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Gender, Population Type, and Coping as Predictors of PTSD Symptom Severity

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By

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Gender, Population Type, and Coping as Predictors of PTSD Symptom Severity

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ABSTRACT

Research has demonstrated that a salient predictor of PTSD is experiencing a traumatic event. Additional research has indicated that there are other risk factors involved with predicting the development of PTSD including gender, population type, and emotion-focused coping. The purpose of the current study was to examine gender, population type, the interaction effect between gender and population type, and emotion-focused coping, specifically avoidant emotional coping and active emotional coping, as independent predictors of PTSD symptom severity. In total, 124 individuals participated in the current study. The sample consisted of 64 civilians and 60 military personnel. The results indicated that gender and avoidant emotional coping were significant predictors of PTSD symptom severity. Population type, active emotional coping, and the interaction of gender and population type were not significant predictors of PTSD symptom severity. Implications are discussed.

Keywords: PTSD, Gender, Coping, Military, Civilians

ACKNOWLEDGEMENTS

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SYMPTOM SEVERITY

Research has repeatedly demonstrated that experiencing a traumatic
event is the most salient predictor of posttraumatic stress disorder (PTSD) (Gil &
Weinberg, 2015; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Additional
research has indicated that there are other risk factors involved with predicting
the development of PTSD including gender, population type, and emotion-
focused coping (Bomyea, Risbrough, & Lang, 2012; Gil & Weinberg, 2015;
Gilbar, Weinberg, & Gil, 2012; Holahan & Moos, 1998; Kessler et al., 1995; Seal
et al., 2007). Despite the considerable attention, empirical and theoretical,
regarding factors that may predict PTSD, further evidence is still needed to clarify
the effects of the biological and ecological risk factors involved (McKeever &
Huff, 2003) and to assess how PTSD symptoms are affected by emotion-focused
coping (Carver et al., 1989; Lazarus & Folkman, 1985). The purpose of the
current study was to examine gender, population type, emotion-focused coping,
specifically avoidant emotional coping, and active emotional coping, and the
interaction of gender and population type as independent predictors of PTSD
symptom severity.

PTSD

      According to the Diagnostic and Statistical Manual 5th Edition (DSM-5), in order for a diagnosis of PTSD to be correctly assigned, an individual's experience of psychological symptoms, associated distress, and impairment must occur in response to having been exposed to one or more traumatic events. Exposure to a traumatic event may involve: (1) directly experiencing a traumatic event; (2) witnessing the traumatic event; (3) learning that a traumatic event occurred to a close family member or a close friend; or, (4) experiencing repeated or extreme exposure to aversive details of a traumatic event (American Psychiatric Association [APA], 2013).

      Secondary symptoms of PTSD must also be present, although the actual presentation of these symptoms may vary substantially from patient to patient (APA, 2013; Tiet, Leyva, Blau, Turchik, & Rosen, 2015). These secondary symptoms may be broken into four clusters: intrusion symptoms, avoidance, negative alterations in cognitions and mood, and arousal and reactivity alterations (APA, 2013). The term "intrusion symptoms" refers to the unwanted and unexpected occurrence of thoughts, memories, or emotions pertaining to a traumatic experience (APA, 2013). Specific symptoms can include the experience of recurrent and distressing dreams related to the traumatic event, spontaneous memories of the traumatic event, flashbacks or other intense or prolonged psychological distress (APA, 2013). The term "avoidant symptoms"

refers to a person's tendency to avoid thoughts, feelings, memories, or external reminders (e.g., people, places, conversations, activities, objects) that cause distress by reminding the individual of the trauma. "Negative alterations in cognitions and mood" refers to the experience of changes in mood and thought patterns due to experiencing a trauma. These alterations are characteristically unpleasant and can include persistent and distorted sense of self-blame, lack of interest in activities, negative emotions (e.g., fear, horror, anger, guilt, or shame), estrangement from others, or inability to experience emotions that are positive. The final subset of secondary symptoms is arousal and reactivity. Arousal symptoms include hypervigilance, an exaggerated startle response, concentration difficulties, or sleep problems (APA, 2013). Reactivity symptoms, which can be defined as reckless and destructive behavior, include displaying a marked tendency to engage in irritable behavior including angry outbursts and a heightened tendency to engage in self-destructive behavior (APA, 2013; U.S. Department of Veteran Affairs [DVA], 2015).

Risk Factors

Research literature has demonstrated that experiencing a traumatic event is the most salient predictor of PTSD; nevertheless, by itself, exposure to a traumatic event is necessary, though not sufficient, to warrant a diagnosis of PTSD (Gil & Weinberg, 2015; Kessler et al., 1995). This suggests that individual differences, before, during, and after exposure to a traumatic event, are

necessary to understand why PTSD development occurs in some individuals and not others (Bomyea et al., 2012). According to Bomyea et al. (2012) there is a proposed interplay between certain pretraumatic, peritraumatic, and posttraumatic risk factors in relation to subsequent PTSD symptoms. This conceptualization of PTSD is consistent with a diathesis-stress model (Bomyea et al., 2012). The diathesis- stress model constitutes complex interactions between biological factors and ecological factors that affect the development of PTSD (McKeever & Huff, 2003). That is, although exposure to the traumatic event is the most salient predictor of PTSD, individuals with will have a greater likelihood of experiencing residual stress and traumatic symptoms as the number of biological and ecological risk factors increase (McKeever & Huff, 2003).

One important biological risk factor that increases the likelihood of developing PTSD after exposure to a traumatic event is gender (Dell'Osso et al., 2013; Haskell et al., 2010; Hourani, Williams, Bray, & Kandel, 2015; Kessler et al., 1995; Tolin & Foa, 2006). Empirical data indicates that women develop PTSD at higher rates than men (Gilba et al., 2012). Kessler et al. (1995) examined PTSD prevalence in the general U.S population and found that PTSD among women was elevated in comparison to men. A meta-analysis of PTSD diagnoses among female and male participants revealed that female participants were more likely than male participants to report symptoms that would warrant a positive diagnosis of PTSD (Tolin & Foa, 2006). Jin, Xu, and Liu (2014) investigated

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gender differences in PTSD and post-traumatic growth in earthquake survivors and found that PTSD symptoms were more common among women compared to men. These studies revealed the consistent emergence of gender differences involved in PTSD development.

Ecological risk factors that affect the development of PTSD include environmental (e.g., population type) and psychological components (e.g., coping; Bomyea et al, 2012; McKeever & Huff, 2003). For the current study, population type includes civilians and military personnel (i.e., veterans, reserve, national guard, etc.). According to the APA (2013), rates of PTSD are higher among veterans than the general population. The most common mental health disorder among veterans (approximately 15%) was found to be PTSD according to the diagnostic criteria of the DSM-IV (Seal, Bertenthal, Miner, Sen, & Marmar, 2007). Only 8% of the U.S. general population meets the DSM-5 diagnostic criteria for PTSD whereas, the prevalence of PTSD development in veterans appears to be markedly higher: between 11-20% of Operation Iraqi Freedom veterans and Operation Enduring Freedom veterans, 12% of Gulf War veterans, and 30% of Vietnam War veterans (Bomyea et al., 2012; DVA, 2015; Kessler, Chiu, Demler, & Walters, 2005). These statistics imply that population type is an ecological risk factor involved in the development of PTSD.

