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Approach And Avoidance Coping Humor Motives and Their Relation To Trauma Exposure And Physical Health

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APPROACH AND AVOIDANCE COPING HUMOR MOTIVES AND THEIR RELATION TO TRAUMA EXPOSURE AND PHYSICAL HEALTH

A THESIS SUBMITTED TO THE

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IN PARTIAL FULFILLMENT OF

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ABSTRACT

The present study investigated approach-avoidance motives for humor use and their association with physical health symptoms linked to childhood trauma exposure and adult relationship trauma exposure among military-affiliated people and civilians (*N*=100). Results indicated that approach-avoidance motives for humor use were not associated with study variables. However, adult relationship trauma exposure had a significant positive association with physical health symptoms among both groups. In addition, childhood trauma exposure was significantly positively associated with adult relationship trauma exposure.

Keywords: Coping, Relationships, Physical Health, Humor, Trauma, Military Affiliated Relationships

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Introduction

Trauma exposure and how a person responds to stimuli are linked to health outcomes (Felitti et al., 1998; Merrick et al., 2019; Montgomery et al., 2013; Larsen & Augustine, 2008). Approach motives, which are elicited by goal-oriented behavior and rewarding situations, are associated with lower stress levels. In contrast, avoidance motives, which are elicited when goals lead to potentially adverse outcomes, are associated with health symptoms and higher stress levels (Gray, 1990; Larsen & Augustine, 2008). In addition, exposure to childhood trauma and adult relationship trauma (i.e., intimate partner violence), is also associated with adverse health outcomes (e.g., headaches, chronic disease, and sexually transmitted disease) (Felitti et al., 1998; Smith et al., 2018). Humor, which is commonly linked to health, can be used to cope with life stressors (Martin, 1996). Taken together, approach motives for coping humor (i.e. humor used to pursue positive emotions associated with solving a problem) and avoidance motives for coping for humor (i.e. humor used to avoid negative emotions associated with solving a problem) may be critical factors in developing resilience-based interventions.

Military affiliated individuals (i.e., active duty, veteran, spouses/children of members) in particular, face unique stressors due to deployments, relocations, and potential trauma exposure associated with military service (Gierisch et al., 2013; Oshri et al., 2015). In turn, military-affiliated individuals face a higher risk for trauma exposure in the form of intimate partner violence when compared to the civilian population (Gierisch et al., 2013). In addition, military-affiliated individuals also present with higher rates of childhood trauma exposure than the civilian population (i.e., non-military) (Carroll et al., 2017; Sparrow et al., 2018). However, few studies have focused on the social-health context of military life and related stress and health effects (Oshri et al., 2015), and few studies have explored whether the use of different forms of humor to cope with exposure to traumatic events is associated with physical health and trauma

exposure. Given gaps in the literature, in this study, I am assessing the relation between trauma exposure in childhood and adult relationship trauma exposure, approach and avoidance motives for humor use, and physical health symptoms. I expect that approach motives for humor use will be associated with less trauma exposure and physical health symptoms.

Literature Review

Trauma Exposure and Physical Health

Childhood trauma exposure– which includes physical, sexual, and psychological abuse as well as general household dysfunction -- can have adverse health effects across the lifespan (Felitti et al., 1998; Merrick et al., 2019). At least 60% of Americans have been exposed to at least one type of childhood trauma, and the more exposure people have, the more likely they are to develop depression, homelessness, and various chronic diseases (Felitti et al., 1998). Children exposed to more than one type of trauma (e.g., both sexual and psychological abuse) also face the highest future risk for engaging in risky health behaviors (e.g., heavy drinking and smoking), which puts them at an even higher risk for long term adverse health outcomes (Felitti et al., 1998; Merrick et al., 2019; Oshri et al., 2015). Furthermore, some common physical health symptoms associated with childhood traumas include sexually transmitted diseases, obesity, mental health disorders, and chronic illnesses (Felitti et al., 1998).

