CHAPTER III

METHODOLOGY

3.1. Introduction

In this chapter it will be explained that how the research is conducted, it covers by the research objectives, hypotheses, variables of the study and their operational definition, research tools, and their descriptions, research plan, special characteristics of the study, the sample size, sampling procedure, statistical methods applied to summarize and analyze the data are delineated.

3.2. Rationale of the Study

Transition in life is marked by new developments, new experiences, and new challenges. In a special way, transition in the life of adolescents is understood as making significant marks on one’s physical, psychological and social makeup. The person begins to set a platform for his/her taking off as an adult by assuming a well-defined identity, clear and realistic thinking patterns and a mature and consistent moral outlook. The growing concern for the adolescents is an indication that, this developmental stage is definitely a very important phase in life of an individual and the events and incidents that occur during this period is going to generate an impact in his/her future life in a significant manner, tossed between the social, emotional and physical issues during this period, an adolescent is often unprepared to face the challenges of life, which often results in social malfunctioning, emotional conflicts and likewise. It has become an urgent need, that we may make initiatives to enhance the quality of their lives.
In present time psychological distress is a common mental health problem among general population and specially for adolescent population because on one side the way is open for growth and development due to advancement of science and technology and everyone wants to go ahead than others for achieving success in their goals. On the other side they face a large number of problems due to psychological factors such as disparity in intellectual abilities, differences in personality traits, temperaments and gender differences etc. There is a growing recognition that many adolescents are not appropriately equipped to face with these demands and challenges of their lives. In this period any psychological disorders have a significant impact on cognitive, emotional, and behavioral processes causing significant distress that impairs daily functioning and can put adolescents at risk of developing stress and other related psycho-pathological problems. Studies have proved that depression and anxiety are the two most widespread mental health problems seen in adolescent students. As a consequence, anxiety and depression have been found to account for the highest proportion of indirect (sick leave, absence and suicide) and direct (medical supplement and treatment) costs overall adolescence period (Olsen et al., 2012). Therefore, mental health has become an increasingly important concern in our society as it has been found that the prevalence and seriousness of psychological disorders are more among students population and their level of psychological distress has been found to be higher as compared to the general population (Kadison, 2005).

One of the most important tasks for all adolescents is learning the skills that will help them to manage their own lives and make positive and healthy choices. So growing up and negotiating a path between independence and dependence on others is a tough task for the adolescents. Both parents and adolescents struggle between the adolescents wanting independence and autonomy, at the same time still need parental guidance. The
relationship becomes more confusing and uncomfortable for both parents and their children. The sense of independence and decision making are resulted with increasing rates of risk-taking behaviors, using illicit substances, participating in risky sexual behavior, and committing crimes. These struggles are all about adolescents wanting independence while still in need for parental guidance which creates distress for both parents and adolescents. This intense, prolonged, unhealthy conflict will result in a number of psychological issues like depression, anxiety and get manifested into behavioral problems.

Adolescence is also an important period for empathy development. Cognitive and relational changes can be expected to impact adolescents’ abilities or tendencies to take others’ perspectives and to experience feelings of concern. It has been noted that affective arousal in response to others in distress can promote interpersonal responsibility and inhibit harmful acts. On the other hand, individuals who lack in the capacity for experiencing another’s emotional states might engage in disruptive acts that depict failure of socio-moral development, such as antisocial behaviors and other forms of externalizing problems which may have harmful consequences on others.

Keeping in view of the above and concerning the increasing changes and complication and expansion of social relationship, preparing individuals to encounter the difficult situations seem necessary. There are many techniques available today to help out the adolescents in such situations. Life skill training is one such technique which promotes psychological health in adolescents and equips them to face the realities of life. It helps the adolescents to take positive actions to protect themselves and to promote health and to behave in a prosocial way. Life skill facilitates a complete and integrated development of individuals to function effectively as social beings. Life
skills can be applied in the contexts of social and health events. With life skills, one is able to explore alternatives, weigh pros and cons and make rational decisions in solving each problem or issue as it arises. It also entails being able to establish productive interpersonal relationships with others. Developing life skills helps adolescents in translating knowledge, attitude, and values into healthy behavior that makes their life fruitful.

