Influence of Gender and Locus of Control on Post-Conflict Mental Health Measurements of Students in Jos Plateau State Nigeria

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This study examined the influence of gender and locus of control on post-conflict mental health of senior secondary school students in Jos, plateau state of Nigeria. Jos city had experienced a number of religious and ethnic conflicts in recent times (2001, 2008, 2010, 2011 and 2012). The survey method made use of a combination of General Health Questionnaire and Rotter’s locus of control scale. 200 senior secondary school students participated in the study, 98 (49%) were males and 102 (51%) were females. All the participants had experienced at least two religious crises in Jos. Fifty-nine per cent (59%) had internal locus of control while forty-one per cent (41%) had external locus of control. The result of Analysis of Variance (ANOVA) indicated statistical significant effect of gender on post-conflict mental health (p < 0.05) while locus of control significantly influenced post-conflict mental health (p < 0.05). In conclusion the study shows the influence of gender and locus of control on post-conflict mental health of senior secondary school students in conflict area. It also shows that gender and locus of control do not have significant interaction effect on the students’ post-conflict mental health.

Keywords: Mental Health, Post conflict, Locus of control, Mental Health Care, mental health gap, conflict areas.

Background of the Study

This study was conducted to determine the influence of gender and locus of control on post-conflict mental health of senior secondary school students as a result of conflicts in Jos. Jos is a city in the middle Belt of Nigeria. The city has a population of about 900,000 residents based on the 2006 census (NPC, 2006). It is the administrative capital of Plateau State. It is known for mining and tourism activities.


Mental health is more than the absence of disease or disorder. It is defined as a state of complete mental well-being including social, spiritual, cognitive and emotional aspects. Mental illness is a disorder of the cognition (thinking) and/or the emotions (mood) as defined by standard diagnostic systems such as the International Classification of Disorders, 10th Edition (ICD 10) or the American Psychiatric Association’s Diagnostic and Statistical Manual, 4th Edition (DSM IV). Psychosocial disorders relate to an interrelationship of psychological and social problems.
which together constitute the disorder. Psychological symptoms are those that have to do with thinking and emotions, while social symptoms relate to the relationship of the individual with the family and society.

**Mental and Psychosocial Disorders in Conflict Settings**

According to a report of The World Bank, Social Development Department, (2003), in every population, one to three per cent (1-3%) has a psychiatric disorder. Where conflict is present, the number may increase due to Posttraumatic stress disorder (PTSD), alcoholism/drug abuse and depression arising from conflict-related stress. A further group, maybe (thirty to forty per cent (30-40%) of the population, may experience symptoms such as sleeplessness, irritability, hopelessness and hypervigilance—symptoms which can persist and become more severe, thus interfering with the normal functioning of individuals. This group is not classified as having a psychiatric disorder but may have psychosocial disorders manifested as domestic violence, criminal activities, school dropouts and other anti-social behaviour.

**Locus of control**

The concept of locus of control concerns the perceived source of control over events that affect one’s life. Those with Internals locus of control view themselves as having control over events that affect them in contrasts, those with external locus of control are those who tend to see control of events that affect their lives as residing elsewhere.

Gender studies have shown women to be less likely to have an internal locus of control than men. Though the gender gap as related to locus of control is changing as result of women access to education (Slagsvold & Sorensen, 2008). There is also a direct relationship between an individual’s locus of control and his/her health, both mental and physical. A study reported that college students who experience “severe stress make more behavioral attributions to chance,” meaning they possess an external locus of control (de Carvalho et al., 2009). Overall, those with an external locus of control have a more difficult time dealing with stress, including the stress that develops as a result of deteriorating health, which can then lead to worsening health conditions (Lefcourt, 1982).

**Objectives of the study**

The main objective of this study is to investigate the influence of gender and locus of control on post-conflict mental health of students that had experienced at least two ethno-religious conflict in Jos and whether gender and locus of control will have significant interaction influence on the students post conflict mental health.

