CHAPTER - 3
RESEARCH DESIGN AND METHODOLOGY

The purpose of this study is to examine the influence of vocational identity, emotional intelligence and career decision making self efficacy on career maturity of adolescents. Literature suggests that there is scarcity of studies conducted on these lives in Indian scenario, therefore there is a need to address the problem of the adolescents.

AIMS OF THE STUDY

1. To study Vocational Identity in relation to Career Maturity of high school students.
2. To study Emotional Intelligence in relation to Career Maturity of high school students
3. To study Decision Making Self Efficacy in relation to Career Maturity of high school students
4. To study the interaction of variables of the study in relation to career maturity.

HYPOTHESES

To fulfill the above aims following hypotheses were formulated:

1. There will be no significant relationship between vocational identity and career maturity of high school students.
2. There will be no significant relationship between emotional intelligence and career maturity of high school students.
3. There will be no significant relationship between decision making self efficacy and career maturity of high school students.
4. The three measures of the study will not significantly contribute to predict career maturity.
SAMPLE OF THE STUDY

A sample of 504 high school students were selected from different private schools from Jaipur. The subjects were selected with the following inclusion and exclusion.

CRITERIA OF INCLUSION

- Sample would consist of class ninth and tenth students only.
- Sample will be drawn from private schools only.
- Sample would consist of co educational schools.

CRITERIA OF EXCLUSION

- Sample will not include students above ninth and tenth.
- Sample will not include government schools.

DESIGN OF THE STUDY

Co relational Design

Keeping in view the nature of the study a co relational design was employed where the correlation between the three independent variables vocational identity, emotional intelligence and career decision making self efficacy and dependent variable career maturity were taken.
MEASURES OF THE STUDY

VOCATIONAL IDENTITY SCALE

The scale was designed by F. Veiga and Moura in 2005. This scale was adapted from Occupational Identity Scale (0.15) by Melgoe's (1987). The scale has 28 items sorted into 4 statutes of vocational identity, achievement, moratorium, foreclosure and diffusion. The VIS has its importance as research instrument because, it helps to understand individuals, who show features that are not specifically of one single statute; the scale provides the results separately in each statute for each individual. The VIS scale narrows down the nature and level of adolescent’s occupational compromise, it allows a better counseling in terms of their vocational calling:

(i) Achievement Scores
(ii) Moratorium
(iii) Foreclosure and
(iv) Diffusion

Reliability: Reliability coefficients ranged between 0.70 and 0.87.

Validity: Validity coefficients ranged between 0.38 and 0.79.

Scoring: Scoring is done on the Likert Scale with response scoring from 1-5. The response to each of the statements of the inventory ranges from:

S A- Strongly Agree,
A- Agree,
I-Indifferent,
D A – disagree
S D A – Strongly Disagree.
The given responses of positive statements scores are 5,4,3,2,1 and that of negative statements scores are 1,2,3,4,5. The total scores of the responses indicate the level of Vocational Identity

**Table: 3.1 Classification of Vocational Identity Scores in terms of Categories**

<table>
<thead>
<tr>
<th>Range of Scores</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>140 - 113</td>
<td>A</td>
<td>Very Good</td>
</tr>
<tr>
<td>112 - 85</td>
<td>B</td>
<td>Good</td>
</tr>
<tr>
<td>84 - 57</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>56 - 29</td>
<td>D</td>
<td>Poor</td>
</tr>
<tr>
<td>28 - 0</td>
<td>E</td>
<td>Very Poor</td>
</tr>
</tbody>
</table>

**MANGAL'S EMOTIONAL INTELLIGENCE INVENTORY**

Emotional intelligence inventory has been designed by S.K. Mangal and Shubhra Mangal in 2005. It measures the emotional intelligence (total as well as separately) with respect to four areas. Emotional intelligence inventory has been designed for use with Hindi and English knowing school, college and university students for the measurement of their emotional intelligence. The inventory has 100 items 25 each from the four areas to be answered in Yes or No.

Aspects of Mangal's Emotional Intelligence Inventory:

(i) Intra-personal Awareness (own emotions)

(ii) Inter-personal Awareness (other's emotions)

(iii) Intra-personal Management (own emotions)

(iv) Inter-personal Management (other's emotions)
Reliability: Reliability of the inventory was examined through three different methods.

i. Split - half method using Spearman-Brown prophecy formula Reliability coefficient 0.89 (N =600)

ii. K-R formula (20) Reliability coefficient ( N = 600)

iii. Test - Retest method (after a period of 4 weeks). Reliability coefficient 0.092 (N = 200)

Validity: The validity for the inventory has been established by adopting two different approaches, namely factorial and criterion related approach. The co-relations among the four areas of the inventory vary from 0.437 to 0.716 after testing these correlations at the .01 level. It was found that all were significant.

Scoring: Scoring is done with the help of a stencil. The mode of response to each of the item of the inventory is in the form of a forced choice i.e. yes or no. In the inventory there are items where the response ‘yes’ is indicative of the presence of emotional intelligence and ‘no’ for lack of emotional intelligence. Similarly there are items where ‘no, response provides clue for the presence of emotional intelligence and ‘yes’ for absence. For scoring one mark is to be provided for the response indicating presence of emotional intelligence and zero for the absence of emotional intelligence.

