CHAPTER 3

METHODOLOGY

Based on the previous studies discussed, an attempt has been made to conduct an empirical investigation into the nature and extent of the cybercrime victimization and its impact on the women victims. This chapter details the research design and methods adopted in the present study.

Research methodology refers to the methods and tools the researcher makes use of to complete the research (Babbie & Mouton, 2001), thus referring to the research design, data collection, data analysis and pilot study. In the present chapter, research design, universe of the study, variables of the study, hypotheses, research tools, pilot study and statistical analysis of the study data have been given.

3.1 RESEARCH DESIGN

Research design is the framework that has been created to seek answers for the research questions (Kumar, 2005). In essence, a research design is a map or blueprint of the study. By design, the present study is descriptive as the study describes the characteristics of the women victims of cybercrime who have reported the case to the police. A descriptive research design is one that is concerned with describing the characteristics of a particular individual or a group (Goode and Hatt, 1952). The focus of a descriptive design is placed on describing the events and situations (Babbie, 2008). In addition, the study aims to describe the nature and extent of victimization, victim-offender relationship and the impact of victimization.
3.2 VARIABLES INVESTIGATED

Some of the variables of the present study are discussed below

- **Independent variables**

  1. Age
  2. Marital Status
  3. Educational Qualification
  4. Occupation
  5. Annual Income
  6. Religion
  7. Community
  8. Type of Family
  9. Place of stay
  10. Online Behaviour

- **Dependent variables**

  1. Nature of cybercrime victimization
  2. Extent of the victimization
  3. Causes for the victimization
  4. Victim-Offender relationship
  5. Mode of communication
  6. Reporting behaviour
  7. Attitude towards the police
8. Impact of the victimization
   a. Financial Impact
   b. Social Impact
   c. Academic Impact
   d. Career Impact
   e. Psychological Impact

3.3 OPERATIONAL DEFINITIONS OF VARIABLES CHOSEN

The following are the operational definitions of the variables chosen for the study:

➢ Extent of Victimization

Extent of victimization refers to the degree of victimization. The extent of victimization is measured by the total frequencies of different cybercrime victimizations for each respondent. Further, the total frequencies are subjected to statistical analysis to classify the extent of the victimization of each respondent into various levels such as low (<=1), moderate (=2) and high (>=3).

➢ Nature of Victimization

Nature of victimization refers to the various forms of cybercrime victimization against women which includes harassment, uploading offensive photos, defamation, morphing, circulating photos, hacking and misuse, vulgar and abusive SMS, etc.
➢ **Online Behaviour**

Online behaviour refers to various online activities of the respondents such as emailing, social networking, texting and other internet related activities, their frequency and purpose, and the security mechanisms adopted in the cyber world. For the present study, the variables related to online behaviour were given scores based on the frequency of usage of online services. Finally, the total scores are subjected to statistical analysis to classify the online behaviour of the respondents into various levels such as low (<24), moderate (24 to 39) and high (>39).

➢ **Reporting behaviour**

Reporting behaviour in the present study refers to victim’s response to the cybercrime victimization and reporting the same to police. In the present study, reporting behaviour of the respondents is measured by assigning scores to the variables associated with reporting behaviour. Further, the total scores are subjected to statistical analysis to classify the reporting behaviour of the individual respondent into various levels such as low (<6), moderate(6 to 8) and high(>8).

➢ **Attitude towards the police**

Attitude of the respondents (women victims of cybercrime) towards the police refers to mental state of women victims with respect to feelings and values about the police officers who have been handling their cases. In the present study, attitude of the respondents towards supportiveness, treatment, case handling and efficiency of the police is measured by three-point Likert scale. Further, the total scores are subjected to statistical analysis to classify the attitude of the respondents into various levels such as low (<12), moderate (12 to 17) and high (>17).
Impact of cybercrime victimization

The concept of “Impact of cybercrime victimization” is construed as an outcome resulting from the cybercrime victimization. The cybercrime victimization of women results in financial, social, psychological, career and academic impacts.

- **Financial impact** refers to various monetary losses incurred due to cybercrime victimization such as legal expenses, counseling and loss of pay for the respondents.

- **Social impact** refers to problems faced by the respondents in their family: from spouse, in-laws, parents, relatives and friends due to the cybercrime victimization.

- **Career impact** refers to employment related issues such as change of office, taking up frequent leaves and loss of ability to work.

- **Academic impact** refers to issues faced by the respondents in their studies due to cybercrime victimization like discontinuation and loss of concentration.

- **Internet impact** refers to changes in the internet usage by the respondents brought out by the cybercrime victimization.

- **Psychological impact** refers to change of mental state of the victims resulting in loss of sleep, lack of concentration and negative attitude towards day-to-day life.

