# SPIRITUAL WELL BEING AND POST TRAUMATIC STRESS DISORDER AMONG POLICE OFFICIALS IN OYO STATE

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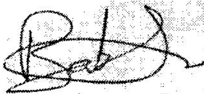
CERTIFICATION

This is to certify that this research work was carried out by OGBENNA, ABIMBOLA BRIGHT with the matriculation number PSY/15/3581 in the Department of Psychology, Faculty of Social Sciences, Federal University Oye-Ekiti, under my supervision.



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## DEDICATION

I dedicate this work to Supreme God, maker of the universe for his divine guidance towards the completion of this project. I also dedicate this work to my parent, Mr and Mrs Ogbenna for bringing this far, may God continue to keep you safe and secured.

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## Abstract

The study investigated the influence of spiritual well-being and posttraumatic stress disorder (PSTD) among police officials in Oyo state. Adopting an expo facto research design, one hundred and seventy five (175) police officials (age range = 20 - 55) were selected using convenience sampling method. Participants were administered the Post-Traumatic Stress Disorder Symptoms Checklist (PCL) and Multidimensional Measurement of Religiousness/ Spirituality. Five hypotheses were tested by means of independent sample t-test. Results indicated that spirituality [t (173) = 3.49, $p$ = .001]; Forgiveness [t (173) = 4.12, $p$ < .001]; Private religious practice [t (173) = 3.13, $p$ = .002]; overall spirituality [(173) = 3.66, $p$ < .00] significantly influence PTSD. Specifically, participants who had high scores on these spirituality/religiosity dimensions reported reduced PTSD scores than their counterparts who scored lower on the dimensions. However, religious coping did not significantly influence PTSD [t (173) = .21, $p$ = .21]. Based on findings, it was chiefly recommended that police correctional facilities should have a way of including spiritual exercises in the process of helping those with PTSD.



**Key words**: PTSD; Spiritual experience, Forgiveness, Religious practices, Police officials

**Word count**: 176

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

Post– traumatic Stress Disorder (PSTD) among retired police officials has attracted a lot of interest among researchers in the western world. This is because of its effects on the behavioural pattern of these war veterans. According to Fisher (2008), post-traumatic stress disorder has become common as seen in vast number of soldiers. Throughout history individuals have had to deal with the mental, physical and emotional stress associated with combat. As observed by Carpenter (2009), PSTD is an issue which captures the minds and imaginations of the public. Initially, it was once known as a psychological disorder associated with veterans of war not until World War I when the terms " shell shock" and War neurosis" became synonymous with describing psychiatric conditions that plagued retiring soldiers. This was established by experts in the field as the concept of combat related stress associated with a clinical diagnosis. In the same vein, WWII era, psychiatric casualties were diagnosed with terms such as " exhaustion" and " combat fatigue" (Williams, 1987).

Coleman (2005) indicated that exposure to combat-related stressful events can result in long-term psychological adjustment problems causing various psychological problems such as post-traumatic stress disorder. The disorder is characterized by persistent intrusive memories about the traumatic event, by persistent avoidance of stimuli associated with the trauma, and by persistent symptoms of increased arousal. American psychiatric Association (1994) classified PTSD as an anxiety disorder, characterized by aversive anxiety related experiences, behaviours and physiological responses that develop after exposure to a psychologically traumatic events (sometimes months after). Its features persist for longer than 30 days, which distinguishes it from the brief acute, stress disorder. These persisting post-traumatic stress symptoms cause significant disruptions of one or more important areas of the individual' s life function. Post-traumatic stress

disorder is caused by experiencing any of a wide range of event which produces intense negative feelings of " fear, helplessness or horror" in the observer or participant. Barlow and Durand (2002) defined posttraumatic stress disorder as an anxiety problem that occurs after a person experiences a life-threatening event that makes him or her feel extremely frightened and vulnerable. Such events include war, crime, rape, abuse, accidents, natural disasters like flood and earthquakes, and other potentially deadly and dangerous circumstances. However, the traumatic event doesn' t have to happen to the person directly for PTSD to develop. A person might develop the disorder after witnessing someone else in a life-threatening situation, or even after hearing about someone else' s tragedy (Terzungwe, grace, aumbur & Dooember 2016). Terzungwe, et al., (2016) also noted that post-traumatic stress disorder was called different names as early as the American civil war, when combat veterans were referred to as suffering from " soldier' s heart" . In World War I symptoms that were generally consistent with this syndrome were referred to as " combat fatigue" . Soldiers who developed such symptoms in World War II were said to be suffering from " gross stress reaction," while many troops in Vietnam who had PTSD were assessed as having " Post-Vietnam syndrome" . Post-traumatic stress disorder has also been called " battle fatigue" and " shell shock" .

A large body of literature of the possible psychosocial factors including education, income, and duration of stay in service, emotional detachment, social stigma and coping strategies has been implicated in the post-traumatic stress disorder among retired military personnel (benight & Bandura 2004). Mikulincer and Flum (2008) reported that PTSD sometimes causes sufferers to become emotionally distant or detached from others. PTSD is said to be more severe among the retired military officers with low academic and training proficiency. The effect of combat on PTSD in police officials is a major concern among the public, military leaders, and policy makers in the areas of policy re-draft (Booth-Kewley, Larson & Highfill-McRoy, 2010). Indeed, it can be a debilitating consequence of severe or life-threatening trauma. Moreover, PTSD can cause

substantial distress and interfere with personal and social functioning, subsequently leading to social withdrawal, anger, and aggression. Furthermore, PTSD in military populations has a pervasive impact on military readiness and the accomplishment of military goals (Hoge, Lesikar & Guevara 2002) Accordingly, Meis et al (2005) asserts that post-traumatic stress disorder is related emotional numbing in veterans promotes emotional withdrawal from intimate relationships and without decreased positive engagement, intimacy, and opportunities for effective and validating communication. Additionally, angry outbursts can reduce the frequency and effectiveness of communication, problem-solving and social support (Sherman, M. D., Zanotti, D. K, & Jones, D. E. 2005).

A growing body of literature has explored the implications of religion and spirituality for various mental and physical health outcomes (Koenig 1994, Levin 1994). While the findings are not univocal, mounting evidence indicates that various dimensions of religiousness and spirituality may enhance subjective states of well-being (Ellison 1991), lower levels of depression and psychological distress (Idler 1987, Williams et al 1991), and reduce morbidity and mortality (Levin 1996). Such findings have elicited considerable attention from medical researchers in epidemiology, psychology, sociology, gerontology, and other fields. Health researchers who seek to include religious or spiritual domains in their studies typically confront various problems. With this, one can infer that spirituality can as well help veterans recover from the hazards of the war front as well as other security officials who have face on turbulent situation or the other.

Few health researchers have a scholarly background in religiousness/spirituality and most are not acquainted with the long history of attempts to conceptualize and measure multiple dimensions of religiousness (Krause 1993, Williams 1994). However, It is becoming clear that religious/spiritual variables cannot simply be combined into a single scale that examines the effects of a single variable, " religiosity" ; rather, each relevant dimension of religiousness and spirituality should be examined separately for its effects on physical and mental health.

## 1.2 Statement of Problem

Despite the extreme nature of the symptoms of acute stress disorder, most are people able to return to relatively normal functioning within days or weeks. Others, however, do not. They go on to develop posttraumatic stress disorder (PTSD), a diagnosis that is appropriate when the symptoms persist for more than a month. In the aftermath of an acute stress disorder, the symptoms of PTSD may start to take hold and take on a chronic and unremitting course. Reminders of the trauma, either in the person' s own thoughts or in the environment, evoke intense levels of psychological or physiological distress. Even the anniversary of the event may stir up intense psychological and physical disturbance. These symptoms are so painful that people who suffer from PTSD intentionally go to great lengths to avoid anything that may remind them of the trauma (Halgin and Whitbourne, 2000).

Research studies have shown that Veterans report guilt and shame related to their traumatic military experiences (Koenig, 2006; Litz, B., Stein & Delaney 2009). These emotional responses are understandable given the extremely challenging circumstances of war, such as being required to kill other human beings (Maguen, Metzler & Litz 2009). As well, guilt and shame are often related to actions taken or witnessed during the war that are directly opposed to personal values and/or personal spiritual and religious assumptions. Indeed, many survivors seem to be morally " wounded" by their traumatic military experience. Litz et al (2009) suggest that experiences in war, such as witnessing and perpetrating violence, facing ethical situations without knowing how to respond, and lacking the ability to help those in need can contradict deeply held moral beliefs that may be directly tied to personal religiosity. The Veteran trauma survivor may struggle to make meaning out of the experiences, by either trying to reconcile the trauma with their current beliefs or by changing their beliefs as a result. In addition, guilt and shame may trigger distressing intrusive recollections of the moral transgression and consequently lead to avoidance.

Conflicts have led to frequent deployment and re-deployment of security aids across countries through the African Union and the ECOWAS Monitoring Group. Continentally, the Nigerian military is engaged in bringing peace and sanity to countries where there is the absence of peace. Internally, our military is involved in peacekeeping missions such as operations *lafiya dole, zaman lafiya, boyona, crocodile tears*, and much more as each operation comes with its modified name. This personnel is exposed to series of warfare and little or no much attention is being provided to them in the relevant areas of need to meet up with the challenges they seem to be having. In most instances, some of them are away from home for months, others years, while others are gone not to be seen again. This scenario is likely to create constant anxiety among family members with respect to when they are likely to see their parent. Furthermore, the personnel on deployment is likely to be in separation anxiety or death anxiety whenever the thoughts of his family members flash through his mind. More so, since Nigeria is a multicultural society, the role of religion and culture cannot be underemphasized as most of this personnel belong to a particular religious sect. These sects have their inherent religious beliefs embedded in their religious stance and these beliefs are likely to count in the feelings of psychological distress and in some instances likely to serve as stress buffer options. However, despite these existing religious beliefs, some of this police officials are likely to be reported by family members after return from missions to exhibit some strange kind of behaviours. When police officials return from military observation and military operations, they are often noticed by significant others to start exhibiting some maladjusted symptoms especially in interactions and even events that expose them to the public.

The gap in previous studies of which the current study aims to fill is the focus of other security personnel' s of which other studies have failed to study. Most of the study. Most of the previous studies on post-traumatic stress disorder have focused on military personnel especially those who have war experiences in the time past. It therefore seem that researchers in this field have ignored traumatising events during the course of military or para military experiences such as those

experienced during training sessions. Based on the reports from numerous researches, the studies intends to provide answers to the following research questions.

**Research Questions**

I. Will participants with high spirituality scores report lower PTSD than their counterparts with low spirituality scores?

II. Will participants with high forgiveness scores report lower PTSD than their counterparts with low forgiveness scores?

III. Will participants with high private religious practices (PRP) report lower PTSD than their counterparts with low private religious practices?

IV. Will participants with high religious coping scores report lower PTSD than their counterparts with low religious coping scores?

V. Will participants with high overall spirituality/religiosity scores report lower PTSD than their counterparts with low overall spirituality/religiosity scores?

## 1.3 Research Objectives

The major aim of this study is to examine the influence of spiritual well-being on Post-traumatic stress disorder among police officials in Oyo State.

The specific objectives of this study are:

I. To examine the influence of spirituality on post-traumatic stress disorder

II. To assess whether forgiveness will influence post-traumatic stress disorder

III. To assess the influence of private religious practices on post-traumatic stress disorder

IV. To investigate the influence of religious coping capacities on post-traumatic stress disorder

V. To examine the influence of overall spirituality on post-traumatic stress disorder

## 1.4 Significance of Study

Firstly, the current study is important to the growing body of knowledge concerned with the mental state of those in the field of security and how spirituality dimensions may influence it. The current study therefore is important to professionals such as clinical psychologists, social workers, counselling psychologists in the field of mental health and the correction of psychopathologies to help these set of individuals with possible burden of PTSD overcome their problems by using religiosity/spirituality interventions. The outcome of the study will also inform government of the need to pay more attention to the mental health needs of security.

# CHAPTER TWO

# LITERATURE REVIEW

This chapter presents theoretical framework and review of empirical studies on spiritual well-being and PTSD.