**Significant of the study**

Mental Health of an individual remains the most significant aspect that requires instantaneous and long-term care for people who had traumatic experience of conflict. Thus this study was aimed at the possible influence of gender and locus of control on post-conflict mental health of students.

**Hypotheses**

1. Gender of participants will have significant influence on their post-conflict mental health.
2. Locus of control of participants will have significant influence on their post-conflict mental health.
3. There would be statistical significant interaction effect of gender and locus of control on post-conflict mental health of participants

**METHODS**

**Participants**

Two hundred, (200), Senior Secondary School Students in Jos participated. 98 males and 102 females who had experienced at least two crisis in Jos were selected. They were selected using accidental random sampling method which was due to the students’ being

78
Influence of Gender and Locus of Control on Post-Conflict Mental Health Measurements of Students in Jos Plateau State Nigeria

easily accessible after the displacement due to the crises. Participants were instructed on how to fill the items. The response rate was 91% since the students were coordinated with the help of the teachers. The subjects of the study were of the same social background and level of education.

Design
The design of this study was a two factor design (2x2 factorial design) that measures post-conflict mental health among Senior Secondary School students in Jos. The two independent variables were Gender and locus of control with two levels of internal locus of control and external locus of control. The dependent variable was post-conflict mental health.

The focus was on Senior Secondary Students since most of the disorders at this stage usually go unattended to.

Measurement
Two instruments were combined in this study with inclusion of psychosocial demography. They are:

General Health Questionnaire 12
General Health Questionnaire GHQ12 (Goldberg & Williams 1988) Originally developed as a screening Instrument to detect psychiatric disorders (Goldberg, Gater, Sartorius, Ustun, Piccinelli, Gureje, & Rutter, 1997; Goldberg & Hillier, 1979), but now, it is widely used to assess the general status of psychological well-being. The GHQ12 has been adapted, validated and used extensively in Nigeria (Gureje and Obikoya, 1990). Internal consistency has been reported in a range of studies using Cronbach’s Alpha, with correlations ranging from 0.77 to 0.83. The twelve-item version of the GHQ was used to measure the post conflict mental health of participants. The bi-modal scoring of 0,0,1 and 1 was used with scores ranging from 0 to 12; with higher score indicating a greater probability of clinical disorder.

Rotter’s Locus of Control Scale
Rotter’s Locus of Control Scale (LOC) was primarily developed by Julian B. Rotter (1966). It is a 29-item Locus of Control Scale, with 6 filler items, and 23 scoring items 1 point for each of the 23 scoring items. A high score indicates external locus of control while a low score indicates internal locus of control. It has correlation coefficients of 0.73, test-retest reliability coefficient of 0.72. In Nigeria, Rotter’s Locus of Control Scale has been used and has 0.83 coefficients using a test–retest method (Salami, 1999)

Procedure
Prior to administering the instrument, ethical conditions for participating (including privacy, Voluntary participation, anonymity, confidentiality and protection from both psychological and physical harm) were verbally explained to the respondents. They were also free to pull out from the study at any point or stage.

Instruments were given to each participant to complete as a combined inventory. 220 questionnaires were distributed with an introductory note to senior secondary students who had experienced at least two crisis. Section A of the Instrument was designed to obtain socio-demographic information of participants. Section B contained 12-item GHQ-12 while Section C contained LOC 29-item. They were asked to complete the combined inventory by underlining the answers which they think most nearly applies to them in the GHQ-12 and the LOC. The questionnaire items took an average of 30 minutes to be completed by participants.

Choice of Statistic
Measures of dispersion which include the standard deviation, percentages, and cross-tabulation were obtained from the valid number sum of 200 participants. Predictability cannot be obtained by the use of these statistics mentioned but it was used to reduce the large raw data from the field into a few data to obtain meaningful values. For the inferential statistics, a 2-way ANOVA (analysis of variance) statistical tool was
employed to compute the final results and three hypotheses testing in this research work. It was used to obtain the final result that a change or changes in the dependent variable was likely caused by the changes in the independent variable. The use of 2-way ANOVA as inferential statistic has the capacity to generate some predictability.

