence’ (EI) and ‘Emotional Quotient’ (EQ) are used interchangeably. Emotional intelligence is based on the assumption that it is the ability of an individual to appropriately and successfully respond to a vast variety of emotional stimuli being elicited from the inner self and immediate environment. It implies that in the face of frustration and obstacles, one can accurately perceive emotions and prevent negative emotions from swamping the ability to think, feel motivated, to be confident, empathize and get along well with others.

It is inclusive of two measures, that is, intra-personal skills and interpersonal skills which comprises of three psychological dimensions, namely,

1) **Emotional sensitivity**: Sensitivity means the characteristic of being peculiarly sensitive and judging the threshold for various types of stimulations, evoking sensations, feelings and emotions.

2) **Emotional maturity**: It is the ability to evaluate emotions objectively and being adaptable and flexible.
3) **Emotional competency**: It is the capacity to tactfully respond to emotional stimuli with high self-esteem, tackle frustration and egoism and avoid emotional exhaustion.

This test consists of 15 different situations with five forced choice options for each, to measure the level of emotional intelligence in a leader. This test has been standardized for professional managers, businessmen, bureaucrats, artists and graduate students. The test-retest reliability was found to be 0.94. The split-half reliability in the case of odd-even items was 0.92. The empirical validity of the scale with the scale of Daniel Goleman (1995, 1998) was found to be 0.89, which is significantly high.

The analysis has further shown that these three dimensions explained 85 per cent of the variance. Individually, the explained variance for Emotional Competency was 33.85%, Emotional Maturity was 27.95 % and Emotional Sensitivity was 23.30 %, thus indicating the degree to which these three key dimensions constituted to Emotional Intelligence. The test was interpreted as per the scoring key given by the author.

**4.5.6: Hamilton Anxiety Scale (HAM-A, Hamilton, 1959)**

The Hamilton anxiety scale (HAM-A) is the most widely utilized assessment scale for anxiety symptoms, and was originally intended to be used to evaluate individuals who were diagnosed with anxiety disorders. The HAM-A consists of 14 items and is heavily focused on somatic symptoms, with a great reliance on the persons’ subjective report. It takes
15-20 minutes to complete the test and to score the results. Each item is scored on a 5-point scale, ranging from 0=not present to 4=severe. The scale is designed to evaluate change in symptoms over a time. Strengths of the scale are its brevity and widely accepted use. HAM-A is a very widely used scale to evaluate anxiety symptoms as a baseline. The HAM-A has very good internal consistency with Cronbach alpha ranging from 0.79-0.86. Its test retest reliability was 0.64. The scores are classified as the Sum of the scores from all 14 parameters as follows.

- 14-17 = Mild Anxiety
- 18-24 = Moderate Anxiety
- 25-30 = Severe Anxiety

4.5.7: Intervention modules (Annexure 5 and CD [Computer Disc])

The goal of the intervention was to enhance the leadership skills of the potential leader [management student participants]. The intervention made them aware of their Personality Types, Emotional Quotient and Stress Management. Based on the specific objectives of each intervention program, modules were structured and presented on PPT. Following are the topics presented:

- a) MBTI awareness
- b) Emotional quotient
- c) Leadership and team building, and
- d) Stress management for leaders.
The modules on the above topics were field tested for their applicability and suitability on a sample drawn from a group of Management trainees and students of psychology to assess the relevance of the content, applicability and the feasibility of the modules for interventions. The intervention modules were initially planned for 15 hours duration, however, due to time constraints and non-availability of the sample and the feedback received from the experts the contents were modified and reduced to 12 hours duration, which included two hours of test administration. The content of the module was broken into 4 sessions of 2 hours 30 minutes each. The main focus of the intervention was to bring about an awareness of one’s own personality type and EQ that would contribute to the shaping of an effective leader. Module on team building and team work with simulation was also considered vital to this population to enhance their effective interactional skills as the future managers or leaders. Module on stress management was imperative since this population would indeed be subjected to many stressful challenges in their career. Hence different strategies to minimize stress level were presented in this module. The details of intervention programme is enclosed

4.5.8: Feedback questionnaire:

This questionnaire is an open ended questionnaire for the participant’s feedback on the sessions and the soft skills imparted to the management students (see Annexure 3). Secondly the feedback would also help in
restructuring and modifying for future use in leadership development programmes in order to make the content more relevant and appropriate. The data obtained from feedback was analyzed qualitatively (see Annexure 3 on CD).

4.6: Research design

It is a Survey cum Quasi Experimental Research Design carried out to acquire data in two phases.