## 2.1 Theoretical Framework

## 2.1 Theory of Spiritual Well-Being

### 2.1.1 Fowler' s Faith Development Theory

Fowler (1981) proposed a theory of how faith develops throughout an individual' s life. He posited that, from birth to death, the individual moves through six sequential and hierarchical stages of faith development and very much equivalent to Erik Erickson' s (1963) life span theory. The stages of faith development includes the intuitive-projective stage, mythical-literal stage, synthetic-conventional stage, individuative-reflective stage, conjunctive stage and the universalizing stage. The intuitive-projective stage is a stage when an individual is just developing a sense of spiritual connection. In this stage the individual utilizes intuition to explain a spiritual event. In the second stage of mythical-literal stage, the individual engages in the comprehension of the doctrines of religions and it teachings. In the synthetic-conventional stage, the individual engage in less practical for of spiritual experiences which is an offshoot of the previous stage. Such experience may include more devotion into the teachings of a religion. Other stages involve more connections and higher level of spiritual experiences.

However, Fowler' s theory differs in the aspect that not all people are able to go through all six stages of faith development (Parker, 2009). This is because, from the initial conformist view of the third stage, in which various spiritual and religious teachings are accepted almost unquestioningly, the individual (when moving on to stage four) now grapples with those very same teachings that were left unquestioned (Parker, 2009). The point here is that, although

stage three of faith development is not necessarily unique to one age or another, it is still valuable in giving insight into how faith develops in the individual.

According to Fowler' s (1981) theory, each stage of faith development succeeds the previous stage and, as the individual progresses from one stage of development to the next, the tasks become less simple and more demanding of individual faculties such as reasoning and intellect. Fowler' s (1981) faith development theory concerns itself with the development of the cognitive and emotional dimensions of an individual' s religious and spiritual sentiments, because it integrates the intellectual faculties and capabilities of a given life stage with what can be expected from an individual' s emotional progress at that respective stage. As with the life span theory, the faith development theory has certain necessary conditions to which the individual must adhere in order to proceed to the next stage of faith development. A prerequisite for proceeding to subsequent stages is that the individual interprets, understands, values and relates to the religion or spiritual persuasion by which he or she is confronted (Fowler, 1981). Individuals are identified as being at the third stage of faith development, which is synthetic conventional faith, or conforming faith (Fowler, 1981); most people move onto this stage of faith development when they reach adolescence (Parker, 2009). The adolescent has now learnt how to think abstractly and is able to see him- or herself from the perspective of others (Fowler, 1981). The opinions and statements of his or her peers, parents, and even teachers and spiritual/religious leaders, have become more significant to the individual. By way of explanation, there is a strong socio-centric outlook on life, and the adolescent uses the opinions of others to aid in shaping a basis for his or her religious and/or spiritual identity (Fowler, 1981). Thus, the individual may identify strongly with the in-group, adopting their views, morals and credos very much like conformism. The adolescent almost unquestioningly accepts the norms of the group, because, according to Parker (2009), he or she is not yet adequately able to ponder the held beliefs or values, or how and why these

beliefs are held. One could think that this attitude of conforming is in stark contrast to the stereotypical rebellious nature of individuals, but, as pointed out by Parker (2009) and Fowler (1981), at this stage of faith development the individual has not yet reached a level of grappling with and reasoning on questions regarding why certain beliefs are held, and thus does not seem to possess the confidence to deviate from the prevailing opinion and norms of the larger group. According to Parker (2009), the individual at this stage of faith development relies heavily on an institution, such as the church, to offer stability and aid in the formation of a belief system.

This theory relates to the spiritual well-being of an individuals as the individuals must sufficiently pass through the stages of spiritual well-being to attain a sense of spiritual connection which is very paramount in every individual' s life. Failure in a particular stage of spiritual development may affect other stages of spiritual development. As such the vulnerability of an individual to develop PTSD is increased when the individual encounters failure in spiritual development.

### 2.1.2 Theory of Self-Transcendence

Reed' s (1991a) Theory of Self-Transcendence provides another theoretical framework for the study. Initially, Reed' s (1991a) theory was shaped out of an interest in acknowledging the developmental nature of older adults as integral to mental health and well-being. Self-transcendence is related to life' s purpose and understood as an awareness of something or someone other than oneself. Through self-transcendence, one can find meaning in life. Reed (2003) described self-transcendence as the capacity to ascend one' s personal needs and desires and connect with others, their environment, and a spiritual dimension or God. The pan-dimensional approach, a view that is not limited by spatial or temporal attributes, allows for meaning to be assigned to life experiences (Reed, 1991a, Rogers, 1992). Although Reed (1991a) initially created the theory out of interest in the older adult and conceptualized it

within Rogers' s Science of Unitary Beings, she has recognized that the theory has comprehensive application. Self-transcendence is expressed through sharing wisdom, integrating the aging process, accepting death as a part of life, and finding a spiritual meaning in life (Reed, 1991a). Reed (1991a) described spirituality as a human pattern by which self-transcendence becomes evident. Self-transcendence recognizes that all aspects of the human experience influence a person' s wellbeing (Runquist & Reed, 2007). Well-being is defined as a sense of feeling whole and healthy and is an outcome of self-transcendence (Reed, 1991b). Spiritual well-being is the effect of spirituality, a sense of meaning, purpose, or power within or from a transcendent source, on subjective well-being (Daaleman, Perera, & Studenski, 2004). It is measured by subjectively estimating one' s sense of purpose in life and ability to overcome challenges and construct one' s own life course. Vulnerability, another concept of the theory, is defined as an awareness of personal mortality and is a characteristic related to self-transcendence (Reed, 2003). In addition, according to Reed, there is a direct and positive correlation between self-transcendence and well-being. Reed' s Theory of Self-Transcendence (1991a) was chosen as the framework for this research because of clearly defined attributes that are a good fit to guide examination of the Amish and their spiritual culture. The Amish believe that an omnipotent and omniscient God controls all facets of life. Furthermore, the Amish are relational human beings focused on family and community, yet as a minority culture, they represent a vulnerable group within society. People are a community in which religion, spirituality, and life are inseparable (Hostetler, 1993). In a nutshell, a sense of well-being is derived from an intensified awareness of wholeness and integration among all dimensions of one' s being, which also includes the spiritual elements of life (Coward, 1996). Therefore, the concepts of self-transcendence and spiritual well-being in the way of life of individuals are congruent as evidenced by an integration of the religious, spiritual, and physical realms. Knowledge of the levels and nature

of the relationship between spiritual well-being and self-transcendence provide insight and ways to support the health of people. As such people become less vulnerable to mental health issues such as PTSD.

**Theories of Post-Traumatic Stress Disorder**

### 2.1.3 Cognitive Models of Post-Traumatic Stress Disorder

Two models of PTSD in adults have had a tremendous impact on the understanding of the disorder in recent years. This more recent generation of models of PTSD, in addition to overcoming the problems associated with single-level theories of emotion provide more powerful explanations of the time course of reactions to traumatic events and individual differences in the nature of such reactions. According to Brewin et al. (1996), it is suggested that the complex pattern of symptomatology observed in individuals with PTSD could be explained by a dual representation model, where the memories of the traumatic event are stored in a different manner to normal memories. These memories remain in a sensory format and are hypothesized to be represented within different neural structures than normal memories. Brewin (2001) has presented evidence from a cognitive neuroscience perspective that suggests " traumatic memories" are laid down in a way that bypasses the hippocampus, the neural structure considered to be responsible for the encoding of memories within a temporal and spatial context. As a result of this difference in information processing, " the sensory (visual, auditory, olfactory, etc.), physiological, and motor aspects of the traumatic experience are represented in situationally accessible knowledge in the form of analogical codes that enable the original experience to be recreated" (Brewin et al., 1996). Such representations, termed " situationally accessible memories" (SAMs) by Brewin et al. (1996), are re-experienced as the result of elicitation through associative learning; trauma-related cues will be likely to trigger such re-experiencing. This qualitative difference in representation also means that traumatic memories are not easily accessible by conscious means. Such an account

gives a powerful explanation of the cardinal cluster of symptoms observed in individuals with PTSD: the re-experiencing phenomena. The difference in representation may account for how flashbacks are experienced frequently as dissociative states. The conscious activation of SAMs is thought to allow changes in such representations of a traumatic event, whereby conditioned emotional responses are extinguished through a process of " spontaneous or programmed habituation" . Such habituation, and the associated normalization of attentional and memory biases, is responsible for decreasing the likelihood of intrusively re-experiencing the traumatic event. However, the full resolution of a traumatic event also may be contingent on an individual' s verbally accessible memory (VAM) of the event. VAMs are theorized to consist of representations of a person' s conscious experience of a traumatic event, such as sensory features, emotional and physiological reactions, and the perceived meaning of the event. Significantly such a representation is likely to be subject to deliberate retrieval from an individual' s store of autobiographical memories. Brewin et al. (1996) stressed that " secondary emotional reactions arising from subsequent conscious appraisal" may interfere with the emotional processing of a traumatic experience. Attributions of responsibility made after a traumatic event, leading to emotions such as guilt or anger, in addition to being themselves distressing, may prevent the habituation of fear when SAMs are activated. Therefore, the authors therefore suggest that prior to the use of exposure treatment, such secondary emotions be addressed using cognitive techniques. Brewin et al. (1996) go on to describe three endpoints of emotional processing that arise from the dual representation theory proposed. Completion or integration results when memories of the traumatic event have been fully " worked through" , and are integrated with the individual' s other memories and sense of self in the world. In particular, the individual will have habituated to their SAMs of the event. The presence of unremitting PTSD is termed " chronic emotional processing" , and is thought to be associated with inability to integrate memories of the trauma. This may be the

result of aversive secondary emotions, as described above, the lack of social support to assist processing of SAMs or VAMs, and ongoing trauma, among other causes. In additioh to the symptoms of PTSD, an individual caught in this stage will continue to have attentional and memory biases towards trauma-related information, and develop more generalized secondary reactions. The final endpoint of processing, " premature inhibition of processing" , results when the individual succeeds in avoiding the activation of unpleasant SAMs and VAMs. While the triggering of negative affect may be automatically avoided by the development of " avoidance schemas" , the individual will continue to have attentional biases, impaired memory for the trauma, avoidance for trauma-related stimuli, and possibly somatization.

The second of this new generation of models of PTSD in adults is that of Ehlers and Clark (2000). Ehlers and Clark (2000) based their model on a dual representation format very similar to that of Brewin et al. (1996), but elaborate on both the pathological role of " trauma memory" (their term for Brewin et al.' s " SAMs" ), and the cognitions, meta-cognitions and thought control strategies considered responsible for the maintenance of PTSD. Ehlers and Clark argued that the combination of trauma memory and the negative appraisal of trauma and its sequel may result in a perception of " current threat" that is accompanied by intrusive phenomena, hyper arousal, anxiety and other emotional responses. Ehlers and colleagues have demonstrated the maintaining effect of a sense of " current threat" in victims of physical and sexual assault (Dunmore, Clark, & Ehlers, 1999), political prisoners (Ehlers, Maercker, & Boos, 2000), and motor vehicle accident (MVA) survivors (Ehlers, Mayou, & Bryant, 1998; Steil & Ehlers 2000). In addition to the presence of poorly elaborated trauma memories (the recall of which is easily triggered by associated cues), a number of cognitions and meta-cognitions are thought to give rise to this mental state. These include: Dysfunctional meaning attached to symptoms of the trauma (e.g., believing that having flashbacks is a sign that one is " going mad" ); Perceived negative responses from others (e.g., " people think I am too weak

to cope on my own" ); A sense of permanent change (e.g., " my life is ruined" ); And change in global beliefs (e.g., " the world is a dangerous place" ). The power of meta-cognition to impede recovery from the acute phase of the disorder was demonstrated by Steil and Ehlers (2000) in their finding that the distress caused by re-experiencing symptoms of MVAs was related to the idiosyncratic meaning assigned to the symptoms (e.g., believing that intrusive thoughts are a sign that one is going " mad" ). This relationship existed regardless of intrusion frequency, accident severity, and general anxiety-related catastrophic cognitions. In addition, dysfunctional meaning attached to traumatic symptoms was found to be associated with maladaptive coping strategies such as avoidance, thought suppression (an active effort to rid one' s mind of a cognition), rumination and distraction. These strategies are considered to discourage the full processing of traumatic memories, and in the case of thought suppression, paradoxically encourage the production of distressing intrusive cognitions. A considerable body of work has shown that thought suppression is responsible for an increase in the frequency of intrusive thoughts and memories. Thus this theory of PTSD relates to the current study as the negative appraisal of a traumatic events in a way is influenced by the poor level of spiritual well-being as such it can an increase in trauma memories of the individual such that the individual becomes easily affected by the negative events that could cause PTSD.