By applying the diathesis-stress model, the interplay between biological and ecological risk factors that can be categorized as pretraumatic, peritraumatic,

or posttraumatic interact with each other suggesting these factors have an effect on the development of PTSD. Specifically, gender and population type are risk factors that are likely to contribute to the development of PTSD. Another important risk factor to consider is the psychological component of coping (Bomyea et al., 2012; McKeever & Huff, 2003). Trauma victims tend to try and relieve the stress caused by the traumatic exposure through coping (Gil & Weinberg, 2015).

Coping

Despite the considerable amount of attention both theoretical and empirical, many gaps still remain in understanding the coping process in its relation to traumatic stress (Ptacek, Smith, & Zanas, 1992; Gil & Weinberg, 2015). Lazarus and Folkman (1984) classified coping as either problem-focused, defined as coping attempts that involve active planning or altering a specific behavior to address/solve the source of stress (e.g. active coping, planning, instrumental support, religion; Carver, Scheier, & Weintraub, 1989; Folkman & Lazarus, 1985), or emotion-focused coping, defined as coping attempts used to actively regulate or avoid one's emotions (Holahan & Moos, 1987; as cited in Gil & Weinberg, 2015). According to Schnider, Elhai, and Gray (2007) emotion-focused coping has two subsets of coping categories: avoidant emotional coping and active emotional coping. Avoidant emotional coping, such as self-distraction, denial, substance and alcohol use, behavioral disengagement, and self-blame, is

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considered a maladaptive coping strategy which is used to ignore or avoid the problem (Carver et al., 1989; Holahan & Moos, 1987; Schnider et al., 2007). Active emotional coping, such as venting, positive reframing, humor, acceptance, and emotional support, is considered an adaptive coping strategy which can emotionally regulate the stressors or traumatic event's impact (Folkman & Lazarus, 1985; Schnider et al., 2007).

Although avoidant emotional coping can be beneficial in managing day-to-day activities shortly after the traumatic event, continued reliance on this specific emotion-focused coping strategy over a long period of time may lead to mental health problems (Holahan & Moos, 1987) including exacerbation of PTSD symptoms (Gil, 2005; Gilbar et al., 2012; Weinberg, Besser, Zeigler-Hill, & Neria, 2015). After examining emotion-focused coping strategies and PTSD symptoms, Valentiner, Foa, Riggs, and Gershuny (1996) found that emotion-focused coping strategies including self-blame and denial were involved in the maintenance of chronic PTSD symptoms. Specifically, self-blame and denial were significantly related to higher levels of PTSD symptom severity (Valentiner et al., 1996). Arias and Pape (1999) found that a reliance on emotion-focused coping particularly avoidance coping correlated with more PTSD symptoms than problem-focused coping. Gil (2005) found that participants who met the full criteria of PTSD scored higher on avoidance coping strategies than problem- focused coping strategies. Gil (2005) also found that high levels of avoidance coping predicted PTSD

development six months following the traumatic event. This demonstrates that a significant predictor of the development of PTSD is avoidance emotional coping.

Unlike avoidance emotional coping, active emotional coping is thought to buffer and reduce PTSD symptoms following a traumatic event (Foa, Davidson, & Frances, 1999). A meta-analysis found that individuals with active emotional coping styles, specifically seeking emotional support, had lower levels of PTSD symptoms than individuals who did not seek emotional support (Ozer, Best, Lipsey, & Weiss, 2003). Sliter, Kale, and Yuan (2014) examined PTSD and burnout in firefighters and found that coping humor acted as a positive buffer between the relationship of PTSD and burnout. Kearney, McDermott, Malte, Martinez, and Simpson (2012) used mindfulness-based stress reduction to assess veterans with PTSD symptoms and found that veterans' who used acceptance coping resulted in a decrease of PTSD symptom severity. Thus, the two sub-categories of emotion-focused coping play a significant role in PTSD symptom development and severity. Specifically, avoidant emotional coping leads to increases in PTSD symptom severity, whereas active emotional coping leads to decreases in these symptoms.

Current Study

Research has demonstrated that a salient predictor of PTSD is experiencing a traumatic event, although as previously noted, exposure alone does not necessarily warrant a diagnosis of PTSD (Gil & Weinberg, 2015;

Kessler et al., 1995; Xu et al., 2015). Additional research has indicated that there

are other risk-factors (pretraumatic ,peritraumatic, and posttraumatic) involved

with predicting the development of PTSD (Bomyea et al., 2012; Gil & Weinberg,

2015) including gender (Gilbar et al., 2012; Kessler et al., 1995), population type

(DVA, 2015; Seal et al., 2007), and emotion-focused coping (Gil & Weinberg,

2015; Holahan & Moos, 1998). Despite the considerable attention, empirical and

theoretical, regarding factors that may predict PTSD, further evidence is still

needed to clarify the effects of the biological and ecological risk factors involved

(McKeever & Huff, 2003) and to assess how PTSD symptoms are affected by

emotion-focused coping (Carver et al., 1989; Lazarus & Folkman, 1985).

According to Valentiner et al. (1996) future research needs to examine the

different types of emotion-focused coping strategies and their effects on PTSD.

Orcutt, Pickett, and Pope (2005) stated that it is necessary for future studies to

examine avoidance coping as a risk factor involved in PTSD development.

Therefore, a significant area of focus is the study of gender, population type,

emotion-focused coping, and PTSD in the same model in order to facilitate

improved understanding regarding the predictors involved in the development of

PTSD, as well as to identify what risk factors are most influential in contributing to

the severity of PTSD symptoms.

   Thus, the purpose of the current study was to examine gender, population

type, emotion-focused coping, specifically avoidant emotional coping, and active

emotional coping, and the interaction of gender and population type as independent predictors of PTSD symptom severity. Specifically, it was hypothesized that: (1) women would have higher levels of PTSD symptom severity than men, (2) veterans would have higher levels of PTSD symptom severity than civilians, and (3) that gender, population type, avoidant emotional coping, active emotional coping, and an interaction of gender and population type would act as significant predictors of PTSD symptom severity.

Method

Participants

Participants (n = 124) were comprised of civilians and military service members including active duty, reserve, national guard, veteran, and enlisted. Recruitment occurred primarily online using Mechanical Turk and electronic recruitment letters inviting participation. The military sample (n = 60) identified as White or Caucasian (78.3%), Black or African American (13.3%), more than one race (6.7%), and American Indian or Alaskan Native (1.7%). Ninety-three percent of the military sample identified as Not Hispanic or Latino. The majority of the military sample identified as men (n = 34) and their military status as a veteran

(85%). The average age of the military sample was 37.90 years of age (SD =

11.74).

