

ACTIVE COPING MODERATES THE ASSOCIATION BETWEEN PTSD
SYMPTOM CLUSTERS AND TREATMENT SEEKING AMONG LAW
ENFORCEMENT

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ABSTRACT

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Endemic within their occupational obligations, law enforcement officers experience a myriad of critical incidents (Weiss et al., 2010) leading to high rates of posttraumatic stress disorder (PTSD; Fox et al., 2013). Despite this, within the law enforcement culture, mental health and treatment seeking are stigmatized (Soomra & Yanos, 2018) leading to low levels of service utilization (Berg, Hem, Lau, & Ekeberg, 2006). However, the amount of distress caused by PTSD symptoms appears to increase treatment seeking (Stip & Letourneau, 2009). Specifically, certain PTSD symptom clusters may cause greater distress and impairment, resulting in a greater likelihood of treatment seeking. Additionally, an active coping style, which involves persons seeking to reduce a stressor to change or improve their circumstances, may result in greater treatment seeking behaviors. Therefore, using the Social Behavioral Model of Health Services Use (Andersen & Davidson, 2007) as the driving framework, this study sought to determine how active coping may affect the association between the severity of PTSD symptoms (at the total symptom level and symptom cluster level), and treatment seeking behavior in a law enforcement population. The current study consisted of 152 law enforcement officers with an average age of 41.08 years and with 84.20% males. Binary logistic regression analyses explored the moderating effects of active coping on the association between the severity of each of the PTSD symptom clusters (i.e. intrusive, avoidant, negative alterations to mood and cognitions, and alterations in arousal and reactivity) and treatment seeking. Results revealed that active coping acted as a

moderator of the negative alterations in cognitions and mood cluster ($p = .01$) as well as the alterations in arousal and reactivity cluster on treatment seeking ($p = .05$). These findings can inform interventions, psychoeducation, and trainings in an effort to increase treatment utilization among law enforcement officers.

KEYWORDS: Law enforcement, Treatment seeking, Posttraumatic stress disorder, Active coping.

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CHAPTER I

Introduction

Approximately 89.7% of the United States population will experience at least one traumatic event in their lifetime. Of those who experience a traumatic event, 8.3% will develop Posttraumatic Stress Disorder (PTSD; Kilpatrick et al., 2013). However, within certain occupations, such as law enforcement, employees are exposed to higher rates of traumatic events (Weiss et al., 2010), which increases their vulnerability to developing PTSD (Komarovskaya, et al., 2011; Soomra & Yanos, 2018; Weiss et al., 2010). Indeed, Fox and colleagues (2012) determined that 23.8% of their law enforcement sample met criteria warranting a PTSD diagnosis. Despite the frequency with which officers experience traumatic events, as well as the high rates of PTSD found within law enforcement, there is still stigma surrounding mental health treatment (Berg et al., 2006; Karaffa & Tochkov, 2013; Soomra & Yanos, 2018; White, Shrader, & Chamberlain, 2016). This may be due to the unique culture of law enforcement which, while it exists within the overarching societal culture, has its own framework and ideologies.

Being a police officer is an identity in which the ideals of loyalty and brotherhood perpetuate a "code of silence" that protects officers from external threats (Skolnick, 2008). The law enforcement culture values aggression, competition, bravery, and strength; traits that are reinforced by the physicality of the job, as well as the critical incidents to which officers are regularly exposed (Rawski & Workman-Stark, 2018). This culture creates and reinforces unwritten rules about officers' identities, how they handle the critical incidents they are exposed to, how they portray authority, and their attitude while working (Skolnick, 2008). Due to the masculinity contest culture (Rawski &

Workman-Stark, 2018) valuing solidarity and mission-action throughout their daily operations (Campeau, 2015), law enforcement tends to hold more negative attitudes toward mental health treatment. This stigma and limited service utilization can ultimately be detrimental to an officer's well-being due to the relationship between chronic unalleviated stress and negative health outcomes (Chopko, Palmieri, & Adams, 2018; Habersaat et al., 2015; Schütte, Bär, Weiss, & Heuft, 2012; van der Meulen, van der Velden, Setti, & van Veldhoven, 2018). The impact of stress or trauma on health could be decreased with the use of effective mental health treatments (Gersons, Carlier, Lambers, & van der Kolk, 2000; Plat et al., 2013), however the pervasiveness of stigma could prevent officers from seeking treatment. Therefore, the aim of the current research is to assess factors that may lead to treatment seeking among law enforcement officers. We propose that symptom severity and coping style may motivate law enforcement officers to use mental health services in order to decrease distress and impairment.

Conceptual Framework

The Behavioral Model of Health Services Use was originally developed by Andersen and Newman (1973) to explain disparities in access to healthcare and has evolved with the changing political and healthcare climate (Andersen, 2008). The most current model posits that contextual and individual characteristics can influence health behaviors, and, ultimately, health outcomes. The model divides contextual and individual characteristics into three factors: predisposing (demographic, social structure, and health beliefs), enabling (contextual: health policy, financing, organization; individual characteristics: personal/family and community), and need (contextual: environment, population health indices; individual: perceived/evaluated need). Coping style can be

considered an individual predisposing factor as it is a characteristic that influences an individual's propensity to use health services through the availability and command of their psychological resources (Gelberg, Andersen, & Leake, 2000). A person's coping style is the way in which they respond to stressors in their environment (Carver, 1997), thereby affecting their treatment seeking behaviors. Indeed, coping style has been considered an individual predisposing factor in previous research exploring this framework (e.g. Maulik, Mendelson, & Tandon, 2011).

While not directly measured in this study, the law enforcement culture serves as both a predisposing and enabling factor. As a predisposing factor, the law enforcement culture further influences community and organizational values, norms and perspectives, which ultimately affect the accessibility and use of health services. Simultaneously, the law enforcement culture acts as an enabling factor as the organizational structure and policies surrounding mental health treatment within departments directly influence the ability of officers to seek out treatment and use health services (Andersen et al., 2014).

However, while these contextual predisposing and enabling factors influence treatment seeking, the level of need (i.e. type and severity of PTSD symptoms) can also impact treatment utilization. Individual need characteristics are based on one's subjective appraisal of their well-being and functional state. As PTSD can be a particularly impairing illness (NIMH, 2003), PTSD symptom severity can motivate an individual to decrease social and psychological impairments and distress, thus directly influencing treatment seeking behaviors (Angst et al., 2010). Of note, the intrusive PTSD symptom cluster has been associated with more severe PTSD symptom presentations than non-intrusive symptoms (Schütte, Bär, Weiss, & Heuft, 2012). Additionally, the experience of

higher re-experiencing, arousal, and avoidance symptoms following a traumatic event has been associated with the presence of PTSD at a 12-month follow up (O'Donnell, Elliott, Lau, & Creamer, 2007). If certain symptom clusters have a greater association with PTSD severity over time, it stands to reason that they will also have greater associations with treatment seeking.

Symptom Severity and Treatment Seeking

Posttraumatic stress disorder (PTSD) is a unique psychological disorder, as the hallmark of the disease is non-recovery from a traumatic event (Resick, Monson, & LoSavio, 2017). In conjunction with a traumatic event, the patient must exhibit a certain number of symptoms in each of four symptom clusters: intrusive symptoms, avoidant symptoms, negative alterations in cognitions and mood, and changes in arousal and reactivity. Intrusive symptoms include distressing memories or dreams, dissociation, or physiological reactions to stimuli that are reminiscent of the event. Avoidant symptoms involve exerting effort to avoid both internal and external reminders of the trauma. Negative alterations in cognitions and mood can manifest as an inability to remember key aspects of the event, anhedonia, or detachment. Finally, changes in arousal and reactivity can be expressed by hypervigilance, irritability, or sleep disturbance. These symptoms tend to be normal responses to experiencing a life-threatening, traumatic event; however, if they continue for a longer period of time, over one-month, they can cause distress and impairment in functioning, warranting a diagnosis of PTSD. This disorder is associated with impairment across numerous aspects of an individual's life, including interpersonal, occupational, and physical health domains (American Psychiatric Association, 2013). Due to this distress and impairment, immediate intervention and appropriate treatment is

needed, with the majority of those with PTSD fully remitting following treatment (Resick, Monson, & LoSavio, 2017). Therefore, factors that affect treatment seeking are important to consider and understand, so as to increase treatment utilization.

A factor that appears to be associated with treatment seeking is level of distress or impairment as a result of a disorder (Sareen, Cox, Afifi, Clara, & Yu, 2005; Stip & Letourneau, 2009). In regard to PTSD, the symptoms are capable of causing significant distress and impairment (American Psychiatric Association, 2013). Severity of PTSD symptoms may override mental health stigma, and lead to officers engaging in treatment seeking (Fleury, Ngui, Bamvita, Grenier, & Caron, 2014; Sareen et al., 2005; Stip & Letourneau, 2009). Indeed, certain PTSD symptom clusters may be experienced as generally more impairing (Blais et al., 2014), and therefore have a stronger association with treatment seeking. This fits within the context of the Behavioral Model of Health Services Use (Andersen & Davidson, 2014), as level of need is one factor that leads to treatment seeking. Further, prior research offers some support for this, as experiencing a greater number of intrusive symptoms following the event has been found to be a possible risk factor for the development of PTSD in law enforcement officers (Schütte, Bär, Weiss, & Heuft, 2012). Also, dissociation (an intrusive cluster symptom) has been linked to PTSD symptom severity (Maia et al, 2011; Ozer, Best, Lipsey, & Weiss, 2008). Therefore, if certain symptom clusters are related to a more severe PTSD symptom presentation (a need factor), clients with higher levels of symptoms within these clusters may engage in more treatment seeking in order to reduce distress and impairment.