This research work makes a serious and a genuine attempt to determine the effectiveness of life skills training on psychological distress, balanced emotional empathy and autonomy among adolescent students. These basic skills will help adolescents in coping with difficulties they face in their personal, emotional and social development. Through these skills, adolescents learn to communicate with their parents, teachers, adults and peers. They learn to take control of their emotions and make more informed decisions, set boundaries for appropriate behaviors, sustain relationships, and learn to be responsible for their actions and adopt healthy lifestyles.
3.3. Statement of the Problem

“Effectiveness of life skills training on psychological distress, balanced emotional empathy and autonomy among adolescent students”

3.4. Objectives of the Study

1. The main objective is to study the effect of life skills training on psychological distress, balanced emotional empathy and autonomy among adolescent students.

2. To study the effect of life skills training on gender differences in psychological distress, balanced emotional empathy and autonomy among adolescent students.

3.5. Hypotheses

Following hypotheses have been formulated in the present study:

Hypotheses: 1. Life skills training will have significant effect in reducing psychological distress among adolescent students.

Hypotheses: 2. Life skills training will have significant effect in increasing emotional empathy among adolescent students.

Hypotheses: 3. Life skills training will have significant effect in increasing autonomy among adolescent students.

Hypotheses: 4. Life skills training will have different effect on adolescent boys and girls.

Hypotheses: 5. There will be a significant correlation between psychological distress, emotional empathy and autonomy among adolescent students.
3.6. Variables of the Study and their Operational Definition

The present study includes the following dependent and independent variables.

3.6.1. Dependent Variables

1. Psychological Distress
2. Emotional Empathy
3. Autonomy

3.6.2. Independent Variable

Life Skills Training Intervention

3.6.3. Operational Definitions

3.6.3.1. Adolescence

Adolescence is a collective term used to refer to the stage of human development, between the ages of 10 and 19 years which is marked by the physical and mental growth of the individuals. It is generally accepted as an important phase of human development and recognised as a transitional process from childhood to maturity, rather than a single stage or series of sub-stages (Yadav et al., 2009).

3.6.3.2. Psychological Distress

Psychological distress is defined as a state of emotional suffering distinguished by symptoms of depression (e.g., lack of interest, sorrow, hopelessness) and anxiety (e.g., restlessness, feeling tense), which has both emotional and psychological manifestations (Mirowsky & Ross, 1989).
3.6.3.3. Balanced Emotional Empathy

The definition of empathy and the nature of term “Balanced Emotional Empathy” which is used in this study will contain “Emotional Empathy” as “a vicarious emotional response to the perceived emotional experiences of others” (Mehrabian & Epstein, 1972). In the context of personality measurement, it describes individual differences in the tendency to have emotional empathy with others.

3.6.3.4. Autonomy

The concept of adolescent autonomy has been defined as a person’s ability to nurture independent thoughts, emotions and behaviors and the ability to take decision in life on her or his own that affect the rest of the life without undue control or dependence on one’s parents or others (Steinberg, 1999).

3.6.3.5. Life Skills

Life skills definition in this study is in consistent with the definition of World Health Organization as “abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life” (WHO, 1994).
### 3.7. Research Tools and Their Descriptions

Table 3.1

**Tools used in the study**

<table>
<thead>
<tr>
<th>SL. No.</th>
<th>Variables</th>
<th>Tools</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Psychological Distress</td>
<td>Kessler Psychological Distress Scale (K10)</td>
<td>(Kessler et al., 2002)</td>
</tr>
<tr>
<td>2</td>
<td>Emotional Empathy</td>
<td>Multi-Dimensional Emotional Empathy Scale (MDEES)</td>
<td>(Caruso &amp; Mayer, 1998)</td>
</tr>
<tr>
<td>3</td>
<td>Autonomy</td>
<td>Adolescent Autonomy Questionnaire (AAQ)</td>
<td>(Noom et al., 1999)</td>
</tr>
</tbody>
</table>

#### 3.7.1. Socio-Demographic Information

Socio-demographic information developed by the researcher was administered to the selected sample to collect the necessary information such as the participant’s name, gender, age, class, birth order, education level of both parents, socio-economic status of the family etc.