The civilian sample (n = 64) identified as White or Caucasian (81.3%),

Black or African American (3.1%), more than one race (9.4%), Asian (3%), and

unknown or not reported (3.1%). Ninety-one percent of the civilian sample

identified as Not Hispanic or Latino. The majority of the civilian sample identified

as women (n = 42). The average age of the civilian sample was 36.72 years of

age (SD = 11.06).

Measures

PTSD symptoms. The PTSD Checklist-5 with Life Events Checklist and

Criterion A (PCL-5 with LEC-5 and Criterion A; Weathers et al., 2013) was a self-

report measure comprised of three parts that evaluated the severity of an

individual's PTSD symptoms during the previous month. Overall, the PCL-5 was

found to have sound psychometric properties (α = .96), with strong convergent

and discriminant validity (Wortman et al., 2016). A standard cut-off score of > 45

was used to indicate the presence of probable PTSD (DVA, 2015).

 Part 1 of the PCL-5 with LEC-5 and Criterion A consisted of 17 items

which addressed potentially difficult or stressful events that occasionally happen

to people. Participants' responses included one or more of the following:

Happened to me, Witnessed it, Learned about it, Part of my job, Not sure, or

Doesn't apply. A sample item included "Serious accident at work, home, or during recreational activity."

Part 2 of the PCL-5 with LEC-5 and Criterion A consisted of two sections: Section A and Section B. Sections A and B were qualitative sections identifying and clarifying the events participants indicated they experienced from Part 1. An example item included "If you checked anything for #17 in Part 1, briefly identify the event you were thinking of."

Part 3 of the PCL-5 with LEC-5 and Criterion A consisted of 20 items that measured the severity of the participant's PTSD symptoms. Items are rated on a 5-point Likert scale from 0 (*Not at all*) to 4 (*Extremely*). An example item included "In the past month, how many times were you bothered by: Irritable behavior, angry outbursts, or acting aggressively."

Question 16 of Part 3 was modified from, "In the past month, how many times were you bothered by: Taking too many risks or doing things that could cause you harm?" to, "In the past month, how many times were you bothered by: Taking too many risks or doing things that could cause you harm (e.g. driving aggressively, promiscuous sex, smoking, over eating, alcohol and substance use)?" Frequency of these risk-taking behaviors were asked, "In the past month, about how many times per day did you drive aggressively?" Question modification was necessary due to the intended objective of assessing specific

maladaptive coping strategies and behaviors. However, because of the changes suggested by committee this scale was not utilized in the main analysis.

Coping strategies. The brief COPE (Carver, 1997) was a 28-item self-report scale that was used to measure coping strategies (α = .89). Participants' response options were measured on a 4-point Likert scale; responses were anchored from 1 (*I haven't been doing this at all*) to 4 (*I've been doing this a lot*). Based on Schnider's et al. (2007) study, the brief COPE was divided into the following three different coping categories: active emotion coping (venting, positive reframing, humor, acceptance, and emotional support scales; α = .81), avoidant emotion coping (self-distraction, denial, substance use scales, behavioral disengagement, and self-blame; α = .80), and problem-focused coping (active coping, planning, instrumental support, and religion scales; α = .87). A sample item from the avoidant emotion coping subscale included "I've been using alcohol or other drugs to make myself feel better."

Adult self-report (substance use scales). The Adult Self Report (ASR; Achenbach & Rescorla, 2003) was a 126 item self-report questionnaire that assessed aspects of adaptive functioning and problems for adults between the ages of 18-59. Participants' responses were measured on a 3-point Likert scale: 0 (*Not True*) to 2 (*Very True*). The ASR was comprised of four subscales, however, the current study used only the substance use subscale (α = .46) that asks about the frequency of use of the following substances: tobacco, alcohol,

and drugs. The substance use subscale of the ASR was modified to fit the PCL-5 time frame since the substance use subscale did not use norms based on the ASR. Questions were modified from, "In the past 6 months, . . ." to "In the past month, . . ." However, because of the changes suggested by the thesis committee, this scale was not utilized in the main analysis.

Validity scale. The Infrequency Scale (INF; Morey, 2007) was an 8-item self-report validity scale that indicated whether a participant was responding carelessly, at random, or idiosyncratically. Participants' responses were measured on a 4-point Likert scale anchored from 0 (*False, Not at all true*) to 3 (*Very true*). An example item included, "My favorite poet is Raymond Kertezc." The INF (α = .55) primarily measured careless responses (Morey, 2007).

Procedure

Participants were recruited online via Mechanical Turk (MTurk), electronic invitation, and snowball sampling. Participants who used MTurk accessed the website via Amazon in which they found a list of tasks sorted by the size of the reward and total task completion time (Paolacci, Chandler, & Ipeirotis, 2010). For the current study, participants were granted a reward of $0.25. MTurk participants who chose to take the current survey were provided with a link directing them to the informed consent form located in Qualtrics. All participants remained anonymous while using the external survey software (Qualtrics) via MTurk thus ensuring that participant responses could not be linked to the

participant. Identification codes, however, were used to match survey responses to payment claims (Paolacci et al., 2010).

Electronic invitations (Appendix H) were also sent out inviting veterans to participate in the current study. This method was chosen in order to access military personnel because they constitute a special population. In order to reach the veteran population, the electronic invitation was sent to the program directors or presidents of the veteran organization. By contacting the directors or presidents of the organization, participant anonymity was maintained. After organizational electronic agreement, an e-mail was forwarded to the Institutional Review Board (IRB) to show agreement. The IRB is Stephen F. Austin State University's research ethics board. Once the IRB confirmed approval, a second e-mail was sent to the organization which included the link to the study (Appendix J). Snowball sampling was also utilized through the second e-mail.

Veteran recruitment also occurred in-person. A signed agreement form was presented to directors of organizations asking for veteran participants (Appendix I). If the organization agreed, they signed the agreement form which was then copied and was sent to the IRB board for approval. Once approved, an e-mail was sent to the organization which included the link to the study (Appendix J). Snowball sampling was also utilized through the second e-mail.

All data were collected anonymously via online survey software, MTurk and electronic invites. Participants started the current study after they clicked on

the online Qualtrics link directing them to the informed consent page. Participants were asked to sign an informed consent form detailing the title of the study, an introduction to the study, researcher contact info, potential risks and discomforts, privacy protection, and compensation (Appendix A). Participants were warned that they would be asked to remember a past stressor and that they would have the right to refuse to answer any question or discontinue the study at any time. Once informed consent was given, participants proceeded to the demographics form (Appendix B) followed by two questionnaires, the extended version of PCL-5 with LEC-5 and Criterion A (Appendix C) and the brief COPE (Appendix D). The substance use scale from the ASR (Appendix E) was inserted between the PCL-5 with LEC-5 and Criterion A and the brief COPE scale. The INF (Appendix F) had four questions inserted in the PCL-5 with LEC-5 and Criterion A and the four questions inserted in the brief COPE. After the completion of the survey questions, a debriefing form (Appendix G) appeared as the last page of the online study. MTurk users inserted an anonymous identification code to match survey responses to payment claims. MTurk granted participants $0.25 automatically for completion of the study. For military participants who received an electronic invitation, at the end of the study, they had the option to be redirected to a page where they could insert their e-mail address for a chance to win a $50 gift card for participating in the study. Data collection began January 25th, 2017 and ended March 24th, 2017.