In a study looking at a military population, Blais and colleagues (2014), found that avoidance severity was inversely related to treatment seeking behaviors, while re-

experiencing severity (an intrusive symptom) was positively related to utilization of mental health treatment (Blais et al., 2014). Conceptually, these findings were expected. As treatment requires disclosure of the traumatic event(s), clients with more avoidant symptoms may be less likely to seek out treatment (Blais et al., 2014). Further, re-experiencing symptoms have been associated with cognitive impairment (Aupperle et al., 2012; Clouston et al., 2016), and, in conjunction with certain characteristics including distress, vividness, and lack of context, appear to be predictive of PTSD severity at a 6 month follow up (Michael, Ehlers, Halligan, & Clark, 2005). While the avoidance and re-experiencing severity were associated with actual mental health care use, dysphoria severity (more recently conceptualized as negative alterations in cognitions and mood) was associated with a greater intent to seek out treatment (Blais et al., 2014). This finding was expected as previous literature supports dysphoria severity as most strongly associated with poorer adjustment post-deployment. As interpersonal difficulties are a facet of the dysphoria symptom cluster, experiencing greater dysphoric symptoms may be most indicative of impairment across all life domains, resulting in an increased perceived need for treatment. Blais and colleagues (2014) did not find hyperarousal symptoms to be predictive of either an increased or decreased intent to seek mental health treatment. Further, when other symptom clusters were controlled for, hyperarousal symptoms were not predictive of utilization. However, hyperarousal symptoms have been found to be predictive of mental health stigma (Winzeler, 2017) which may ultimately lead to lower service utilization. Alternately, arousal symptoms of PTSD have been associated with impaired performance on cognitive tasks (Aupperle et al., 2012), suicidal ideation among police officers (Steyn et al., 2013), and poorer quality of life (Forbes et al., 2019) which,

within the overarching framework, indicate the possible presence of an increased perception of need. While the arousal and reactivity symptom cluster appears to be associated with serious deficits in functioning, the literature is not clear as to how this might affect treatment seeking.

Although an important contribution to the literature, Blais and colleagues (2014) study focused on symptom clusters based on the dysphoria model of PTSD and used the PTSD Check List-Military Version, a measure of PTSD that was based on the DSM-IV's conceptualization of PTSD. When studying PTSD, numerous models of how best to cluster symptoms have been proposed including the dysphoria model and the current DSM-5 model. The dysphoria model is composed of avoidance, re-experiencing, dysphoria, and hyper-arousal clusters. Specifically, the dysphoria cluster appears to encompass the interpersonal difficulties associated with PTSD (Blais et al., 2014). However, the current DSM-5 model, while similar, is slightly different; instead utilizing four factors of intrusion, avoidance, negative alterations in cognitions and mood, and changes in arousal and reactivity. The DSM-5 arousal cluster combines some of the dysphoric and hyper-arousal symptoms and adds the new symptom of reckless or self-destructive behavior (Konecky et al., 2016). Further, two additional symptoms of "blame to self or others," and "a persistent negative emotional state" added to some of the dysphoria symptoms comprise the negative alterations in cognitions and mood cluster. Other symptoms were re-worded to better reflect changes in PTSD conceptualization. The DSM-5 model represents the most current conceptualization of PTSD (Blevins et al., 2015; Resick, Monson, & LoSavio, 2017). The addition and alteration of symptoms may affect the applicability of research looking at symptom clusters from editions and models

prior to the DSM-5, and may no longer be generalizable. Further, Blais and colleague's (2014) research was conducted with a military sample, and the findings may not be generalizable to a law enforcement population, as law enforcement is considered a unique subculture with its own values, belief, and ideals (Campeau, 2015; Skolnick, 2008; Woody, 2005). Therefore, additional research is needed to explore how the current PTSD symptom clusters can influence treatment seeking in law enforcement.

Moderating Effects of Active Coping

Within the literature, coping style appears to impact the likelihood of seeking out treatment, with active coping being associated with a greater likelihood of treatment seeking within the general population (Rayburn et al., 2005; Taylor & Stanton, 2007). Active coping is the "process of taking active steps to try to remove or circumvent the stressor or to ameliorate its effects" (Carver, Scheier, & Weintraub, 1989, p. 268). This construct involves persons making a concerted effort to change their situation or take action to improve their circumstances (Carver, 1997). Generally, an active coping style has been explored in relation to mitigating the distress or impairment associated with mental health problems as it involves taking active steps to reduce or improve a stressful situation or stimulus (e.g. Boden et al., 2012; Wallace, Lee, & Lee, 2010). Within the overarching framework, the Behavioral Model of Health Services Use, coping style would be considered an individual predisposing factor, as it would facilitate or impede the use of services. As coping style has previously been associated with treatment engagement and effectiveness (Badour et al., 2012; Fleming & Resick, 2017; Holdsworth et al., 2014), use of an active coping style may ultimately increase or decrease the likelihood of engaging in treatment seeking.

In line with the Behavioral Model of Health Services Use, perceptions of need, or symptom distress, is an important factor that affects service utilization (Andersen & Newman, 1973). However, need alone is not sufficient for treatment seeking. Additional factors, such as employing an active coping style, are also necessary. By utilizing active coping methods and thereby seeking out treatment, PTSD symptom severity and the distress and impairment caused by the presence of these symptoms can be reduced. Therefore, both perceived need and an active coping style may need to be present for treatment seeking to occur. Focusing specifically on law enforcement, active coping appears to be a common style that is utilized (Acquadro Maran et al., 2015; Kaiseler et al., 2014; Pratap Singh, 2017) and has been positively correlated with police recruits' levels of engagement in work (Kaiseler et al., 2014). As active coping involves initiating steps to overcome a stressor (Carver et al., 1989), police officers that engage in active coping mechanisms, actively seek out ways to mitigate or reduce their stressors, may ultimately be more likely to seek out mental health services when needed.

Present Study

While some research has explored the relation between the symptom clusters presented in the DSM-IV and treatment seeking, the DSM-5 provides a different conceptualization of PTSD. To our knowledge, no research has explored the relationship between PTSD symptoms presented in the Diagnostic and Statistical Manual 5th Edition (DSM-5) and treatment seeking of law enforcement officers, or specifically, which symptom clusters may increase treatment seeking. As distress and impairment is associated with treatment seeking (Fleury et al., 2014; Sareen, Cox, Afifi, Clara, & Yu, 2005; Stip & Letourneau, 2009), the more impairing PTSD symptom clusters may be

more likely to lead to treatment seeking. However, treatment seeking may depend upon the coping style an officer predominantly uses. Specifically, an active coping style may influence an officer who is experiencing more severe PTSD symptoms to seek out treatment. Therefore, whether or not an officer seeks out treatment to reduce the severity of their symptoms related to each of the PTSD symptom clusters, may depend upon whether or not they engage in an active coping style. Due to previous research supporting may impact officers' reported mental health, coping style, and treatment seeking. Therefore, these variables were also treated as covariates.

This research sought to determine the impact that PTSD symptom clusters and an active coping style have on treatment seeking. Findings from this study can impact intervention, psychoeducation, and training for law enforcement in an effort to increase treatment seeking and mitigate deleterious mental health outcomes. Based on the extant literature, the following hypotheses were explored:

1. There will be a significant positive association between the severity of PTSD symptoms and treatment seeking, such that those with greater PTSD symptom severity will have higher treatment seeking.
2. There will be a significant positive association between the use of an active coping style and treatment seeking, such that those who endorse using more active coping skills will have higher treatment seeking.
3. Each symptom cluster will be associated with treatment seeking such that the intrusive and negative alterations to mood and cognition clusters will be positively related to treatment seeking, and the avoidance cluster will be negatively related. Further, the intrusive cluster will account for the greatest amount of variance. In the absence of

sufficient evidence, we propose an exploratory hypothesis to assess the association between the changes in arousal and reactivity cluster and treatment seeking.

4. An active coping style will moderate the association between each symptom cluster severity and treatment seeking such that engaging in a greater number of active coping mechanisms will increase the likelihood of seeking out treatment for each symptom cluster and engaging in a fewer number of active coping mechanisms will decrease the likelihood of seeking out treatment for each symptom cluster.

CHAPTER II

Methods

Participants

To conduct this study, a data set of 152 law enforcement officers was used. Participants were recruited from a number of criminal justice agencies and law enforcement related organizations (e.g., police departments, community corrections departments, racial/ethnic minority police officer organizations). The sample was mostly respondents from Texas (96.70%), however, there were participants from Connecticut (1.30%), Pennsylvania (0.70%) and New York (1.30%). Most of the sample was Caucasian (84.20%) and male (84.20%) with a mean age 41.08 years ($SD = 11.10$). A majority of participants identified as married or partnered (73.00%), with the second greatest percent of participants endorsing being divorced (14.50%). In regards to the highest level of education attained, 32.20% of participants identified as having a bachelor's degree, with 27.00% reported being a high school graduate or having received their GED. All participants reported being law enforcement officers, with 38.80% police officers and 36.20% holding a command staff position (e.g. sergeant, chief, etc.). The sample had an average of 64.14 months ($SD = 61.20$) at their current position and an average of 186.63 months ($SD = 124.25$) served in law enforcement. Approximately three-fourths of the sample (78.90%) completed the survey online, with 21.10% responding in person. Twenty-eight participants (18.42%) endorsed having ever sought out mental health treatment for a work-related event. The descriptive statistics are presented in Table 1.

Measures

Demographics. A demographics form asked participants about their race/ethnicity, gender, age, marital status, education history, length of time spent in law enforcement (in months) and position within the participant's organization, such as a patrol officer, chief, lieutenant, or detective.

Critical Incidents. To measure whether or not an officer experienced a critical incident, the Critical Incident History Questionnaire (CIHQ; Weiss et al., 2010) was used. This scale lists 34 critical incidents that an officer may have experienced (e.g. "being seriously injured intentionally", "being seriously beaten", "seeing someone dying"). The participant was asked to give the specific number of times they had experienced the event if that number is less than or equal to 9 times. However, if they had experienced the event more than 9 times, they must choose from the corresponding categories: 10-20, 21-50, and 51+. Participants received a score that corresponds with their endorsed number, or in the case of the ranged categories, they received the median number (i.e. 15, 35.5, and 51). The participant's responses to each critical incident were then summed to derive a frequency score. Within this study, the experience of critical incidents was considered an inclusion criterion, with only officers who endorsed having experienced one or more critical incidents being included in the final sample. This measure has demonstrated strong internal consistency in a law enforcement sample ($\alpha = .87$; Weiss et al., 2010), and has been replicated by Chopko, Palmieri, and Adams (2015) who offered further support for reliability. The Cronbach's alpha for the current study was .90.

Posttraumatic Stress Disorder. PTSD symptoms and severity were measured using the Posttraumatic Checklist for DSM-5 (PCL-5; Weathers et al., 2013). Based on the PTSD diagnostic criteria in the DSM-5. This measure consists of 20 questions about PTSD symptoms. Prior factor analysis has confirmed that the questions fall within the four factor clusters of intrusive, avoidant, negative alterations to cognitions and mood, and changes in arousal and reactivity symptoms. Each of the questions asks about a specific symptom (e.g. “repeated, disturbing dreams of the stressful experience?”, “having difficulty concentrating?”) and the respondent was asked to rate how bothered they have been by the symptom over the past month using a Likert scale ranging from 0 to 4 (0 = “not at all”, 4 = “extremely”). For the purposes of this study, both overall severity and severity of symptoms within each symptom cluster were assessed. This scale has demonstrated strong reliability ($\alpha = .94$; Blevins et al., 2015) and validity (Blevins et al., 2015). Further, the subscales assessing each symptom cluster have demonstrated acceptable to good internal consistency (α range = .57-.78; Sveen, Bondjers, & Willebrand, 2016). The Cronbach’s alpha for the total scale was $\alpha = .94$ while symptom clusters ranged from $\alpha = .83$ (changes in arousal and reactivity cluster) to $\alpha = .89$ (negative alterations to mood and cognitions cluster).