In the present study, impact of the victimization on the respondents is measured by assigning scores to the variables associated with impact. Further, the total scores are subjected to statistical analysis to classify the impact of the
victimization on the respondents into various levels such as low (<44), moderate (44 to 64) and high (>64).

3.4 HYPOTHESES

Review of the previous studies yielded a set of null hypotheses for examination in the present research. A null hypothesis depicts the non-existence of a relationship between two or more variables. The hypothesis has been formulated in the null form in the present study, as most of the variables, whose relationship are to be tested, have not been tested earlier as is seen from literature reviewed. No systematic study has yet been attempted in the Indian context, to establish the relationship between the different variables. The following hypotheses have been formulated in the present study. The first category of hypotheses deals with the differences between demographic characteristics of the respondents and other variables like nature of victimization, causes for the victimization, attitude towards the police, reporting behaviour and impact of the victimization. The second category of hypotheses deals with association between different variables in the study. The third category of hypotheses deals with relationship between different variables in the study.

1. There is no significant difference between demographic characteristics of respondents with respect to the extent of victimization.

2. There is no significant difference between demographic characteristics of respondents with respect to the causes of victimization.
3. There is no significant difference between demographic characteristics of respondents with respect to the impact of victimization.

4. There is no significant difference between demographic characteristics of respondents with respect to their reporting behaviour.

5. There is no significant difference between demographic characteristics of respondents with respect to their attitude towards police.

6. There is no significant difference between demographic characteristics of respondents with respect to their online behaviour.

7. There is no association between online behaviour of the respondents and causes of victimization; psychological impact.

8. There is no association between extent of victimization of the respondents and impact of victimization; causes of victimization; reporting behaviour; psychological impact; attitude towards police; victim-offender relationship.

9. There is no association between impact of the victimization of the respondents and online behaviour; attitude towards police; victim-offender relationship.

10. There is no association between reporting behaviour of the respondents and the psychological impact; attitude towards police.

11. There is no association between victim-offender relationship and causes of victimization; reporting behaviour; attitude towards police.
12. There is no relationship between extent of victimization of the respondents and social impact; psychological impact; causes of victimization.

13. There is no relationship between financial impact on the respondents and career impact; online behaviour; psychological impact.

14. There is no relationship between social impact on the respondents and the psychological impact; causes of victimization.

15. There is no relationship between career impact on the respondents and causes of victimization; reporting behaviour.

16. There is no relationship between psychological impact on the respondents and online behaviour; attitude towards the police.

17. There is no relationship between online behaviour of the respondents and their attitude towards the police.

3.5 LOCALE AND UNIVERSE OF THE STUDY

The universe of the study includes women victims of cybercrime who had reported their victimization to the police. The study is confined to the city of Chennai. The respondents for the present study were the women victims who had reported their victimization in Cybercrime Cell, Chennai. For the present study, secondary data of the women victims who had reported their victimization to the police during the period 2009 to 2013 had been collected from Cybercrime Cell, Chennai. During this period, a total of 530 cases had been reported by the women victims.

The researcher has intended to collect the primary data from the entire population of size i.e., 530 women victims of cybercrime. Therefore, the researcher
adopted census method to collect the primary data from all the victims. During the primary data collection, the researcher was unable to meet the 23 victims despite many attempts to administer the questionnaires as their houses were closed. Also, 24 victims initially agreed to respond but, were later reluctant and unwilling to complete the questionnaires and 108 victims were not willing to participate in the study and to share their personal experience or recall their past experience of the victimization. A total of 215 victims were found to have shifted their place of stay elsewhere and the researcher had made several attempts to get their present address from their neighbours. However, the neighbours were not able to provide the present address of the victims. Later, severe attempts were made to find out their present address by contacting the victims over the phone. Finally, out of 215 victims, only 45 victims were able to be contacted through phone and their present address was collected from them by the researcher. Due to these reasons, the researcher was able to collect the primary data only from 205 respondents. Therefore, the present research work has been conducted with a study population of 205 women victims of cybercrime in Chennai city.

3.6 RESEARCH TOOLS

In order to collect the primary data from the respondents chosen for the present study, two research tools have been used viz. a semi-structured questionnaire constructed by the researcher and a GHQ a standardized tool developed by David Goldberg (1979).

3.6.1 Questionnaire

The questionnaire method was used to collect the data from the respondents as most of the victims were educated. The researcher felt that
questionnaire method, compared to interview schedule, is better for the present study mainly for two reasons. First, the victims were scared to reveal the information in front of other members of the family, especially their in-laws, as they might not know the issue reported to the police or to avoid secondary victimization. Secondly, questionnaire is better to collect more information precisely and shortly. In this study, both closed-ended and open-ended questions were included in the questionnaire. Thus, a semi-structured questionnaire organized into five parts based on the objectives of the study was constructed to collect both quantitative and qualitative data from the respondents. The questionnaire consisted of a total of 50 items.