Studies have also found that survivors of childhood trauma exposure are more likely to encounter adult relationship trauma in the form of intimate partner violence (Abajobir et al., 2017; Alexander, 2014; Gierisch et al., 2013; Smith et al., 2018). Adult relationship trauma (i.e. intimate partner violence) occurs whenever one romantic partner physically, psychologically, or sexually abuses the other partner (Sparrow et al., 2018). Smith et al. (2018) found that, adult relationship trauma (i.e. intimate partner violence), measured by sexual violence, stalking,

physical violence, psychological aggression, and intimate partner violence-related impact (e.g., post-traumatic stress disorder symptoms) among the U.S. civilian population 1 in 4 (25.1%) women and 1 in 10 men (10.9%) reported experiencing intimate partner violence. Victims of adult relationship trauma were more likely to report physical health symptoms such as headaches, chronic pain, insomnia, and irritable bowel syndrome (Smith et al., 2018)

Abajobir et al., (2017) found that young adults experiencing adult relationship trauma (*n* = 3322) 5% had exposure to childhood trauma exposure (i.e., physical abuse, emotional abuse, sexual abuse, and neglect). People exposed to physical abuse during childhood were 1.76 times more likely to experience adult relationship trauma, they were 2.31 times more likely to experience adult relationship trauma if they were exposed to sexual abuse, 2.74 times more likely to experience adult relationship trauma if they were exposed to neglect, and 7.76 times more likely to experience adult relationship trauma if they were exposed to emotional abuse (Abajobir et al., 2017). Higher levels of adult relationship trauma are also associated with significant health risks (Kimball et al., 2018). For example, victims of adult relationship trauma report increased rates of suicidal ideation and health conditions such as gastrointestinal diseases, mental illness, and sexually transmitted infections (Kimbal et al., 2018).

Moreover, military-affiliated people present with higher rates of both childhood trauma exposure and adult relationship trauma when compared to a civilian population (Sparrow et al., 2018; Carroll et al., 2017). The population of active duty military members in the United States is over 1.3 million and 84 % male and 16% female (Kamarck et al.,2019). Of the US population, approximately 600,000 people are spouses of active-duty members (Kamarck et al., 2019). Kamarck et al. (2019) found that among active-duty spouses, there were 16,912 reported cases of adult relationship trauma. Constant relocations and deployments associated with military life

serve as added stressors to military-affiliated relationships (Gierisch et al., 2013; Oshri et al., 2015). The prevalence of adult relationship trauma and childhood trauma combined with stress associated with deployments and relocations is linked to relationship dysfunction (Gierisch et al., 2013). Sparrow et al. (2018) found the lifetime prevalence of adult relationship trauma (i.e., intimate partner violence) among female veterans' ranges from 25.4% to 85.9% and is 9.5% for males. Likewise, the prevalence of adult relationship trauma (i.e., intimate partner violence) for active-duty members was 26% (*n* = 13,278) for females and 31% for males (*n* = 37, 0425) (Gierisch et al., 2013). In sum, due to the prevalence of adult relationship trauma and childhood trauma, military-affiliated people face an increased risk of experiencing associated physical health issues compared to the civilian population.

Subsequently, children with military-affiliated parents that have exposure to childhood trauma face an increased risk of adult relationship trauma (Oshri et al., 2015). Stein et al. (2018), found that 30 to 40 years post-war veteran fathers' post-traumatic stress symptoms (PTSS) and global psychiatric distress (GD) was associated with their children's neuroticism. Neuroticism is a personality trait related to negative emotions such as anxiety and depression, and it is commonly associated with physical health symptoms (e.g., irritable bowel syndrome) (Widiger, & Oltmanns, 2017). In addition, Stein et al. (2018) found that children's neuroticism was also related to their father's PTSS and GD. Stein et al. (2018) findings suggest a link between children and veteran father's psychopathology. Likewise, Dekel & Goldblatt (2008) found that veteran fathers with higher severity of trauma exposure during combat were more likely to have children with higher distress levels.

Montgomery et al. (2013) found that military-affiliated individuals with increased exposure to childhood trauma reported higher rates of depression, homelessness, and suicidal

ideation compared to the civilian population. Moreover, Oshri et al. (2015) found that among active-duty military members that reported childhood trauma exposure, members that had the protective factor of family function (i.e., absence of dysfunction) reported higher levels of resilience in adulthood compared to active duty members that were exposed to family dysfunction. In addition, Rice and Liu (2016) found that although there were no significant differences in coping strategies among active-duty military members and veterans, among active-duty members, resilience was associated with lower levels of self-blame and higher levels of positive framing. Likewise, among veterans, resilience was associated with a longer service time, higher use of humor, and lower levels of self-blame (Rice & Liu, 2016).