Results

Data Screening and Cleanup

According to research, missing data has the potential to introduce bias and limit the generalizability of the results of the study (Schlomer, Bauman, & Card, 2010). Therefore, before data analysis began, all responses were screened for missing cases, validity, and assumptions.

First, missing data cases were assessed. A total of 13 unit level non-responses were removed from the analyses. "A unit level non-response occurs when no information is collected from the survey" (Don & Peng, 2013, p. 2). Although these 13 participants signed the informed consent, they subsequently provided no data.

Second, the raw scores for the infrequency scale (INF) were computed. After computing the raw score and converting it to the T score (a transformed score based on a comparison to some normative reference; Morey, 2007), participants whose T score was considered high (i.e., ≥ 75) were eliminated from analysis (n = 15). High scores on the INF indicated that respondents did not attend appropriately to the items and/or responded carelessly, at random, or idiosyncratically (Morey, 2007).

Next, the raw scores were recoded into total composite scores. Predictor variable responses on the brief COPE were computed into avoidant emotional coping and active emotional coping. The dependent variable was computed into total PTSD symptom severity. Multiple imputation method was used to replace missing values with an estimated value determined from the subscale parameters. Cases where 10% or more of the data was missing were removed in order to avoid biases in the analysis (n = 39) (Bennett, 2001).

Last, assumptions were assessed. All assumptions were found to be within range. Durbin-Watson (independence of errors/residuals) was found to be 1.98. Scatter and partial regression plots were used to determine linear relationships and homoscedasticity. VIF values (multicollinearity) were within the necessary range (1.08 to 1.33). Mahalanobis and Cook's distance was calculated to determine whether there were any multivariate outliers. Finally, residuals (errors) were approximately normally distributed. All variables were centered for analysis. One hundred twenty-four participants were utilized in the final analysis.

Main Analysis

The data was recorded and analyzed using Statistical Package for the Social Science (SPSS) software. Overall, 9.68% percent (n = 12) of the sample met the screening criteria (cutoff of score greater than 45) for PTSD. Eight of the

individuals that met the screening criteria for PTSD were from the military sample.

In order to test the hypotheses that women would have higher levels of PTSD symptom severity than men, and that military personnel would have higher levels of PTSD symptom severity than civilians, two independent samples t-tests were conducted. For the first hypothesis, gender (men and women) was the independent variable and PTSD symptom severity was the dependent variable. Alpha levels were set at $p < .05$. Levene's test for equality of variances was significant indicating that equal variances are not assumed, $p < .001$. As hypothesized, a statistically significant difference was found, $t(114.68) = -4.75$, $p < .001$. Women ($M = 27.04$, $SD = 18.69$) had significantly higher levels of PTSD symptom severity than men ($M = 13.71$, $SD = 12.20$).

For the second hypothesis, population type (military and civilian) was the independent variable and PTSD symptom severity was the dependent variable. Levene's test for equality of variances was not significant indicating that equal variances are assumed, $p = .29$. A statistically significant difference was not found $t(121) = 1.26$, $p = .21$ between military personnel and civilians. Military personnel ($M = 22.98$, $SD = 18.79$) did not have significantly higher levels of PTSD symptom severity than civilians ($M = 19.06$, $SD = 15.74$).

For the third and final hypothesis, a multiple regression analysis was conducted to examine the relationship between predictor variables and PTSD symptom severity. It was hypothesized that gender, population type, avoidant emotional coping, active emotional coping, and an interaction between gender and population type would act as significant predictors of PTSD symptom severity. The overall multiple regression model was found to be statistically significant, $F(5, 109) = 37.01$, $p < .001$, with an R^2 of .63. This means the model explains 63% of the variance in predicting PTSD symptoms. The results indicated that gender ($\beta = .24$, $p < .001$) and avoidant emotional coping ($\beta = .65$, $p < .001$) were statistically significant predictors of PTSD symptom severity. Population type ($\beta = -.08$, $p = .18$), active emotional coping ($\beta = .05$, $p = .41$), and the interaction of gender and population type ($\beta = -.06$, $p = .31$) were not statistically significant predictors of PTSD symptom severity. Table 1 summarizes the results of the analysis.

Table 1

Predictors of PTSD Symptom Severity

Variable	Unstandardized Coefficients		Standardized Coefficients		
	B	SE B	β	t	p
Constant	21.39	1.02		21.01	<.001**
Gender	8.34	2.12	.24	3.94	< .001**
Population Type	-2.78	2.08	-.08	-1.34	.18
Avoidant Emotional Coping	1.93	.20	.65	9.70	< .001**
Active Emotional Coping	.15	.18	.05	.83	.41
Gender X Population Type	-4.39	4.34	-.06	-1.01	.31

Note. N = 115. R^2 = .63. * $p < .05$, ** $p < .001$

Discussion

Implications

In order to facilitate a more complete understanding of the risk factors and influences involved in the development of PTSD symptom severity, the current study examined gender, population type, emotion-focused coping (specifically avoidant emotional coping and active emotional coping), and the interaction of

gender and population type as predictors in the same equation model. As predicted, women had significantly higher levels of PTSD symptom severity than men. This result confirmed the emergence of gender differences involved in PTSD symptoms and development found in prior literature that states that PTSD is more prevalent among women (Gilbar et al., 2012; Jin et al., 2014; Kessler et al., 1995; King, King, Foy, Keane, & Fairbank, 1999). In fact, women are twice as likely to develop PTSD even though men are more likely to be exposed to a traumatic event (Galovski, Mott, Young-Xu, & Resick, 2011; Hourani et al., 2015). Perhaps the type of traumatic exposure such as sexual assault, past mental health including depression and anxiety, or even general everyday stress that women tend to experience may be why women are twice as likely to develop PTSD (Dobbie et al., 2002;Galovski et al., 2011; Ozer et al., 2008).

Because of the large body of evidence suggesting that women will be more likely to develop PTSD was civilian focused, further research was needed to clarify the gender difference in relation to PTSD symptoms in both civilian and military men and women. With the number of women serving in the United States military rising dramatically over the past few years, and the risk for combat trauma and military sexual trauma increasing, the current study added empirical support and raised awareness as to the risk factors involved in PTSD development (DVA, 2015). Due to the negative effects of PTSD on health, physically and mentally, the current study's results implied a need for higher

screening rates of PTSD among all women (Dobbie et al., 2002; Mouilso, Tuerk,

Schnurr, & Rauch, 2016; Wierzbicki & Pekarik, 1993).