### 2.1.4 Social cognitive theory of post-traumatic recovery

This theory was developed by Albert. B & Charles. B (2004). According to the researchers, Self-efficacy beliefs regulate human functioning through cognitive, motivational, affective, and decisional processes. They affect whether individuals think in self-enhancing or self-debilitating ways; how well they motivate themselves and persevere in the face of difficulties; the quality of their emotional life and vulnerability to stress and depression; resiliency to adversity; and the choices they make at important decisional points which set life courses.

Through these diverse means, belief in one' s capability to exercise some measure of control in the face of taxing stressors promotes resilience to them.

The environment at which the traumatic event happened is supposed to pose a threat. Threat is not solely an inherent property of situational events. Nor does appraisal of the likelihood of injurious happenings rely entirely on reading the nature of external signs of danger or safety. Rather, threat is a relational property concerning the match between perceived coping capabilities and potentially detrimental aspects of the environment. The same potential threats are frightful to people beset with doubts they can control them, but relatively benign to those who feel assured they can override them. People' s beliefs in their coping efficacy influence vigilance toward potential threats and how they are perceived and cognitively processed. People who believe they can exercise control over threats do not conjure up calamities and distress themselves. But those who believe that potential threats are unmanageable view many aspects of their environment as fraught with danger. They dwell on their coping deficiencies, magnify the severity of possible threats, and worry about perils that rarely if ever happen. Through such inefficacious trains of thought, they distress themselves and constrain and impair their level of functioning (Bandura 1977).

People' s beliefs in their coping efficacy influence vigilance toward potential threats and how they are perceived and cognitively processed. People who believe they can exercise control over threats do not conjure up calamities and distress themselves. But those who believe that potential threats are unmanageable view many aspects of their environment as fraught with danger. They dwell on their coping deficiencies, magnify the severity of possible threats, and worry about perils that rarely if ever happen. Through such inefficacious trains of thought, they distress themselves and constrain and impair their level of functioning. That self-efficacy operates as a cognitive regulator of stress and anxiety arousal is revealed in microlevel relations between different levels of instilled efficacy beliefs and corresponding subjective and

biological stress reactions while coping with phobic threats varying in levels of intimidation (Bandura, Blanchard, & Ritter, 1969; Bandura et al., 1985; Bandura, Reese, & Adams, 1982). People remain unperturbed while coping with potential threats they regard with high personal efficacy. But as they confront threats for which they distrust their coping efficacy their subjective distress and autonomic and catecholamine reactivity mounts. After their perceived coping efficacy is raised to the highest level by guided mastery experiences, they manage the different levels of phobic stressors with uniformly low physiological activation.

Also, People live in a psychic environment largely of their own making. To the extent that they can exercise control over what they think, they can regulate how they feel and behave. Many human distresses are exacerbated, if not created, by failures of thought control. They cannot rid their mind of perturbing intrusions and remain haunted by posttraumatic events. The self-regulation of thought processes plays a critical role in the maintenance of emotional well-being following the traumatic experience. It is not the sheer frequency of aversive cognitions per se that accounts for anxiety arousal, but rather the sense of powerlessness to rid one' s mind of them (Churchill & McMurray, 1989; Kent, 1987; Kent & Gibbons, 1987; Salkovskis & Harrison, 1984).

The psychosocial aftermath of traumatic experiences in military combat has been the subject of special attention through the years because of the prevalence and enduring seriousness of traumatic battle experiences. The effects of battlefield traumatizations on perceived self-efficacy have been examined longitudinally by Solomon and colleagues in Israeli soldiers who suffered breakdowns in military combat (Solomon, Benbenishty, & Mikulincer, 1991; Solomon, Weisenberg, Schwarzwald, & Mikulincer, 1988). The traumas severely decimated the soldiers' perceived efficacy to cope with combat situations. The lower their perceived efficacy, the more they were plagued by perturbing intrusions and adaptation problems in their subsequent everyday lives. Interestingly, the predictors of efficacy beliefs

changed with the passage of time. Initially, the severity of emotional debility during the traumatic incident predicted level of self-efficacy. But over time, the importance of traumatic severity declined, and pre-military coping capabilities and adaptability to current stressors took precedence as predictors. Soldiers who received immediate frontline treatment and returned to their combat units had a higher sense of efficacy and less posttraumatic stress reactions following the war than those who were evacuated to distal treatment facilities and never returned to the combat situation. Re-engagement with traumatic situations in actuality or cognitively is an important part of recovery. However, it is not merely re-experiencing a traumatic event. The event must be confronted in a way that restores a sense of control through mental reconstruction or improved coping that alleviates stress reactions and behavioural impairments. Indeed, renewed successful coping with an intense threat is an effective way of restoring a sense of personal efficacy (Williams & Falbo, 1996). In the military situation, however, the possibility cannot be ruled out that the outcomes accompanying different treatments partly reflect selection of who gets shipped back and who stays in combat.

## 2.2 CONCEPTUAL FRAMEWORK

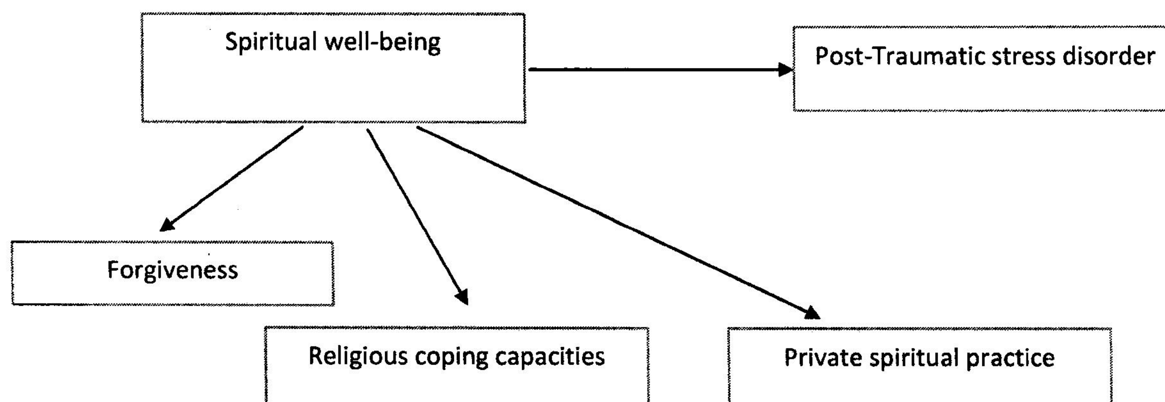


Figure 1: Conceptual frame-work

Figure 1 illustrates the conceptual framework of this research as such the research is interested in the influence of spiritual well-being on PTSD among police officials. The little boxes beneath spiritual well-being are the dimensions of spirituality.

## 2.3 RELATED EMPIRICAL STUDIES

### 2.3.1 Spirituality and Religion as Positive Coping Mechanisms

There are many positive mechanisms that individuals can engage in when confronted with a significant crisis, and one mechanism that contributes strongly to individual resilience is spirituality and/or religious involvement, or religiousness (Schwartz, 2003; Wills et al., 2003). Religion and spirituality provide a sense of order and belonging during a potentially tumultuous period of development, such as adolescence (Papalia et al., 2007; Wong et al., 2006). According to Bjorck (2007), using a combination of religious coping and problem-solving strategies to manage stress is considered one of the most efficient and adaptive approaches. Furthermore, religious coping generally results in positive outcomes and better psychological functioning in the individual (Bjorck, 2007). From a particular research on religiosity, Wills et al. (2003) ascertained that the groups that scored high on the measure of religiousness tended to cope better with significant life events. They also found that the perceived impact of a given life stressor was significantly lower for the high-religiosity subgroup than for the other groups. They were able to establish that, in 90% of the articles investigated, higher levels of religiosity and/or spirituality were linked with better mental health in individuals. Moreover, most of the reviewed literature showed that religiosity and/or spirituality indeed served as protective factors for individuals. Individuals and a wide range of the human population who placed a high level of importance on prayer and religion were also shown to have higher levels of self-esteem and lower levels of substance abuse (Wong et al., 2006), buffering them even further against employing maladaptive coping mechanisms to deal with stress. Lastly, in their meta-analytic study, Wong et al. (2006) noticed that religiousness

aided in positive growth in individuals who had been subjected to a past traumatic event. In this context, the positive growth meant that, instead of the religious persons adopting maladaptive behaviours (such as substance use and/or abuse) or attitudes(despondency, defeat, and apathy), and responding negatively to the traumatic event, they were able to grow from it, which tended to be a measure of positive mental health and wellbeing (Wong et al., 2006). In their study, Pinkard and Heflinger (2006) repeatedly found that satisfaction with life and psychological well-being were strongly linked with religious experience. These researchers interviewed 996 individuals from the southern states (Tennessee and Mississippi) of the United States of America and asked specific questions about their religious activities and how much pastoral counselling they were receiving. The study also used the Columbia Impairment Scales and the Child Behaviour checklist to measure emotional and behavioural problems in the sample. The entire sample was classified as having a clinical level of psychosocial impairment. Based on their analyses, Pinkard and Heflinger (2006) were able to identify that churches were one of the main support systems for individuals suffering from serious emotional disorders. More specifically, it seemed that the individuals were attracted to the churches because of the activities and social bonds offered. Seventy-five percent of the 996 participants regularly participated in church activities, but only 10% used pastoral counselling for their problems. In addition, the researchers found that female individuals attended religious activities more frequently than their male counterparts, and that minority groups (blacks, Hispanics and Asians) attended religious services more frequently than their white counterparts (Pinkard & Heflinger, 2006). Lastly, the researchers found that church membership and attendance, frequency of prayer and belief that a Higher Power was in control of their situation and offered them comfort were all linked to lower depressive symptoms (Pinkard & Heflinger, 2006). From this study one can deduct that religious affiliation and activity can aid in alleviating the stress of having to cope with a severe stressor such as a

serious emotional disorder. With the growing emphasis on strength- and religion-based approaches in therapeutic endeavours (Pinkard & Heflinger, 2006), Bjork, Braese, Tadie and Gililland (2009) set out to measure adolescent religious coping strategies with a self-developed scale called the Adolescent Religious Coping Scale (ARCS). Using this scale they were able to quantify different variables associated with coping with negative life events in a positive way using religious coping strategies (Bjorck et al., 2009). The researchers noted that religious coping was significantly related to support from a religious group to which the individual belonged or that the individual supported, support from parents, and greater emotional functioning.

They concluded that positive religious coping strategies were related to better support and healthier global functioning in the adolescent, hence pointing to a strong relationship between emotional well-being and religious coping strategies (Bjorck et al., 2009). Theron and Theron (2010) conducted a systematic review of studies that focused on youth resilience. They reviewed 23 academic journal articles that were published between 1990 and 2008 and focused on resilience factors in South African youth. They found that 17 of the 23 articles contributed resilience to factors already present in a resilient individual – in essence, intrinsic characteristics or attitudes. These characteristics included goal and/or achievement orientation, empathy, optimism, autonomy, conservatism, conscientiousness and the ability to regulate the self, extraversion, enthusiasm, and assertiveness. Learned skills that were instrumental to resilience, in essence extrinsic characteristics or behaviours, were listed as problem-solving skills, positive cognitive appraisal, a locus of control that emanates from the self, a sense of self-worth, and a penchant for socially appropriate behaviour. All of the aforementioned factors were shown to aid individuals in coping with life stressors, as well as adding to their psychological well-being (Theron & Theron, 2010). One can argue that the previously stated intrinsic as well as extrinsic characteristics of resilience are independent of religion and

spirituality, and that similar characteristics can be found in individuals who do not subscribe to religious or spiritual idiosyncrasies. However, Bjorck (2007) cites religious support as a unique coping resource with benefits exceeding those of social support. To further substantiate this point, Fiala, Bjorck and Gorsuch (2002) developed a scale that measures individuals' perceived support from God, namely the Religious Support Scale (RSS). The scale consists of three distinct yet related subsections, namely support from God, support from the congregation, and support from the church leadership. It was found that all three types of support are linked to lower scores for depression, higher scores on psychological well-being, and distinct increases in life satisfaction (Fiala et al., 2002). Also, perceived support from God was rated significantly higher than general social support, denoting that, for Christians, religious support may be appraised more highly than social support (Fiala et al., 2002). Furthermore, higher scores for religious support were also related to superior psychological adjustment, and this remained the case even after the variables social support and religious activity participation were controlled for (Fiala et al., 2002). The aforementioned indicates that religious support, as perceived by Christians, statistically predicts a higher quality of functioning, exceeding the effects of general or conventional social support (Fiala et al., 2002).