Treatment Seeking. Treatment seeking was measured by participants’ response to a single dichotomous question; “Have you ever sought or been provided with mental health treatment for one or more incidents listed on the Critical Incident History Questionnaire”. Due to the lack of research looking explicitly at help-seeking behaviors within law enforcement and the paucity of measures for help-seeking behaviors, this

question was guided by Berg and colleagues (2006) who explored help-seeking behaviors in Norwegian police services.

Coping Behaviors. Coping behaviors were measured using the Brief COPE (Carver, 1997). This is a 28-item measure consisting of 14 scales to measure each of the different coping styles: active coping, planning, positive reframing, acceptance, humor, religion, using emotional support, using instrumental support, self-distraction, denial, venting, substance use, behavioral disengagement, and self-blame. Using a Likert scale, 1 through 4 (1 = “I haven’t been doing this at all”, 4 = “I’ve been doing this a lot”), the respondent endorsed the items that best fit with their coping behaviors (e.g. “I’ve been turning to work or other activities to take my mind off things”, “I’ve been saying to myself ‘this isn’t real’”). Driven by a factor structure presented by Andrew and colleagues (2013), three summary scales to provide a measure of active coping/cognitive restructuring (acceptance, active coping, positive reframing, and planning), passive coping/avoidance (behavioral disengagement, denial, self-blame, and venting), and support seeking (instrumental support and emotional support) were formed. These summary scales have demonstrated good internal consistency with alpha coefficients ranging from .70 to .79 in a police sample (Andrew et al., 2013). The active coping subscale was used as the moderating variable, while passive and support seeking coping were treated as covariates to control for the potential effects of these coping styles on treatment seeking behaviors. Within this sample, the Cronbach's alpha for active coping was $\alpha = .86$, passive coping was $\alpha = .69$, and support seeking was $\alpha = .87$.

Police Stress. Police stress was measured using the Police Stress Questionnaire (PSQ; McCreary & Thompson, 2006). This inventory measures two aspects of stress

within law enforcement, operational and organizational stress. Operational stress (PSQ-Op) encompasses aspects associated with the police occupation, such as "working alone at night" while organizational stress (PSQ-Org) comprises the administrative aspects of the job, such as "bureaucratic red tape". The inventory is a total of 40 items, with 20 items corresponding to each scale. Using a 7-point Likert scale (1 = "no stress at all"; 7 = "a lot of stress"), respondents reported the level of stress they experienced from each aspect of policing. Each scale is scored separately, with higher scores being indicative of perceptions of greater work-stress. The inventory has been found to demonstrate excellent internal reliability, with the PSQ-Org obtaining Cronbach's alphas ranging from .89 to .93 and the PSQ-Op having alphas from .90 to .93. Additionally, the scales demonstrated adequate convergent, and discriminant validity (McCreary & Thompson, 2006). Within this study, the Cronbach's alpha for the PSQ-Org was .93 and the alpha for the PSQ-Op was .92.

Depressive Symptoms. To measure the severity of depressive symptoms, the Patient Health Questionnaire 8-item scale (PHQ-8; Kroenke et al., 2009) was used. This is an 8-item inventory measuring the severity of depressive symptoms over the past two weeks using a 4-point Likert scale (0 = "not at all", 3 = "nearly every day"). Higher scores indicated greater severity of depressive symptoms. This scale has demonstrated high clinical sensitivity and specificity for identifying depressive symptoms (Kroenke et al., 2009). Among a law enforcement sample, this scale has demonstrated adequate reliability ($\alpha = .89$; Bowler et al., 2016). In this sample, the Cronbach's alpha was .90.

Procedure

An Internal Review Board protocol was approved for this study. Approximately 40 law enforcement agencies within the state of Texas were contacted and participated in the study. If the agency agreed to participate, they were given the option of having data collected in person or online. If they chose in person data collection (only available in the Greater Houston Area), graduate students administered the informed consent forms and survey at the agency's location. If they chose to participate in the online version only, they were sent an email that contained information about the study and a link to the online Qualtrics survey to disseminate within their department. Participants then followed the link to a consent form, and, once they consented, were directed to a Qualtrics survey where they responded to measures assessing demographic variables, the frequency and severity of critical incidents they experienced, coping style, PTSD symptoms, and treatment seeking. Participants had the option of receiving either a \$10 Amazon gift card, or being entered into a random drawing at the end of data collection for one of five \$100 gift cards. Further, if they referred four additional participants to the study, they received an additional \$10 gift card.

CHAPTER III

Results

Preliminary Data Analysis

All data were analyzed using the Statistical Package for Social Sciences Version 22 (IBM Corp., 2013). Using a missing value analysis, 7.31% of values were identified as missing. The results of Little's MCAR test indicated missing data was missing completely at random ($Chi-Square = 3110.46, p = 0.88$). Within the sample of 169, 11 participants did not respond to the item ascertaining treatment seeking, 3 people had never experienced a critical incident, and 3 participants did not respond to any of the items measuring PTSD symptoms. Therefore, 17 participants were subsequently removed resulting in a dataset of 152 participants. Multiple imputation was used to account for the remaining missing data. This method replaces missing data with plausible values (Schafer, 1999). Five imputations were created for the current sample. All analyses utilized this imputed dataset.

Binary logistic regression has five main assumptions that must be met (Wright, 1995). First, it is assumed that the group membership status, treatment seeking in this study, is a dichotomous variable. Second, each case within the data set may only be represented once. Third, the model must contain all relevant predictors and no irrelevant predictors. This was determined using a theoretical approach (including variables that previous literature had identified as potential covariates). Fourth, the category being analyzed, treatment seeking, must be mutually exclusive and exhaustive. As all participants responded that they either had previously sought out mental health related treatment or that they had not, this criterion was achieved. Finally, a large sample size is

required, with a minimum of 50 cases per predictor variable being considered acceptable (Wright, 1995). However, this assumption has not always been met in previous literature, with significant results being found with samples as low as 186 (e.g. Blais et al., 2014).

Means, standard deviations, and intercorrelations for all variables are presented in Table 2. The mean scores of the predictor variables are as follows: total PTSD ($M = 13.81$; $SD = 13.66$), intrusive symptom cluster ($M = 3.43$; $SD = 4.02$), avoidant cluster ($M = 1.38$; $SD = 1.88$), negative alterations to mood and cognitions cluster ($M = 3.93$; $SD = 5.05$), and the changes in arousal and reactivity cluster ($M = 5.07$; $SD = 4.71$). The average severity of PTSD symptoms appears to be consistent with previous research using law enforcement samples (e.g. Soomro & Yanos, 2019). The average scores for each of the symptom clusters is consistent with what is found among the general population (e.g. Reffi et al., 2019), though lower than what has been reported among veteran populations (e.g. Walton et al., 2018). Of note, 9.21% of the sample met the suggested cut-off point for possible PTSD of 33 (Bovin et al., 2016; van der Meer et al., 2016). This is slightly higher than the prevalence within the general population (Kilpatrick et al., 2013), but lower than what has been reported within some studies using law enforcement samples (e.g. Fox et al., 2012).

Active coping was positively correlated with the experience of intrusive ($r = .29$, $p < .01$), avoidant ($r = .28$, $p < .01$), negative alterations to mood and cognitions ($r = .26$, $p < .01$), changes in arousal and reactivity ($r = .31$, $p < .01$), and total ($r = .33$, $p < .01$) PTSD symptoms. Further, the use of an active coping style was associated with treatment seeking ($r_{pb} = .22$, $p < .01$). None of the PTSD symptom clusters were correlated significantly with treatment seeking ($p > .05$).

Age, frequency of critical incidents, depressive symptoms, operational stress, and organizational stress were found to be covariates as they were significantly correlated with the variables of interest and have been associated with treatment seeking in previous research (Angst et al., 2010; Mojtabai & Jorm, 2015; Raun, 2017; Roberts et al., 2011). Participants' stated age were significantly associated with total PTSD symptoms ($r = -.18, p = .03$) and changes in arousal and reactivity symptoms ($r = -0.20, p = .01$). The frequency with which participants had experienced critical incidents was significantly positively correlated with intrusive ($r = .22, p < .01$), avoidant ($r = .24, p < .01$), and changes in arousal and reactivity symptoms ($r = .28, p < .01$) as well as overall PTSD symptoms ($r = .24, p < .01$). Additionally, operational stress was correlated with the intrusive cluster ($r = .33, p < .01$), avoidant symptom cluster ($r = .27, p < .01$), negative alterations to mood and cognitions cluster ($r = .26, p < .01$), changes in arousal and reactivity symptom cluster ($r = .42, p < .01$), and overall severity of PTSD symptoms ($r = .38, p < .01$). Organizational stress was significantly associated with intrusive symptoms ($r = .19, p = .02$), changes in arousal and reactivity symptoms ($r = .24, p < .01$), and total PTSD symptoms ($r = .20, p = .01$). The severity of depressive symptoms was significantly related with the intrusive ($r = .56, p < .01$), avoidant ($r = .44, p < .01$), negative alterations to mood and cognitions ($r = .65, p < .01$), and changes in arousal and reactivity clusters ($r = .72, p < .01$) as well as overall PTSD symptoms ($r = .71, p < .01$).

Passive coping was similarly correlated with treatment seeking ($r_{pb} = .19, p < .01$) as well as the intrusive ($r = .63, p < .01$), avoidant ($r = .52, p < .01$), negative alterations to mood and cognitions ($r = .68, p < .01$), changes in arousal and reactivity ($r = .68, p < .01$) symptom clusters and total PTSD symptoms ($r = .75, p < .01$). Finally, support

seeking coping was also associated with treatment seeking ($r_{pb} = .22, p < .01$) as well as the avoidant ($r = .17, p < .01$), negative alterations to mood and cognitions ($r = .17, p < .01$), changes in arousal and reactivity ($r = .19, p < .01$) symptom clusters and total PTSD symptoms ($r = .20, p < .01$). Therefore, these variables were treated as covariates. Due to previous research supporting the influence gender (Berg et al., 2006; Bowler et al., 2012; Bowler et al., 2017; Roberts et al., 2011), race/ethnicity (Clement et al., 2014; Koenen, Goodwin, Struening, Hellman, & Guardino, 2003; Roberts et al., 2011), education background (Gonzalez et al., 2011; ten Have et al., 2003), marital status (Sareen et al., 2007; Stringer & Baker, 2018), and amount of time spent serving as a law enforcement officer (Korehova, Soloviev, & Novikova, 2019; Tuttle et al., 2019), may have on PTSD and treatment seeking, these demographic characteristics were controlled for as well.