Results

Level of Significance

The level of significance (alpha level) is used in any research to determine whether a given data set significantly departs from what would be expected. This arbitrary value used as criterion adopts the level of 5% which is the usual level employed by social scientists (Reber & Reber 2001). By implication it has a confidence interval of 95% or the probability of $p<0.05$ of the observed or more extreme results occurring by chance alone.

Presentation of Descriptive Data

Table 1 shows that forty-nine per cent (49%) of the participants were males and fifty-one per cent (51%) females, Fifty-nine percent of the participants had internal locus of control (59%) and forty-one per cent (41%) had external locus of control.

Table 1: Showing the Frequency and Percentage Distribution of Participants

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>98</td>
<td>49</td>
</tr>
<tr>
<td>Female</td>
<td>102</td>
<td>51</td>
</tr>
<tr>
<td>Locus of control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>118</td>
<td>59</td>
</tr>
<tr>
<td>External</td>
<td>82</td>
<td>41</td>
</tr>
</tbody>
</table>

Table 2 indicates Thirty-two point five per cent (32.5) of males were categorized as having internal locus of control compared to twenty-six point five per cent (26.5%) of females, while sixteen point five per cent (16.5%) of males were categorized as having external locus of control compared with twenty-four point five per cent (24.5%) of females.

Table 2: Showing Gender across locus of control

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male%</th>
<th>Female%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus of control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>32.5</td>
<td>26.5</td>
</tr>
<tr>
<td>External</td>
<td>16.5</td>
<td>24.5</td>
</tr>
</tbody>
</table>

The table 3 shows that the mean age of participants was 15.7 (SD 1.2), and the total mean score for locus of control was 10.8 (SD 3.0) while total post-conflict mental health mean score was 3.0 (SD 2.7).

Table 3: Showing Mean and Standard Deviation

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean score</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>194</td>
<td>15.74</td>
<td>1.249</td>
</tr>
<tr>
<td>Locus of control</td>
<td>200</td>
<td>10.81</td>
<td>2.963</td>
</tr>
<tr>
<td>Post-conflict mental health</td>
<td>200</td>
<td>2.91</td>
<td>2.721</td>
</tr>
</tbody>
</table>

PRESENTATION OF RESULTS

Tables 4 and 5 show the summary of the mean and ANOVA analysis for the hypotheses testing. The findings are state below:
Table 4: Showing ANOVA Mean table locus of control on post-conflict mental health.

<table>
<thead>
<tr>
<th>Locus of control</th>
<th>Mean [Post-conflict mental health]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>2.392</td>
</tr>
<tr>
<td>External</td>
<td>3.593</td>
</tr>
</tbody>
</table>

Results from the above ANOVA table indicates that there was a statistical significant effect of Gender on post-conflict mental health, [Mean: 3.376, 2.610] F (1, 196) = 4.040, p < 0.05. This implies that gender influenced the post-conflict mental health of the participants.

Results indicate that there was a significant effect of locus of control on post-conflict mental health, [Mean: 2.392, 3.593] F (1, 196) = 9.960, p < 0.05. This implies that participants' locus of control significantly influenced their post-conflict mental health, with external locus of control having a better influence than internal locus of control.

Results show that there was no statistical significant interaction effect of gender and locus of control on post-conflict mental health, F (1, 196) = .934, p > 0.05. This means that gender combined with locus of control did not influence post-conflict mental health of participants.