### 2.3.2 Effects of Spiritual Well-Being on Subsequent Happiness, Psychological Well-Being, and Stress

Well-being is a highly complex construct related to human nature. Thus, people perceive multiple facets or sub-dimensions of well-being. Recently, it has been proposed that spiritual well-being is an important addition to other facets of well-being, such as mental, physical and emotional well-being (Gomez & Fisher, 2003). Many people have some form of spirituality: In 2005, 25% of the U.S. populations said they would describe themselves as " spiritual, but not religious" , while 9% indicated the opposite and 55% said they would be

both spiritual and religious (Schultz, 2005). These results are in line with the notion that spirituality can be explicit in the form of a certain religion, or more implicit, in the form of an inner attitude towards god, the divine, higher reasons or principles. Thus, spirituality as an inner attitude is different from religiosity, which relies on an outer institution and/or practices. Chen & Koenig (2006) review of the traumatic stress and religion literature yielded some good results on religion and health outcomes. Trauma is a universal phenomenon, experienced all over the world over and across time. Poets and novelists as far back as Homer and Shakespeare were among the first to record the profound impact of trauma and its subsequent stressors on human cognition, behaviour, and emotion (Friedman, Resick & Bryant, 2011). Exposure to traumatic events, such as war, conflict, natural and human-made disasters, assault and life-threatening illnesses are common, with over two-thirds of the general population likely to be exposed to a traumatic incident in their lifetime (Neria, Nandi & Galea 2008). Brewin et al (2005) also studied predictors of PTSD and showed that pre-trauma risk factors have relatively weak predictive effects, while trauma intensity and post-trauma risk factors have somewhat stronger predictive effects. For instance, a lack of social support, life stress, trauma severity, childhood abuse, and other adverse childhood experiences were strong predictors of PTSD. Exposure to traumatic life events can consequently have a series of serious adverse psychological effects.

Interestingly, the inclusion of spiritual well-being, along with mental, physical, and emotional well-being is also in line with ancient philosophies of, for example, native tribes (Rutherford, 2008). Also, it has been demonstrated that spiritual well-being is important for our understanding of happiness, over and above established constructs such as personality factors (Gomez & Fisher, 2003). Thus, it is important to include spirituality into current conceptualizations of well-being (Sawatzky, Ratner & Chiu, 2005). Earlier conceptualizations of spiritual well-being focused on a limited set of domains of spiritual well-being. For

example, Paloutzian and Ellison' s (1982) spiritual well-being questionnaire has scales for the assessment of existential and religious well-being. Considerable research demonstrated adequate levels of reliability and validity of this instrument (Bufford, Paloutzian & Ellison, 1991; Ellison, 1983). For example, spiritual well-being correlates positively with self-esteem, intrinsic religious commitment and negatively with loneliness (Ellison & Smith, 1991; Paloutzian & Ellison, 1982). However, other domains of spiritual well-being, such as communal spiritual well-being (see below) are not included in this questionnaire. Also, several limitations characterize typical research studies implementing Paloutzian and Ellison' s (1982) spiritual well-being questionnaire, such as cross-sectional designs.

Dirkzwager and Bramsen (2007) investigated the relationship between social support, coping strategies, additional stressful life events, and symptoms of Post-traumatic Stress Disorder among Dutch former peace keeping soldiers as well as the bivariate relationships between social support, coping strategies, life events, and PTSD using Pearson"s Correlations, the longitudinal analyses involved hierarchical multiple regression analyses on the contribution of social support, coping strategies, and stressful life events to the variance of PTSD symptom severity and results showed that more negative social contacts and fewer positive social contacts were associated with more PTSD symptom severity. More use of the coping strategies to include wished thinking and accepting responsibility was related to more PTSD symptoms, more planned problem solving and seeking social support was related to less PTSD symptom severity, more negative social contacts and fewer positive social contacts were associated with more PTSD symptom severity, more use of the coping strategies, wishful thinking" and accepting responsibility" was related to more PTSD symptoms as well as more seeking social support. When individuals are exposed to traumatic events such as rape, disaster, or acts of violence, they often experience a variety of negative psychological effects (Kessler, 2000). A well-recognized aftermath to traumatic events is Posttraumatic Stress

Disorder (PTSD) (Kesler, Sonnega, Bromet, Hughes, and Nelson, 1995). PTSD is an anxiety disorder in which the individual experiences several distressing symptoms for more than a month following a traumatic event such as a re-experiencing of the traumatic event, an avoidance of reminders of the trauma, a numbing of general responsiveness, and increased arousal (Halgin and Whitbourne, 2000). Some people develop an acute stress disorder soon after a traumatic event. In this condition the individual develops intense fear, helplessness, or horror. Dissociative symptoms may appear, such as feeling numb, unreal, or detached, and amnesia about the event may develop.

McCarroll, Ursano, and Fullerton (1993) in their study of soldiers involved in Operation Desert Storm in 1991, reported that individuals who had the job of handling human remains were more likely to develop intrusive and avoidant symptoms of PTSD. Experienced workers were less likely to suffer these symptoms, but even among experienced workers there was a positive relationship between the number of body remains that they handled and the degree of their symptoms. Even 1 year later, those who handled human remains still suffered psychological disturbances (McCarroll, Ursano, and Fullerton 1995) Makput and Rabbebe, (2011) reported, 70 (28%) out of the 250 respondents in their study developed PTSD. Of the 130 males who participated in the study, 30(23.1%) developed PTSD, compared to 40 (31.8%) of the 126 females. Thus of the 70 total number of participants who developed PTSD, 30 (42.9%) were males and 40 (57.1%) were females. Therefore, in terms of PTSD prevalence by gender, more females developed PTSD giving a male to female ration of 1:1.4 In the 1980s, when the diagnosis of PTSD was added to the DSM, the media drew attention to the psychological aftereffects of combat experienced by Vietnam War veterans (Halgin and Whitbourne, 2000). War is perhaps one of the most challenging situations that a human being can experience. The physical, emotional, cognitive and psychological demands of a combat environment place enormous stress on even the best-prepared police officials. High level of

stress that is naturally experienced in combat typically results in a significant percentage of soldiers at risk for developing PTSD upon the return home. Indeed, the Iraq/Afghanistan combat theatres, with their ubiquitous battlefronts, ambiguous enemy identification, and repeated extended deployments has produced large numbers of returning American Service Members reporting symptoms that are congruent with the diagnosis of PTSD and other mental disorders. In the first systematic study of mental health problems due to these conflicts, " The percentage of study subjects whose responses met the screening criteria for major depression, generalized anxiety, or PTSD was significantly higher after duty in Iraq (15.6 to 17.1 percent) than after duty in Afghanistan (11.2 percent) or before deployment to Iraq (9.3 percent)" (Hoge, Castro, Messer, McGurk, Cotting, and Koffman 2004).

Mental health treatment has traditionally eschewed addressing religious matters, regardless of the diagnoses, despite evidence suggesting that religious issues are intimately tied to psychological well-being (Moreira-Almeida, Neto & Koenig 2006). These traumatic experiences may shatter the Veterans faith in a " just" God, alter spiritual and religious systems or even challenge meaning and purpose in life (Wilson & Moran 1998). Falsetti et al (2003) found that after experiencing their first trauma, individuals who developed PTSD were more likely to report changes in religious beliefs than those who did not develop PTSD. Drescher & Foy20 reported that 74% of Vietnam Veterans enrolled in PTSD residential treatment had difficulty reconciling their religious beliefs with the traumatic events they had experienced in Vietnam. Finally, Fontana & Rosenheck (2004) found that traumatic combat experiences, mediated by guilt, weakened the religious faith of Veterans. These studies support the notion that trauma and PTSD can impact one' s experience of religiosity. However, there is limited research on the way existing personal religiosity predicts traumatic stress, specifically as it relates to PTSD. In the last three decades, there has been an increase in the discussion of trauma and its effects, with a particular focus on Post-Traumatic Stress

Disorder (PTSD) (Jones & Wessely 2005). Previous systematic reviews have documented PTSD to be the most commonly studied psychopathology in the aftermath of trauma. PTSD is characterized by several interrelated symptom clusters including re-experiencing symptoms (e.g., intrusive thoughts, recurrent dreams, flashbacks, distress and physiologic reactivity upon exposure to trauma cues), avoidance and emotional numbing symptoms (e.g., avoidance of traumatic reminders, anhedonia, detachment from others, restricted emotional experiences, sense of foreshortened future), and hyper arousal symptoms (e.g., sleep difficulties, irritability and anger, concentration problems, hyper vigilance, exaggerated startle) (APA 2000). PTSD is often been studied among police officials in relation to combat trauma.

**2.3.3 Development of posttraumatic stress disorder**

Most people are exposed to at least one violent or life-threatening situation during the course of their lives (Ozer, Best, Lipsey, & Weiss, 2003). As people progress through their life cycle, they are also increasingly confronted with the death of close friends or relatives. The prognosis varies by the type and intensity of trauma, with physical attack and witnessing someone hurt or killed at the highest risk for chronic symptoms (Breslau, 1998).

The symptoms of PTSD seem to fall into two related clusters. The first, called " intrusions and avoidance" includes intrusive thoughts, recurrent dreams, flashbacks, hyperactivity to cues of the trauma, and the avoidance of thoughts or reminders. The second cluster, " hyper arousal and numbing," includes symptoms that involve detachment, a loss of interest in everyday activities, sleep disturbance, irritability, and a sense of a foreshortened future. Thus, intrusive thoughts give rise to the avoidance of disturbing reminders, and hyper arousal leads to a numbing response (Taylor, Kuch, Koch, Crockett and Passey, 1998). One year after the 1982 Lebanon War, the authors assessed the prevalence, type, and severity of PTSD in a large representative sample of Israeli soldiers who had been treated for combat stress reactions. Comparisons were made with a group of soldiers who hadfought in the same

battles but had not been treated for this reaction. A dramatically higher percentage of soldiers with combat stress reaction (59%) than soldiers without combat stress reaction (16%) developed PTSD. Age was significantly associated with PTSD (Solomon, Weisenberg, Schwarzwald, and Mikulincer, 1987). Natural disasters such as road traffic accidents, floods, fires, volcanoes, mud slides, earthquakes and tsunamis have all been implicated as stressors causing PTSD (Kaplan and Saddocks, 1994; Gelder and Mayou, 1996). Regarding its etiology, the presence of a stressor is necessary for the development of PTSD. Manmade events e. g assault, bombings, armed robbery, ethno-religious violence etc. may predispose to it (Burke 2011; Ramsy, Gorst-Unsworth, and Turner, 1993).

However, there are great differences in how people deal with these highly aversive experiences. Although most trauma victims report PTSD symptoms immediately after experiencing a trauma, only one-third of the trauma victims show persistent symptoms and develop chronic PTSD (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). One of the puzzles surrounding PTSD is which factors determine the maintenance of PTSD symptoms (Ehlers & Steil, 1995). Prospective studies have shown that early PTSD symptoms such as the frequency of initial intrusive recollections have little predictive power for chronic PTSD (Shalev, Freedman, Brandes, & Peri, 1997). Maxmen and Ward (2005) indicated that officers with low academic background tend to be less knowledgeable on combat related issues, and most of these officers are found in war fronts, and as such, they are the most hit in the exercise, while the most trained are behind in the guise of medical providers and operational directors with maps and other required approaches to be taken. On return, the low ranking officers with relatively poor remuneration tend to be more affected with the post-traumatic stress disorder, considering what they passed through and the poor reward they receive on return, while the top ranking officers who have acquired higher academic and theoretical training who see less what they have seen and passed through are in turn treated respectively

with a high reward. Similarly, Coleman (2005) maintained that retired military officers on a higher socioeconomic background are counselled more to the anticipated dangers occasioned at war situations and treated more fairly when they retire from the military compared to the low ranking officers who have little or no knowledge of the devastating dangers of war situations which they are eventually exposed to, and they in turn suffer a great deal with a bad feeling that they will at the end be treated unjustly, and this leads to post-traumatic stress disorder. Donnellan and Maffit (2010) examined on low self-concept in relation to aggression and antisocial behaviour among retired police officials in Kenya. Findings indicated that aggressive, depressive and other antisocial behaviours were largely due to a low self-concept perception among the military officers who had wished to have had a higher aspiration than what they were. They also revealed that self-concept is modelled on imitative behaviour where most of the participants stated that they wanted to be like the elites and famous military officers who are literally adored, revered and worshipped in the force.