Hypothesis 1

To assess the first hypothesis, that PTSD symptom severity would be significantly correlated with treatment seeking, a binary logistic regression was used in order to control for the covariates. First, the covariates (age, gender, race/ethnicity, education level, marital status, length of time in law enforcement, organizational stress, operational stress, depressive symptoms, frequency of critical incidents, active, passive, and support seeking coping) were entered into the model. Next, the overall severity of PTSD symptoms was entered. After controlling for covariates, the total PTSD symptom severity was not significantly associated with treatment seeking ($B = .02, SE = .03, p = .63$; see Table 3).

Hypothesis 2

A binary logistic regression was used to evaluate the second hypothesis to determine if active coping skills and treatment seeking were related. With the outcome variable being treatment seeking, the covariates (age, gender, race/ethnicity, education level, marital status, length of time in law enforcement, organizational stress, operational stress, depressive symptoms, and frequency of critical incidents, coping style) were entered into the model. Next, the active coping style variable was entered. After the covariates were controlled for, an active coping style was not significantly associated with treatment seeking ($B = .28$, $SE = .49$, $p = .57$; see Table 4).

Hypothesis 3

A binary logistic regression was used to evaluate the third hypothesis and determine the association between PTSD symptom clusters and treatment seeking. The outcome variable was treatment seeking. In step one, the covariates (age, gender, race/ethnicity, education level, marital status, organizational stress, operational stress, depressive symptoms, length of time in law enforcement, and frequency of critical incidents, coping style) were entered into the model. Subsequent blocks included intrusive symptoms, negative alterations to mood and cognitions, avoidant symptoms and changes in arousal and reactivity. Intrusive symptoms ($B = .05$, $SE = .08$, $p = .57$), the negative alterations to mood and cognition cluster ($B = .02$, $SE = .08$, $p = .76$), the avoidance cluster, ($B = -.15$, $SE = .17$, $p = .35$), and the hyperarousal cluster ($B = .02$, $SE = .10$, $p = .85$), were not statistically significant when they were entered into the analysis (see Table 5).

Hypothesis 4

Use of an active coping style was posited to moderate the relation between the severity of a particular PTSD symptoms cluster on the decision to seek out mental health treatment. A fourth binary logistic regression was conducted to explore this association. All PTSD symptom clusters and active coping style variables were centered and interaction terms were created. The outcome variable was treatment seeking. In step one, the covariates (age, gender, race/ethnicity, education level, marital status, organizational stress, operational stress, depressive symptoms, length of time in law enforcement, frequency of critical incidents, passive, and support seeking coping) were entered into the model. In the next block, the symptom clusters and active coping were entered. Third, the interaction term of intrusive symptoms and active coping was entered. Fourth, the negative alterations in cognitions and mood variable interacting with active coping was entered. Next, the interaction term containing the avoidant symptom cluster was entered. Finally, the changes in arousal and reactivity symptom cluster interaction term was entered. For the interaction terms all continuous variables were centered.

None of the covariates were significantly associated with treatment seeking, and the addition of each of the symptom clusters and active coping did not provide significant results ($p > .05$). In the third step, the interaction term of intrusive symptoms and active coping was entered which yielded non-significant findings ($B = -.06$, $SE = .11$, $p = .60$). However, the negative alterations to cognitions and mood symptom cluster, entered in the fourth step, approached significance ($B = .24$, $SE = .13$, $p = .07$). The overall model, however, was not significant ($X^2(19) = 21.50$, $p = .31$, Nagelkerke $R^2 = .24$). The avoidant symptoms by active coping interaction term was not significant when added into

the fifth step ($B = -.46$, $SE = .38$, $p = .24$). However, when this cluster was added, the negative alterations to cognitions and mood interaction term became significant ($B = .30$, $SE = .15$, $p = .04$) suggesting the association between the severity of symptoms within the negative alterations to cognitions and mood cluster and treatment seeking was moderated by an active coping style when the preceding interaction terms were controlled. In the final step, the arousal cluster interaction term was significant ($B = -.34$, $SE = .17$, $p = .05$; see Figure 2) as was the negative alterations to cognitions and mood interaction term ($B = .47$, $SE = .17$, $p = .01$; see Figure 1). The final model was not significant ($X^2(21) = 28.35$, $p = .13$, Nagelkerke $R^2 = .31$; see Table 6), though it trended towards conventional levels of significance.

CHAPTER IV

Discussion

The current study aimed to determine whether PTSD symptoms clusters were associated with treatment seeking among law enforcement. Based on the previous literature, it was expected that the overall severity of PTSD symptoms and the use of active coping skills would be associated with whether or not a participant had sought out treatment for a critical incident. It was further hypothesized that each of the symptoms clusters of PTSD, as outlined within the DSM-5, would differentially be associated with treatment seeking such that the more severe intrusive symptoms and negative alterations to mood and cognitions clusters would increase the likelihood of engaging in treatment seeking, while the more severe the avoidant symptom cluster, the less likely one would engage in treatment seeking. Due to the dearth of literature around the arousal cluster, no a priori hypothesis was made about the directionality of its association with treatment seeking. Overall, no significant association was found between the total PTSD symptom severity or an active coping style and treatment seeking. Additionally, none of the symptom clusters were significantly associated with whether or not a participant sought out treatment.

One possible explanation for the lack of support for the initial hypotheses is the strength of the law enforcement culture and identity which may influence officers' decisions to seek out support or mental health treatment outside of their department. Indeed, one model of police culture, the monolithic model, suggests that both occupational and organizational factors can influence stress and anxiety, resulting in the use of certain coping mechanisms that result in isolation from those not in law

enforcement and increased law enforcement loyalty (Paoline, 2003). Factors such as suspiciousness (of citizens, new coworkers), supervisor scrutiny (i.e. watchful, disciplinary supervisors), and laying low (i.e. only trusting immediate peers) can influence social isolation and loyalty to law enforcement (Paoline, 2003; Paoline & Gau, 2018). As mental health workers may be considered "others", officers who have become socially isolated, such that they limit their interactions to their police officer peers, and loyal to law enforcement, may be unlikely to seek out assistance and services that are external to the law enforcement environment and culture. Therefore, the severity of PTSD symptoms, regardless of what symptoms they are, may not be enough to motivate officers to seek help outside of their culture. However, the overall monolithic model of police culture has only received preliminary empirical support, suggesting heterogeneity within law enforcement (Paoline & Gau, 2018). As officers appear to differ substantially in their support of some of the factors that make up the model (e.g. loyalty), this heterogeneity may extend to their attitudes toward treatment seeking (Hohner, 2017; Karaffa & Tochkov, 2013). Thus, a single construct, such as the severity of PTSD symptoms, may not be sufficient to assess whether or not an officer engages in treatment seeking. Other factors, such coping style may impact views on mental health and treatment seeking regardless of, or in conjunction with the severity of symptoms.

Based on the literature supporting the effects an active coping style may have on treatment seeking for mental health distress, we posited that active coping would moderate the association between each of the symptom clusters and treatment seeking. Partial support was found for this hypothesis. Indeed, the results revealed that active coping significantly moderated the association between two of the symptom clusters,

negative alterations in cognitions and mood, and changes in arousal and reactivity, on treatment seeking. Active coping moderated the association between negative alterations in cognitions and mood symptom severity and treatment seeking such that participants with greater severity of negative alterations in cognitions and mood symptoms and higher levels of active coping were more likely to seek out treatment. Lower levels of active coping significantly reduced the likelihood of treatment seeking (see Figure 1). These findings are consistent with the extant literature.

Previous research has found that negative cognitive symptoms were more severe among those who had been exposed to a greater number of traumatic events (Cox, Resnick, & Kilpatrick, 2014). As law enforcement officers often report experiencing a greater number of traumatic events than those in the general population (Weiss et al., 2010), they may be more likely to exhibit more severe cognitive symptoms. Thus, cognitive symptoms are important to consider in law enforcement populations. Experiencing negative cognitions has been found to mediate the association between trauma and PTSD severity (Boelen, de Keijser, & Smid, 2015; Bovin et al., 2014; Hansen et al., 2014), as well as the outward expression of anger and control (Germain et al., 2016). Perceived cognitive dysfunction has also been shown to be predictive of poorer reported quality of life (Silverberg et al., 2017). Further, social constraint, or feeling unsupported, misunderstood, or alienated from one's social network when seeking out support following a trauma, has been associated with more distressing negative post-trauma cognitions (Belsher et al., 2012). As the monolithic law enforcement culture can create an atmosphere of social constraint and isolation, when an officer engages more active coping mechanisms, they may be less susceptible to the stigma and cultural beliefs

surrounding mental health and mental health treatment, thereby being more likely to seek treatment. This lack of support within an officer's department and increased social isolation due to adherence to law enforcement cultural ideals may amplify negative cognitive symptoms, deterring treatment seeking among officers who do not engage active coping mechanisms. Social isolation may lead to social constraint, resulting in greater cognitive symptoms and more impairing PTSD, ultimately influencing treatment seeking when an officer utilizes active coping.

Additionally, emotional numbing symptoms have been found to be predictive of PTSD, suggesting that deficits in emotion regulation, a symptom within the negative alterations to cognitions and mood cluster, affects the severity of PTSD (Ouimette et al., 1997; Boden et al., 2014). As alterations to emotions appear to be strongly intertwined with negative cognitions, with increased feelings of depression, shame, and guilt being associated with negative cognitive symptoms within PTSD (Beck et al., 2015), it appears that this combination of emotional and cognitive deficits is a particularly debilitating cluster. Overall, this symptom cluster has been associated with numerous adverse outcomes, including, greater severity of PTSD, lower quality of life, social constraint, and deficits in emotion regulation, suggesting that officer's may be experiencing this symptom cluster as particularly distressing. Therefore, the additional utilization of an active coping style is necessary for officers who are simultaneously experiencing heightened symptoms that impair their cognitive and emotional functioning to propel them to seek out treatment and reduce the impairment and distress associated with these symptoms. This is in accordance with the overarching framework of the Behavioral Model for Health Services Use, as increased need is associated with increased help-

seeking (Andersen & Newman, 1973). However, the model is much more comprehensive and does not focus on need alone, positing a number of predisposing and enabling factors that also influence treatment seeking. Need alone is not sufficient to affect treatment seeking which is supported within this study as negative alterations to mood and cognitions symptom severity alone was not associated with treatment seeking. Therefore, officers may be too entrenched within the law enforcement culture, and thereby subscribe to the stigma surrounding mental health treatment (Soomra & Yanos, 2018), requiring the ability to cope in an active manner to motivate treatment seeking. Additionally, this symptom cluster has been associated with experiential avoidance (Seligowski, Rogers, & Orcutt, 2016), suggesting that active coping is necessary to propel officers to seek out treatment for these symptoms.