Table: 3.2 Classification of Emotional Intelligence Scores in terms of Categories

<table>
<thead>
<tr>
<th>Range of Scores</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 - 80</td>
<td>A</td>
<td>Very Good</td>
</tr>
<tr>
<td>80 - 60</td>
<td>B</td>
<td>Good</td>
</tr>
<tr>
<td>60 - 40</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>40 - 20</td>
<td>D</td>
<td>Poor</td>
</tr>
<tr>
<td>20 - 0</td>
<td>E</td>
<td>Very Poor</td>
</tr>
</tbody>
</table>
CAREER DECISION MAKING SELF EFFICACY SCALE

The career decision making self efficacy scale short form (CDMSE) was designed by Taylor and Pompa, in 1990 to measure an individual’s degree of belief that one can successfully complete tasks necessary to making career decisions. The 25 items include five subscales that provide information that pertains to- accurate self appraisal ability to gather occupational information goals selection, making plans for the future and problem solving. Responses were obtained using a 5 level continuum from 1 (no confidence at all) to 5 (full confidence). Subscales can be analyzed separately and also combined to give a total score.

1. Self appraisal (Knowing yourself)- It involves a process of making hypothetical judgment of a person’s assets and liabilities for career success and satisfaction.

2. Occupational information (knowing about jobs) - It includes items on jobs, duties, and tasks trends in occupations and future employment opportunity.

3. Goal Selection (Choosing of job) - It requires an individual to choose the best (most realistic) occupation for a fictitious individual who is described in terms of his/ her aptitudes rest and personality characteristics.

4. Planning (looking ahead) - It evaluates the task of logical and temporal inconsistence in the steps leading to various career goals.

5. Problem solving (what should they do?). It intends to assess the ability to resolve conflicts among the factors usually involved in career decision making.

The CDMSE is designed to assess optimistic self-beliefs used to cope with a variety of demands in life. The scale was designed to assess decision making self efficacy, i.e., the belief that one’s actions are responsible for successful outcomes.
Reliability: Several studies have shown that the CDMSE has high reliability, stability, and construct validity. Reliability coefficients ranged between 0.69 and 0.75.

Validity: The scale was found to be configurable equivalent across 28 nations, and it forms only one global dimension. Validity coefficients ranged between 0.48 and 0.81.

Scoring: All the responses are positive, ranging from:
S C- Strong Confidence
MC-Much Confidence
MO- moderate Confidence
VLC- Very little confidence
NC- No confidence

Scoring is done on – 5, 4, 3, 2,1 as per the response given. The total score indicates the level of Career Decision Making Self Efficacy.

Table: 3.3 Classification of Career Decision Making Self Efficacy Scores in terms of Categories

<table>
<thead>
<tr>
<th>Range of Scores</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>125 - 100</td>
<td>A</td>
<td>Very Good</td>
</tr>
<tr>
<td>99 - 75</td>
<td>B</td>
<td>Good</td>
</tr>
<tr>
<td>74 - 50</td>
<td>C</td>
<td>Average</td>
</tr>
<tr>
<td>49 - 25</td>
<td>D</td>
<td>Poor</td>
</tr>
<tr>
<td>24 - 0</td>
<td>E</td>
<td>Very Poor</td>
</tr>
</tbody>
</table>

CAREER MATURITY INVENTORY

The scale has been developed by Dr. Nirmala Gupta in 1989 to measure the maturity of attitude and competences that are critical in realistic career decision
making. To assess the maturity of these career behaviors, the CMI provides two types of measures attitude scale, and the competence scale.

The attitude scale alerts the feelings, the subjective reactions and the disposition that the individual has towards making a career choice and entering the world of work. The attitudinal variables in an individual are the conceptual or dispositional response tendencies of career maturity, enabling him to make a career choice to enter the world of work. The attitudinal factor is non intellective in nature and may mediate both career choice consistency and realism as well as career choice competence. Five attitudinal variables being surveyed by attitude scale are -

(i) Decisiveness in career decision making.
(ii) Involvement in career decision making.
(iii) Independence in career decision making.
(iv) Orientation to career decision making.
(v) Compromise in career decision making.

The scale thus maps the cognitive aspects of decision making. It has fifty items.

The Competence Scale measures the cognitive variables in choosing an occupation. These include appraisal of the individual’s job related capabilities (strengths and weaknesses). Knowledge about the world of work, optness in matching personal characteristics to occupational requirements, foresight in planning for a career and effectiveness in dealing with problems which occur in the course of career development. There are five parts of the competence test. This test has 100 items in five parts.
Reliability: Split half reliability has been calculated for all the five parts for the three grade levels with N=40. The obtained coefficient range from 0.54 to 0.88.

Validity: Most of the items of the adapted competence test are original competence test items with only slight modification in terminology. The modified items have also been discussed at length with experts in the guidance area regarding their suitability for Indian students. Therefore, it has content validity. Findings on the Indian sample for adapted competence test support the construct validity of the test.