**Part I** of the questionnaire consisted of questions relating to the demographic characteristics of the respondents such as age, marital status, educational qualification, occupation, annual income, religion, community, type of family, place of stay at the time of victimization and socio-economic status of the respondent’s spouse (Items 1-11).

**Part II** comprised of questions related to the nature of victimization, frequency of the victimization experienced by the respondents, online behaviour of the respondents such as online activities, frequency of various devices used by the respondent, purpose of internet usage, information disclosed on the social networking sites, opinion about internet security and the online safety measures and finally, the causes for the victimization (Items 12 - 29).

**Part III** of the questionnaire consisted of questions relating to the victim-offender relationship and the communication tools used by the offender to cause the victimization (Items 30 – 32).
Part IV of the questionnaire consists of questions relating to reporting behaviour of the respondents which includes reasons for reporting the incident, treatment by the police, attitude towards the police by the victims, action taken by the police and the outcome of the case (Items 33 – 44).

Part V of the questionnaire comprises of questions to measure the various impact of the victimization such as financial impact, social impact faced from their husband, friends, relatives, parents and in-laws, career impact faced from their colleagues and academic impact of the respondents (Items 45 – 50).

3.6.2 General Health Questionnaire

A standardized tool GHQ 28, an abbreviated version of General Health Questionnaire developed by David Goldberg(1979) was used to measure psychological impact of the victimization on the women victims. The tool is based on four-point Likert scale with options ranging from better to much worse. The tool consisted of 28 questions divided into four parts comprising of seven questions each which intend to measure four aspects such as somatic symptoms, anxiety & insomnia, social dysfunction and severe depression. The four point scale being rated from 1 (not at all) to 4 (extreme), the instrument had items asking the respondents to rate how distressed in the past they were by each item.

The GHQ 28 yields a total mean score as well as four subscale scores which measure the levels of somatic, anxiety and insomnia, social dysfunction and severe depression symptoms. The average time taken to complete a questionnaire by the respondents was 30-45 minutes.
3.7 PILOT STUDY

According to Strydom and Delport (2011), “Piloting involves the process of ‘trying out’ the proposed research instrument. Pilot study allows the researcher to test questions, focus on unclear areas in the study and to gain insight into the phenomenon under investigation. It assists in the development of effective communication patterns between the researcher and respondents”. A pilot study was conducted to test the validity and reliability of the research tool. For the pilot study, the primary data were collected from 20 respondents who had reported their victimization in Cybercrime Cell, Chennai from 2009 to 2013. A questionnaire consisting of 35 items was used for the pilot study. Based on the pilot study, the questionnaire has been refined by adding more questions to various parts of the questionnaire and some of the questions have been modified to make it more clear and understandable to the respondents. According to Davies, Francis and Jupp, (2011), piloting helps the researcher to modify the research tools in a way that best suits the study at hand.

3.8 RELIABILITY AND VALIDITY

The two most important and fundamental characteristics of any measurement procedure are reliability and validity. Reliability is defined as the extent to which a questionnaire, test observation or any measurement procedure produces the same results on repeated trials.

Reliability of data stems from the scope to which concepts and measures are well explained, consistent and repeatable (Davies, Francis and Jupp, 2011). In the present investigation, Cronbach’s alpha, which is the most common measure of scale reliability, was used. The reliability co-efficient for the semi-structured
questionnaire was found to be 0.85 for 199 items and 0.95 for 28 items of the standardized tool GHQ28. Validity is defined as the extent to which the instrument measures what it purports to measure. Face validity was used to validate the tools constructed. Experts in the field of Criminology, Psychology, Sociology and Statistics were consulted on the content of the research tool so as to establish the content validity.

3.9 METHOD OF DATA COLLECTION

Two types of data have been collected for the present study viz., the primary data and the secondary data. The following sections details the method of data collection.

3.9.1 Secondary Data

Due permission has been obtained from the Commissioner of Police, Chennai to collect the secondary data relating to the women victims of cybercrime from the Cybercrime Cell, Chennai. The secondary data of the victims of cybercrime include personal details of the victims such as name, age, nature of victimization, address and contact number.

Also, the researcher had planned to collect secondary data of the women victims from other major cities of Tamil Nadu such as Madurai, Trichy and Coimbatore. However, the higher officials in other cities refused to share victim’s personal data as they felt the personal information of the victim should be kept confidential. Hence, the researcher was able to collect the secondary data only from the Cybercrime Cell in Chennai.
The secondary data of 530 women victims reported from 2009 to 2013 were collected from Cybercrime Cell, Chennai. Of the 530 women victims, 85 of them have reported their victimization in the year 2009, 77 of them have reported their victimization in the year 2010, 59 of them have reported their victimization in the year 2011, 152 of them have reported their victimization in the year 2012 and 157 of them have reported their victimization in the year 2013.