The second hypothesis was not supported; results of the current analysis

showed that there was not a statistically significant difference between military

personnel and civilians. For the current study, military personnel did not have

more severe PTSD symptoms than civilians. The results of the current study

were surprising since research has reported that rates of PTSD are higher

among veterans than the general population and that PTSD development is the

most common mental health disorder among veterans (APA, 2013; Seal et al,

2007).

Although not statistically significant, the results of the current study still

suggested a negative relationship between population type and PTSD symptom

severity, specifically that civilians had lower PTSD symptom severity than military

personnel. A potential reason for these results may be due to the military sample

recruited. The participating military personnel sample may have been more

willing to respond resulting in a bias in the results compared to the overall military

population. However, despite the results of the current study, if there was a

potential difference between military and civilians, it is important to be considered

due to the difference in resource availability. The VA healthcare system does not

always have the same resources available that the civilian healthcare system

does, for example, funding; the VA is considered to be extremely understaffed

and underfunded (DVA, 2015) Therefore, members of the U.S. military may not be receiving the treatment they need for PTSD.

For the final hypothesis, it was postulated that gender, population type, avoidant emotional coping, active emotional coping, and an interaction between gender and populations type would act as significant predictors of PTSD symptom severity. As expected, the results indicated that gender and avoidant emotional coping were significant predictors of PTSD symptom severity. Avoidant emotional coping makes the largest statistically significant contribution to the overall multiple regression model explaining 65% of the variance. These results are consistent with previous research findings which have supported that gender and avoidant emotional coping are related to PTSD symptom severity (Gil & Weinberg, 2015; Kessler et al., 1995). However, population type, active emotional coping, and the interaction of gender and population type were not significant predictors of PTSD symptom severity. A possible explanation for these results is that as time goes by, the perceived effect of the traumatic event may have lessened allowing those who were exposed, civilian or military, to the traumatic event to process in an adaptive manner. This explanation may be another reason why there was no difference is evident among military and civilians in this study (Gil & Weinberg, 2015).

Interestingly, active emotional coping, which was thought to buffer and reduce PTSD symptoms following a traumatic event (Foa et al., 1999), was found

to have a positive relationship with PTSD symptom severity, although it was not statistically significant. In fact, research has found that veterans who use active emotional coping resulted in a decrease of PTSD symptom severity (Kearney et al., 2012). Thus, it was surprising that the current study suggested that individuals with greater active emotional coping also have greater PTSD symptom severity. Gender differences are a possible explanation for why active emotional coping was found to have positive relationship with PTSD symptom severity. Although women have been found to use more avoidance coping behaviors than men (Matud, 2004), they are also more likely to seek emotional support in response to trauma (Labouvie-Vief, Hakim-Larson, & Hobart, 1987). It is possible in the current study that the inconsistent findings are due to these participants not having yet reached the stage of seeking emotional support resulting in the negative relationship with PTSD.

A potential reason why the interaction of gender and population type was not a statistically significant predictor of PTSD symptom severity is due to the conflicting findings of population type and gender based comparisons for PTSD. Currently, some empirical studies have found that men in the military are more likely to develop PTSD symptoms than military women (Haskell et al., 2010), whereas other studies have found that military men and women do not significantly differ in their rates of PTSD (Rona, Fear, Hull, & Wessely, 2007). In comparison to the military gender differences for PTSD mentioned above, civilian

women have been found to have greater PTSD symptoms than civilian men (Tolin & Foa, 2006). Therefore, it is not entirely unexpected that the interaction of gender and population type was not a significant predictor of PTSD symptom severity. A reason for the conflicting evidence of gender and population type in relation to PTSD may be due to the traumatic event which was not controlled for in the current study. Also, the time and place of the traumatic event may be part of an ecological risk factor that influences the interaction of gender and population type (Bomyea et al., 2012, McKeever & Huff, 2003).

Limitations

Despite the strengths of the current study, there were several limitations. A significant limitation for the study was recruitment for military personnel. Primary recruitment for military participants occurred by sampling veterans from law enforcement agencies. Generalizations should be made with caution due to the fact these veterans are employed at law enforcement agencies where they may be exposed to traumatic events not related to their service in the military. Another limitation involving military recruitment involves active duty personnel. Researchers are not allowed to contact personnel (i.e. active duty military) under the branch of the Department of Defense (DoDD) without a separate IRB approval from the DoDD as well as the proper ethics educational training (DoD Directive 3216.02). This limited the current study's recruitment method to veteran

organizations making the results of the current study less generalizable to the military population.

The current study had another important limitation. Based off the diathesis stress model, the current study decided to examine the complex interactions between biological and ecological risk factors that affect the development of PTSD (McKeever & Huff, 2003). However, the current study measured gender, a sociological risk factor, instead of sex, a biological risk factor. Therefore, conclusions should be drawn with caution about the interactions of gender as a pretraumatic biological risk factor for the development of PTSD.

In addition, responses were primarily self-report for participants' PTSD symptoms and coping behaviors. There is the possibility that participants' responses may have had a social desirability bias. Despite anonymity of the study, participants still may underreport PTSD symptoms and coping behaviors to avoid potential stigma resulting from a psychiatric diagnosis of PTSD. Furthermore, considering the large volume of questions asked during the current study, participants may have experienced fatigue while completing the survey. Finally, a single question was inadvertently omitted on the PTSD symptom severity scale. Therefore, the inadvertently omitted question on the PTSD symptom severity scale resulted in incomplete information in regards to the secondary symptom subscale of arousal and the total PTSD symptom severity

scale.   However, the psychometric proprieties of the scale were not affected and

PTSD symptom severity scale retained an alpha level of .96.

<u>Future Directions</u>

Despite the limitations, the results of the current study are highly

informative. If an individual has experienced a traumatic event, therapists should

take into account the pretraumatic, peritraumatic, and posttraumatic risk factors

involved. For example, in the future, clinicians may wish to administer the Brief

COPE due to the consistent relations between avoidant emotional coping and

PTSD. Through employing the Brief COPE scale, patients found to have strong

avoidant emotional avoidant coping have the potential to be taught different

techniques that will decrease avoidant coping style reliance thus resulting in

decreased levels of PTSD symptom severity (Schnider et al., 2007). Due to the

restrictions of the DoDD, the limitations of examining active duty military

personnel were explained; however, additional research is still necessary to

develop a complete understanding of recent exposure to trauma including the

risk factors involved for PTSD. Controlling for trauma type is another important

distinction in future trauma-related research. Thus, research could assist in

providing a more in-depth understanding of PTSD symptom severity by further

identifying additional risk factors involved in the severity level of PTSD

symptoms.

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APPENDIX A

Informed Consent

Title: Variations in PTSD Symptom Severity, Maladaptive Coping Strategies and Behaviors by Gender between the Civilian Population and Military Personnel

Introduction to the Study: We are inviting you to be in a research study conducted by Stacey Kerr under the supervision of Dr. Catherine Pearte. This experiment will seek to determine if PTSD symptoms determine the type of coping strategies and behaviors.

What will happen during the study: You will be asked to fill out two short surveys during this online study. Participation in this study will take you approximately 30 minutes.