Among the best candidates to explain the maintenance of PTSD symptoms are information-processing theories contending that the way the traumatic event is processed resulted in chronic symptomatology (Foa & Riggs, 1993; Foa & Rothbaum, 1998; Horowitz, 1976, 1986; Brewin, Dalgleish, & Joseph, 1996; Ehlers & Clark, 2000). During the last decade research on PTSD received growing interest resulting in a plethora of studies aimed at discovering the psychological nucleus of PTSD. In the eighties, most research on PTSD focused predominantly on Vietnam veterans and used cross-sectional designs. Recently, several longitudinal studies have been done in the immediate aftermath of diverging traumatic events such as motor vehicle accidents, train crashes, physical assaults etc. But still, most studies on PTSD are cross-sectional showing correlates of the disorder that are supposed to constitute plausible risk factors, even though these variables were measured after individuals had developed PTSD. As a starting point, such studies may be highly informative, especially

when PTSD patients are compared with trauma victims who did not develop PTSD. Fortunately, researchers do not shrink away from the extensive work of running a longitudinal study on trauma victims. In the past 10 years, number of longitudinal studies sprung up like mushrooms. They may entail either pre-trauma, i.e., prospective, or post-trauma assessments. From the handful of prospective studies, cognitive ability and neuroticism may be considered as the best predictors of PTSD (see for a review McNally, Bryant, & Ehleres, 2003). For example, lower pre-trauma IQ scores predicted greater severity of PTSD symptoms in Vietnam veterans (Kaplan et al., 2002; Macklin et al., 1998) and higher neuroticism was related to higher PTSD scores after miscarriage (Engelhard, van den Hout, & Kindt, 2003). Recent developments in cognitive psychology, such as memory research, are also indispensable for a better understanding of the psychological nucleus of PTSD. These general cognitive theories often form the basis for analogue studies about PTSD-like symptoms. The crucial issue now is, how these predisposing vulnerability factors interact with factors that are supposed to play a role in the development of PTSD. With this special issue, we intended to present studies using diverging methods aimed at understanding the development of chronic PTSD from a cognitive perspective. Although, we are far from a clear model on the development of PTSD, the present articles like dozens of other studies in this field contribute to the understanding of the development of PTSD.

The work of Engelhard and Arntz shows how research on PTSD may be designed in order to elucidate its psychological nucleus. Ex-consequential reasoning, i.e., inferring danger from the presence of anxiety or intrusions, was shown in Vietnam veterans with PTSD but not in Vietnam veterans without PTSD. The authors suggest that ex-consequential reasoning may start as a vicious circle in which subjective fear responses or intrusive recollections are used to erroneously validate thoughts of impending doom, which amplifies anxiety responses. However, as noted by them, the cross-sectional nature of the study does not warrant any causal

inference with respect to the ex-consequential reasoning in the development of chronic PTSD. As a next step, they performed a longitudinal study, showing that exconsequentia reasoning was reliably related to acute and chronic symptoms of PTSD in victims who were exposed to a disastrous train crash. They are currently conducting a study of Dutch soldiers on a peacekeeping mission. Although causal relations can still not be inferred from these predictive observations, it does at least instigate to perform the next step in this series to test whether ex-consequential reasoning is indeed causally related to the maintenance of PTSD symptoms. However, this is difficult to design, which is often the case with testing causality issues, and restrains researchers from designing the crucial experiments to test vicious circles or causality issues. The same was observed in the field of information processing biases and anxiety. For at least two decades, dozens of cross-sectional studies were performed showing an anxiety-related bias for threatening information. Only recently, studies appear to show evidence for a causal relation of processing bias and anxiety, by inducing attentional or interpretation bias for threat in normal controls (MacLeod, Rutherford, Campbell, Ebsworthy, & Holker, 2002; Mathews & Mackintosh, 2000). With respect to ex-consequentia reasoning, the causality issue may be tested by inducing ex-consequentia reasoning in normal controls. This is a challenging endeavour and the authors are working on this.

From other studies, catastrophic interpretations of both the traumatic event and the individual' s responses are shown to be predictive of chronic PTSD (see Ehlers & Clark, 2000). It is unclear whether disturbed reasoning styles, catastrophic interpretation, and dissociation add independently to the development of PTSD or to what degree they interact. Future research should focus on these different predictors in order to obtain a more transparent model of the development of PTSD. An important finding in the studies by Engelhard et al. is that neither neuroticism nor intelligence appears to account for the relation between disturbed reasoning styles and PTSD. Hence, with respect to the general vulnerability factors,

exconsequentia reasoning seems to add to the predictive power of PTSD without conceptual overlap with the predisposing vulnerability factors. Although prospective studies may shed a light on the predictors of PTSD, which are clinically of great interest, it may not always be clear on a theoretical level why a certain predictor is related to the development of chronic symptoms. There is indeed convincing evidence that dissociation at the time of the trauma and during the first month after the trauma is one of the best predictors of PTSD. However, the pathogenic mechanism of dissociation remains unclear. The prevailing contention is that dissociation disturbs the processing of traumatic events resulting in typical memory disturbances observed in PTSD, such as memory fragmentation. The paper by Kindt et al. addresses this hypothesis by testing whether state dissociation is related to objectively assessed memory disturbances. The authors argue that most evidence for the memory disturbances in PTSD is based on subjective reports obtained from clinical reports without experimental control of the stimulus material. From cognitive psychology it is known that the subjective experience of memory does not necessarily overlap with the memory performance itself (Shimamura & Squire, 1986). If the supposed memory disturbances result from disturbances in information processing, not only subjectively assessed memory disturbances, should be observed, but also objectively memory disturbances. In two analogue laboratory studies they indeed showed a relation between state dissociation and memory fragmentation. However, this was confined to the subjective experience of memory fragmentation. These results question the viability of the hypothesis that the detrimental effects of dissociation are due to disturbances in information processing of the traumatic event. A remarkable finding was that the presence of intrusions explained half of the variance of the relation between dissociation and subjective memory fragmentation. Note that intrusions are normal characteristics after trauma experiences and that they are characterized by their snapshot or fragmented character (Hackmann, Ehlers, Speckens, & Clark, 2004). This may suggest that

the presence of intrusions themselves results in perceived memory fragmentation of the traumatic event. The experience of fragmentation may just be a reflection of PTSD. Alternatively, the influence of dissociation on subsequent PTSD may be mediated by the way individuals appraise their dissociative reactions (see McNally et al., 2003). Future studies should focus on the interrelation between these concepts in order to understand the theoretical basis of the predictive relation of dissociation and subsequent PTSD. The work by Brewin and Smart is relevant with respect to the understanding of the relation between cognitive ability and the development of PTSD, although this was not the purpose of the study. The pathogenic mechanism that explains why lower cognitive ability is a risk factor for the development of PTSD remains unresolved. In fact, it is striking that whereas numerous studies focus on predictors of PTSD, relatively few studies investigate the underlying pathogenic mechanisms. For practical and clinical reasons, knowledge of predictors may be sufficient to select the most vulnerable individuals. On the other hand, knowledge of the pathogenic mechanism may have consequences for intervention, even if the vulnerability factor itself cannot be changed. An important finding of the study by Brewin et al. is that the relation between working memory capacity is related to the ability to intentionally suppress personally relevant intrusive thoughts.

### 2.3.4 Relationship between Spiritual Well Being and Post Traumatic Stress Disorder

With the wars in Iraq and Afghanistan, it is estimated that about 300,000 returning troops suffer from symptoms of depression or posttraumatic stress disorder (PTSD) (Rand 2008). In attempts to understand ways to alleviate veterans' suffering from PTSD, researchers are beginning to explore spirituality and its relationship to health and wellbeing (Witvliet, Phipps Feldman & Beckman 2004). Spiritual and religious factors have been reported as being helpful in coping with other stressful conditions such as human immunodeficiency virus (HIV) (Carrico, Ironson Antoni Lechner, Duran & Kumar 2006) and

cancer. Experiences of trauma have been described as challenging to one' s religious and spiritual beliefs related to meaning and purpose in life. Therefore, the researcher holds that attending to spirituality in individuals who have experienced traumatic stressors might be an important tool for coping with the aftermath of those experiences. It is only recently that aspects of spirituality and religious beliefs are being explored in relationship to war-related trauma and PTSD. This literature suggests that spirituality/religion may be an important coping tool. For example, in a study of 100 veterans, religious beliefs were cited as the most significant factor in helping them accept various problems. On the other hand, loss of religious belief may be associated with increased problems. In a study of 1,385 veterans, those who experienced killing or who failed to prevent others from death reported that their religious beliefs had weakened and their feelings of guilt had increased (Fontana & Rosenheck 2004). These changes were associated with greater use of mental health care services. In another study of 213 treatment-seeking veterans with PTSD, both positive and negative religious coping were associated with PTSD symptom severity and difficulty forgiving oneself was associated with depression and PTSD symptom severity. Despite reports suggesting that spirituality is impacted by trauma and that spirituality/religion may be an important factor in coping, there is little empirical evidence examining the use of spirituality-based interventions for PTSD symptoms (Bormann, Smith, Becker, Gershwin, Pada, Grudzinski 2005). One intervention that has been studied for its efficacy in managing symptoms of PTSD is a set of strategies for training attention called mantram repetition (Bormann & Oman 2007). " Mantram" versus " mantra" denotes a specific set of guidelines (20). Mantram repetition (i.e., silently focusing attention on a selected sacred phrase (e.g., Ave Maria, Om Mani Padme Hum, O Wakan Tanka, Rama, etc.) is practiced daily throughout the day. Slowing down thoughts and developing one-pointed attention, hallmarks of mindfulness practice, are other allied skills taught to support mantram repetition. The mantram intervention has been studied

in various groups including veterans with chronic illness (Bormann, Smith, Becker, Gershwin, Pada, Grudzinski 2005), healthcare employees, adults with HIV, and community-dwelling adults (Wolf & Abell 2003). These studies have shown significant reductions in perceived stress and anger and improvements in existential spiritual wellbeing (ESWB) and quality of life (Bormann & Oman 2007). There are a number of mechanisms by which mantram repetition may impact symptomatology. It may serve as a coping tool. After being practiced frequently during stress-free or peaceful times, the repetition of a mantram may become a way to elicit the relaxation response rapidly, thus interrupting the stress response upon encountering stressful events. Similarly, the pause provided by the practice may give an individual time in which to choose a more adaptive response to a stressor (Borman & Carrico). Alternatively, mantram may enhance coping through a connection to one' s spirituality. The use of a spiritual phrase, as opposed to a secular phrase, is recommended based on prior empirical evidence. Results from randomized controlled trials that focused on a real versus placebo mantra, or on spiritual versus secular meditation showed that the spiritual groups reported greater health benefits such as reductions in physical pain and psychological distress compared with secular groups (Wolf & Abell 2003). Thus, the connection to one' s spirituality may be an important contributor to the effect of the practice.

**2.4 Hypotheses**

I. Participants with high spirituality scores will report lower PTSD than their counterparts with low spirituality scores.

II. Participants with high forgiveness scores will report lower PTSD than their counterparts with low forgiveness scores.

III. Participants with high private religious practices (PRP) will report lower PTSD than their counterparts with low PRP.

IV. Participants with high religious coping scores will report lower PTSD than their counterparts with low religious coping scores.

V. Participants with high overall spirituality/religiosity scores will report lower PTSD than their counterparts with low overall spirituality/religiosity scores.

## 2.5 Operational Definition of Terms

### Spiritual Well-Being

This is a state of religious balance in an individual, it means a state at which the individual upholds the teachings of a religious precepts and ensures that these values are upheld and practice. This was measured using the Multidimensional Measurement of Religiousness/ Spirituality (Fetzer Institute, 2003). High scores on the scale indicated high level of spiritual well being.

### Forgiveness

Forgiveness refers to the divine act of letting go of the wrong of another person. It may include such behaviours as forgetting the wrong of another person as well as showing mercy to the individual that has done wrong. It was measured by the Multidimensional Measurement of Religiousness/ Spirituality (Fetzer Institute, 2003). High scores on the scale indicated high level of forgiveness.

### Religious Coping Capacities

This refers to the process of adjusting to uncomfortable spiritual situations. It is also the process of meeting up to the demands of one' s religious doctrines. It was measured by the Multidimensional Measurement of Religiousness/ Spirituality (Fetzer Institute, 2003). High scores on the scale indicated high level of religious coping capacities.

