CHAPTER 3

METHOD

3.1 Research Design

In this present investigation, while developing research design the Individualism, Collectivism, Religion, Religious Similarity and Type of Crime are taken as independent variables and Avoidance Motivation, Revenge Motivation, Conciliation Motivation, Benevolence Motivation, State Anger, Decisional Forgiveness and Emotional Forgiveness are dependent variables.

3.1.1 Sample

Quota sample of 256 students and purposive sample of 253 community members are taken as sample for this study. The participants for the study are included students studying at Karnataka University, Dharwad and the Members of Temples Mosques and Churches, from Hubli-Dharwad Corporation.

Table No 3.01 Details of the sample in terms of Number (Religion wise)

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Religion/Location</th>
<th>N</th>
<th>Mean Age</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hindu/Students</td>
<td>85</td>
<td>21.86</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Muslim/Students</td>
<td>84</td>
<td>22.05</td>
<td>256</td>
</tr>
<tr>
<td>3</td>
<td>Christian/Students</td>
<td>88</td>
<td>21.94</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Hindu/Community Members</td>
<td>84</td>
<td>39.45</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Muslim/Community Members</td>
<td>83</td>
<td>39.26</td>
<td>253</td>
</tr>
<tr>
<td>6</td>
<td>Christian/Community Members</td>
<td>85</td>
<td>38.46</td>
<td></td>
</tr>
</tbody>
</table>
To ensure the quota sample and purposive sampling, the following inclusion and exclusion criteria were followed

**Inclusive Criteria**

Students and Community Members (Hindu Muslim Christian) (Individualistic and Collectivistic) falling under the following criteria were included in the entire sample:

1. Students and Community Members from Hindu Muslim Christian were taken as sample for this study.

2. Students who scored high in Individualism and Collectivism and who were highly religious (Students and Community Members) were selected for the present study.

3. The sample selected for the present study includes Post Graduate students and Community Members. Involved in religious services for 5 years and above.

**Exclusion Criteria**

Students and Community Members (Hindu Muslim Christian) (Individualistic and Collectivistic) falling under the following criteria were excluded from the sample to be studied.
1. Students and Community Members from other religions except Hindu Muslim Christian were excluded for this study.

2. Post Graduate students who are not perusing regular classes and Community Members who are having less than 5 years’ service in religious activities are excluded from the sample.

Ethical Issues:

1. No students and Community members were forced to answer the questionnaire.

2. The nature and the purpose of the study was explained before administering the questionnaires.

3. Confidentiality was assured to the participants.

4. Consent form was filled before administering the questionnaires.

3.2 Operational Definition of Variables

The following operational definitions have been formulated and provided for each of the variables under this study.

Avoidance Motivation is the act of staying away from possible negative stimuli (objects or events; Elliot, 2006) and desire to avoid distressing problems and undesirable outcomes (a prevention focus; Braverman & Frost, 2012) towards the transgressor.

Revenge Motivation is desire to vengeance or for harmful action against a person or group in response to perceived harm or injustice from the transgressor.

Conciliation motivation is a desire to overcome distrust or hostility towards transgressor.

Benevolence motivation is an act of doing good or giving aid to transgress or by expressing good will or kind feelings.

State anger is a current emotional response related to one's psychological interpretation of having been threatened by the transgressor. It is as an emotional state or condition consisting of subjective feelings of tension, annoyance, irritation fury and rage towards the transgressor.
Decisional forgiveness is a decision to change one's behavioral intentions towards a transgressor to not pursue vengeance, not avoid (unless dangerous to continue to interact with the person) and to treat the person as a human being with dignity and value.

Emotional forgiveness is the emotional replacement of negative unforgiving emotions (resentment, bitterness, hostility, hatred, anger, and fear) with positive, other-oriented emotions (empathy, sympathy, compassion, and love) for the transgressor.

3.3 Measures Used

3.3.1 Religious Commitment Inventory-10 (RCI-10)

Religious Commitment Inventory was developed by Worthington, Wade, Hight, Ripley, McCullough, Berry, Schmitt, Berry, Bursley and O'Connor (2003). It consists of 10 items that assess one's dedication to a specific religion. This is a five point Likert scale (ranging from 1= Not at all True of me to 5= Totally True of Me), which has two dimensions; one is intrapersonal religious commitment having 6 items and the other one is interpersonal religious commitment having 4 items. Estimates of the internal reliability for this scale range from 0.93 to 0.96 and the three-week test-rest reliability is estimated at 0.87.