#### 3.7.2. Kessler Psychological Distress Scale (K10, Kessler et al., 2002)

The Kessler Psychological Distress Scale (K10) is a screening measure of general psychological distress containing 10 items. Scores range from 10 to 50 and are based on a recall period of 4 weeks. The K10 was designed to quantify the frequency and severity of anxiety and depression, related symptoms experienced in the four weeks prior to screening. The K10 is a simple measure of psychological distress without identifying its cause. It is a screening instrument to identify people in need of further assessment for anxiety and depression (Kessler et al., 2002).
**Scoring Instructions**

Each item is scored on a 5-point Likert scale (1-None of the time to 5-All of the time). To attain a psychological distress score, the total will be calculated for the 10 total items. Scores of the 10 items are then summed, yielding a minimum score of 10 and a maximum score of 50. Low scores indicate low levels of psychological distress and high scores indicate high levels of psychological distress.

**Validity and Reliability**

The measure has displayed a strong internal consistency with a Cronbach’s alpha reliability of $\alpha = .93$ (Kessler et al., 2002). Convergent construct validity is evidenced by the accuracy of DSM-IV diagnoses of depression and/or anxiety (Fassaert et al., 2009) in line with previous researches, the K10 exhibited strong reliability which indicated that K10 is a reliable instrument.

**Table 3.2**

**Norms for Kessler Psychological Distress Scale**

<table>
<thead>
<tr>
<th>K10 Score</th>
<th>Level of Psychological Distress</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 – 19</td>
<td>Likely to be well</td>
</tr>
<tr>
<td>20 – 24</td>
<td>Likely to have a mild disorder</td>
</tr>
<tr>
<td>25 – 29</td>
<td>Likely to have a moderate disorder</td>
</tr>
<tr>
<td>30 – 50</td>
<td>Likely to have a severe disorder</td>
</tr>
</tbody>
</table>
3.7.3. Multi-Dimensional Emotional Empathy Scale (MDEES, Caruso & Mayer, 1998)

Multi-Dimensional Scale of Emotional Empathy for adolescents and adults was devised by Caruso and Mayer (1998), and it consists of 30 items in six subscales measuring the following factors:

1. Suffering – S, in the sense of sadness, worry at seeing pain of others, both people and animals. 2. Positive Sharing – PS, pleasing experiencing of joy and other positive emotions of other people. 3. Responsive Crying – RC, tendency to emotional response to negative conditions of other people. 4. Emotional Attention – EA, level of focusing attention on emotional manifestations of others. 5. Feel for Others – FO, emotional harmony in the sense of letting impress oneself by emotions of others. 6. Emotional Contagion – EC, sensitivity to emotions of others in the sense of emotional induction.

The test was not timed and the empathy scale materials were self-administered. The instructions stated “Circle the response which best indicates how much you agree or disagree with each item”. Six negatively-worded items were included in the scale in order to reduce response bias.

Scoring Instructions

This scale ranges from strongly disagree, at one end, to strongly agree, at the other end, includes thirty self-report Likert-type items, each of which is rated from 1 to 5. For instance, if a student chooses "strongly disagree" alternative in response to the item "I feel happy when I see people laughing and enjoying themselves", the student will receive 1 for the item, which indicates the lowest degree of empathy. In this scale, R indicates a reverse-scored item. To score the scale, change the scoring on the reverse-scored items (1=5, 2=4, 3=3, 4=2, 5=1). Add all the scores for the total score and divide
by 30. For each scale add the following items together, and divide by the number of items: Suffering (3, 5, 6, 8, 12, 18, 24, 28); Positive Sharing (14, 22, 23, 29, 30); Responsive Crying (1, 20, 25); Emotional Attention (4, 9, 13, 27); Feel for Others (10, 15, 16, 21); Emotional Contagion (11, 17) (Caruso & Mayer, 1998).

**Validity and Reliability**

This scale reports excellent psychometric properties (alpha reliability = 0.88). The MDEES shows good structure validity in the factor analysis and significant relationships to a number of behavioral criteria (Caruso & Mayer, 1998). The mean scores of each factor scale also have good alpha reliability.