### Private Religious Practices

Private religious practices are religious activities done within the confines of the individual' s environment. It is sole religious practice rendered personally. It was measured by the

Multidimensional Measurement of Religiousness/ Spirituality (Fetzer Institute, 2003). High scores on the scale indicated high level of private religious practices.

**Post-Traumatic Stress Disorder**

PTSD is defined as a foreboding feeling of anxiety consistently within a period of three months after the occurrence of negative events which could be the loss of a loved on perhaps the loss of something precious. Symptoms often appear within three months after a traumatic event, but may be delayed months or even years. This is measured using the Post-Traumatic Stress Disorder Symptoms Checklist (PCL: Weathers, Litz, Herman, Huska, & Keane, 1993). High scores on the scale indicate acute post-traumatic stress conditions in the individual.

# CHAPTER THREE

## Method

### 3.1 Research Design

The current study adopts an ex post-facto research design. In this case, the researcher does not make a deliberate manipulation of the research variables as the research concepts and variables were existing among research participants prior to the conduct of the current research. The main independent variable in the current research includes the spiritual well-being dimensions namely spirituality, forgiveness, religious history and private religious practices. The dependent variable is post-traumatic stress disorder.

### 3.2 Setting

The study was carried out among male and female police officials in some selected Police Stations in Oyo State. The setting is conducive towards the completion of the research because the research participants can easily be reached.

### 3.3 Participants and Sampling

The sample includes one hundred and seventy five (175) police officials of some Police Stations in Oyo State Police Command. The sample consists of 109 (62.3%) Male and 66 (37.7%) female police officials with age range of 20-55 years. Participants were sampled using the convenience sampling. 52(29.7%) of research participants are single, 112(64%) are married, 8(4.6%) are divorced while 3(1.7%) are widowed. As regards educational qualification, 68(38.9%) are SSCE holders, 16(9.1%) are NCE holder, 34(19.4%) are OND holders, 37(21.1%) are HND holders while 20(11.4%) are BSC holders. The research participants were selected irrespective of their ranks as such, 52(29.7%) are of the rank of sergeant, 20(11.4%) are of the rank of inspector, 22(12.6%) are corporals, 24(13.7%) are Lance corporals, 39(22.3%) are constables, 5(2.9%) are warrant Officers, 7(4.7%) are private officers while 6(3.4%) are of the rank of ASP.

### 3.5 Research Instruments

The instrument used for the measurement of variables in this study were self-report measures pertaining to key demographic variables within the population of study and significant other variables.

#### 3.5.1 Section A

Section A consists of items measuring socio-demographic information of the participants, such as age, educational qualification, marital status and the rank of the police officials.

#### 3.5.1 Section B

The Post-Traumatic Stress Disorder Symptoms Checklist (PCL: Weathers et al., 1993): The instrument was designed to obtain information on types of victimization experienced by the subjects, as well as onset, frequency, perpetrators, and duration. The Post-Traumatic Stress Disorder Symptoms Checklist (PCL) was used to gauge symptoms that indicate PTSD. The PCL is one of the most commonly used screening mechanisms for PTSD and has been found to be reliable and valid for screening purposes across numerous populations (U.S. Department of Veterans Affairs, 2009). The cronbach alpha of this scale is .84 (see chapter four). Responses are made on a 5-point scale. Responses to all 17 items are summed up to yield the final composite score, with a range from 17 to 85.

#### 3.5.2 SECTION C

**Multidimensional Measurement of Religiousness/ Spirituality**

The multidimensional measurement of religiousness/spirituality (Fetzer Institute, 2003) is 38 items scale measuring the various domains of religiousness and spirituality. The key domains of religiousness/spirituality was deemed essential for studies where some measure of health serves as an outcome. In addition, these domains were chosen because of the strength of their conceptualization and theoretical or empirical connection to health outcomes. These domains include Daily Spiritual Experiences, Forgiveness, Private Religious Practices

Religious/Spiritual Coping, and Religious/Spiritual History. It is a four-point Likert scale was used to allow athletes to indicate how much they agreed or disagreed with the items in the scale. The cronbach alpha of this scale is based on it dimensions (See Chapter four). The spirituality dimension yields .88; forgiveness dimension yields .85; private religious practice yields .75; religious coping yields .50 and overall spirituality and religiosity .74.

### 3.6 Procedure

The researcher ensured that ethical approval was granted to the research prior to the commencement of the research. This was done by informing the operatives in the Oyo State Police Command. They agreed to take active part in the research. After this, participants were approached individually based on available over the course of three days. Instruments were administered after obtaining informed consent and assuring confidentiality of response. Completed instruments were collected immediately after administration.

### 3.7 Statistical Method

Data was analysed by the aid of Statistical Packages for Social Sciences (IBM SPSS 20.0). Descriptive statistics such as frequency, percentages, means and standard deviation were used. Pearsons correlation was used to establish relationship among continuous variables. All hypotheses in the study were tested using the t-test for independent group.

# CHAPTER FOUR

## RESULTS

**Table 1: Distribution of Social-demographics**

| N = 175 | n | % |
|---|---|---|
| **Sex** | | |
| Male | 109 | 62.3 |
| Female | 66 | 37.7 |
| **Age** | | |
| 20-25 | 6 | 3.4 |
| 26-31 | 65 | 37.1 |
| 32-37 | 68 | 38.9 |
| 38-43 | 25 | 14.3 |
| 44-49 | 9 | 5.1 |
| 50-55 | 2 | 1.1 |
| **Marital status** | | |
| Single | 52 | 29.7 |
| Married | 112 | 64 |
| Divorced | 8 | 4.6 |
| Widowed | 3 | 1.7 |
| **Education** | | |
| SSCE | 68 | 38.9 |
| NCE | 16 | 9.1 |
| OND | 34 | 19.4 |
| HND | 37 | 21.1 |
| BSc | 20 | 11.4 |
| **Rank** | | |
| Sergeant | 52 | 29.7 |
| Inspector | 20 | 11.4 |
| Corporal | 22 | 12.6 |
| Lance corporal | 24 | 13.7 |
| Constable | 39 | 22.3 |
| Warrant officer | 5 | 2.9 |
| Private officer | 7 | 4.7 |
| ASP | 6 | 3.4 |

The socio-demographic distributions of participants are shown in table 1. Majority of participants were males (62), married (64%), between ages 26-37 (76%) and had only secondary school education (38.9%). Based on rank, greater number of participants were

Sergeants (29.7%), followed by the Constable position (22.3%), while the least were Assistant Superintendent of Police (ASP: 3.4%) and warrant officers (2.9%) positions.

**Table 2: Means (M) and Standard Deviations (SD) and bivariate correlations**

| Variable | α | M | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|
| 1. PTSD | .84 | 29.49 | 8.88 | - | | | | |
| 2. Spirituality | .88 | 31.31 | 4.57 | -.33** | - | | | |
| 3. Forgiveness | .85 | 10.61 | 2.17 | .21** | .58** | - | | |
| 4. Private religious practices | .75 | 34.70 | 4.86 | -.17* | .61** | .45** | - | |
| 5. Religious coping | .50 | 22.17 | 3.52 | -.08 | .27** | .23** | .29** | |
| 6.Overal spirituality and religiosity | .74 | 6.01 | 1.31 | -.25** | .34** | .24** | .26** | -.20** |

**p < .01 (2-tailed)*

**p < .05 (2-tailed)*

The result of correlation analysis among study variables are displayed in table 2. PTSD scores were negatively associated with spirituality [*r* (173) = -.33, p < .001], forgiveness [*r* (173) = -.21, p = .005], private religious practices [*r* (173) = -.17, p = .02] and overall spirituality/religiosity [*r* (173) = -.25, p = .001]. However, PTSD was not related with religious coping [*r* (173) = -.08, p = .31].

**Hypothesis 1**

Participants with high spirituality scores will report lower PTSD than their counterparts with low spirituality scores.

**Table 3:** Independent sample t-test – spirituality on PTSD

| Spirituality | Low (n = 79 ) | | High (n = 96) | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | $t_{(173)}$ | 95%CI |
| PTSD | 32.10 | 10.60 | 27.34 | 6.47 | 3.49** | [2.06, 7.46] |

**p < .01 (2-tailed)*

An independent sample t-test (table 3) showed that the difference in PTSD scores between participants with low (M = 32.10, SD = 10.60) and high (M = 27.34, SD = 6.47) spirituality scores were statistically significant, t (173) =3.49, *p* = .001. This means that participants with high scores on spirituality reported lower PTSD scores than their counterparts with low spirituality scores. Therefore, hypothesis one is supported.

**Hypothesis 2**

Participants with high forgiveness scores will report lower PTSD than their counterparts with low forgiveness scores.

**Table 4:** Independent sample t-test – forgiveness on PTSD

| Forgiveness | Low (n = 55) | | High (120) | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | $t_{(173)}$ | 95%CI |
| PTSD | 33.93 | 10.60 | 27.46 | 7.14 | 4.12** | [3.34, 9.60] |

**$p < .01$ (2-tailed)*

An independent sample t-test (table 4) showed that the difference in PTSD scores between participants with low (M = 32.10, SD = 10.60) and high (M = 27.34, SD = 6.47) forgiveness scores were statistically significant, t (173) = 4.12, $p < .001$. This means that participants with high forgiveness scores had lower PTSD scores than their counterparts with low forgiveness scores. Therefore, hypothesis two is supported.

**Hypothesis 3**

Participants with high private religious practices (PRP) will report lower PTSD than their counterparts with low PRP.

**Table 5:** Independent sample t-test – PRP on PTSD

| PRP | Low (n = 68) | | High (107) | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | $t_{(173)}$ | 95%CI |
| PTSD | 32.06 | 9.60 | 27.86 | 8.01 | 3.13** | [1.55, 6.97] |

**$p < .01$ (2-tailed)*

An independent sample t-test (table 5) showed that the difference in PTSD scores between participants with low (M = 32.06, SD = 9.60) and high (M = 27.86, SD = 8.01) scores on private religious practices were statistically significant, t (173) = 3.13, $p = .002$. This means that participants who reported high private religious practices had lower PTSD scores than their counterparts with low private religious practices. Therefore, hypothesis three is supported.

**Hypothesis 4**

Participants with high religious coping scores will report lower PTSD than their counterparts with low religious coping scores.

**Table 6:** Independent sample t-test religious coping on PTSD

| FPRP | Low (n = 85) | | High (90) | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | $t_{(173)}$ | 95%CI |
| PTSD | 30.35 | 10.05 | 28.68 | 7.58 | .21 | [.99, 4.34] |

An independent sample t-test (table 6) showed that the difference in PTSD scores between participants with low (M = 30.35, SD = 10.05) and high (M = 28.68, SD = 7.58) religious coping scores were not statistically significant, t (173) = .21, $p = .21$. Therefore, hypothesis four is not supported.

**Hypothesis 5**

Participants with high overall spirituality/religiosity scores will report lower PTSD than their counterparts with low overall spirituality/religiosity scores.

**Table 7:** Independent sample t-test – overall spirituality/religiosity on PTSD

| Spirituality/religiosity | Low (n = 114) | | High (61) | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | $t_{(173)}$ | 95%CI |
| PTSD | 31.23 | 9.72 | 26.25 | 5.86 | 3.66** | [2.65, 7.31] |

** *p < .01 (2-tailed)*

An independent sample t-test (table 7) showed that the difference in PTSD scores between participants with low (M = 31.23, SD = 9.72) and high (M = 26.25, SD = 5.86) scores on overall spirituality/religiosity were statistically significant, t (173) = 3.66, $p < .001$. This means that participants with high scores on overall spirituality/religiosity had lower PTSD scores than their counterparts with low overall spirituality/religiosity scores. Therefore, hypothesis five is supported.

# CHAPTER FIVE

## 5.1 Discussion

Based on the research findings of the current study, it was shown that participants with high scores on spirituality reported lower PTSD scores than their counterparts with low spirituality scores. It was also discovered that high overall spirituality/religiosity scores reported lower PTSD than their counterparts with low overall spirituality/religiosity scores. This means that level of spirituality influenced PTSD among police officials. This finding is congruent with findings from the research of Chen & Koenig (2006) whose review of the traumatic stress and religion literature yielded some good results on religion and health outcomes. Although it has been demonstrated that spiritual well-being is important for our understanding of happiness and established constructs such as personality factors (Gomez & Fisher, 2003), it is however important to note that the influence of this variable cannot be overemphasized on the occurrence and reduction of the PTSD.