3.3.2 Self-Construal Scale

Individualism and collectivism scale developed by Singelis (1994), refers to one's tendency to see him or herself as independent or interdependent from others, is measured by the Self-Construal Scale. The SCS consists of 24 items that measure one's tendency of being independent or interdependent from others. Twelve items assess the independent self, and twelve items assess the interdependent self. Items are randomly ordered, and participants rate each item on a 7-point Likert scale (1= Strongly disagree to 7 = Strongly), Cronbach's alpha coefficients ranges from .69 to .74. The scale also shows evidence supporting construct validity.

3.3.3 Transgression-Related Interpersonal Motivations Inventory (TRIM)

It measures participants' motivations to avoid and seek revenge against their transgressors (McCullough et al.'s 2003). On a whole it has 25 items with 4
subscales. The 7-item revenge subscale measures motivation to avoid a transgressor. The 5-item avoidance subscale measures motivation to seek revenge. The 6 item benevolence subscale measures benevolence motivation and a 7 item conciliation subscale measures conciliation motivation. Transgression-Related Interpersonal Motivations Inventory has cronbach's alphas ranging from 0.84 to 0.93 for avoidance, 0.79 to 0.86 for revenge and 0.86 to 0.96 for benevolence and conciliation. It has good evidence of convergent and discriminant validity (McCullough et al., 1998; McCullough et al., 2006). Items are rated on a five-point Likert-type scale (1 = strongly disagree and 5 = strongly agree).

3.3.4 State Anger Scale (SAS)

The State Anger Scale developed by Spielberger et al., (1988), is a sub scale of state-trait anger scale which consists of 10 items that measure the current level of anger the participant is experiencing. Participants indicate their current feelings on a 4-point Likert scale from 1=Not at all to 4=Very much so. Higher scores indicate higher levels of anger. The State Anger Scale has strong internal consistency, with Chronbach's alphas ranging from .88 to .95. The scale shows evidence of construct validity, and is found to be positively correlated with state anxiety, neuroticism, and psychoticism.

3.3.5 Decisional and Emotional Forgiveness Scale

The Decisional and Emotional Forgiveness Scale developed by Worthington et al (2007b), measures a person’s level of decisional and emotional forgiveness in one specific situation. This scale has two subscales, one that measures decisional forgiveness and one that measures emotional forgiveness. Participants report their current behavioral intentions and emotions by indicating their agreement with items on a 5-point Likert scale from 1=Strongly disagree to 5=Strongly agree. The coefficient alphas for the Forgiveness Scale and subscales were .86 for the full scale, .83 for Pro-social Intentions, and .82 for Inhibition of Harmful Intentions. The coefficient alphas for the Emotional Forgiveness Scale and subscales are .83 for the full scale, .80 for Presence of Positive Emotions, and .79 for Reduction of Negative Emotions.
Demographic Information

Demographic Questionnaire was used to obtain Individual’s Age, Gender, Education, Income, Domicile, Religion Affiliation, Occupation, Frequency of attending religious meetings of self and family, Religious Activities to self and family and Importance of religion to self and family.

Conditions Used

Type of Crime: Imagine that you have a very close same-sex friend who is of the same religion and social status as yourself. You spend a lot of time together and many people know you are friends. One night, three people assault, rob, and seriously injure your friend, who is hospitalized. When you again talk with your friend, your friend tells you that the offenders were talking during the friend’s beating. Your friend learnt that the beating and robbery was done, so that the three men could (choose one of the three)

1. Buy some music with this money. They were very clear their personal gain was their motive.

2. Political hate crime against your religious group. They were very clear that their hatred towards your religious group was their motive.

3. Hurting you personally because you had offended someone in the past. They were very clear that by hurting your friend they expected to hurt you personally.

Religious Similarity

Although the men wore masks, your friend believes that one of the men was someone you know. The person is of the different religion as yourself, but you know that he in person is not religiously devout.