Approach and Avoidance Motives

The typical way in which a person emotionally responds to stimuli is defined as their dispositional affect (Larsen & Augustine, 2008). Dispositional affect is categorized in terms of positive and negative affect. Positive affect is defined as an individual's average positive emotional state (e.g. level of enthusiasm) (Larsen & Augustine, 2008). In association with positive affect, approach motives are elicited when individuals pursue rewarding and exciting situations (Larsen & Augustine, 2008). In contrast, a negative affect is defined as an individual's average negative emotional state (e.g. level of anger). Avoidance motives, which are associated with negative affect, are evoked by avoiding threatening and anxiety inducing situations (Larsen & Augustine, 2008). Approach and avoidance motives are associated with the neuropsychological systems known as the behavioral activating system (BAS) and behavioral inhibition system (BIS), respectively (Gray,1990). The BAS determines approach motives because it is activated when people pursue rewarding goals. People with higher BAS tend to be extraverted, reward-seeking, and have a more positive affect. In contrast, the BIS determines

avoidance-based motives because it is activated when goals lead to potentially aversive outcomes (Gray, 1990; Larsen & Augustine, 2008). Neurotic people (i.e. people that have a high level of avoidance motives) tend to have a higher BIS due to their tendency to have avoidance motives and negative affect (Larsen & Augustine, 2008). In addition, Kuiper and Harris (2009) found that people higher in negative affect that reported negative attitudes towards their illnesses also reported increased physical health symptoms (e.g., headaches, sore throat, fever). Taken together, approach and avoidance-based motives significantly impact how people respond to the world around them.

Humor used to cope

Coping is defined as how an individual chooses to manage life adversity (Martin, 1996). Some primary strategies of coping are task- and emotion-oriented (Endler, 1997). Task-oriented coping is characterized by directing goals and attention towards solving a problem. Emotion oriented coping aims to minimize the effect of stressful situations through emotional reactions (Endler, 1997). Coping humor is the use of different forms of humor to engage in either emotion- or problem-oriented coping (Lefcourt et al. 1997; Martin, 1996). When used as an emotion-focused coping strategy, humor lessens negative emotions associated with aversive situations by reducing adverse emotional reactions (Lefcourt et al., 1997). Subsequently, when used as a problem-solving coping strategy, it allows an individual to view a stressful situation from a humorous outlook by redirecting their goals.

Humor used in terms of approach and avoidance motives can impact life outlook and physical health (Ford et al., 2014). Ford et al. (2014) found that people that had approach motives used more self-enhancing humor and reported more happiness when compared to people that had avoidance motives. Moreover, they found that people using more approach motives used

humor as a self-enhancing technique to adjust to stress, while people who used more avoidance motives used humor as a self-defeating technique. In sum, people that used more approach motives reported being happier, possibly because they adopted a humorous outlook towards stressful situations (Ford et al., 2014). From a resiliency perspective, humor can increase positive affect by encouraging a positive reappraisal of a traumatic situation (Kuiper, 2012). Furthermore, Kuiper (2012) states that humor can positively influence how people cope with traumatic events and stress.

In addition, humor is commonly associated with better health outcomes when used to cope with life stressors (Martin, 2001). Despite this belief, research on the association between humor and physical health is conflicting. In a comprehensive literature review, Martin (2001) concludes that humor was not significantly associated with reducing the effects stress had on physical health. Bennett and Lengacher (2006) found that although a sense of humor had an association with self- reported physical health, there were no clear associations with predictors of disease. Furthermore, responses about humor use may be invalidated by respondents' desire to be seen as humorous rather than reporting their humorous outlooks (Bennett & Lengacher, 2006). Likewise, Boyle and Reid (2004) found that among unwell people (i.e., with a disease diagnosis), the association between sense of humor and health was marginally significant, indicating that humor was not associated with their health outcomes. Inconsistent with previous findings, Martin and Ford (2007) reports that humor and laughter may be beneficial to physical health concerning higher pain tolerance, better immune system performance, and better heart health (i.e., lower blood pressure and a reduced risk for heart disease). Likewise, in an earlier study Fry (1994) measured humor in terms of laughter and found that it was associated with health benefits. In sum, assessing humor poses difficulty due to inconsistent findings. Thus in

this study, I will be assessing the relation between approach motives for humor use (i.e. humor used to pursue positive emotions associated with solving a problem), avoidance motives for humor use (i.e. humor used to avoid negative emotions associated with solving a problem), physical health symptoms, childhood trauma exposure, and adult relationship trauma exposure.