A different moderating effect was found for the alterations in arousal and reactivity symptom clusters. Indeed, participants who had lower levels of symptoms within the alterations in arousal and reactivity cluster were more likely to engage in treatment seeking when they reported using more active coping skills. Higher arousal and reactivity symptoms were associated with less use of active coping mechanisms and treatment seeking (see Figure 2). This finding is in contrast to the overarching framework that suggests level of need is associated with treatment seeking. While this may seem counterintuitive, this finding does fit within the extant literature. Although, the arousal symptoms, such as hypervigilance, an exaggerated startle response, and deficits in concentration could directly impair an officer's ability to do their job, (Arble, Daugherty, & Arnetz, 2019; Kleider, Parrott, & King, 2010; O'Neill et al., 2018; Regehr & LeBlanc, 2017), contrastingly, exposing officers to an arousing incident has also been associated

with greater accuracy in recounting an event (Hulse & Memon, 2006) and threat assessment (Akinola & Mendes, 2011). Law enforcement officers are taught to be hypervigilant and continually assess their environment for threats (Stoughton, 2014-2015). Part of the law enforcement occupation requires protection of themselves, their fellow officers, and the general public. Therefore, increased hypervigilance and awareness of potential threats in their environment may be a protective and necessary part of the job. Officers' reporting deficits in arousal and reactivity may internalize that they are unable to do their job effectively, and, when they are predisposed to using an active coping style, may seek out treatment to improve their ability to do their job. Alternatively, as officers' arousal symptoms become more severe, they may go unnoticed as, at subsyndromal levels, they may be part of the normative law enforcement experience. Once an officers' arousal symptoms become severe enough to impair their functioning during their job, they may be unwilling to seek treatment, even when using an active coping style, due to the strength of the law enforcement culture that values strength, denigrates weakness (Karaffa & Tochkov, 2013; Rawski & Workman-Stark, 2018), and stigmatizes mental health treatment (Soomra & Yanos, 2018). This speaks to the strength of the law enforcement culture and the adherence officers may have to its values and beliefs as an active coping style may not be enough to combat the influence of this culture.

Additionally, changes in arousal and reactivity symptoms have been found to be associated with thought suppression following a traumatic event (Seligowski, Rogers, & Orcutt, 2016). While suppressing distressing thoughts may initially decrease unwanted thoughts, overtime, these thoughts tend to increase arousal (Gross & Levenson, 1993)

ultimately resulting in more severe arousal symptoms. Thought suppression may act in opposition to an active coping style, leading to a decreased likelihood to seek out treatment. As arousal symptoms become more severe, thought suppression appears to increase (Seligowski et al., 2016) potentially suppressing active forms of coping and resulting in a decreased likelihood to seek out treatment.

Of note, as the intrusive symptom cluster has also been associated with increased thought suppression (Seligowski et al., 2016), the distress and impairment resulting from these symptoms may become subsumed within the changes in arousal and reactivity symptom cluster which may explain why no significant findings were identified for the intrusive cluster when other symptom clusters were controlled. The avoidant symptom cluster was not associated with treatment seeking, even when moderated by an active coping style. As people with more severe avoidant symptoms will avoid both internal and external reminders of the event (American Psychiatric Association, 2013), they may be less likely to seek out treatment as trauma-focused therapy involves confronting these experiences (Flannery, 2015; Kaier et al., 2014). Overall, the severity of PTSD symptoms has been shown to decrease over time, even without intervention (Galatzer-Levy et al., 2013), therefore, persons who exhibit more severe avoidant symptoms may be more likely to wait for their symptoms to subside over time. Due to the stigma toward mental health and the strength of the law enforcement culture, officers may prolong treatment seeking, resulting in a remittance of their symptoms as a product of time. Regardless of coping style, officers' symptoms may lessen in severity over time. However, this is problematic as symptoms may return when a person is faced with a reminder of the event (Kroes & Liivoja, 2019).

As the average scores within each of the symptom clusters was lower than is typically seen within the law enforcement literature, the participants may have been experiencing reductions in their symptoms over time. Further, intrusive and avoidant symptoms have been found to be predictive of treatment resistance among persons with more severe PTSD symptoms (Fletcher et al., 2017) suggesting these symptoms may share a unique factor that influences treatment engagement, which may extend to treatment seeking. Additionally, the intrusive ($r = .752, p < .01$) and avoidant ($r = .565, p < .01$) symptom clusters were highly correlated with the negative alterations to cognitions and mood cluster suggesting these clusters may share a similar underlying construct that is captured within the negative alterations to mood and cognitions cluster and not account for additional and unique variance in treatment seeking. Finally, gender differences have been noted between male and female officers in PTSD symptom presentation, specifically in regards to the intrusive cluster, with females reporting significantly higher intrusive symptoms, even over time (Bowler et al., 2012). Due to the small representation of females within the current sample, the influence of this symptom cluster on treatment seeking may be masked by the male majority.

Limitations & Future Directions

While the present study offers unique insights into how active coping and the PTSD symptoms interact to influence treatment seeking, there are some limitations that may impact the findings. First, by convention, the current study's sample size was small, with a number of participants needing to be removed from the data set. This may affect the ability of statistical analyses to detect a significant effect. Second, within the sample, few participants engaged in treatment seeking. Indeed, approximately 18% endorsed

having ever sought out treatment after experiencing a serious critical incident. This lack of variability in treatment seeking, the dependent variable, could impact the findings and fail to identify significant factors that contribute to treatment seeking within law enforcement. Indeed, Wright (1995) states that "best mean classification accuracy is typically obtained when the proportions of cases in each group are approximately equal" (Wright, 1995, p. 230). When there are extremely disproportionate groups, the predictors will not be as helpful in accurately predicting group membership. This may account for why the final model was trending toward conventionally accepted significance, as the interaction of the symptom clusters and active coping may account for a significant portion of the variance which was obfuscated by the lack of variability in treatment seeking. However, this limitation may also speak to the strength of the police culture and the internalized loyalty and stigma toward mental health that may be driving these low rates of treatment seeking. If officers are subscribing to and internalizing the cultural values and beliefs that are salient within the law enforcement culture, they will be less likely to seek treatment or disclose that they have sought out treatment. Therefore, future studies should be conducted with larger sample sizes, and should use measures of police cultural values surrounding mental health treatment seeking to corroborate these findings.

Third, only active coping was explored as a potential moderator within this study. The literature on coping styles is vast and other coping mechanisms may play an important role in treatment seeking. Further research is needed to explore how other coping styles may impact treatment seeking, as well as other variables such as the law enforcement culture or mental health stigma that may affect treatment seeking. Fourth, treatment seeking as a variable was operationalized through the use of a single question.

While this approach was grounded within the literature (e.g. Berg et al., 2006), there was a paucity of help seeking measures for a law enforcement sample. Psychometrically sound inventories of treatment seeking should be created for law enforcement to assist in the study of this population. Fifth, a cross-sectional design was used. Therefore, time order could not be established. As the data is only representative of participants' beliefs and symptoms at one point in time, this may limit the interpretation of the findings.

Lastly, the minority representation was minimal. Indeed, both racial/ethnic minorities and females were underrepresented in the sample. Within the Behavioral Model of Health Services Use framework, internalized cultural values and beliefs and demographic factors such as gender and racial/ethnic minority status are referred to as individual predisposing factors that can impact perceptions of need and use of health services (Andersen et al., 2014). As both racial/ethnic minorities (Pole et al., 2001; Pole, Best, Metzler, & Marmar, 2005; Roberts et al., 2011) and females (American Psychiatric Association, 2013; Bowler et al., 2010; Steyn, 2012) tend to experience PTSD at higher rates than their White/European American and male counterparts, they may be disproportionately affected by PTSD symptoms. Paradoxically, however, racial/ethnic minorities are less likely to seek out mental health treatment (Clement et al., 2014; Koenen, Goodwin, Struening, Hellman, & Guardino, 2003; Roberts et al., 2011) while females tend to seek out mental health treatment at higher rates than males (Berg and colleagues, 2006; Bowler et al., 2012; Roberts et al., 2011) and, within law enforcement, tend to have more favorable attitudes toward help-seeking (Soomro & Yanos, 2018). Finally, both racial/ethnic minorities and females appear to exhibit differences in the types of symptoms they manifest, with racial/ethnic minorities experiencing greater

intrusive and avoidant symptoms than White/Europeans Americans (Perilla et al., 2002) and females reporting greater intrusive symptoms than males (Bowler et al., 2012). Therefore, the lack of diversity within the sample may limit the findings and their generalizability.

Implications & Conclusions

Law enforcement officers experience higher rates of PTSD stemming from their occupational requirements (Fox et al., 2012). However, within the culture of law enforcement, stigma surrounds mental health treatment (Soomra & Yanos, 2018), which results in lower service utilization (Berg et al., 2006). As such, it is vital to understand factors that may increase treatment seeking among this vulnerable population. The present study found that an active coping style influences the association between two PTSD symptom clusters, negative alterations to cognitions and mood, and alterations to arousal and reactivity, and treatment seeking. Based on these findings, it is important to address active coping in law enforcement in order to provide them with effective training and support. Law enforcement organizations should consider providing training and psychoeducation to officers and command staff to provide them with active coping strategies as well as skills to recognize and seek help should they develop PTSD symptoms. Further, agencies should work to address and reduce the mental health stigma and barriers to mental health treatment that are perpetuated within the law enforcement culture in an effort to increase mental health treatment seeking and normalize the presence of mental health concerns within this population. Peer-driven trainings aimed at teaching active coping skills can provide officers with the resources necessary to mitigate isolation and social constraint, cultural barriers to mental health treatment (Arnetz et al.,

2013; Dowling et al., 2006). These educational programs can encourage law enforcement officers to engage in active coping techniques and provide them with the necessary resources to seek out support, such as mental health treatment, when they may need assistance. Due to the literature supporting the serious deficits in cognitions, emotions, and arousal (e.g. Belsher et al., 2012; Silverberg et al., 2017; Regehr & LeBlanc, 2017), it is vital to provide officers with the mental health resources they may need when experiencing these mental health symptoms. Preventative measures such as providing officers with information about PTSD symptoms may help normalize their experiences. Further, educational resources about ways to seek help may limit stigma and decrease barriers to service access, particularly if officers are unaware of such resources (Lucia & Halloran, 2019). While Colwell and colleagues (2011) noted that due to the heterogeneity of law enforcement experiences, individualized treatments are necessary among officers who do seek out treatment, mental health providers can use evidence-based treatments such as motivational interviewing (Steinkopf, Hakala, & Van Hasselt, 2015), and cognitive-based or humanistic strategies (Colwell et al., 2011) to increase treatment adherence and engagement among law enforcement officers. Using research to guide and influence best-practice within both law enforcement and mental health sectors can provide officers with skills and resources to combat their mental health concerns and create an environment conducive to treatment seeking and effective treatment should they require it.