3.4 Pilot Study

Before the final administration of the scales on main samples of the study, a pilot study was conducted to verify the suitability of all the seven measures. This included the composite sample of 120 subjects i.e., 60 Students and 60 community members (Hindus Muslim and Christians). This sample was also selected from which the main sample was selected. Further reliability and validity of the scales also has been checked for the sample in the study.
Further the established reliability for the scales is mentioned as below:

**Table 3.02 showing the Cronbach’s the reliability Coefficient for various scales**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of the scale</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1) Self-construal scale (Interdependent)</td>
<td>0.802</td>
</tr>
<tr>
<td></td>
<td>2) Self-construal scale (Independent)</td>
<td>0.917</td>
</tr>
<tr>
<td>2</td>
<td>1) Religious Commitment Scale (Intrapersonal)</td>
<td>0.748</td>
</tr>
<tr>
<td></td>
<td>2) Religious Commitment Scale (Interpersonal)</td>
<td>0.661</td>
</tr>
<tr>
<td></td>
<td>1) Transgression related interpersonal motivation scale (TRIM) (Avoidance Motivation)</td>
<td>0.809</td>
</tr>
<tr>
<td></td>
<td>2) Transgression related interpersonal motivation scale (TRIM) (Revenge Motivation)</td>
<td>0.887</td>
</tr>
<tr>
<td>3</td>
<td>3) Transgression related interpersonal motivation scale (TRIM) (Conciliation Motivation)</td>
<td>0.902</td>
</tr>
<tr>
<td></td>
<td>4) Transgression related interpersonal motivation scale (TRIM) (Benevolence Motivation)</td>
<td>0.905</td>
</tr>
<tr>
<td>4</td>
<td>State Anger Scale</td>
<td>0.861</td>
</tr>
<tr>
<td>5</td>
<td>1) Decisional Forgiveness scale</td>
<td>0.827</td>
</tr>
<tr>
<td></td>
<td>2) Emotional forgiveness scale</td>
<td>0.796</td>
</tr>
</tbody>
</table>
As far as validity is concerned, the concurrent validity is established by correlating all the variables in all possible ways and results are presented in the tables as below:

**Table 3.04 Showing the Correlation Coefficient for the Variables under Study in all Possible Ways**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Self-construal scale (Interdependent)</th>
<th>Self-construal scale (Independent)</th>
<th>RCI (Intrapersonal)</th>
<th>RCI (Interpersonal)</th>
<th>TRIM (Avoidance Motivation)</th>
<th>TRIM (Revenge Motivation)</th>
<th>TRIM (Conciliation Motivation)</th>
<th>TRIM (Benevolence Motivation)</th>
<th>State Anger Scale</th>
<th>Decisional Forgiveness scale</th>
<th>Emotional Forgiveness scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-construal scale (Interdependent)</td>
<td>-0.437*</td>
<td>0.26**</td>
<td>0.481*</td>
<td>0.22</td>
<td>-0.20</td>
<td>0.151*</td>
<td>0.23**</td>
<td>-0.26**</td>
<td>0.146*</td>
<td>-0.32***</td>
<td></td>
</tr>
<tr>
<td>Self-construal scale (Independent)</td>
<td>0.281*</td>
<td>-0.372*</td>
<td>0.23</td>
<td>0.22</td>
<td>0.37***</td>
<td>0.058**</td>
<td>-0.129*</td>
<td>-0.052*</td>
<td>-0.20*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCI (Intrapersonal)</td>
<td>0.392*</td>
<td>0.25**</td>
<td>0.44***</td>
<td>-0.27**</td>
<td>0.20*</td>
<td>-0.54***</td>
<td>0.063*</td>
<td>0.31**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCI (Interpersonal)</td>
<td>-0.19*</td>
<td>0.28**</td>
<td>0.26**</td>
<td>-0.014*</td>
<td>0.019*</td>
<td>0.22**</td>
<td>-0.27**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIM (Avoidance Motivation)</td>
<td>0.283*</td>
<td>0.26**</td>
<td>0.32***</td>
<td>-0.26**</td>
<td>0.27**</td>
<td>0.19*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIM Revenge Motivation</td>
<td>0.145*</td>
<td>-0.32***</td>
<td>0.36***</td>
<td>0.29**</td>
<td>0.138**</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TRIM (Conciliation Motivation)</td>
<td>0.231*</td>
<td>-0.20*</td>
<td>-0.27**</td>
<td>0.23**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRIM (Benevolence Motivation)</td>
<td>0.24*</td>
<td>0.20*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Anger Scale</td>
<td>-0.076*</td>
<td>0.25**</td>
<td>0.21*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decisional Forgiveness scale</td>
<td>-0.36***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional forgiveness scale</td>
<td></td>
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</tr>
</tbody>
</table>