Table 5: Showing ANOVA source table for main effects, and interaction effects of Gender and locus of control

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F-ratio</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>104.704</td>
<td>3</td>
<td>34.901</td>
<td>4.999</td>
<td>.002</td>
</tr>
<tr>
<td>Intercept</td>
<td>1726.267</td>
<td>1</td>
<td>1726.267</td>
<td>247.242</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td>28.209</td>
<td>1</td>
<td>28.209</td>
<td>4.040</td>
<td>.046</td>
</tr>
<tr>
<td>Locus of control</td>
<td>69.545</td>
<td>1</td>
<td>69.545</td>
<td>9.960</td>
<td>.002</td>
</tr>
<tr>
<td>Gender*LOC</td>
<td>6.521</td>
<td>1</td>
<td>6.521</td>
<td>9.960</td>
<td>.335</td>
</tr>
<tr>
<td>Error</td>
<td>1368.491</td>
<td>196</td>
<td>6.982</td>
<td>.934</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3161.000</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>1473.195</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussions

The main objective of this study is to investigate the possible influence of gender and locus of control on post-conflict mental health of students that had experienced at least two ethno-religious conflict in Jos and whether gender and locus of control will have significant interaction influence on the students post conflict mental health.

The findings of this study indicate that gender does have statistical significant influence on post-conflict mental health. The first hypothesis stated that gender of participants would likely have a significant influence on their post-conflict mental health. This means that the first research hypothesis was accepted while the null hypothesis was rejected. This finding agrees with Aroyewun & Eze, (2009) on gender difference on psychopathology and Slagsvold &
Sorenson, (2008) that shows gender difference in locus of control. The possible source for the gender influence might be due to gender expected role in crises area.

The second hypothesis stated that, Locus of control of participants will have significant influence on their post-conflict mental health. The second hypothesis was also accepted that locus of control of participants would have statistical significant influence on their post-conflict mental health. It shows that those with external locus of control have better post-conflict mental health than those with internal locus of control. This contrasts Rotter (1966); Benassi, Sweeney, & Dutour, (1988), people with an external locus of control, tend to be more stressed and prone to clinical depression. It also contrasts the findings of Maltby, Day & Macaskill (2007), which linked internal locus of control with improved mental health. Ando & Mizuno (2003), that internal locus of control is related to psychological health.

The third hypothesis stated that there would be statistical significant interaction effect of gender and locus of control on post-conflict mental health of participants. The finding shows that there was no statistical significant interaction effect of gender and locus of control on post-conflict mental health, therefore the third hypothesis was rejected while the null hypothesis of no difference was accepted.

Conclusions
This present study established the influence of gender and locus of control on post-conflict mental health of senior secondary school students in conflict area. It also shows that gender and locus of control do not have significant interaction effect on the students post-conflict mental health. in view of this a comprehensive mental health care need to be put in place for students in crises or conflict areas to help them in coping and having a good post-mental health status.

Limitations
This study, has a number of limitations. Firstly, the questionnaire items took on average of 30 minutes to administer and this short period could have potentially impacted upon the validity of the health measurements particularly as batteries of instrument were not used to double check the respondent tendency to give socially desirable answers to the items.

Secondly, there is a high degree of mobility in Jos due to the effects of the crises which would have reduced the accuracy of the sampling frame and sampling process. However, this sampling was felt to be the most accurate data source available. Further research is required to explore the findings and appropriate responses and a larger sampling needs to be attained for greater generalization of the findings.

RECOMMENDATION
In line with the findings that gender and locus of control has influence on post–conflict mental health of students in conflict areas, it is an indication that locus of control and gender should be among the focal point to be used in assessing and providing care for students in crises and conflict areas in order to bolster their post-conflict mental health.

Though these conclusions are of importance in themselves, this study is only a preliminary one. Future studies need to have longer time frame and larger population sample. For this purpose, a longitudinal design may be preferable. So it is essential to evaluate the present findings with other future studies.

References
Aroyewun, A. B, & Eze, J. E; (2009). Single Parenting and Gender as Factors in Psychopathology and academic Performance of
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