Who to go to with questions: If you have any questions or concerns about being in this study, you should contact Stacey Kerr at kerrsa@jacks.sfasu.edu or Dr. Pearte at pearteca@sfasu.edu. The researchers may also be reached by phone through the psychology department: (936) 468-4402. Additionally, you may also contact the SFASU Office of Research and Sponsored Programs at orsp@sfasu.edu or (936)-468-6606 if you would like more information regarding your rights as a research participant.

How participants' privacy is protected: We will make every effort to protect your privacy. We will not use your name in any of the information we get from this study or in any of the research reports. Any information we get in the study that lets us know who you are will be coded. All informed consent forms and data collected will be stored in a locked filing cabinet that can only be accessed by approved members of the research team.

Risks and Discomforts: There are certain risks (or discomforts) associated with this research, which include disclosing information regarding coping styles, past

traumas, or stressful events that may cause discomfort. These questionnaires may trigger a negative experience or discomfort. There are no direct benefits associated with your participation in this research other than the enhancement of scientific knowledge.

Your rights: Your participation is entirely voluntary and you may choose not to participate in this study or withdraw your consent at any time. You will not be penalized in any way should you choose not to participate or withdraw. You may skip any question that makes you uncomfortable or any question you do not wish to answer.

If you signed up for this study through SONA, then you will receive credit for your psychology course. Alternatives for earning course credits are available from your course instructor.

Compensation: For your participation in the current study, if using MTurk you will receive $0.10 for your participation. If participating for credit, you will receive 1 research credits for 30 minutes of participation. If you should decide you no longer wish to participate in the study, you will not be penalized and will still receive credit. If you received an electronic invite (military personnel), you will have a chance to win a $50 gift card.

- ❑ By checking this box, I signal that I have read this consent form, am 18 years of age or older, and have been given a chance to ask questions. I agree to participate in the research study described above titled, Variations in PTSD Symptom Severity, Maladaptive Coping Strategies and Behaviors by Gender between the Civilian Population and Military Personnel. I may print a copy of this form for my records.

Demographics

Age (in years): _____

Sex: Male Female

Race:

American Indian/ Alaska Native

Asian

Native Hawaiian or other Pacific Islander

Black or African American

White

More than one race

Unknown/Not Reported

Ethnicity

Hispanic or Latino

Not Hispanic or Latino

Marital Status:

Currently married

Separated/divorced/widowed

Never married

 Unknown

Education:

High school

Some College

Bachelor's Degree

Master's Degree

Doctorate

Other

First Language: English   Other

Military Status:

Active Duty

National Guard

Reserve

Retired

Veteran

Enlisted

N/A

Branch:

Army

Air Force

Coast Guard

Marines

Navy

National Guard

Reserve

N/A

APPENDIX C

PCL-5 with LEC-5 and Criterion A

<u>Part 1</u>

Instructions: Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check one or more of the boxes to indicate that: (a) it <u>happened to you</u> personally; (b) you <u>witnessed it</u> happen to someone else; (c) you <u>learned about it</u> happening to a close family member or close friend; (d) you were exposed to it as <u>part of your job</u> (for example, paramedic, police, military, or other first responder); (e) you're *not sure* if it fits; or (f) it <u>doesn't apply</u> to you.

Be sure to consider your entire life (growing up as well as adulthood) as you go through the list of events.

1. Natural disaster (for example Natural disaster (for example, flood, hurricane, tornado, earthquake)
    a. Happened to me
    b. Witnessed it
    c. Learned about it
    d. Part of your job
    e. Doesn't apply

2. Fire or explosion
    a. Happened to me
    b. Witnessed it
    c. Learned about it
    d. Part of your job
    e. Doesn't apply

3. Transportation accident (for example, car, accident, boat accident, train wreck, plane crash)
    a. Happened to me

        b. Witnessed it
        c. Learned about it
        d. Part of your job
        e. Doesn't apply

4. Serious accident at work, home, or during recreational activity
        a. Happened to me
        b. Witnessed it
        c. Learned about it
        d. Part of your job
        e. Doesn't apply

5. Exposure to toxic substance (for example, dangerous chemicals, radiation)
        a. Happened to me
        b. Witnessed it
        c. Learned about it
        d. Part of your job
        e. Doesn't apply

6. Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)
        a. Happened to me
        b. Witnessed it
        c. Learned about it
        d. Part of your job
        e. Doesn't apply

7. Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)
        a. Happened to me
        b. Witnessed it
        c. Learned about it
        d. Part of your job
        e. Doesn't apply

8. Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)
        a. Happened to me
        b. Witnessed it
        c. Learned about it

      d. Part of your job
      e. Doesn't apply

9. Other unwanted or uncomfortable sexual experience
      a. Happened to me
      b. Witnessed it
      c. Learned about it
      d. Part of your job
      e. Doesn't apply

10. Combat or exposure to a war zone (in the military or as a civilian)
      a. Happened to me
      b. Witnessed it
      c. Learned about it
      d. Part of your job
      e. Doesn't apply

11. Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)
      a. Happened to me
      b. Witnessed it
      c. Learned about it
      d. Part of your job
      e. Doesn't apply

12. Life-threatening illness or injury
      a. Happened to me
      b. Witnessed it
      c. Learned about it
      d. Part of your job
      e. Doesn't apply

13. Severe human suffering
      a. Happened to me
      b. Witnessed it
      c. Learned about it
      d. Part of your job
      e. Doesn't apply

14. Sudden violent death (for example, homicide, suicide)
      a. Happened to me
      b. Witnessed it

      c. Learned about it
      d. Part of your job
      e. Doesn't apply

15. Sudden accidental death
      a. Happened to me
      b. Witnessed it
      c. Learned about it
      d. Part of your job
      e. Doesn't apply

16. Serious injury, harm, or death you caused to someone else
      a. Happened to me
      b. Witnessed it
      c. Learned about it
      d. Part of your job
      e. Doesn't apply

17. Any other very stresful event or experience
      a. Happened to me
      b. Witnessed it
      c. Learned about it
      d. Part of your job
      e. Doesn't apply

Part 2

A. If you checked anything for # 17 in PART 1, briefly identify the event you were thinking
of:_____
_____

B. If you have experienced more than one of the events in PART 1, think about the event you consider the worst event, which for this questionnaire means the event that currently bothers you the most. If you have experienced only one of the events in PART 1, use that one as the worst event. Please answer the following questions about the worst event (check all options that apply):

Briefly describe the worst event (for example, what happened, who was involved, etc.).

_____
_____

How long ago did it happen? _____(please estimate if you are not sure)

How did you experience it?

_____It happened to me directly

_____I witnessed it

_____I learned about it happening to a close family member or close friend

_____I was repeatedly exposed to details about it as part of my job (for example, paramedic, police, military, or other first responder)

_____Other, please describe _____

Was Someone's life in danger?

_____Yes, my life

_____Yes, someone else's life

_____No

Was someone seriously injured or killed?