Note: RCI- Religious Commitment Inventory, TRIM- Transgression related interpersonal motivation

*p<0.05; Significant, **p<0.001; Highly Significant, ***p<0.01; Very Highly Significant

The above table clearly indicates (based on significant correlations) that the scales are highly valid and are applicable for the present sample in the study.
3.5 Data Collection

In this study 256 students are recruited are studying at various departments of Karnataka University Dharwad and these students are randomly assigned to six conditions. Participants have completed the packet of questionnaires that aim to assess First complete Personal Religious Commitment scale, Individualism-Collectivism scale, along with BEA, TRIM-R, TRIM-A, TRIM-B, TRIM-C, including forgiveness of two types EFS and DFS).

In this study a total 253 individuals are included people who are members of Temples, Mosques, and Churches are recruited for the study via local publications for participations in the forgiveness study. Members are randomly assigned to the six conditions. The participants have completed the packet of questionnaires that aim to assess, First complete Personal Religious Commitment scale, Individualism-Collectivism scale, along with TRIM-R, TRIM-A, TRIM-B, TRIM-C, including forgiveness of two types EFS and DFS).

3.6 Data Processing

The collected data was scrutinized, coded, scored and then transferred in to standard (T) scores.

3.6.1 Scrutinizing

The responses given by each person are carefully scrutinized for wrong marking, omission and commissions. The answer sheets which are complete in all respects were retained and the rest were rejected.

3.6.2 Scoring

Each response sheet is hand-scored as per the instructions given in the manual of the respective scales.

3.6.2.1: Individualism-Collectivism Scale (INDCOL)

This scale consists of twenty four responses, with all the items are keyed positively, the weightage for each of the items ranges from 7 to 1 (7 = strongly agree, 6 = moderately agree, 5 = somewhat agree, 4 = neutral, 3 = somewhat disagree, 2 = moderately disagree, 1 = strongly disagree). This scale is two dimensional. Item 1 to 12 belongs to collectivism, and it has 2 aspects (family integrity and interdependence.
with sociability). Thus the possible score ranges from 12 to 84. Item 13 to 24 belongs to Individualism, which has 2 aspects (separation from groups and self-reliance with hedonism). Thus the possible raw score ranges from 12 to 84. The high score indicates higher the individualism and lesser the Collectivism.

The responses obtained are scored manually as per the directions given by the author. The raw scores thus obtained are transformed into standard (T) scores.

3.6.2.2 Religious Commitment Inventory

This scale consists of five responses and all the items are positively keyed. The weight-age for each of the items ranges from 5 to 1 (i.e., 5 = totally true of me, 4 = mostly true of me, 3 = moderately true of me, 2 = somewhat true of me, 1 = not at all true of me). This scale is two dimensional. Item 1, 3, 4, 5, 7, 8 belongs to Inter Religious commitment, thus the possible raw score ranges from 6 to 30. Item 2, 6, 9, 10 belongs to Interpersonal Religious and so the possible raw score ranges from 4 to 20. High score indicates, higher religious commitment.

The responses obtained are scored manually as per the directions given by the author. The raw scores thus obtained are transformed into standard (T) scores.

3.6.2.3 Transgression-Related Interpersonal Motivations (TRIM) Inventory

This scale consists of twenty five items; all the items are positively keyed. This scale is four dimensional. The 5 item (i.e., 1, 2, 3, 4, 5, 6 and 7) Revenge sub scale measures motivation to seek revenge, the possible score ranges from 5 to 25. The 7 item (i.e., 8, 9, 10, 11 and 12) Avoidance sub scale measures motivation to avoid a transgressor, the possible score ranges from 7 to 35. The score of six item (i.e., 19, 20, 21, 22, 23 and 25) sub scale for measuring benevolence motivation, ranges score from 6 to 30. Other subscale conciliation having 7 items (i.e., 13, 14, 15, 16, 17, 18 and 24), ranges score from 7 to 35. Items are rated on a 5 point likert type scale (1 = Strongly Disagree, 2 = Mildly Disagree, 3 = Agree and Disagree Equally, 4 = Mildly agree, 5 = Strongly agree). The high score indicates higher level of Motivation to Avoidance, Revenge, Benevolence and Conciliation.