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APPENDIX A

Table 1.

Demographic Information.

Variable	<i>M</i> or Frequency	<i>SD</i> or Percentage
Age	41.08	11.10
Gender		
Male	128	84.20
Female	24	15.80
Race/ethnicity		
White/European American	128	84.20
Black/African American	13	8.60
Hispanic/Latinx	10	6.60
Native American	1	0.70
State		
Texas	147	96.70
Connecticut	2	1.30
New York	2	1.30
Pennsylvania	1	0.70
Highest level of education		
High school graduate/GED	41	27.0
Vocational Training	23	15.10
Associate's Degree	20	13.20
Bachelor's Degree	49	32.20

Master's Degree	18	11.80
Doctorate	1	0.70
Marital Status		
Never married/Single	15	9.90
Married/Domestic Partnership	111	73.00
Divorced	22	14.50
Widowed	1	0.70
Separated	3	2.00
Current Position		
Police Officer	59	38.80
Detective	26	17.10
Command Staff	55	36.20
Other	9	5.90
Length at current position (months)	<i>55.13</i>	<i>46.60</i>
Length in law enforcement (months)	<i>186.63</i>	<i>124.25</i>
Treatment Seeking		
Yes	28	18.42
No	124	81.58

Note. Italicized values denote means and standard deviations.

APPENDIX B

Table 2.

Means, Standard Deviations, and Inter-Item Correlations of all Variables.

Variable	1	2	3	4	5	6	7
1. Treatment Seeking	-	.08	.08	-.02	.09	.07	.22**
2. Total PTSD Symptoms	.05	-	.89**	.73**	.88**	.90**	.33**
3. Intrusive Symptoms	.05	.76**	-	.65**	.67**	.75**	.29**
4. Avoidant Symptoms	-.04	.53**	.39**	-	.56**	.57**	.28**
5. Negative Alterations to Mood & Cognitions Symptoms	.06	.72**	.29**	.23**	-	.70**	.26**
6. Arousal Symptoms	.03	.70**	.40**	.17	.30**	-	.31**
7. Active Coping	.08	.02	.09	.07	-.07	.01	-
<i>M</i>	-	13.81	3.43	1.38	3.93	5.07	2.18
<i>SD</i>	-	13.66	4.02	1.88	5.05	4.71	.69

Note. Zero-order correlations (above the diagonal) and partial correlations (below the diagonal) after controlling for age, gender, race/ethnicity, education level, marital status, length of time in law enforcement, organizational stress, operational stress, depressive symptoms, and frequency of critical incidents, passive and support seeking coping style.

** $p < 0.01$.

APPENDIX C

Table 3.

Results of Binary Logistic Regression Models of the Total Severity of PTSD Symptoms and Treatment Seeking.

Model	Predictor	B	SE	OR	p	95% CI for OR
Step 1	(Constant)	-4.55	2.57	.01	.08	.00-1.66
	Age	.02	.05	1.02	.74	.93-1.11
	Gender	-1.03	.88	.36	.24	.06-1.99
	Race/ethnicity	.12	.42	1.13	.78	.49-2.58
	Education	-.02	.18	.98	.90	.69-1.39
	Marital Status	.26	.39	1.30	.51	.60-2.80
	Time in Law Enforcement	.00	.00	1.00	.73	.99-1.01
	Depressive Symptoms	-.03	.06	.97	.61	.87-1.09
	Operational Stress	-.03	.39	.97	.95	.45-2.11
	Organizational Stress	-.06	.32	.95	.86	.51-1.76
	Critical Incident Frequency	.00	.00	1.00	.71	1.00-1.00
	Active Coping	.28	.49	1.32	.57	.51-3.45
	Passive Coping	1.05	.91	2.86	.25	.48-16.94
	Support Seeking	.33	.38	1.39	.39	.66-2.96
Step 2	(Constant)	-4.19	2.68	.02	.12	.00-2.92
	Age	.02	.05	1.02	.75	.93-1.11
	Gender	-.98	.88	.38	.27	.48-2.52

Race/ethnicity	.09	.43	1.10	.83	.48-2.52
Education	-.03	.18	.97	.86	.68-1.38
Marital Status	.26	.39	1.29	.52	.60-2.79
Time in Law Enforcement	.00	.00	1.00	.69	.99-1.01
Depressive Symptoms	-.05	.07	.96	.50	.84-1.09
Operational Stress	-.03	.39	.97	.94	.45-2.09
Organizational Stress	-.04	.32	.96	.89	.51-1.79
Critical Incident Frequency	.00	.00	1.00	.67	1.00-1.00
Active Coping	.27	.49	1.31	.58	.51-3.41
Passive Coping	.72	1.13	2.05	.53	.22-18.91
Support Seeking	.40	.41	1.49	.33	.67-3.34
Total PTSD Symptoms	.02	.03	1.02	.63	.95-1.08

APPENDIX D

Table 4.

Results of Binary Logistic Regression Model of an Active Coping Style and Treatment

Seeking.

Model	Predictor	<i>B</i>	<i>SE</i>	<i>OR</i>	<i>p</i>	<i>95% CI for OR</i>
Step 1	(Constant)	-4.35	2.54	.01	.09	.00-1.87
	Age	.02	.05	1.02	.75	.93-1.11
	Gender	-1.01	.88	.36	.25	.07-2.03
	Race/ethnicity	.12	.42	1.13	.78	.49-2.58
	Education	-.03	.18	.97	.86	.68-1.38
	Marital Status	.26	.40	1.29	.52	.59-2.81
	Time in Law Enforcement	.00	.00	1.00	.70	.99-1.01
	Depressive Symptoms	-.03	.06	.97	.87	.87-1.08
	Operational Stress	-.05	.39	.95	.89	.44-2.04
	Organizational Stress	-.04	.31	.96	.89	.52-1.78
	Critical Incident Frequency	.00	.00	1.00	.78	1.00-1.00
	Passive Coping	1.24	.84	3.44	.14	.66-17.97
	Support Seeking	.43	.34	1.54	.20	.79-3.00
Step 2	(Constant)	-4.55	2.57	.01	.08	.00-1.66
	Age	.02	.05	1.02	.74	.93-1.11
	Gender	-1.03	.88	.36	.24	.06-1.99
	Race/ethnicity	.12	.42	1.13	.78	.49-2.58

Education	-.02	.18	.98	.90	.69-1.40
Marital Status	.26	.39	1.00	.73	.99-1.01
Time in Law Enforcement	.00	.00	1.00	.73	.99-1.01
Depressive Symptoms	-.03	.06	.97	.61	.87-1.09
Operational Stress	-.03	.39	.97	.95	.45-2.11
Organizational Stress	-.06	.32	.95	.86	.51-1.76
Critical Incident Frequency	.00	.00	1.00	.71	1.00-1.00
Passive Coping	1.05	.91	2.86	.25	.48-16.94
Support Seeking	.33	.38	1.39	.39	.66-2.96
Active Coping	.28	.49	1.32	.57	.51-3.45

APPENDIX E

Table 5.

Results of the Binary Logistic Regression Model of each PTSD Symptom Cluster and Treatment Seeking.

Model	Predictor	<i>B</i>	<i>SE</i>	<i>OR</i>	<i>p</i>	<i>95% CI for OR</i>
Step 1	(Constant)	-4.55	2.57	.01	.08	.00-1.66
	Age	.02	.05	1.02	.74	.93-1.11
	Gender	-1.03	.88	.36	.24	.06-1.99
	Race/ethnicity	.12	.42	1.13	.78	.49-2.58
	Education	-.02	.18	.98	.90	.69-1.39
	Marital Status	.26	.39	1.30	.51	.60-2.80
	Time in Law Enforcement	.00	.00	1.00	.73	.99-1.01
	Depressive Symptoms	-.03	.06	.97	.61	.87-1.09
	Operational Stress	-.03	.39	.97	.95	.45-2.11
	Organizational Stress	-.06	.32	.95	.96	.51-1.76
	Critical Incident Frequency	.00	.00	1.00	.71	1.00-1.00
	Active Coping	.28	.49	.57	1.32	.51-3.45
	Passive Coping	1.05	.91	2.86	.25	.48-16.94
	Support Seeking	.33	.38	1.39	.39	.66-2.96
Step 2	(Constant)	-4.26	2.60	.01	.10	.00-2.34
	Age	.02	.05	1.02	.74	.93-1.11
	Gender	-.96	.88	.38	.26	.07-2.15

	Race/ethnicity	.09	.42	1.09	.84	.48-2.49
	Education	-.03	.18	.97	.85	.68-1.38
	Marital Status	.26	.39	1.30	.51	.60-2.80
	Time in Law Enforcement	.00	.00	1.00	.71	.99-1.01
	Depressive Symptoms	-.04	.06	.96	.53	.86-1.08
	Operational Stress	-.04	.39	.96	.92	.45-2.07
	Organizational Stress	-.05	.32	.95	.88	.51-1.78
	Critical Incident Frequency	.00	.00	1.00	.67	1.00-1.00
	Active Coping	.25	.49	1.29	.60	.50-3.36
	Passive Coping	.80	1.00	2.23	.42	.32-15.69
	Support Seeking	.40	.40	1.50	.32	.68-3.30
	Intrusive Symptoms	.05	.08	1.05	.57	.90-1.22
Step 3	(Constant)	-4.08	2.69	.02	.13	.00-3.33
	Age	.01	.05	1.01	.77	.92-1.11
	Gender	-.97	.88	.38	.27	.07-2.45
	Race/ethnicity	.08	.43	1.08	.85	.47-2.49
	Education	-.04	.18	.97	.85	.68-1.38
	Marital Status	.26	.39	1.30	.51	.60-2.80
	Time in Law Enforcement	.00	.00	1.00	.68	.99-1.01
	Depressive Symptoms	-.05	.06	.96	.49	.84-1.08
	Operational Stress	-.03	.39	.98	.95	.45-2.11
	Organizational Stress	-.04	.32	.96	.90	.51-1.80