Study Overview and Hypothesis

In this study, I predicted approach-avoidance motives for coping humor would be associated with physical health symptoms and trauma exposure. Exposure to childhood trauma and adult relationship trauma is associated with a higher risk of adverse health outcomes (Felitti et al., 1998; Smith et al., 2018). In addition, Ford et al. (2014) found that approach motives for humor were associated with self-enhancement and stress adjustment, while avoidance motives for using humor was associated with self-defeat. Moreover, military-affiliated people face higher risks of trauma exposure (Carroll et al., 2017; Sparrow et al., 2018). I tested the following hypotheses to examine the links between trauma exposure, approach-avoidance motives for coping humor, physical health, and military affiliation.

Hypothesis 1 (H1): More use of avoidance motives for coping humor would be associated with more physical health symptoms.

Hypothesis 2 (H2): More use of approach motives for coping humor would be associated with less physical health symptoms.

Hypothesis 3 (H3): Military-affiliated people would have higher rates of trauma exposure than the civilian population.

Hypothesis (H4): Military affiliated people would have higher rates of physical health symptoms than the civilian population

Materials and Methods

Participants

The data for the current study was collected as part of an online study comparing social determinants of health in military and civilian populations. Participants (N = 100) were recruited through the University's research subject pool (*SONA Research Participation System*), class, and email announcements, and printed flyers that were posted on bulletin boards around campus. Compensation was either one research credit toward the University's psychology subject pool or entry into a raffle drawing to win a $25.00 gift card of their choice to Amazon, Walmart, or Publix. All participants were single (i.e., not currently in a romantic relationship lasting at least two weeks), and 65 of them had experienced a previous romantic relationship lasting at least two weeks while 31 of them did not. There were 64 males, and 36 females, White/Caucasian American (53%) or Black/African American (33%), Asian/Pacific Islander (6%), Native American/Alaskan Native (2%), Biracial (4%), Multiracial (1%) and 13.0% were of Hispanic descent. There were 65 civilian participants, 29 military-affiliated through parent service, and 6 active-duty members. Military affiliated people through parent service and active-duty members were combined to create a military-affiliated variable (n= 35). Participants were, on average, 19.71 years old (SD = 2.46, ages ranged from 18 to 30 years old) and had an average GPA of 3.17 (SD = .71).

Measures

Childhood Trauma.

Childhood trauma exposure was assessed using the Adverse Childhood Experience Scale (ACES; Felitti et al., 1998). This scale assessed an individual's exposure to trauma during childhood. The scale is composed of k = 10 items assessing different forms of adverse childhood experiences, including abuse (psychological: k = 2 items; e.g., "Did a parent or other adult in the

household often or very often swear at, insult, or put you down?"; physical: *k* = 2 items; e.g., "Did a parent or other adult in the household often or very often push, grab, shove, or slap you?"; sexual: *k* = 4 items; e.g., "Did an adult or person at least 5 years older ever touch or fondle you in a sexual way?") and household dysfunction (mental illness: *k* = 2 items; e.g., "Was a household member depressed or mentally ill?"; substance abuse: *k* = 2 items; e.g., "Live with anyone who was a problem drinker or alcoholic?" ; mother treated violently; *k* = 4 items; e.g., "Was your mother (or stepmother) sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at her?" ; criminal behavior in household; *k* = 1 item; e.g., "Did a household member go to prison?").

The ACES scale exhibited adequate reliability (Cronbach's α = .79). Murphy et al. (2014) found a similar reliability estimate (Cronbach's α = .88). The response scale for all questions were binary (1 = *yes*; 0 = *no*). Higher ACES score indicates a greater risk for future adverse health effects (Felitti et al., 1998). To score the scale, I combined items across the different categories of abuse to compute an overall sum score for each participant that represented their overall experience of childhood trauma. Original ACE scores ranged from 0 to 10 but showed low variability with most participants having no (0) to low (2) exposure to childhood trauma. Among military-affiliated people the mean ACE score was 2.5 (*SD* = 2.8) and 1.9 (*SD* = 2.3) among civilian people. To account for the low variability, I followed previous procedures and dichotomized the scores by categorizing participants into two groups based on their ACES scores: Low Childhood Trauma (ACES score of 0-2) and Moderate Childhood Trauma (ACES score that was 3 or higher) (Cheong et al., 201; Grusnick et al., 2020). Among military-affiliated people, 51.4% were exposed to low trauma, and 48.6 % were exposed to moderate trauma. Among civilian people, 58.5% were exposed to low trauma, and 41.5% were

exposed to moderate trauma. Please refer to appendixes A and E for more information about ACES scores before the median split. Furthermore, please refer to appendixes C and G for more information about ACES scores after the median split.