3.9.2 Primary Data

Two research tools viz., Semi-Structured Questionnaire and the General Health Questionnaire (GHQ 28) have been employed and administered to collect the primary data from the respondents chosen for the present study.

The researcher adopted the following strategy to collect the primary data from the victims. The researcher used the contact information collected from the cybercrime cell to collect primary data from the victims. The researcher used the internet facility to locate the victim’s residence. During the initial stage of the data collection, it was found that most of the victims were working and approaching them during weekdays was difficult. Due to this reason, the researcher met the respondents mostly during the weekends. In the case of respondents who have shifted their residence, the researcher made efforts to collect the contact information through contacting their neighbours. Once the respondents were met, a rapport was established with them by clearly stating the purpose of the study. On those cases were victims initially reluctant to cooperate with the research study, the researcher has later made genuine attempts to convince the respondents. In case the victims were not available during the time of data collection, a copy of the questionnaire was issued and the purpose of the visit was clearly explained to the family members. Later, the data was collected from the victim. The researcher could not collect the
primary data from the victims who shifted their residence and those who were unwilling to participate in the research.

3.10 CHALLENGES FACED DURING DATA COLLECTION

The researcher had faced several challenges during the field work. In order to meet the victims to collect primary data for the study, information about the victims were collected from Cybercrime Cell. Initially, this information seemed to be sufficient to contact the victim; but, during the field work it was found that the addresses furnished by the victims to the Cybercrime Cell was improper as the door number, street number, block number, floor number, apartment numbers etc., were missing. In some addresses, pin code was incorrect and did not match with the address. Some of the victims had given their email-id or apartment name alone and not the full address. Most of the victims have changed their contact number post victimization and therefore, the researcher was not able to verify the address via mobile phones. Few respondents refused to talk over the phone as they felt answering to a stranger over the phone was not advisable. Besides, negligence on the part of the police personnel in making a proper entry and verification of the address were another reason for the issues stated above.

As the victims were educated and working in different places across Chennai, their houses always remained locked. Therefore, contacting them in person during day time was really difficult. In some cases, the victim had moved to another place, and the researcher had difficulty in tracking the new address from their neighbours.

Some of the victims initially refused to participate in the study as they did not want to recollect their bitter experience. The researcher had to convince them by
assuring that the researcher was not interested in learning their past and personal experience but would rather like to help other victims by sharing their experience of handling cybercrimes, so that it would create an awareness among the public as most of the cybercrimes go unreported. Besides, as the researcher was a stranger to the victim, a rapport had to be developed in order to collect the required information by frequently visiting the victims, explaining to the victims about the significance of the research. These were some of the difficulties experienced by the researcher.

3.11 STATISTICAL ANALYSIS OF DATA

Creswell (2003) clarifies that the function of data analysis is to make sense out of textual data. It involves preparing the data for analysis, examining the collected data and creating in-depth understanding. It is focused on finding a means to represent the data as well as making an interpretation of the data within a broader scope.

The research tool was predominantly designed for quantitative analysis, however, certain sections were included that provided participants the opportunity to elaborate on their experience. In these cases, the qualitative information was coded and quantified for analysis. Thus, the data obtained from 205 respondents had been first coded, fed and then processed using the Statistical Package for Social Sciences (SPSS version 21.0). The options for most of the questions in the questionnaire consist of multiple choices. Though options were given equal priority for most of the questions in the questionnaire, few questions have been scored based on the priority of the options as 1, 2, 3, etc. Options were prioritized according to the relevance based on researcher choice. Responses under each part of the questionnaire were summed up to arrive at the overall measure of various variables like extent of victimization, online behaviour, causes for victimization, attitude towards the police,
reporting behaviour and impact of the victimization. Based on the cumulative scores, using percentile 25 and 75, extent of victimization, online behaviour, attitude towards the police, reporting behaviour and impact of the victimization have been categorized into low, moderate and high. Descriptive statistics were employed to obtain the frequencies and percentages. Inferential statistics such as chi-square, t-test, ANOVA, correlation and regression analysis were employed to determine the relationship between the variables chosen for the study.

Items in the standardized tool GHQ28, (abbreviated version of the General Health Questionnaire) have been given the scores 1-2-3-4 using the Likert scale. For each of the four aspects such as somatic symptoms, anxiety & insomnia, social dysfunction and severe depression, individual means have been calculated to compare, which particular aspect of the trauma is more among the respondents. Besides, overall score of each victim was used to find out the level of impact of the victimization on the respondents. The results of the data analyses have been presented in the following chapter (Chapter 4).