	Critical Incident Frequency	.00	.00	1.00	.69	1.00-1.00
	Active Coping	.27	.49	1.31	.59	.50-3.41
	Passive Coping	.63	1.14	1.87	.58	.20-17.58
	Support Seeking	.43	.41	1.53	.30	.68-3.42
	Intrusive Symptoms	.04	.08	1.04	.64	.89-1.22
	Negative Alterations to Mood & Cognitions	.02	.08	1.02	.76	.88-1.19
Step 4	(Constant)	-4.31	2.74	.01	.12	.00-2.91
	Age	.02	.05	1.02	.74	.93-1.12
	Gender	-.92	.90	.40	.31	.07-2.34
	Race/ethnicity	.07	.43	1.08	.87	.46-2.51
	Education	-.02	.19	.98	.92	.68-1.41
	Marital Status	.27	.40	1.33	.48	.61-2.93
	Time in Law Enforcement	.00	.00	1.00	.77	.99-1.01
	Depressive Symptoms	-.04	.06	.96	.5.	.85-1.09
	Operational Stress	-.05	.40	.95	.91	.44-2.08
	Organizational Stress	-.04	.32	.96	.91	.51-1.81
	Critical Incident Frequency	.00	.00	1.00	.82	1.00-1.00
	Active Coping	.30	.49	1.35	.55	.51-3.54
	Passive Coping	.67	1.16	1.95	.56	.20-18.75
	Support Seeking	.43	.41	1.53	.30	.69-3.42
	Intrusive Symptoms	.07	.09	1.07	.45	.90-1.27

	Negative Alterations to Mood & Cognitions	.03	.08	1.03	.68	.89-1.20
	Avoidant Symptoms	-.15	.17	.86	.35	.62-1.18
Step 5	(Constant)	-4.31	2.75	.01	.12	.00-2.99
	Age	.02	.05	1.02	.73	.93-1.12
	Gender	-.90	.90	.41	.32	.07-2.40
	Race/ethnicity	.08	.43	1.08	.86	.46-2.52
	Education	-.02	.19	.98	.93	.68-1.41
	Marital Status	.29	.40	1.33	.47	.61-2.92
	Time in Law Enforcement	.00	.00	1.00	.78	.99-1.01
	Depressive Symptoms	-.05	.07	.96	.52	.83-1.10
	Operational Stress	-.06	.40	.94	.88	.43-2.08
	Organizational Stress	-.03	.33	.97	.92	.51-1.83
	Critical Incident Frequency	.00	.00	1.00	.81	1.00-1.00
	Active Coping	.30	.49	1.35	.55	.51-3.54
	Passive Coping	.63	1.18	1.88	.59	.19-18.65
	Support Seeking	.43	.41	1.54	.29	.69-3.46
	Intrusive Symptoms	.06	.09	1.06	.53	.88-1.27
	Negative Alterations to Mood & Cognitions	.03	.08	1.03	.70	.89-1.20
	Avoidant Symptoms	-.15	.17	.86	.35	.62-1.19
	Arousal Symptoms	.02	.10	1.02	.86	.83-1.25

APPENDIX F

Table 6.

Results of the Binary Logistic Regression Model of the Moderating Effects of Active Coping on each PTSD Symptom Cluster and Treatment Seeking.

Model	Predictor	B	SE	OR	p	95% CI for OR
Step 1	(Constant)	-1.66	1.81	.19	.36	.01-6.58
	Age	.02	.05	1.02	.75	.93-1.11
	Gender	-1.01	.88	.36	.25	.07-2.03
	Race/ethnicity	.12	.42	1.13	.78	.49-2.58
	Education	-.03	.18	.97	.78	.49-2.58
	Marital Status	.26	.40	1.29	.52	.59-2.81
	Time in Law Enforcement	.00	.00	1.00	.70	.99-1.01
	Depressive Symptoms	-.03	.06	.97	.57	.87-1.08
	Operational Stress	-.05	.39	.95	.89	.44-2.04
	Organizational Stress	-.05	.31	.96	.89	.52-1.78
	Critical Incident Frequency	.00	.00	1.00	.78	1.00-1.00
	Passive Coping	1.24	.84	3.44	.14	.66-17.97
	Support Seeking	.43	.34	1.54	.20	.79-3.00
	Step 2	(Constant)	-1.66	1.86	.19	.37
Age		.02	.05	1.02	.68	.93-1.12
Gender		-.94	.92	.39	.30	.07-2.35
Race/ethnicity		.09	.44	1.10	.83	.46-2.62

	Education	-.04	.19	.96	.84	.67-1.39
	Marital Status	.28	.41	1.32	.50	.59-2.95
	Time in Law Enforcement	.00	.00	1.00	.83	.99-1.01
	Depressive Symptoms	-.03	.07	.97	.07	.84-1.12
	Operational Stress	-.07	.41	.94	.87	.42-2.08
	Organizational Stress	-.08	.33	.92	.80	.48-1.76
	Critical Incident Frequency	.00	.00	1.00	.87	1.00-1.00
	Passive Coping	.66	1.16	1.94	.57	.26-14.39
	Support Seeking	.28	.41	1.32	.50	.59-2.97
	Intrusive Symptoms	.06	.10	1.06	.55	.88-1.27
	Negative Alterations to Mood & Cognitions	.03	.08	1.03	.69	.89-1.20
	Avoidant Symptoms	-.19	.17	.82	.25	.59-1.15
	Arousal Symptoms	.02	.10	1.02	.86	.83-1.25
	Active Coping	.26	.17	1.30	.13	.93-1.81
Step 3	(Constant)	-1.63	1.87	.20	.38	.01-7.61
	Age	.02	.05	1.02	.68	.93-1.12
	Gender	-.96	.92	.38	.30	.06-2.30
	Race/ethnicity	.11	.45	1.11	.81	.46-2.67
	Education	-.03	.19	.97	.86	.67-1.39
	Marital Status	.27	.41	1.31	.51	.59-2.90

	Time in Law Enforcement	.00	.00	1.00	.74	.99-1.01
	Depressive Symptoms	-.03	.07	.97	.66	.84-1.12
	Operational Stress	-.08	.41	.82	.85	.41-2.07
	Organizational Stress	-.08	.33	.93	.82	.48-1.78
	Critical Incident Frequency	.00	.00	1.00	.74	1.00-1.00
	Passive Coping	.55	1.16	1.73	.64	.60-2.96
	Support Seeking	.28	.41	1.33	.49	.60-2.96
	Intrusive Symptoms	.08	.10	1.08	.45	.89-1.32
	Negative Alterations to Mood & Cognitions	.03	.08	1.03	.69	.89-1.20
	Avoidant Symptoms	-.18	.17	.83	.28	.60-1.16
	Arousal Symptoms	.02	.11	1.02	.89	.83-1.25
	Active Coping	.27	.17	1.30	.12	.93-1.83
	Active Coping X Intrusive Symptoms	-.06	.11	.94	.60	.76-1.17
Step 4	(Constant)	-1.95	1.91	.14	.31	.00-6.08
	Age	.02	.05	1.02	.64	.93-1.13
	Gender	-1.16	.99	.31	.24	.05-2.18
	Race/ethnicity	.29	.47	1.34	.53	.54-3.33
	Education	-.09	.19	.92	.65	.63-1.33
	Marital Status	.22	.42	1.25	.60	.55-2.86

	Time in Law Enforcement	.00	.00	1.00	.72	.99-1.01
	Depressive Symptoms	-.05	.08	.95	.47	.82-1.10
	Operational Stress	-.15	.42	.87	.73	.39-1.93
	Organizational Stress	.00	.34	1.00	1.00	.52-1.93
	Critical Incident Frequency	.00	.00	1.00	.95	1.00-1.00
	Passive Coping	1.10	1.25	3.02	.38	.26-34.67
	Support Seeking	.17	.42	1.19	.69	.52-2.72
	Intrusive Symptoms	.19	.12	1.20	.12	.95-1.52
	Negative Alterations to Mood & Cognitions	-.08	.10	.92	.41	.76-1.12
	Avoidant Symptoms	-.21	.18	.81	.25	.57-1.16
	Arousal Symptoms	.01	.11	1.02	.89	.82-1.25
	Active Coping	.29	.18	1.33	.11	.94-1.90
	Active Coping X Intrusive Symptoms	-.27	.17	.76	.12	.55-1.07
	Active Coping X Negative Alterations to Mood & Cognitions	.24	.13	1.27	.07	.98-1.65
Step 5	(Constant)	-1.77	1.93	.17	.36	.00-7.47
	Age	.02	.05	1.02	.70	.93-1.12
	Gender	-1.22	1.00	.30	.22	.04-2.11

Race/ethnicity	.26	.47	1.30	.58	.51-3.27
Education	-.09	.19	.91	.63	.63-1.33
Marital Status	.19	.42	1.21	.65	.53-2.74
Time in Law Enforcement	.00	.00	1.00	.66	.99-1.01
Depressive Symptoms	-.05	.08	.96	.54	.82-1.11
Operational Stress	-.15	.43	.86	.73	.37-2.00
Organizational Stress	.01	.33	1.01	.99	.53-1.92
Critical Incident Frequency	.00	.00	1.00	.94	1.00-1.00
Passive Coping	1.08	1.27	2.94	.40	.25-35.31
Support Seeking	.17	.43	1.18	.70	.51-2.72
Intrusive Symptoms	.16	.12	1.18	.19	.92-1.50
Negative Alterations to Mood & Cognitions	-.09	.10	.92	.39	.75-1.12
Avoidant Symptoms	-.05	.22	.95	.83	.62-1.47
Arousal Symptoms	-.02	.11	.99	.89	.80-1.22
Active Coping	.29	.18	1.33	.12	.93-1.91
Active Coping X Intrusive Symptoms	-.18	.20	.84	.37	.57-1.24
Active Coping X Negative Alterations to Mood & Cognitions	.30	.15	1.35	.04	1.01-1.79