The responses obtained are scored manually as per the directions given by the author. The raw scores thus obtained are transformed into standard (T) scores.
3.6.2.4 State Anger Scale (SAS)

This scale consists of ten responses were all the items are positively keyed, the weight-age for each of the items ranges from 4 to 1 (i.e., 4 = Very much so =, 3 = Very much so, 2 = Somewhat, 1 = Not at all). Thus the possible total raw score ranges from 10 to 40. This scale is one dimensional. Higher score indicate higher levels of anger.

The responses obtained are scored manually as per the directions given by the author. The raw scores thus obtained are transformed into standard (T) scores.

3.6.2.5 Decisional and Emotional Forgiveness Scale (DEFS)

This scale consists of 16 items that are positively keyed. The weight-age for each of the items ranges from 5 to 1 (i.e., 5=Strongly Agree, 4=Agree, 3 =Neutral, 2 =Disagree and 1= Strongly Disagree). This scale is two dimensional; 1) Decisional Forgiveness and 2) Emotional Forgiveness. Each dimension consists of 8 items. The possible raw score ranges from 8 to 40 for each dimension. The high score indicates higher level of Decisional Forgiveness and Emotional Forgiveness.

The responses obtained are scored manually as per the directions given by the author. The raw scores thus obtained are transformed into standard (T) scores.

3.7 Analysis of Results

3.7.1 Statistical Technique Applied

The following statistical techniques are applied to analyze the scores obtained and to verify the main hypotheses as well as their specific forms.

1) Multivariate Analysis of Variance (MANOVA)

2) Analysis of Variance (ANOVA)

3) Step-wise Multiple Regression Analysis

MANOVA, ANOVA and Step Wise Multiple Regression Analysis are computed with the help of computer by using software “SPSS” (17 Version).

3.7.1.1 Multivariate Analysis of Variance (MANOVA)

MANOVA programme provides the significance of difference, if any, among three or more groups when compared simultaneously in relation to three or more than
three variables. MANOVA controls Type 1 error across all of the dependent variables in the model. MANOVA has potential to be a more powerful test than univariate ANOVA because it considers both the variances and co-variances of the dependent measures (Fausset, Rogers, and Fisk, 2009). This technique is applied in the present investigation to verify $H_{a_1}$, $H_{a_2}$, $H_{a_3}$ and $H_{a_4}$.

3.7.1.2 Univariate ‘F’ Test (ANOVA)

The statistical technique of Analysis of Variance makes a single overall decision to check whether a significant difference is present among three or more samples. The ANOVA is applied in the present study to verify $H_{a_1}$, $H_{a_2}$, $H_{a_3}$ and $H_{a_4}$.

3.7.2.3 Stepwise Multiple Regression Analysis*

In order to determine the relationship of multiple predictors on single criterion, Stepwise Multiple Regression is used. The general purpose of multiple regressions is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable. The variable that explains the greatest amount of variance in the dependent variable will enter first; the variable that explains the greatest amount of variance in conjunction with the first will enter second and so on... in other words, the variable that explains the greatest amount of variance unexplained by the variable already in the equation enter the equation at each step and one or more of the variables may never be entered into the regression equation if the statistical criterion is not met (Nie et al., 1975).

In this technique, the regression of dependent variables or criterion variable ($Y_1$, $Y_2$, $Y_3$, $Y_4$, $Y_5$, $Y_6$, and $Y_7$) on all independent variables or predictor variables ($X_1$ to $X_{14}$) is calculated. This analysis is performed to study the influence of Age, Gender, Education, Income, Domicile, Religion Affiliation, Occupation, Attendance of self and family, Religious Activities to self and family and Importance of religion to self and family on Avoidance Motivation, Revenge Motivation, Conciliation Motivation, Benevolence Motivation, State Anger, Decisional Forgiveness and

* The variable that explains the quarter amount of variance will enter first; the variable that explains the greater amount of variance in conjunction with the first will enter second and so on. In other words, the variable that explains the greatest amount of variance unexplained by the variables already in the equation enter the equation at each step. And one or more of the variables may be entered into the regression equation if the statistical criterion is not met. (Normann H, Nie et al (1975), SPSS, 2nd edition, New York. Mc Graw Hill Book Co, P-345)
Emotional Forgiveness of the Individualistic Forgivers and Collectivistic Forgivers. The outcome of this analysis is used to identify the variable that would significantly contribute to the dependent variables.

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