

## PERSONALITY AND DEMOGRAPHIC FACTORS AS CORRELATES OF POST-TRAUMATIC STRESS DISORDER (PTSD) AMONG FLOOD VICTIMS

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**ABSTRACT:** *The study investigated the influence of personality and demographic factors on post traumatic stress disorder (PTSD) among flood victims. The study employed Ex-post-facto research design. Four hypotheses were formulated and tested, using a sample of 300 participants drawn from among flood victims. Two instruments (NEO-personality inventory and demographic inventory were used to collect data for the study. Hypotheses one was tested using multiple regression analysis. Findings showed that, neuroticism and extraversion personality influenced post traumatic stress disorder while, openness to experience did not. Based on the findings; the researcher recommended that study should be conducted to identify individuals with symptoms of PTSD and provide therapeutic services to flood victims to minimize acute causes of PTSD among victims.*

**KEYWORDS;** Personality (Neuroticism, Extraversion and Openness to Experience), Demographic factor (gender), Post Traumatic, Stress Disorder (PTSD)

## INTRODUCTION

The aftermath of traumatic events such as wars, violence and natural disasters like floods are often accompanied with psychological symptoms that persist in some people, long after the stressful events are over. According to the DSM IV, posttraumatic stress disorder (PTSD) is caused by a situation in which a person experienced, witnessed, or was confronted with an event that involved actual or threatened death, or serious injury or threat to the physical integrity of self or others that provoked a response that involved intense fear, helplessness or horror (APA, 2005). In other words, the likelihood of developing PTSD is increased if the traumatic event involved danger or violence from other people such as assault, rape, wartime experiences and flood (Yehuda & Le Deoux, 2007). The symptoms produced by such exposure included recurrent dreams or recollections of the event, feelings that the traumatic event is recurring with intense psychological distress. These dreams, recollections, or flashback episodes can lead the person to avoid thinking about the traumatic event which often results in diminished interest in social activities, feelings of detachment from others, suppressed emotional feelings and a sense that the future is bleak and empty. Psychological symptoms of PTSD include difficulty in falling asleep, irritability, outburst of anger, difficulty in concentrating and heightened reactions to sudden noise and movements. This apt description indicates that, people with PTSD have impaired mental health functioning. They also tend to generally have poor health conditions. (Zayfart, 2002).

Floods, volcanoes, earthquakes, outbreaks of fire in large parts of the forest, hurricane, cyclones and tornadoes affect a large population of people. They cause emotional trauma and could be the cause of psychological distress which causes real or anticipated fear of death,

physical damage, economic loss or death of a close one (family member or relative) (Ziemia, 1997). Flood is one of the most common and severe forms of natural disasters which leave behind the largest damages in personal and public property. It endangers the life and health of people, disorganizes everyday life and is a source of dreadful cognitions which may lead to PTSD development. It appears that, the persistence of symptoms of post-traumatic stress disorder largely depends on the level of social and psychological support victims receive afterwards. PTSD development among flood victims that have not received professional support persist for a period. Such prolonged exposure predispose individuals to stress and accompanied by emotional deterioration facilitates its development.

It could be recalled that, the flood of 2012 led to loss of lives, property, livestock, and infrastructure in some parts of Nigeria. It damaged farmlands along river banks. The devastating effects of the floods were not limited to houses and people, many farmlands both arable and agro-forestry were swept away, schools and market places were submerged and electric poles destroyed. Such a sudden upsurge of water level rise without any viable alert system, and lack of time to institute adequate preventive measures worsened the already bad situation which increased the degree of danger among flood victims.

Personality traits are conceptualized as dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions across events, developmental periods and contexts (McCrea & Costa, 2003). Advances in the field of personality have put more emphasis on the interface between personality and psychopathology, including PTSD. Thus neuroticism, extraversion, and openness to experience (NEO) dimensional model assumed that there are individual differences in personality structure regarding their vulnerability or resilience to mental distress. In a cross-sectional study conducted on holocaust survivors, Brodaty (2004) found that, neuroticism was significant to the development of PTSD. In another development, Bennett (2002) studied myocardial infarction patients and found that, neuroticism predicted the development of PTSD symptoms three months later. Similarly, McFarlane (1992) found that, neuroticism predicted the progression of PTSD from intrusive symptoms in the acute aftermath of trauma to chronic disorder over three years later. Another study by Cox (2004), & Van (2003) showed that among individuals exposed to trauma, neuroticism is a significant predictor of PTSD even after controlling a range of other important risk factors such as gender, pre-existing anxiety and depression.