	Active Coping X Avoidant Symptoms	-.46	.38	.64	.24	.30-1.35
Step 6	(Constant)	-1.86	1.98	.16	.35	.00-7.63
	Age	.03	.05	1.04	.51	.93-1.15
	Gender	-1.32	1.05	.27	.21	.03-2.10
	Race/ethnicity	.37	.50	1.45	.45	.55-3.85
	Education	-.09	.20	.91	.65	.62-1.34
	Marital Status	.19	.42	1.20	.66	.53-2.75
	Time in Law Enforcement	.00	.00	1.00	.85	.99-1.01
	Depressive Symptoms	-.04	.08	.96	.59	.82-1.12
	Operational Stress	-.20	.43	.82	.65	.36-1.91
	Organizational Stress	-.02	.34	.98	.95	.50-1.91
	Critical Incident Frequency	.00	.00	1.00	.86	1.00-1.00
	Passive Coping	1.34	1.29	3.81	.30	.30-48.06
	Support Seeking	.15	.43	1.17	.72	.50-2.73
	Intrusive Symptoms	.14	.13	1.15	.29	.89-1.47
	Negative Alterations to Mood & Cognitions	-.16	.11	.86	.16	.69-1.06
	Avoidant Symptoms	-.17	.23	.84	.46	.54-1.32
	Arousal Symptoms	.10	.13	1.11	.41	.87-1.42
	Active Coping	.31	.19	1.36	.10	.94-1.96

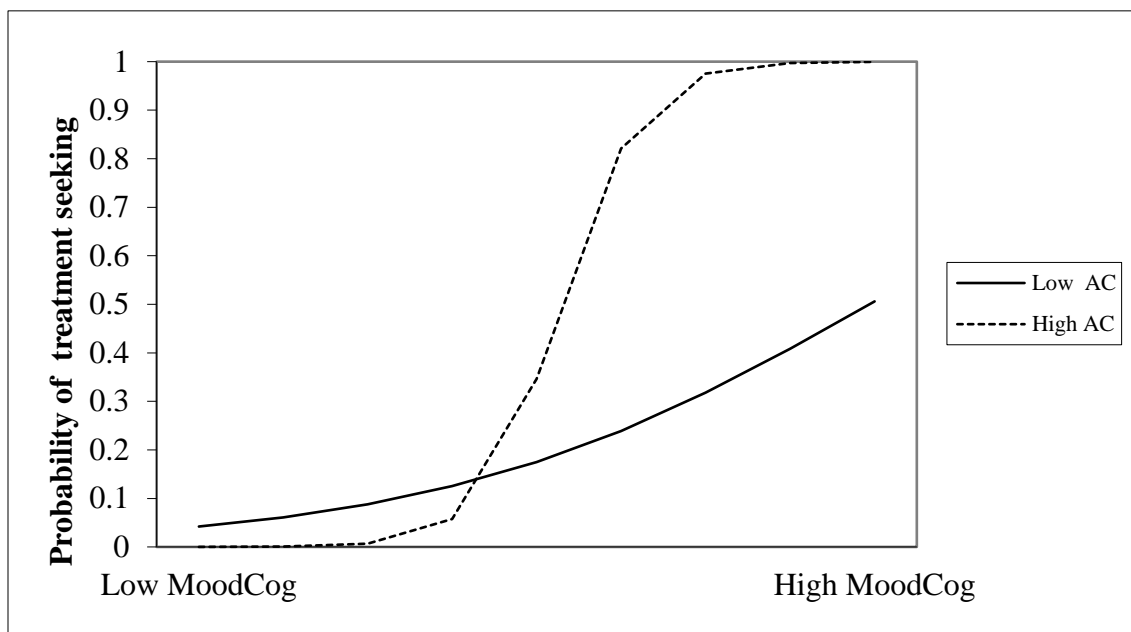
Active Coping X Intrusive Symptoms	-.04	.20	.96	.83	.64-1.43
Active Coping X Negative Alterations to Mood & Cognitions	.47	.17	1.60	.01	1.15-2.22
Active Coping X Avoidant Symptoms	-.40	.39	.67	.30	.62-1.43
Active Coping X Arousal Symptoms	-.34	.17	.71	.05	.51-1.00

Note. Values in boldface are statistically significant.

APPENDIX G

Figure 1.

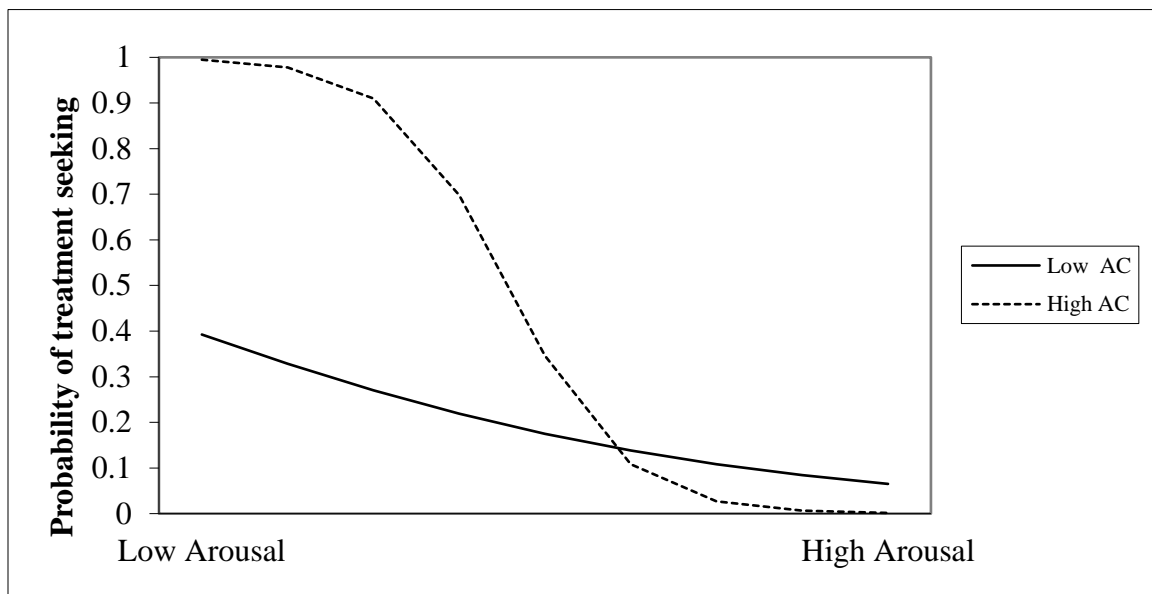
The Moderating Effect of Active Coping on the Association Between the Severity of Negative Alterations to Cognitions and Mood Symptoms and Treatment Seeking.



APPENDIX H

Figure 2.

The Moderating Effect of Active Coping on the Association Between the Severity of Hyperarousal Symptoms and Treatment Seeking.



VITA

Grace M Boland

EDUCATION

Master of Arts student in Clinical Psychology at Sam Houston State University, August 2017-May 2019. Thesis title: “Active Coping Moderates the Association between PTSD Symptom Clusters and Treatment Seeking Among Law Enforcement.”

Bachelor of Arts (May 2018) in Psychology and Sociology, University of Akron, Honors College, Akron, OH.

PUBLICATIONS

Salami, T., **Boland, G.**, & Engelken, C. (in press). Specific psychotherapy issues for managing human trafficking victims. *Clinical management of victims of sex and labor trafficking*.

Salami, T., **Boland, G.**, Hari, C., & Walker, R. (2020). *Racial discrimination, personality and emotion regulation on alcohol use in a community sample of African American adults*. Manuscript in preparation.

Babu, J., **Boland, G.**, & Salami, T. (2020). *Identification and perceptions of human trafficking victims among psychology students: A vignette study*. Manuscript in preparation.

Workshops, Presentations, and Posters

Boland, G., Galicia, B. E., & Salami, T. (Feb., 2020). The impact of anti-immigrant politics on the psychological well-being of immigrants. *Workshop presented at Sam Houston State University’s 16th annual Diversity Leadership Conference. Huntsville, TX.*

Engelken, C., **Boland, G.**, Ricardo, M., & Salami, T. (Oct., 2019). An exploration of gender as a moderator in the relationship between supervisor support and PTSD in law enforcement. *Poster presented at the annual convention of the Texas Psychological Association, San Antonio, TX.*

Henderson, C. E., Salami, T., Anderson-White, E., **Boland, G.**, Krembuszewski, B., Bailey, C. & Harmon, J. (Oct., 2019). Working with Religiously Diverse Clients. *Workshop presented at the annual convention of the Texas Psychological Association, San Antonio, TX.*

Boland, G., Fuller, E., & Salami, T. (Oct., 2019). Addressing mental health stigma among law enforcement officers. *Workshop presented at the 6th Annual Mental Health Conference, Galveston, TX.*

Boland, G., Engelken, C., & Salami, T. (Feb., 2019). Fostering inclusion through leadership identity development. *Workshop presented at Sam Houston State University's 15th annual Diversity Leadership Conference. Huntsville, TX.*

Krembuszewski, B., Anderson-White, E., **Boland, G.**, Blossom, L., Walker, M.F., & Henderson, C. (Feb., 2019). Inclusion, acceptance, and bumps along the road. *Workshop presented at Sam Houston State University's 15th annual Diversity Leadership Conference. Huntsville, TX.*

RESEARCH EXPERIENCE

Graduate Assistant

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Sam Houston State University
Research Supervisor: Dr. Temilola Salami, Ph. D.
08/2018-present

Research Practice Integration Assistant

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Research Supervisors: Dr. Kelly Bhatnagar Ph. D., Caitlin Martin-Wager M. A., & Stephanie MacDonald LISW-S
8/2017-6/2018

Research Assistant

Clinic of Individual and Family Counseling
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Research Assistant

Hope Lab, Department of Psychology
University of Akron
Research Supervisor: Dr. Dawn Johnson, Ph. D.
5/2015-5/2016

CLINICAL EXPERIENCE

Student Clinician

Psychological Service Center
Sam Houston State University
Huntsville, TX
Director: Dr. Mary Alice Conroy, PhD, ABPP
08/2019-present

Victim Advocate

Summit County Victim Assistance Program

Akron, OH

Supervisors: Leanne Graham, Executive Director, Dana Zedak, LSW, Director of Professional Enhancement

8/2016-8/2017

PROFESSIONAL ORGANIZATION MEMBERSHIPS

Fall 2019-present	Student affiliate of Texas Psychological Association
Spring 2019-present	Student affiliate of SHSU's Psychology Department Diversity Committee
Fall 2018-present	Student affiliate of SHSU's Graduate Student Psychology Organization
Fall 2018-present	Student affiliate of the American Psychology-Law Society, Division 41, APA
Fall 2017-present	Student affiliate of the American Psychological Association
Fall 2017-Spring 2018	Vice President of the Akron Chapter of Psi Chi Honor Society

AWARDS AND HONORS

Fall 2019	The General Graduate School Scholarship
Fall 2018-present	Clinical Psychology Graduate Student Scholarship
Fall 2016-Fall 2017	President's List
Fall 2014-Spring 2016	Dean's List
Fall 2016	Department of Psychology Merit Scholarship
Fall 2014-Fall 2017	Scholarship for Excellence
Fall 2014-Fall 2017	Honors Scholarship