Adult Relationship Trauma.

Adult relationship trauma exposure was assessed as the frequency with which a person has been a victim of interpersonal violence (IPV) in a romantic relationship during adulthood. The Severity of Violence Against Men/Women Scale (SVAWS/SVAMS) (Marshall, 1992a, 1992b) was used to measure adult relationship trauma. The 8-item scale assesses different forms of violence, such as threat-symbolic violence (e.g., How often did they hit or kick a wall, door or furniture) and threats of mild violence (e.g., How often did they shake a finger at you). The scale indicated adequate reliability (Cronbach's $\alpha = .93$), similar to Marshall's (1992a, 1992b) study Cronbach's α .89 - .96.

To score the scale, I combined items across the different categories of violence to compute an overall sum score for each participant that represented their overall exposure to adult relationship trauma. Among military-affiliated people, the mean IPV score was 6.11 (SD = 7.9) and 3.56 (SD = 4.3) among civilian people. Initial scores ranged from 0 to 19, but similar to ACE showed low variability, with most participants having no (0) to low (2) exposure to the experiences measured by the scale. To account for low variability, items were changed from a 1-6 point scale to only 0 (never) versus 1(ever). I followed a similar procedure by Alsakerv et al. (2012) in which variable scores were dichotomized through the use of a median split to examine the data in terms of low trauma and moderate trauma. Dichotomizing the scores produced two groups of participants based on their IPV scores: Low Adult Relationship Trauma (score of 0-2) and Moderate Adult Relationship Trauma (score 3 or more). Analyses indicated that among

civilian people, 63.1% of them were exposed to low adult relationship trauma, and 35.4% were exposed to moderate adult relationship trauma. Among military-affiliated people, 42.9% of them were exposed to low adult relationship trauma, and 57.1% of them were exposed to moderate adult relationship trauma. Please refer to appendixes B and F for more information about IPV scores prior to median split. Furthermore, please refer to appendixes D and H for more information about IPV scores after median split.

Coping Humor.

Approach and avoidance motives for coping humor were each assessed using a modified version of the Coping Humor Scale (CHS; Martin, 1996). The original scale is composed of k = 7 items that assess the use of humor to cope with daily stressors and has been widely used in research examining health outcomes and life wellbeing (Chen & Martin, 2007; Kuiper & Harris, 2009). Internal consistency measures for the scale resulted inadequate internal consistency Cronbach's $\alpha = .65$ (Chen & Martin, 2007). In the current study, I added the suffix "to feel better" to each of the 7 CHS items to assess Approach-motives for Coping Humor (e.g., "I often lose my sense of humor when I am having problems to feel better"). I also added the suffix "to avoid getting hurt" to each of the seven CHS items to assess Avoidance-motives for Coping Humor (e.g., "I often lose my sense of humor when I am having problems to avoid getting hurt). Thus, participants rated 14 total coping humor items, where 7 items assessed approach motives, and 7 items assessed avoidance motives. All items were rated on 4-point scales (1 = *strongly disagree*, 4 = *strongly agree*). Mean scale scores were computed to represent participants' typical use of coping humor for approach-based goals and typical use of coping humor for avoidance-based goals. The mean scores for approach-based motives among military-affiliated people (M = 2.0, SD = .43) were similar to civilian people (M = 2.0, SD = .54). In addition, the mean scores

for avoidance-based motives among military-affiliated people (*M* = 2.13, *SD* = .54) and civilians (*M* = 2.0, *SD* = .54) were not statistically significant. The subscales indicated adequate reliability (Cronbach's α = .66) for approach motives for coping humor and (Cronbach's α = .71) for avoidance motives for coping humor.

Physical Health Symptoms.

Physical health outcomes were assessed using The Hopkins Symptom Checklist (Derogatis, 1974). This scale assesses how often respondents experienced 18 physical health symptoms in the past month, such as headaches, soreness, and pains in the heart or chest. This scale is commonly used for exploring the self-reported physical health symptoms in everyday life due to its association with future health outcomes (Ashaba et al., 2017; Berzins et al., 2018; Davis et al., 2016). Items were rated on a 6-point scale (1 = *none at all*; 2 = *a little*; 4 = *a moderate amount*; 5 = *a lot*; 6 = *very much*) and averaged to create an overall score indicating the participant's experience of physical health problems. Mean scores on the scale were similar among military-affiliated people (*M* = 1.8, *SD* = .68) and among civilians (*M* = 1.8, *SD*= .63). The scale had adequate reliability (Cronbach's α= .91). Previous studies using the scale also indicated a range of adequate reliability (Cronbach's α = .73 - .86) (Oosthuizen & Koortzen, 2009).