Figure 4.6: Represents Survey cum Quasi Experimental Research Design

Phase 1: In the Survey research 155 sample of management students were included for the study. It is a need based study to understand the basic Personality types and Motivational factors. The first part is a survey study on MBTI and POI tests- to identify Personality Types and Motivational factors such as Time Competency and Inner Directedness.
Phase 2: Quasi Experimental Research design: The Sample size consisted of 89 participants

Step 1: Pretest: Scores of EQ, MLQ and HAS factors were considered as baseline measures

Step 2: IV: Exposure to soft skill intervention program: The soft skill intervention program was a holistic package made for leadership effectiveness on awareness of personality type, EQ, Leadership styles, teamwork, time and stress management through simulation, role play and PPTs. These modules were drafted for bringing about desirable changes among management students for leadership effectiveness (refer enclosed CD). Therefore, post test results on MLQ, HAS and EQ were taken as DV. Hence the influence of exposure was assumed to have an effect on post test (DV) results.

Step 3: Post test: DV's - EQ, MLQ and HAS scores: The factors of EQ are Emotional sensitivity, Emotional maturity and Emotional Competency. The MLQ factors are Transformational leadership style, Transactional leadership style, Laissez-faire leadership style and 3 outcome factors of leadership, which are Extra effort, Effectiveness and Satisfaction. The HAS is measured on 3 levels of anxiety, which are mild, moderate and sever. EQ, HAS and MLQ measures the psychological factors important for leadership effectiveness. These psychological variables and its factors are
assumed to be influenced by intervention to bring about leadership effectiveness among management students.

Therefore, the second part of data collection was a pre test and post test quasi experimental design with an exposure to soft skill program in order to enhance the effectiveness of Personality Type dispositions in relation to leadership, Emotional Intelligence, Stress and time management. Herein the intervention was considered as IV, the pretest results on MLQ (leadership), EQ (Emotional Intelligence) and HAS (Anxiety) were considered as baseline to measures the effectiveness of interventions on the post test scores on MLQ, HAS and EQ, which were considered as DV.

In a quasi experimental design the pre test scores are compared with the post test scores in order to understand the effectiveness of the intervention program. In this research the intervention program functions as an Independent Variable and the Dependent Variable would be the post test scores. The effectiveness of the intervention could be compared only with reference to pretest and post test scores.

4.7: Procedure for the study

The researcher approached many management Institutes nearly for a year to get access to the students but the attempts were futile, the main hurdle being the whole programme to be lengthy and they have a packed schedule
and that they cannot spare so many hours for the Ph.D. data collection. However, only two Management Institutes, both of Mumbai University opened their doors for the data collection. The researcher is greatly indebted to these institutes. The students who were available and who volunteered were taken up for the study. Details of the sample characteristics are given in the next section.

It is an exploratory study with a focus on collecting as much information as possible about the students who opt for management studies, chiefly, about their personality preference types, preferred leadership styles, self-actualization, emotional intelligence and anxiety level. The time taken for the pre testing session itself varied from 2 to 2 and half hours. The total hours for data collection ranged from 12 to 14 hours.

The programme schedule for the complete data collection was as follows:

1. **Pretesting session**: 2 Hours

2. **Intervention session**: 10 Hours.

3. **Post testing session**: After 1 month - for 30 to 45 minutes

1) The pre testing session was started by administering different questionnaires as given in the section ‘Tools for assessment’ based on the standardized test manuals. The researcher administered the test in a group and was present to clarify doubts, or if students faced difficulty in understanding the questionnaires and its procedures. Each questionnaire
was explained in detail as to how to rate it on the scale with example for clarity. Those questionnaires that were completed fully were taken for final analysis.

2) **Intervention programme:** Following was the schedule for the intervention programme which was administered with different methods, simulations, case studies and role plays.

   a) **Session 1:** (Two hours and 30 minutes) on the topic ‘Awareness of personality type, Strengths and weakness in one’s own personality and leadership’.

   b) **Session 2:** (Two hours and 30 minutes). This session was on ‘Emotional Intelligence and its implication to personality adjustment and leadership’.

   c) **Session 3:** (Two hours and 30 minutes) on the topic ‘Team building relation to MBTI personality types and leadership’.

   d) **Session 4:** (Two hours and 30 minutes). It was on ‘Stress Management relation to personality type and leadership challenges’.

Details of the intervention Sessions are given in the annexed CD.

The session ended with a feedback questionnaire to rate the effect and applicability of the modules for students of management studies.