_____Yes, I was seriously injured

_____Yes, someone else was seriously injured or killed

_____No

Did it involve sexual violence? _____ Yes _____ No

If the event involved the death of a close family member or close friend, was it due to some kind of accident or violence, or was it due to natural causes?

_____Accident or violence

_____Natural causes

44

_____Not applicable (The event did not involve the death of a close family member or close friend)

How many times altogether have you experienced a similar event as stressful or nearly as stressful as the worst event?

_____Just once

_____More than once (please specify or estimate the total number of times you have had this experience_____)

Part 3

Below is a list of problems that people sometimes have in response to a very stressful experience. Keeping your worst event in mind, please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

1. In the past month, how much were you bothered by: repeated, disturbing, and unwanted memories of the stressful experience?
   a. Not at all
   b. A little bit
   c. Moderately
   d. Quite a bit
   e. Extremely
2. In the past month, how much were you bothered by: repeated, disturbing dreams of the stressful experience?
   a. Not at all
   b. A little bit
   c. Moderately
   d. Quite a bit
   e. Extremely
3. In the past month, how much were you bothered by: suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?
   a. Not at all
   b. A little bit
   c. Moderately
   d. Quite a bit
   e. Extremely

4. In the past month, how much were you bothered by: Feeling very upset when something reminded you of the stressful experience?
    a. Not at all
    b. A little bit
    c. Moderately
    d. Quite a bit
    e. Extremely
5. In the past month, how much were you bothered by: having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?
    a. Not at all
    b. A little bit
    c. Moderately
    d. Quite a bit
    e. Extremely
6. In the past month, how much were you bothered by: avoiding memories, thoughts, or feelings related to the stressful experience?
    a. Not at all
    b. A little bit
    c. Moderately
    d. Quite a bit
    e. Extremely
7. In the past month, how much were you bothered by: avoiding external reminders of the stressful experience (for example, people, places conversations, activities, objects, or situation)?
    a. Not at all
    b. A little bit
    c. Moderately
    d. Quite a bit
    e. Extremely
8. In the past month, how much were you bothered by: trouble remembering important parts of the stressful experience?
    a. Not at all
    b. A little bit
    c. Moderately
    d. Quite a bit
    e. Extremely
9. In the past month, how much were you bothered by: having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?

a. Not at all
b. A little bit
c. Moderately
d. Quite a bit
e. Extremely

10. In the past month, how much were you bothered by: blaming yourself or someone else for the stressful experience or what happened after it?

11. In the past month, how much were you bothered by: having strong negative feelings such as fear, horror, anger, guilt, or shame?
a. Not at all
b. A little bit
c. Moderately
d. Quite a bit
e. Extremely

12. In the past month, how much were you bothered by: loss of interest in activities that you used to enjoy?
a. Not at all
b. A little bit
c. Moderately
d. Quite a bit
e. Extremely

13. In the past month, how much were you bothered by: feeling distant or cut off from other people?
a. Not at all
b. A little bit
c. Moderately
d. Quite a bit
e. Extremely

14. In the past month, how much were you bothered by: trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?
a. Not at all
b. A little bit
c. Moderately
d. Quite a bit
e. Extremely

15. In the past month, how much were you bothered by: irritable behavior, angry outbursts, or acting aggressively?
a. Not at all
b. A little bit
c. Moderately

       d. Quite a bit

       e. Extremely

16. In the past month, how much were you bothered by: taking too many risks or doing things that could cause you harm?

       a. Not at all

       b. A little bit

       c. Moderately

       d. Quite a bit

       e. Extremely

17. In the past month, how much were you bothered by: being "superalert" or watchful or on guard?

       a. Not at all

       b. A little bit

       c. Moderately

       d. Quite a bit

       e. Extremely

18. In the past month, how much were you bothered by: feeling jumpy or easily startled?

       a. Not at all

       b. A little bit

       c. Moderately

       d. Quite a bit

       e. Extremely

19. In the past month, how much were you bothered by: having difficulty concentrating?

       a. Not at all

       b. A little bit

       c. Moderately

       d. Quite a bit

       e. Extremely

20. In the past month, how much were you bothered by: trouble falling or staying asleep?

       a. Not at all

       b. A little bit

       c. Moderately

       d. Quite a bit

       e. Extremely

Criterion A (Part 3) Question 16 Modification

16. Taking too many risks or doing things that could cause you harm (e.g. driving aggressively, promiscuous sex, smoking, over eating, alcohol and substance use)?"
16a. In the past month, about how many times per day did you drive aggressively?
16b. In the past month, about how many times per day did you have promiscuous sex?
16c. In the past month, about how many times per day did you smoke?
16d. In the past month, about how many times per day did you over eat?

APPENDIX D

Brief COPE

These items deal with ways you've been coping with the stress in your life since the event. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not— just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real."
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.

12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

APPENDIX E

Adult Self Report (Substance Use Subscale)

124. In the past 6 months, about how many times per day did you use tobacco (including smokeless tobacco)?

125. In the past 6 months, on how many days were you drunk?

126. In the past 6 months, on how many days did you use drugs for nonmedical purposes (including marijuana, cocaine, and other drugs, except alcohol and nicotine)?

Question Modifications

124. In the past month, about how many times per day did you use tobacco (including smokeless tobacco)?

125. In the past month, on how many days were you drunk?

126. In the past month, on how many days did you use drugs for nonmedical purposes (including marijuana, cocaine, and other drugs, except alcohol and nicotine)?

APPENDIX F

Infrequency Scale

0 = False, Not at all true
1 = Slightly true
2 = Mainly true
3 = Very true

1. ____My favorite poet is Raymond Kertezc.

2. ____Sometimes I get ads in the mail that I don't really want.*

3. ____My favorite sports event on television is the high jump.

4. ____Most people would rather win than lose.*

5. ____My favorite hobbies are archery and stamp-collecting.

6. ____I don't like to have to buy things that are overpriced.*

7. ____Most people look forward to a trip to the dentist.

8. ____In my free time I might read, watch TV, or just relax.*

Asterisk (*) indicates reverse scored items

APPENDIX G

Debriefing Form

  Thank you for participating in the present study, Gender, Population Type, and Maladaptive Coping as Predictors of PTSD Symptom Severity. The purpose of the current research is to examine predictors of PTSD symptom severity in civilians and military personnel.

        Your time and participation are appreciated. If you have any questions or concerns please contact Stacey Kerr at kerrsa@jacks.sfasu.edu or Dr. Pearte at peartec@sfasu.edu. You may also contact the Office of Research and Sponsored Programs at (936)-468-6606 or via email at orsp@sfasu.edu.

        In the event you feel any psychological distress, please contact PTSD Foundation of America at Veteran Crisis Line (1.800.273.TALK (8255) – Veterans Press '1), National Veterans Foundation Hotline (1.888.777.4443), Rape, Abuse, and Incest National Network (RAIN) (24 Hours) (1.800.656.4673), National Domestic Violence Hotline (1.800.799.7233), National Council on Alcoholism and Drug Dependence Hope Line (1.800.622.2255), Gulf War Veteran's Hotline (1.800.796.9699) or go to http://ptsdusa.org/get-help/hotline-crisis-numbers/.