As described in the Neo-personality model, extraversion is characterized by sociability, assertiveness, emotional expressiveness and excitability. People who are high on extraversion are often described as being outgoing and talkative, while, those low in this trait are described as quiet and reserved (Miller, 2003). In one study on the differential susceptibility to affective state of sexually abused children, extraverts showed a more positive mood (Morris & Reilly, 2003). This findings suggests that individuals who are high on extraversion were engaging in a form of mood repair and are less likely to experience anxiety over negative feedback. In another study, Van & Jones (2001) examined data from a large British birth cohort (n=5362). At age 16 individuals from this cohort were asked to complete a personality inventory, and were observed through adulthood. Live rates of schizophrenia at age 43 were strongly related to lower level of extraversion at age 16, whereas high level of extraversion actually reduced overall risk, possibly acting as a protective factor.

Openness to experience has been defined as a way of relating to the world through active imagination, aesthetic sensitivity, attentiveness to feelings, preference for variety, and intellectual curiosity (Costa & McCrae, 2000). Openness to experience operates as a protective factor at the individual level in the face of potentially traumatic events. Individuals who are low on openness to experience personality tend to be more sensitive to stress and any anxiety provoking events. Meanwhile, those who are high on openness to experience personality develops resistance to the development of post traumatic stress disorder (Lee-Baggeley, Preece, & DeLongis, 2005; Oswald, 2006; Williams, 2009).

A number of epidemiological survey studies have shown that post-traumatic stress disorder (PTSD) is twice as common in women as in men. In addition, there are gender differences in the type of trauma exposure, presentation of illness, and comorbidities. Some of these differences are clearly societal and non-biologically based but, it is also clear that the biologic systems altered in PTSD may modulate or be modulated by sex hormones (Yehuda, 2007). There are a number of reasons why PTSD may be more common in women than in men. Different types of trauma carry different risks for the development of PTSD. For example, rape in both men and women, carries one of the highest risks for producing PTSD that approximately 0.7% of men in the United States reported being raped as compared with 9.2% of women who develop post traumatic stress disorder (Spitzberg, 1999). There are also differences between men and women in the presentation of PTSD. Women are more likely to have symptoms of numbing and avoidance and men are more likely to have the associated features of irritability and impulsiveness. Men are more likely to have comorbid substance use disorders and women are more likely to have comorbid mood and anxiety disorders, although many disorders comorbid with PTSD are commonly seen in both men and women (Goldney, 2000).

### **Objectives of the study**

The purpose of this study is to find out the influence of personality and demographic factors on post-traumatic stress disorder (PTSD) among flood victims. In specific terms, the study intends to find out;

- The extent to which neuroticism personality type influence PTSD development among flood victims
- The extent to which extraversion personality type influence PTSD development among flood victims
- The extent to which openness to experience personality type influence PTSD development among flood victims
- The extent to which gender influence PTSD development among flood victims

### **Hypotheses**

The following hypotheses were postulated to guide this study. The tenability of the hypotheses were tested at 0.05 Alpha level of significance

- Personality factors (extraversion, neuroticism, and openness to experience) do not jointly and independently contribute to the development of PTSD among flood victims
- Demographic factors (gender) contribute to the development of PTSD among flood victims

## RESEARCH METHODS AND PROCEDURES

This study involved 300 participants from among flood victims in a camp during the 2012 flood period. They were randomly and independently selected for the study using the purposive sampling technique. Two adopted instruments were used to collect data for the study. They include; post traumatic stress disorder index (PTSDI), personality Inventory (NEO). The test had the following reliability Post-traumatic stress disorder index (PTSDI)  $r = 0.65$ , and Personality inventory (NEO)  $r = 0.77$ .

### Data Analysis

Data collected was analyzed multiple regression statistics.