There is little empirical evidence examining the use of spirituality-based interventions for PTSD symptoms. One intervention that has been studied for its efficacy in managing symptoms of PTSD is a set of strategies for training attention called mantram repetition (Bormann & Oman 2007). The mantram repetition is a form of spiritual ritual. Results from randomized controlled trials that focused on a real versus placebo mantra, or on spiritual versus secular meditation showed that the spiritual groups reported greater health benefits such as reductions in physical pain and psychological distress compared with secular groups. Thus, the connection to one' s spirituality may be an important contributor to the effect of the practice.

Also, it was discovered that there is an influence of forgiveness on PTSD as research findings shows that participants with high forgiveness scores had lower PTSD scores than their counterparts with low forgiveness scores. Forgiveness is spiritual concept which is

preached across various religions. The result from the current study is also in line with findings from other researches. For example, in a study of 1,385 veterans, those who experienced killing or who failed to prevent others from death reported that their religious beliefs had weakened and their feelings of guilt had increased (Fontana & Rosenheck 2004). These changes were associated with greater use of mental health care services.

In another study of 213 treatment-seeking veterans with PTSD, both positive and negative religious coping were associated with PTSD symptom severity and difficulty forgiving oneself was associated with depression and PTSD symptom severity. Despite reports suggesting that spirituality is impacted by trauma and that spirituality/religion may be an important factor in coping, there is little empirical evidence examining the use of spirituality-based interventions for PTSD symptoms.

Another finding from the current study is that participants with high private religious practices (PRP) reported lower PTSD than their counterparts with low private religious practices. As a matter of fact very few researches have focused on the aspects of religious practices on PTSD, making it difficult to compare this particular research finding with other researches.

The current study also discovered that Participants with high religious coping scores reported lower PTSD than their counterparts with low religious coping scores. This is in congruence with some researches. For example, according to Bjorck (2007), using a combination of religious coping and problem-solving strategies to manage stress is considered one of the most efficient and adaptive approaches. furthermore, it was asserted that religious coping generally results in positive outcomes and better psychological functioning in the individual (Bjorck, 2007). From a particular research on religiosity, Wills et al. (2003) ascertained that the groups that scored high on the measure of religiousness tended to cope better with significant life events. They also found that the perceived impact

of a given life stressor was significantly lower for the high-religiosity subgroup than for the other groups. They were able to establish that, in 90% of the articles investigated, higher levels of religiosity and/or spirituality were linked with better mental health in individuals. Also, in their meta-analytic study, Wong et al. (2006) noticed that religiousness aided in positive growth in individuals who had been subjected to a past traumatic event. In this context, the positive growth meant that, instead of the religious persons adopting maladaptive behaviours (such as substance use and/or abuse) or attitudes(despondency, defeat, and apathy), and responding negatively to the traumatic event, they were able to grow from it, which tended to be a measure of positive mental health and wellbeing (Wong et al., 2006).

### 5.2 Conclusion

Based on study findings it is concluded that

1. Participants with high scores on spirituality reported lower PTSD scores than their counterparts with low spirituality scores.
2. Participants with high forgiveness scores had lower PTSD scores than their counterparts with low forgiveness scores.
3. Participants who reported high private religious practices had lower PTSD scores than their counterparts with low private religious practices.
4. Participants with high scores on overall spirituality/religiosity had lower PTSD scores than their counterparts with low overall spirituality/religiosity scores.

### 5.3 Implication and Recommendation

From the study, one can imply that those with ability to forgive will likely be less vulnerable to PTSD than those with little or no ability to forgive others. Forgiveness is a spiritual activity and may involve letting go of the wrong doing from someone else. There is importance of forgiving another person as it reduce the possibility of the individual being faced with traumatic disorders. Spiritual well-being and religiosity improves the coping

capacities of the individuals meaning that adapting to stressful events can be attributed to the level of spiritual well-being of the individuals.

Based on the implication of the current study, the research therefore makes the following recommendations.

I. There should be a means of spiritual devotion among security officials in general. This should be a dedicated daily routine among security officials

II. Correctional facilities should have a way of including spiritual exercises in the process of helping those with post-traumatic stress disorder.

III. Also, individuals generally should forgive more often to reduce the chance of being vulnerable to PTSD.

### 5.5 Limitations to the Study

The researcher utilized police officers in Oyo State and so the findings of the current research are not generalizable enough to the population of police officers. Another limitation of the current study is the size of the research participants. The size of the research participants is not adequate enough to generalize on police officials in the whole country.

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APPENDIX
FEDERAL UNIVERSITY OYE-EKITI, EKITI STATE
FACULTY OF SOCIAL SCIENCE
DEPARTMENT OF PSYCHOLOGY
QUESTIONNAIRE

Dear Respondent,

I am a final year student of the department of psychology, Federal University Oye-Ekiti, Ekiti State. I am conducting a research in the area of **Psychology** and **Behavior.**

Please give your immediate impression about the question in this survey. There is no right or wrong answers. Your response will be treated with upmost confidentiality.

Ogbena A. Bright (MALE)

Please indicate your interest in partaking in the research by ticking YES (   ) or NO (   )

**SECTION A**

1. **Sex:** **Male** (   ) Female (   )
2. **Age:** ……………………… …………………..
3. **Marital status:** Single (   ) Married (   ) Divorced (   ) Widow (   ) Widower (   )
4. **Rank:** ……………………… ………………………………………..
5. **Command:** ……………………… ………………………………………..
6. **Qualification:** ……………………… ………………………………………..
7. **Have you had physical combats with armed robbers or other armed groups posing security threat to the people?** Yes (   ) No (   )
8. **If yes, how many years, months, weeks or days ago?** (   )
9. **Did you undergo any rehabilitation after the combat?** Yes (   ) No (   )

**SECTION B**

**INSTRUCTION:** Below is the list of problems and complaints that people sometimes have in response to stressful military experiences. Please read each one carefully, put an ''X'' in the box below to indicate how much you have been bothered by that problem in the past month. Using the scale below.

1. **NOT AT ALL 2. A LITTLE BIT 3. MODERATELY 4. QUITE A BIT 5. EXTREMELY**

| S/N | ITEMS | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | Repeated, disturbing memories, thoughts, or images of a stressful experience from the past? | | | | | |
| 2 | Repeated, disturbing dreams of a stressful experience from the past? | | | | | |
| 3 | Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)? | | | | | |
| 4 | Feeling very upset when something reminded you of a stressful experience from the past? | | | | | |
| 5 | Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past? | | | | | |
| 6 | Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it? | | | | | |
| 7 | Avoid activities or situations because they remind you of a stressful experience from the past? | | | | | |
| 8 | Trouble remembering important parts of a stressful experience from the past? | | | | | |
| 9 | Loss of interest in things that you used to enjoy? | | | | | |
| 10 | Feeling distant or cut off from other people? | | | | | |
| 11 | Feeling emotionally numb or being unable to have loving feelings for those close to you? | | | | | |
| 12 | Feeling as if your future will somehow be cut off short? | | | | | |
| 13 | Trouble falling or staying asleep? | | | | | |
| 14 | Feeling irritable or having angry outbursts? | | | | | |
| 15 | Having difficulty concentrating? | | | | | |
| 16 | Being "super alert" or watchful on guard? | | | | | |
| 17 | Feeling jumpy or easily startled? | | | | | |

**SECTION C**

**INSTRUCTION:** The following questions deal with possible spiritual experiences. Be sure to read all the statements carefully before making your choice. To what extent can you say you experience the following using the scale below.

1. **MANY TIMES A DAY 2. EVERY DAY 3. MOST DAYS 4. SOME DAYS 5.ONCE IN A WHILE 6. NEVER OR ALMOST NEVER.**

| S/N | ITEMS | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| 1 | I feel God's presence | | | | | | |

| 2 | I find strength and comfort in my religion | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | I feel deep inner peace or harmony | | | | | | |
| 4 | I desire to be closer to or in union with God | | | | | | |
| 5 | I feel God's love for me, directly or through others | | | | | | |
| 6 | I am spiritually touched by the beauty of creation | | | | | | |

**INSTRUCTION:** Use the scale below for table 7-8.

**1. STRONGLY AGREE 2. AGREE 3. DISAGREE 4. STRONGLY DISAGREE.**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 7 | I believe in a God who watches over me | | | | |
| 8 | I feel a deep sense of responsibility for reducing pain and suffering in the world | | | | |

**INSTRUCTION:** Use the scale below for table 9-11;

**1. ALWAYS OR ALMOST ALWAYS 2. OFTEN 3. SELDOM 4. NEVER.**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 9 | I have forgiven myself for things I have done wrong | | | | |
| 10 | I have forgiven those who hurt me | | | | |
| 11 | I know that God forgives me | | | | |

**INSTRUCTION:** Use the scale below for 12-16;

**1. MORE THAN ONCE A DAY 2. ONCE A DAY 3. A FEW TIMES A WEEK 4. ONCE A WEEK 5. A FEW TIMES A MONTH 6. ONCE A MONTH 7. LESS THAN ONCE A MONTH 8. NEVER.**

| S/N | ITEMS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 12 | How often do you pray privately in places other than at church or synagogue? | | | | | | | | |
| 13 | Within your religious or spiritual tradition, how often do you mediate? | | | | | | | | |
| 14 | How often do you watch or listen to religious programs on TV or radio? | | | | | | | | |
| 15 | How often do you read your Bible or other religious literature? | | | | | | | | |
| 16 | How often are prayers or grace said before or after meals in your house? | | | | | | | | |

**INSTRUCTION:** Think about how you try to understand and deal with major problems in life. To what extent is each of the following involved in the way you cope? Use the scale below for 17-22;

**1. A GREAT DEAL 2. QUITE A BIT 3. SOMEWHAT 4. NOT AT ALL**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 17 | I think about how my life is part of a larger spiritual force | | | | |
| 18 | I work together with God as partner | | | | |
| 19 | I look to God for strength, support, and guidance | | | | |
| 20 | I feel God is punishing me for my sins or lack of spirituality | | | | |
| 21 | I wonder whether God has abandoned me | | | | |
| 22 | I try to make sense of the situation and decide what to do without relying on God | | | | |

**INSTRUCTION:** Use the scale below for;

**1. VERY INVOLVED 2. SOMEWHAT INVOLVED 3. NOT VERY INVOLVED 4. NOT INVOLVED AT ALL.**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 23 | To what extent is your religion involved in understanding or dealing with stressful situations in any way? | | | | |

**INSTRUCTION:** These questions are designed to find out how much help the people in your congregation would provide if you need it in future;

**1.A GREAT DEAL 2. SOME 3. A LITTLE 4. NONE.**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 24 | If you were ill, how much would the people in your congregation help out? | | | | |
| 25 | If you had a problem or were faced with difficult situation, how much comfort would the people in your congregation willing to give you? | | | | |

**INSTRUCTIONS:** sometimes the contact we have with other not always pleasant.

**1. VERY OFTEN 2. FAIRLY OFTEN 3. ONCE IN A WHILE 4. NEVER.**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 26 | How often do the people in your congregation make too many demands on you? | | | | |
| 27 | How often are the people in your congregation critical of you and the things you do? | | | | |

**INSTRUCTIONS;** Please answer each item by ticking YES or NO.

| S/N | ITEMS | YES | NO |
|---|---|---|---|
| 28 | Did you ever have a religious or spiritual experience that changed your life? | | |
| | IF YES: how old were you when this experience happened? | | |

| 29 | Have you ever had a significant gain in your faith? | | |
|---|---|---|---|
| | IF YES: How old were you when it occurred? | | |
| 30 | Have you ever had a significant loss in your faith? | | |
| | IF YES: how old were you when this occurred? | | |

**INSTRUCTION;** Please answer this question by using the following scale;
**1.STRONGLY AGREE, 2.AGREE, 3.DISAGREE, 4,STRONGLY DISAGREE.**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 31 | I try hard to carry my religious beliefs over into all my other dealings in life. | | | | |

**INSTRUCTION;** Please answer the following questions with utmost sincerity.

32. During the last year, about how much was the average monthly contribution of your household to your congregation or to religious causes?