PLEASE CLICK THE NEXT BUTTON FOR YOUR ANSWERS TO BE SAVED!

Thank you.

APPENDIX H

Electronic Invitation/Agreement Form

Thank you for speaking with me on the phone; here is the additional information we discussed. As previously stated, I am a graduate student at Stephen F. Austin State University currently working on my master's thesis under the supervision of Dr. Catherine Pearte. I am seeking volunteers to participate in my online study. The purpose of the current study is to examine gender, population type, and maladaptive coping as independent predictors of PTSD symptom severity.

With your permission, I would like to request you or members of your organization to participant in a research project. Participation in this study will take approximately 30 to 45 minutes and participants will have the chance to win a $50 gift card. All participants of this study will remain completely anonymous and information gathered from the surveys will remain completely confidential (for more information please see attached request for participation). Potential benefits of this study include facilitating a better understanding as to the predictors involved in the development of PTSD and will potentially identify other factors that influence the severity of PTSD symptoms.

If you or any members of your organization would like to participate, please let me know, so that I may update my Institutional (Ethics) Review Board, and I will e-mail or bring fliers with the attached online link for the study. Criteria for participation includes members who are veterans and have experienced a stressful or traumatic event at some point in their life.

*If you have any questions or concerns about being in this study, please do not hesitate to contact me at kerrsa@jacks.sfasu.edu or Dr. Pearte at peartec@sfasu.edu. The researchers may also be reached by phone through the SFASU psychology department: (936) 468-4402. Additionally, you may also contact the SFASU Office of Research and Sponsored Programs at orsp@sfasu.edu or 936-468-6606 if you would like more information regarding your rights as a research participant.

Thank you for your time and consideration,

Request for participation in a research project

"Gender, Population Type, and Maladaptive Coping as Predictors of PTSD Symptom Severity"

Background and purpose

This is a request for you to participate in an online research study that intends to examine gender, population type, and maladaptive coping as independent predictors of PTSD symptom severity in veterans. We are reaching out to veteran organizations because we would like to recruit a sample of adults who have served in the military.

What does the study entail?

This study will be conducted entirely online. Participants will be contacted via the agreed upon format-whether through a link provided by the veteran organization or fliers- and given access to the survey. For this study, participants will be asked to fill out two short surveys that will take approximately 30 to 45 minutes to complete. By volunteering for this study, participants will receive the chance to win a $50 gift card.

Potential risks and benefits

Potential risks of this research include asking participants to remember a past trauma or stressful event that may cause potential feelings of discomfort. Recall of the traumatic or stressful event may also be disturbing or triggering. Potential benefits include further understanding predictors of PTSD symptom severity which would be beneficial for assessment and treatment implementation of PTSD among both civilians and military personnel.

What will happen to the information about you?

The information collected about participants will only be used in accordance with the purpose of the study as described above. All of the data will be processed without names, ID numbers or other directly recognisable types of information. Only authorised project personnel will have access to participants e-mail if they would like to be registered for a chance to win the $50 gift card. It will not be possible to identify the participant in the results of the study when these are published or presented.

Voluntary participation

Participation in the study is entirely voluntary. You can withdraw your consent to participate in the study at any time and without stating any particular reason. This will not have any consequences. If you wish to participate, sign the declaration of consent on the first page of the online study. If you agree to participate at this time, you may later on withdraw your consent at any time. If you have any questions concerns about the study, please feel free to contact Stacey Kerr at kerrsa@jacks.sfasu.edu or Dr. Catherine Pearte at peartec@sfasu.edu. The researchers may also be reached by phone through the SFASU psychology department: (936) 468-4402. Additionally, you may also contact the SFASU Office of Research and Sponsored Programs at orsp@sfasu.edu or 936-468-6606 if you would like more information regarding your rights as a research participant.

APPENDIX I

Fliers/E-mail Agreement Request Form

Request for participation in a research project

My name is Stacey Kerr. I am a graduate student at Stephen F. Austin State University currently working on my master's thesis under the supervision of Dr. Catherine Pearte. I am seeking volunteers to participate in my online study. The purpose of the current study is to examine gender, population type, and maladaptive coping as independent predictors of PTSD symptom severity.

With your permission, I would like to request you or members of your organization to participant in a research project. Participation in this study will take approximately 30 to 45 minutes and participants will have the chance to win a $50 gift card. All participants of this study will remain completely anonymous and information gathered from the surveys will remain completely confidential (for more information please see attached request for participation). Potential benefits of this study include facilitating a better understanding as to the predictors involved in the development of PTSD and will potentially identify other factors that influence the severity of PTSD symptoms.

If you or any members of your organization would like to participate, please let me know, so that I may update my Institutional (Ethics) Review Board, and I will e-mail or bring fliers with the attached online link for the study. Criteria for particiation includes members who are veterans and have experienced a stressful or traumatic event at some point in their life.

I agree to let Stacey Kerr under the supervision of Dr. Catherine Pearte post fliers or e-mail requesting participants for research from the Veterans of the XXXX. I signal that I have read this agreement form and have been given a chance to ask questions. I may copy this form for my records.

Print Name: _____   Organization: _____

Signature:_____   Date:_____

Researcher:____Stacey Kerr_____

Signature:_____   Date:_____

APPENDIX J

IRB Approved (2nd) E-mail

Dear X,

Below is the online veteran link for the research study Gender, Population Type, and Maladaptive Coping as Predictors of PTSD Symptom Severity. If you have any questions or concerns please do not hesitate to contact me at kerrsa@jacks.sfasu.edu. If possible, I ask that this survey is completed at one's earliest convenience, however, no later than *March 24th, 2017.* **By participating in this survey participants have a chance to win a $50 gift card.** *Also, if there are other veterans who would be interested in participating please do not hesitate to forward this link!*

http://sfasu.qualtrics.com/SE/?SID=SV_cuwszI5Ae4gjH5X

Thank you for your time and service,

APPENDIX K

Veteran Organizations Recruitment List (Approved)

Angelina County Sheriff's Office

Delaware Commission of Veteran Affairs

Elko County Sheriff's Office

Grace After Fire

Great Basin College Veterans Resource Center

Lufkin Police Department

Nacogdoches County Sheriff's Office

Nacogdoches Police Department

SFA Veteran Resource Center

Veterans of Foreign War (Nevada)

VITA

After completing her work at Spring Creek High School, Spring Creek, Nevada, in 2011, Stacey Kerr entered The College of Idaho at Caldwell, Idaho. She received the degree of Bachelor of Arts from The College of Idaho in May of 2015. In August of 2015, she entered the Graduate School of Stephen F. Austin State University, and received the degree of Master of Arts in May of 2017.

Permanent Address: 1936 North Street
                          Nacogdoches, TX 75962

Publication Manual of the American Psychological Association (Sixth Edition)

This thesis was typed by Stacey A Kerr.