**3.7.4. Adolescent Autonomy Questionnaire (AAQ, Noom et al., 1999)**

Adolescent Autonomy Questionnaire measures the level of autonomy experienced by the adolescents. This scale measures three types of autonomy such as attitudinal autonomy, emotional autonomy and functional autonomy.

- **Attitudinal Autonomy (AA)** is the ability to specify several options, to make a decision and to define a goal.

- **Emotional Autonomy (EA)** involves the perception of emotional independence from parents and peers.

- **Functional Autonomy (FA)** is a regularity dimension referring to the different approaches taken to achieve a goal.
Scoring Instructions

Adolescent Autonomy Questionnaire is 5 items Likert scale and each item has values from 1 (very bad descriptive of me) to 5 (very good descriptive of me). The scores of each subscale were summed separately to form attitudinal autonomy, functional autonomy, and emotional autonomy scale. Statements that are positively stated are scored from 1 to 5. All statements which are negatively stated are scored from 5 to 1. The three dimensions can be examined separately or as one general concept of autonomy.

Validity and Reliability

The scale has Cronbach’s alpha reliability of 0.71 for attitudinal autonomy, 0.60 for emotional autonomy and 0.64 for functional autonomy. Validity and smoothness of this test was reported in Noom study which was equal to 0.60 (Noom et al., 1999).

Table 3.3

Norms for Adolescent Autonomy Questionnaire

<table>
<thead>
<tr>
<th>Areas</th>
<th>High</th>
<th>Average</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Autonomy (EA)</td>
<td>20 and above</td>
<td>19 to 10</td>
<td>9 and below</td>
</tr>
<tr>
<td>Functional Autonomy (FA)</td>
<td>18 and above</td>
<td>17 to 14</td>
<td>13 and below</td>
</tr>
<tr>
<td>Attitudinal Autonomy (AA)</td>
<td>19 and above</td>
<td>18 to 14</td>
<td>13 and below</td>
</tr>
<tr>
<td>Total</td>
<td>53 and above</td>
<td>52 to 41</td>
<td>40 and below</td>
</tr>
</tbody>
</table>
3.8. Participants

Adolescent students belonging to the age group from 10-19 years (with an average age 14.5), studying in two different schools in Mysore, Karnataka were selected for the study. 400 students from these two schools were volunteered to participate in the study conducted in this direction. Students were administered with demographic questionnaires prepared by the researcher to collect the personal data. Following this, the students were then tested for Psychological Distress using Kessler Psychological Distress Scale, Emotional Empathy using the Multi-Dimensional Emotional Empathy Scale and Autonomy using the Adolescents Autonomy Questionnaire. Both boys and girls with high scores on Psychological Distress and low scores on Emotional Empathy and Autonomy were selected for the study. A total of 400 students were screened and 200 adolescent students were included in the final sample. These students were assigned to experimental groups and control group at random. 50 boys and 50 girls were included for both experimental group (N=100) and control group (N=100).

Table 3.4

Distribution of Sample by Groups and Gender

<table>
<thead>
<tr>
<th>GENDER</th>
<th>GROUP</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exptl.</td>
<td>Control</td>
</tr>
<tr>
<td>Male</td>
<td>Frequency</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>50.0%</td>
</tr>
<tr>
<td>Female</td>
<td>Frequency</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>50.0%</td>
</tr>
<tr>
<td>Total</td>
<td>Frequency</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
3.9. Research Design

The present research employed pre and post-test design. The selected samples were randomly assigned to two groups of experimental and control group. The experimental group included 50 adolescent boys and 50 adolescent girls. The experimental group received 8 sessions of life skills training intervention and any intervention to the control group was avoided. The dependent variables were measured before and after the intervention. The intervention effect was assessed by comparing pre-test and post-test scores.
Figure 3.1: Diagrammatic representation of the research design

Experimental Group
100

50 Girls

50 Boys

Intervention

Post test

Control Group
100

50 Girls

50 Boys

No Intervention

Post test

Comparison the scores of effectiveness LST

Intervention was given to control group after the process of data collection was over.
Stage I

400 adolescent students were subjected to screening process (200 Boys and 200 Girls). Kessler Psychological Distress Scale, Multi-Dimensional Emotional Empathy Scale and Adolescents Autonomy Questionnaire were used for the same.