**Ho1:** Personality factors (Extraversion, Neuroticism and Openness to Experience) do not jointly and independently contribute to the development of PTSD among flood victims

**Table 5:** Showing the joint and independent contribution of personality to PTSD

Variables Personality Type	F-Ratio	Sig. of P	R	R <sup>2</sup>	Adj. R <sup>2</sup>	$\beta$	t	P
Extraversion	62.367	.000	.622	.387	.381	.634	13.441	S
Neuroticism						.126	2.229	S
Openness to Experience						-.048	-.853	NS

( $P < .05$ )

The result analyzed showed that the linear combination effect of personality factors (Extraversion, Neuroticism and Openness to Experience) on development of PTSD among flood victims was significant ( $F(3,296) = 62.367$ ;  $R = .622$ ,  $R^2 = .387$ ,  $\text{Adj. } R^2 = .381$ ;  $P < .05$ ). That is, the independent variables of extraversion, neuroticism and openness to experience jointly accounted for a variation of 41%. The result also showed the various relative contributions and levels of significance of the independent variables: Extraversion ( $\beta = .634$ ,  $P < .05$ ), Neuroticism ( $\beta = .126$ ,  $P < .05$ ) and Openness to Experience ( $\beta = -.048$ ,  $P > .05$ ). From the analyzed data, the results showed that, extraversion and neuroticism were significant while, openness to Experience was not.

**Ho3:** There is no significant difference between male and female participants in the development PTSD among flood victims

**Table 7:** showing influence of gender on the development of PTSD

Gender	N	$\bar{X}$	Std.Dev.	Crti-t	Cal-t	Df	P
Male	89	39.59	9.71	1.96	2.255	298	S
Female	211	42.54	10.59				

The result of data analyzed showed that males had  $\bar{X}=39.59$ ,  $SD=9.71$ , Females  $\bar{X}=42.54$ ,  $SD=10.59$ , and so with a cal. t. of 2.255,  $df=298$ , crit. t. =1.96. Since the calculated t is higher than the critical t. it means that the hypothesis of no significant difference is rejected. Therefore, it means that, there is difference between males and females in their development of PTSD. That is, females are more easily predisposed to develop PTSD.

## DISCUSSION

The findings of the study showed that extraversion and neuroticism personality traits were significant to the development of PTSD among flood victims and in addition, it showed that, openness to experience personality does not influence the development of PTSD among participants. This result agreed with Paris (2000) that, neuroticism describes a tendency to react with strong emotion to adverse events while, individuals who are high on this dimension are more prone to stress because their responses are more rapid, more intense and slower to return to baseline. Conversely, those who are low on the trait of neuroticism could “shake off” stressful events. In addition, findings by Lauterbach & Vrana (2001) showed that, neuroticism often exaggerates the impact of the event. For example, when under stress, people respond in habitual ways that is, people scoring high in neuroticism might be easily predisposed to PTSD as they could become anxious, nervous, and depressed. Hence, Kessler (2001) argued that an individual response to stress is often a function of the level of extraversion. Findings across studies on resiliency after adverse life experiences suggested that individuals who are high on extraversion are likely to develop a positive self- perception, optimism, and a sense of meaning to life while, those who are low on extraversion tend to respond negatively after a life threatening event and thus, are vulnerable to PTSD.

The study by implication showed that, gender influences the development of PTSD among flood victims. That is, it appears that, the female gender influences the development of PTSD because of the peculiar personality type and they are more susceptible to emotions. Yehuda (2005) stated that, posttraumatic stress disorder (PTSD) is twice as common in women as in men; in addition, there are gender differences in the type of trauma exposure, presentation of illness, and comorbidities. Some of these differences are clearly societal and non-biologically based, but it is also clear that the biological systems altered in a PTSD victim may modulate or be modulated by sex hormones. Northern California Institute for research and education (NCIRE, 2005) explained that, women exposed to trauma may be at greater risk of developing post-traumatic stress disorder than men because of a heightened fear response. They further explained that, women are more likely than the men to develop a strong fear response, and – once conditioned to respond fearfully they are more likely to have strong responses to fear-inducing stimuli. This suggests that, there may be differences in how men and women learn to fear. That may be one reason why the rate of PTSD is higher in women compared to men.

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