3) **Post testing session:** This session was conducted after one month to evaluate the students’ performance on the tests to study the effectiveness...
intervention in their leadership styles or emotional competency or the anxiety level. In this session the students were administered only MLQ, EQ and HAM-A tests. The rationale for not administrating MBTI Personality Preference Type was that the traits and types of personality are enduring qualities and they do not change over a period of time. Even the indices of POI would not dramatically change within a short one month period of time. In addition the students were not prepared to sit through these lengthy tests owing to other academic commitments. The students who could not attend the post testing were given the facility to respond to questionnaires via email or by post. Thus the fully completed questionnaires (N: 89) were taken up for further analysis for pre test - post test analysis.

4.8: Techniques of analysis:

Descriptive and inferential statistics by SPSS 16 package was carried out and the qualitative analysis was done by frequencies and percentages.

4.9: Description of the Sample studied:

A Sample of 155 students who volunteered for the pretest session were group tested in their respective classes during the academic years 2010-2012. All were administered the pretest questionnaires. The sample was available from Two Financial and Management Institute and of Management Studies. Both these Institutes are affiliated to Mumbai University. There were 43 MMS students of which 27 were males and 16 were females. There were 93 BMS students of which 53
were males and 40 were females. The MMS and BMS sample was selected from *one* Financial and Management Institute. From another Institute of Management Studies 19 PG Diploma in Management studies (PGDMS) students participated in this research of which 14 were Males and 5 were females. The MMS and PGDMS students were clubbed together as PG students and the BMS as UG students of Management studies. (Consent Letter to management institutes: Annexure 6)

Table 4.9.1. Indicates the mean age and SD of the selected sample of Post graduate and undergraduate Management students

<table>
<thead>
<tr>
<th>Courses</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG</td>
<td>93</td>
<td>19.49</td>
<td>1.29</td>
</tr>
<tr>
<td>PG</td>
<td>62</td>
<td>23.69</td>
<td>1.44</td>
</tr>
<tr>
<td>Total</td>
<td>155</td>
<td>21.21</td>
<td>2.52</td>
</tr>
</tbody>
</table>

Thus from a total sample of 155 students who participated in the pre test program there were 62 PG students and 93 UG students. The PG mean age was 23.69 (SD: 1.29) years and the UG mean age was 19.49 (SD: 1.44) years. The mean age for the total sample was 21.21(SD: 2.52) yrs.

The second step of analysis involved in choosing the predominant personality preference types from the total sample of 155 students for further analysis. This truncated further the sample size. The 5 personality
preference types that were predominant had a sample of 122 students where there were 76 males and 46 females. This sample size was used specifically for the analysis of Personality Preference Type categories and its significance. Among them only 72 participated in the pre test- post test Intervention programme. In this final group there were 48 males and 24 females.

Though the intervention programme was open to all students irrespective of personality type only 89 students responded to post testing, of which there were 55 PG students and 34 UG students. In this group there were 57 males and 32 females. Hence this sample was taken for the final analysis of pre test- post test effectiveness of intervention exposure.

The final analysis of the results was done on the basis of three main demographic variables namely, Gender, family income, and educational level (PG and UG) the details of these variables are presented in Table 4.9.2
Table 4.9.2. Indicates the frequencies and percentages of Gender and family income level of the selected sample of students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>F / %</th>
<th>UG N=93</th>
<th>PG N=62</th>
<th>Total N=155</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male (N: 94)</td>
<td>F 53</td>
<td>41</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% 57</td>
<td>66</td>
<td>60.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female (N:61)</td>
<td>F 40</td>
<td>21</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% 43</td>
<td>34</td>
<td>39.4</td>
<td></td>
</tr>
<tr>
<td>Family Monthly Income</td>
<td>&lt; 10,000</td>
<td>F 57</td>
<td>28</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% 61.3</td>
<td>45.2</td>
<td>54.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10-30,000</td>
<td>F 24</td>
<td>45</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% 25.8</td>
<td>24.2</td>
<td>26.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;30,000</td>
<td>F 12</td>
<td>13</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% 12.9</td>
<td>30.6</td>
<td>20.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.9.2 has shown that the group consisted of 60.6% males and 39.4% of females. The management sample was categorized as 3 different income groups, namely less than Rs. 10,000 per month as low, between Rs 10,000 to 30,000 per month as moderate and more than 30,000 Rs per month as higher monthly family income groups. Majority of the sample’s family income was below Rs. 10,000 (54.8%) per month and in this lower income group UG students were more prevalent (61.3%).

Many details on demographics were obtained and these are presented in the Annexure 4 on CD about the sample selected for the study.

Thus this chapter has given detail description of every step undertaken for planning and executing this research study.