Contribution per year (            ) Contribution per month (            )

33. In an average week, how many hours do you spend in activities on behalf of your church or activities that you do for religious or spiritual reasons? ------------------------------------------

**INSTRUCTION;** Please respond to the following questions using the scale below;
**1.MORE THAN ONCE A WEEK, 2.EVERY WEEK OR MORE OFTEN, 3. ONCE OR TWICE A MONTH, 4. EVERY MONTH OR SO, 5. ONCE OR TWICE A YEAR, 6. NEVER.**

| S/N | ITEMS | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| 34 | How often do you go to religious services? | | | | | | |
| 35 | Besides religious services, how often do you take part in other activities at a place of worship? | | | | | | |

**INSTRUCTION;** Please answer this question with utmost sincerity.

36. What is your current religious preference? ---------------------------------------------------------

**INSTRUCTION;** Please answer this question by using the scale below;
**1. VERY RELIGIOUS, 2. MODERATELY RELIGIOUS, 3. SLIGHTLY RELIGIOUS, 4. NOT RELIGIOUS AT ALL.**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 37 | To what extent do you consider yourself a religious person? | | | | |

**INSTRUCTION;** Please answer this question by using the following scale;
**1. VERY SPIRITUAL, 2. MODERATELY SPIRITUAL, 3. SLIGHTLY SPIRITUAL, 4. NOT SPIRITUAL AT ALL.**

| S/N | ITEMS | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 38 | To what extent do you consider yourself a spiritual person? | | | | |

# SPSS OUTPUT

FREQUENCIES VARIABLES=Sex Age MS Rank Edu Combat
/ORDER=ANALYSIS.

**Frequencies**

**Statistics**

| | | sex | age | marital status | rank | qualification | Combat |
|---|---|---|---|---|---|---|---|
| N | Valid | 175 | 175 | 175 | 175 | 175 | 175 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 |

**Frequency Table**

**sex**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | male | 109 | 62.3 | 62.3 | 62.3 |
| | female | 66 | 37.7 | 37.7 | 100.0 |
| | Total | 175 | 100.0 | 100.0 | |

**age**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 20-25 | 6 | 3.4 | 3.4 | 3.4 |
| | 26-31 | 65 | 37.1 | 37.1 | 40.6 |
| | 32-37 | 68 | 38.9 | 38.9 | 79.4 |
| | 38-43 | 25 | 14.3 | 14.3 | 93.7 |
| | 44-49 | 9 | 5.1 | 5.1 | 98.9 |
| | 50-55 | 2 | 1.1 | 1.1 | 100.0 |
| | Total | 175 | 100.0 | 100.0 | |

**marital status**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SINGLE | 52 | 29.7 | 29.7 | 29.7 |
| | married | 112 | 64.0 | 64.0 | 93.7 |
| | divorced | 8 | 4.6 | 4.6 | 98.3 |
| | widow | 2 | 1.1 | 1.1 | 99.4 |
| | widower | 1 | .6 | .6 | 100.0 |
| | Total | 175 | 100.0 | 100.0 | |

**rank**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | serget | 52 | 29.7 | 29.7 | 29.7 |
| | inspector | 20 | 11.4 | 11.4 | 41.1 |
| | corpral | 22 | 12.6 | 12.6 | 53.7 |
| | lance corpral | 24 | 13.7 | 13.7 | 67.4 |
| | constable | 39 | 22.3 | 22.3 | 89.7 |
| | warrant officer | 5 | 2.9 | 2.9 | 92.6 |
| | private soilder | 7 | 4.0 | 4.0 | 96.6 |
| | ASP | 6 | 3.4 | 3.4 | 100.0 |
| | Total | 175 | 100.0 | 100.0 | |

**qualification**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | H.N.D | 37 | 21.1 | 21.1 | 21.1 |
| | S.S.C.E | 68 | 38.9 | 38.9 | 60.0 |
| | Bsc | 20 | 11.4 | 11.4 | 71.4 |
| | O.N.D | 34 | 19.4 | 19.4 | 90.9 |
| | NCE | 16 | 9.1 | 9.1 | 100.0 |
| | Total | 175 | 100.0 | 100.0 | |

**Combat**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | yes | 111 | 63.4 | 63.4 | 63.4 |
| | no | 64 | 36.6 | 36.6 | 100.0 |
| | Total | 175 | 100.0 | 100.0 | |

```
CORRELATIONS
 /VARIABLES=PTSD DSE Forgiveness PRP Coping Support Overall
 /PRINT=TWOTAIL NOSIG
 /STATISTICS DESCRIPTIVES
 /MISSING
```

**Correlations**

**Descriptive Statistics**

| | Mean | Std. Deviation | N |
|---|---|---|---|
| PTSD | 29.49 | 8.878 | 175 |
| Daily spiritual expereince | 31.3143 | 4.56606 | 175 |
| Forgiveness | 10.6114 | 2.17030 | 175 |
| Private religious practices | 34.7029 | 4.85925 | 175 |
| Religious coping | 22.1714 | 3.51749 | 175 |
| Support | 10.4343 | 1.81785 | 175 |
| Overal spirituality/religiosity | 6.0057 | 1.50668 | 175 |

**Correlations**

| | | PTSD | Daily spiritual expereince | Forgiveness | Private religious practices | Religious coping | Support | Overal spirituality/religiosity |
|---|---|---|---|---|---|---|---|---|
| PTSD | Pearson Correlation | 1 | -.331** | -.212** | -.173* | -.078 | -.023 | -.252** |
| | Sig. (2-tailed) | | .000 | .005 | .022 | .307 | .767 | .001 |
| | N | 175 | 175 | 175 | 175 | 175 | 175 | 175 |
| Daily spiritual expereince | Pearson Correlation | -.331** | 1 | .577** | .612** | .265** | .055 | .342** |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 | .466 | .000 |
| | N | 175 | 175 | 175 | 175 | 175 | 175 | 175 |
| Forgiveness | Pearson Correlation | -.212** | .577** | 1 | .458** | .232** | .209** | .238** |
| | Sig. (2-tailed) | .005 | .000 | | .000 | .002 | .005 | .002 |
| | N | 175 | 175 | 175 | 175 | 175 | 175 | 175 |
| Private religious practices | Pearson Correlation | -.173* | .612** | .458** | 1 | .294** | .194** | .262** |
| | Sig. (2-tailed) | .022 | .000 | .000 | | .000 | .010 | .000 |
| | N | 175 | 175 | 175 | 175 | 175 | 175 | 175 |
| Religious coping | Pearson Correlation | -.078 | .265** | .232** | .294** | 1 | .144 | .243** |
| | Sig. (2-tailed) | .307 | .000 | .002 | .000 | | .058 | .001 |
| | N | 175 | 175 | 175 | 175 | 175 | 175 | 175 |
| Support | Pearson Correlation | -.023 | .055 | .209** | .194** | .144 | 1 | -.202** |
| | Sig. (2-tailed) | .767 | .466 | .005 | .010 | .058 | | .007 |
| | N | 175 | 175 | 175 | 175 | 175 | 175 | 175 |
| Overal spirituality/religiosity | Pearson Correlation | -.252** | .342** | .238** | .262** | .243** | -.202** | 1 |
| | Sig. (2-tailed) | .001 | .000 | .002 | .000 | .001 | .007 | |
| | N | 175 | 175 | 175 | 175 | 175 | 175 | 175 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

```
RELIABILITY
 /VARIABLES=qb1 qb2 qb3 qb4 qb5 qb6 qb7 qb8 qb9 qb10 qb11 qb12 qb13 qb14 qb15 qb16 qb17
 /SCALE('PTSD') ALL
 /MODEL=ALPHA.
```

**Reliability**

**Scale: PTSD**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 175 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 175 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .840 | 17 |

```
RELIABILITY
 /VARIABLES=qc1 qc2 qc3 qc4 qc5 qc6
 /SCALE('DSES') ALL
 /MODEL=ALPHA.
```

**Reliability**

**Scale: DSES**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 175 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 175 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .879 | 6 |

```
RELIABILITY
 /VARIABLES=qc9 qc10 qc11
 /SCALE('Forgiveness') ALL
 /MODEL=ALPHA.
```

**Reliability**

**Scale: Forgiveness**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 175 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 175 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .852 | 3 |

```
RELIABILITY
 /VARIABLES=qc12 qc13 qc14 qc15 qc16
 /SCALE('PRP') ALL
 /MODEL=ALPHA.
```

**Reliability**

**Scale: PRP**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 175 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 175 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .750 | 5 |

```
RELIABILITY
 /VARIABLES=qc17 qc18 qc19 qc20 qc21 qc22 qc23
 /SCALE('Coping') ALL
 /MODEL=ALPHA.
```

**Reliability**

**Scale: Coping**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 175 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 175 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .496 | 7 |

```
RELIABILITY
 /VARIABLES=qc37 qc38
 /SCALE('Overall') ALL
 /MODEL=ALPHA.
```

**Reliability**

**Scale: Overall**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 175 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 175 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .740 | 2 |

```
T-TEST GROUPS=DSE1(1 2)
 /MISSING=ANALYSIS
 /VARIABLES=PTSD
 /CRITERIA=CI(.95).
```

**T-Test**

**Group Statistics**

| | DSE1 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| PTSD | Low | 79 | 32.10 | 10.597 | 1.192 |
| | High | 96 | 27.34 | 6.467 | .660 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| PTSD | Equal variances assumed | 14.610 | .000 | 3.651 | 173 | .000 | 4.758 | 1.303 | 2.185 | 7.330 |
| | Equal variances not assumed | | | 3.491 | 123.610 | .001 | 4.758 | 1.363 | 2.060 | 7.455 |

```
T-TEST GROUPS=Forg1(1 2)
 /MISSING=ANALYSIS
 /VARIABLES=PTSD
 /CRITERIA=CI(.95).
```

**T-Test**

**Group Statistics**

| | Forg1 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| PTSD | Low | 55 | 33.93 | 10.604 | 1.430 |
| | High | 120 | 27.46 | 7.138 | .652 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| PTSD | Equal variances assumed | 10.209 | .002 | 4.743 | 173 | .000 | 6.469 | 1.364 | 3.777 | 9.161 |
| | Equal variances not assumed | | | 4.117 | 77.250 | .000 | 6.469 | 1.571 | 3.340 | 9.598 |

```
T-TEST GROUPS=PRP1(1 2)
 /MISSING=ANALYSIS
 /VARIABLES=PTSD
 /CRITERIA=CI(.95).
```

**T-Test**

**Group Statistics**

| | PRP1 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| PTSD | Low | 68 | 32.06 | 9.602 | 1.164 |
| | High | 107 | 27.86 | 8.011 | .774 |

**Independent Samples Test**

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| PTSD Equal variances assumed | 6.349 | .013 | 3.126 | 173 | .002 | 4.199 | 1.343 | 1.547 | 6.851 |
| PTSD Equal variances not assumed | | | 3.003 | 124.042 | .003 | 4.199 | 1.398 | 1.431 | 6.967 |

```
T-TEST GROUPS=coping1(1 2)
 /MISSING=ANALYSIS
 /VARIABLES=PTSD
 /CRITERIA=CI(.95).
```

**T-Test**

**Group Statistics**

| | coping1 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| PTSD | Low | 85 | 30.35 | 10.046 | 1.090 |
| | High | 90 | 28.68 | 7.580 | .799 |

**Independent Samples Test**

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| PTSD Equal variances assumed | 11.045 | .001 | 1.250 | 173 | .213 | 1.675 | 1.341 | -.971 | 4.321 |
| PTSD Equal variances not assumed | | | 1.240 | 156.039 | .217 | 1.675 | 1.351 | -.994 | 4.344 |

```
T-TEST GROUPS=Support1(1 2)
 /MISSING=ANALYSIS
 /VARIABLES=PTSD
 /CRITERIA=CI(.95).
```

**T-Test**

**Group Statistics**

| | Support1 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| PTSD | Low | 96 | 29.85 | 9.983 | 1.019 |
| | High | 78 | 29.05 | 7.401 | .838 |

**Independent Samples Test**

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| PTSD Equal variances assumed | 2.645 | .106 | .590 | 172 | .556 | .803 | 1.360 | -1.881 | 3.487 |
| PTSD Equal variances not assumed | | | .609 | 170.653 | .544 | .803 | 1.319 | -1.801 | 3.407 |

```
T-TEST GROUPS=OV1(1 2)
```

/MISSING=ANALYSIS
/VARIABLES=PTSD
/CRITERIA=CI(.95).

**T-Test**

**Group Statistics**

| | OV1 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| PTSD | Low | 114 | 31.23 | 9.715 | .910 |
| | High | 61 | 26.25 | 5.864 | .751 |

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| PTSD | Equal variances assumed | 12.936 | .000 | 3.662 | 173 | .000 | 4.982 | 1.361 | 2.297 | 7.668 |
| | Equal variances not assumed | | | 4.223 | 170.443 | .000 | 4.982 | 1.180 | 2.654 | 7.311 |