Stage II

From the group of 400 subjects, 200 subjects (100 Boys and 100 Girls) were selected for the purpose of this study. Selection criteria were high score on Psychological Distress, low score on Emotional Empathy and low score on Autonomy.

Stage III

From the chosen group of 200 subjects, 100 each were randomly assigned to the Experimental Group (50 Boys and 50 Girls) and Control Groups (50 Boys and 50 Girls).

Stage IV

The subjects in the Experimental Group were administered with 8 sessions of life skills training program with each session having duration of 120 minutes with a frequency of one session in a week. The subjects of Control Group were not given any intervention.

Stage V

After the completion of the intervention program, post assessment was done on the subjects of both the Experimental and Control Groups using the same questionnaires used in the pre-assessment.
3.10. Procedure

First of all, the school administrators were contacted before commencing the study. The school administrators were briefed about the research objectives and the consent obtained was based on the understanding that the researcher would take full responsibility, no harm would be caused to the participants and the data obtained from them would be used strictly for the research purpose only. The study was carried out in three phases, using the following procedures in each phase

1. Screening / Pre-test
2. Life Skills Training Intervention
3. Post- Assessment

3.10.1. Phase I: Screening/Pretest

During this Phase, the researcher interacted with adolescent students of the age group 10-19 years in two different schools situated in Mysore, Karnataka. A general introduction was given about life skills training, adolescent development process, psychological issues related to adolescence and various influences that they experience throughout their development into functioning adult. 400 students from these two schools were volunteered to participate in this study. Kessler Psychological Distress Scale (K10), Multi-Dimensional Emotional Empathy Scale (MDEES), and Adolescent Autonomy Questionnaire (AAQ) were distributed to these 400 students and requested them to answer the questions. The response sheets were scored and interpreted according to the scoring key and norms of the respective questionnaires. The subjects who scored 25 or above 25 on K10, scored below 3 on MDEES and had score 40 or below 40 on AAQ were selected for the intervention with a written consent from their
parents/guardian. A total of 200 students were selected. They were randomly divided into Experimental and Control group with each having 100 subjects (50 Boys and 50 Girls).

3.10.2. Phase II: Life Skills Training Intervention Program

In this phase the 100 subjects in the experimental group were randomly divided into sub-groups consisting of 10 students, there were 10 experimental groups in total so that it would be more convenient to apply life skill strategies. They were administered with 8 sessions of life skill training intervention with each session of 120 minutes duration (divided into two sub sessions) and with a frequency of one session in a week. Life Skills Training Program was developed by the researcher as per the objectives of the study and considering the contextual need for program planning. For identifying the component of each category, available literature related was referred by the researcher. Number of reports and documents of World Health Organization (WHO) and UNICEF on the Life Skills were referred for gaining better understanding with regard to the specific life skills under these categories that include namely; life skills for psychological distress, life skills for emotional empathy and life skills for autonomy. For deciding the format of the Life Skills Program, the researcher has referred documents of World Health Organization (WHO) for providing Life Skills Education. In the documents on the Life Skills Education, World Health Organization (WHO) has suggested certain types of activities, like class discussion, brainstorming, role playing, storytelling, game, songs and dance which were employed during life skills training. It took 2 months to complete the whole intervention. The control group was not introduced to any intervention method as their result was compared as the baseline.
**LIFE SKILLS TRAINING PROGRAM**

### STAGE I: PREPARATORY STAGE

<table>
<thead>
<tr>
<th>Sl. No. of day’s</th>
<th>Session no</th>
<th>Input Session</th>
<th>Number of students in each session</th>
<th>Duration of each session</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Make introduction and preparing participants for the program</td>
<td>10</td>
<td>60 min</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Development of group cohesiveness and explanation of life skills training</td>
<td>10</td>
<td>60 min</td>
</tr>
</tbody>
</table>