Scoring: To provide maximum consistency in scoring, the scoring stencils are provided for accurate scoring. Plus one is given for every correct response. An omitted or multiple marked item is treated as wrong and 0 is assigned.

Table: 3.4 Classification of Career Maturity Scores in terms of Stanine

<table>
<thead>
<tr>
<th>Range of Scores</th>
<th>Stanine</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 - 100</td>
<td>IX</td>
<td>High</td>
</tr>
<tr>
<td>99 - 75</td>
<td>VII,VIII</td>
<td>Above average</td>
</tr>
<tr>
<td>74 - 50</td>
<td>IV,V,VI</td>
<td>Average</td>
</tr>
<tr>
<td>49 - 25</td>
<td>II,III</td>
<td>Below average</td>
</tr>
<tr>
<td>24 - 0</td>
<td>I</td>
<td>Low</td>
</tr>
</tbody>
</table>

PROCEDURE

The study was conducted in two phases. In the first phase, the list of high secondary schools was finalized as per district education office. Also permission was taken from the school authorities for conducting the test on students of class ninth and tenth. Based on the criteria of inclusion and exclusion students were
selected. In the second phase the subjects selected in the sample were administered, individually. The order of administration of test was random.

**STATISTICAL ANALYSIS**

The following statistical methods was computed to deploy the results and to find out the relationship between independent variables and dependent variable.

**MEAN:**

A.M. is denoted by $x$ or A.M. thus:

$$x = \frac{\text{Sum of the observation}}{\text{Number of observation}}$$

$$M = \frac{\sum fx}{N}$$

Where $x$ = Arithmetic Mean

$\sum fx$ = Sum of the products of the values of $x$ and the corresponding frequencies.

$N$ = Total frequency

**STANDARD DEVIATION:**

The most stable index of variability was also calculated:

The formula for standard deviation is:

$$\sigma = \sqrt{\frac{\sum d^2}{N}} \quad \text{or} \quad \sqrt{\frac{\sum (x - \chi)^2}{N}}$$

Where $\sigma$ = Standard deviation

$\chi$ = Arithmetic mean

$d^2$ = Square of the deviation from arithmetic mean $(x - \chi)^2$

$N$ = Number of observation
When the scores are in frequency distribution:

\[
\sigma = \frac{\sqrt{\Sigma x^2}}{N} \quad \text{or} \quad \frac{\sqrt{\Sigma d^2}}{N}
\]

Where \( \sigma \) = Standard deviation

\( d \chi \) = Deviation from assumed mean

\( dx^2 \) = Square of the deviations

\( N \) = Number of terms

\( X \) = Arithmetic mean

\( A \) = Assumed Mean

KARL PEARSON'S COEFFICIENT OF CORRELATION:

\[
r = \frac{\Sigma dxdy}{N \sigma_x \sigma_y} = \frac{\Sigma dxdy}{\sqrt{\frac{\Sigma dx^2}{N} \times \frac{\Sigma dy^2}{N}}} = \frac{\Sigma dxdy}{\Sigma dx^2 \times \Sigma dy^2}
\]

Where \( r \) = Coefficient of correlation

\( dx \) = \( X - X \)

\( dy \) = \( Y - Y \)

\( \sigma_x \) = Standard deviation of X series

\( \sigma_y \) = Standard deviation of Y series

\( N \) = Number of Pairs of observation

ASSUMED MEAN METHOD:

\[
\gamma = \frac{\Sigma dxdy - (\Sigma dx) \times (\Sigma dy)^2}{\sqrt{\Sigma dx^2 x \times (\Sigma dx)^2} \times \sqrt{\Sigma dy^2 y - (\Sigma dy)^2}}
\]
Where \( dx = X - Ax \)
\( dy = Y - Ay \)
\( Ax = \) Assumed Mean of X series
\( Ay = \) Assumed Mean of Y series
\[ \sum d_x d_y = \sum (dx \cdot dy) \]
\[ \sum d^2 x = \sum (dx)^2 \]

**MULTIPLE REGRESSION EQUATION:**

The regression equation which expresses the relationship between a single variable \( X_1 \) and any number of independent variables \( X_2, X_3, \ldots, X_n \) may be written in derivation as follows:

\[
X_1 = b_{12.34\ldots n} x_2 + b_{13.24\ldots n} x_3 + \ldots + b_{1n.23\ldots(n-1)} x_n + K
\]

(regression equation in derivation form \( n \) variables)

\[
X_1 = b_{12.34\ldots n} x_2 + b_{13.24\ldots n} x_3 + \ldots + b_{1n.23\ldots(n-1)} x_n + K
\]

(regression equation in score form \( n \) variables)

The regression coefficient \( b_{12.34\ldots n}, b_{12.34\ldots n} \) etc give the weights to be attached to the scores in each of the independent variables when \( X_1 \) is to be estimated from all of these in combination. From the regression we can tell just what role each of the several variables play in determine the score \( X_1 \) the criterion.