### STAGE II: WORKING STAGE

| 3 | 3 | Training on decision-making and problem-solving | 10 | 60 min | 60 min |
| 4 | 4 | Training on creative thinking and critical thinking | 10 | 60 min | 60 min |
| 5 | 5 | Training on coping with emotion and coping with stress | 10 | 60 min | 60 min |
| 6 | 6 | Training on self-awareness and empathy | 10 | 60 min | 60 min |
| 7 | 7 | Training on communication and interpersonal relationship skills | 10 | 60 min | 60 min |

### STAGE III: ENDING STAGE

| 8 | 8 | Ending stage (Termination of the sessions), and discharged the participants | 10 | 60 min | 60 min |
Figure 3.3: A model of skills development is shown in the following figure

**CYCLE OF SKILL DEVELOPMENT**

**Promoting Skill Concepts**
- Defining skills concepts
- Generating exemplars, both positive and negative
- Encouraging verbal rehearsal
- Correcting misperceptions

**Promoting Skill Acquisition and Performance**
- Providing opportunities for guided rehearsal
- Evaluating performance
- Providing feedback and recommendations for corrective actions

**Fostering Skill Maintenance/Generalization**
- Providing opportunities for self-directed rehearsals
- Fostering self-evaluation and skill adjustment
3.10.2.1. Materials for Life Skills Training (LST) were as follows (Appendix F):

- Decision making
- Problem solving
- Creative thinking
- Critical thinking
- Effective communication
- Interpersonal relationship skills
- Self-awareness
- Empathy
- Coping with emotions
- Coping with stress

3.10.2.2. Methods Used in Life Skills Training

Life skills need to be practiced in order to be learned. Delivery of life skills programs is based on active participation and cooperative learning as opposed to lectures. Group activities suggested by World Health Organization (WHO) were used in the life skills intervention program in the premises of school.
The types of group activities in the life skills program were:

**Class Discussions:** Through class discussion, students can examine a problem or topic of interest with the goal of better understanding an issue or skill.

**Brainstorming:** In this method, a number of ideas were made by students about a particular topic or question instantaneously, often in short period of time. Evaluating or debating the ideas occurs later.
**Story-Telling:** This activity involved telling of narratives with a particular theme based on actual event. Students were motivated to think about and discuss important points raised in the story after its completion.

**Role Plays:** Role plays were short drama episodes in which participants were given with a suggested situation and asked to act or feel the character. It was to increase empathy for others and also to gain an insight into one’s own feelings.
**Games:** Interesting and exciting games were introduced with a specific set of rules. Students played games as activities which were helpful to keep them physically fit and to re-energize them.

**Songs and Dances:** Songs and dances are musical compositions on topical issues and themes, which were introduced. They were used to develop and strengthen life skills for example self-awareness, empathy, effective communication skills and conflict resolution.
3.11. Phase III: Post-Assessment

Post-tests were done by administering the same questionnaires which were used during the pre-test for both the experimental and the control groups.

3.12. Ethical Issues

1. Parents of the subjects participating in the study were informed about the program and a written consent was taken from them.

2. Confidentiality within the group was assured and maintained.

3. Inclusion and exclusion were not based on sex, religion, education, socio-economic status and the allocation was randomized.

4. The information collected or determined in this study was used in such a way that it didn’t disadvantage the participants.

5. The subjects were clearly explained about the nature of the study and the participation in the study was voluntary and they had the right to leave the study at any time.

3.13. Statistical Analysis

In the present study to analyze the data, statistical methods such as descriptive statistical methods (e.g. graphs, mean and standard deviation) and inferential statistical techniques (e.g. independent sample t-test to compare the pre-test score between experimental and control group to find out the similarity between the groups, repeated measure analysis of variance to assess the effect of life skills training intervention, Pearson’s product moment correlations to assess the relationship between psychological distress, emotional empathy and autonomy and effect size calculation in
order to determine the portion of independent variable in explanation of variance of dependent variables or to determine the magnitude change occurred due to the applied intervention) were used. SPSS 16 for Windows was used to analyze the data.

3.14. Summary

In this chapter, the methodology of research was presented. There is a logical and systematic description of the ways that the researcher has done. Rational of the research objectives, hypothesis, operational definitions of variables, research plan, and sample size, sampling methods based on appropriate statistical methods, techniques, data analysis, and ethical consideration were discussed.