Procedure

Data for this cross-sectional study was part of a more extensive study examining factors contributing to relationship dynamics and overall health of military-affiliated people and civilians. The data was collected via an online survey using *Qualtrics: Online Survey Software* in which participants reported eligibility screening measures, a demographic questionnaire, scales measuring physical and mental health, relationship attachment and functioning, and

personality traits. Within the overall study, there were 18 questionnaires. Measures for the present study were completed after participants provided informed consent, demographic information, and military-affiliation. Participants then completed the Adverse Childhood Experiences Scale, The Hopkins Symptom Checklist, The Severity of Violence Against Men/Women Scale, and other study measures, which was followed by a debriefing statement. The average participant duration was 20 minutes and 23 seconds. All procedures were approved by the University's Institutional Review Board.

Results

Data Analysis Plan

Preliminary examinations of the data were conducted to assess the usefulness of the approach and avoidance motives for coping humor due to modifications made to the coping humor scale. Pearson correlations between the primary variables, as shown in Table 1, indicated that the approach and avoidance motives for coping humor scales were not significantly associated with the other variables in the model.

Furthermore, prior to dichotomizing, data were non-normally distributed. The IPV scale was non-normally distributed with skewness of 3.32 (*SE* = 0.24) and kurtosis of 16.3 (*SE* = 0.48). The ACES scale was also non-normally distributed with skewness of 1.21 (*SE* = 0.24) and kurtosis of 0.81 (*SE* = 0.48). After dichotomizing, IPV was normally distributed with skewness of 0.245 (*SE* = 0.24) and a kurtosis of -1.98 (*SE* = 0.48). ACES was normally distributed with skewness of 0.27 (*SE* = 0.24) and a kurtosis of -1.97 (*SE* = 0.48). Levene's Test for homogeneity of variance was also conducted to assess variances in score distribution between military-affiliated people and civilians for approach-avoidance motives for humor use and physical health symptoms. Results indicated no statistically significant variance in scores

between military-affiliated people and civilians for approach motives for humor use (F = 2.79, *p* = .098), avoidance motives for humor use (F = 0.02, *p* = .877) and physical health symptoms (F = 0 .02, *p* = .896).

Data were also examined for possible inattentive participants. One person who was more than 3 standard deviations above the mean on both physical health symptoms and use of approach motives for coping humor was identified as an outlier. All outliers[1]. were excluded from the data set to reduce the impact of participants possibly inflating the variability of that data.

Analyses

In my analysis, I tested whether fewer levels of trauma exposure would be associated with less physical health symptoms. H1 stated that more use of avoidance motives for coping humor would be associated with more physical health symptoms. H2 stated that more use of approach motives for coping humor would be associated with less physical health symptoms H3 stated that military-affiliated people would have higher rates of trauma exposure and have higher physical health symptoms than the civilian population (H4).

As indicated by Table 1, a correlation analysis was conducted to assess the relation between approach-avoidance motives for coping humor, physical health symptoms, and trauma

[1]Within the present study, outliers were participants that failed attention checks (i.e., items used to screen for low participant effort), self-reported low accuracy to questionnaire items at the end of the survey, and taking 3 standard deviations longer than the average participant to complete the study). Participant self-reported accuracy was measured using a sliding scale 0 (not accurate at all) - 100% (extremely accurate). Extremely low accuracy was indicated by a score that was below 50% on the sliding scale. Inattentive participants were indicated by Z scores that were more than 3 standard deviations above the mean. The following outliers were also removed: 1 person who self-reported extremely low accuracy and missed all attention checks, 3 people who took longer than average to complete the study, 1 person who self-reported extremely low accuracy.

exposure. There was a significant positive association between adult relationship trauma exposure and physical health symptoms ($r(100) = .23$, $p = .024$). In addition childhood trauma exposure was also associated with adult relationship trauma exposure($r(100) = .20$, $p = .047$). All other correlations were not significant. To further assess the relation between physical health symptoms and trauma exposure, an exploratory independent samples t-test was conducted to examine group mean differences between the military-affiliated and civilian samples on their humor and physical health variable scores. As indicated by Table 2, results indicated no statistically significant differences between the two groups in terms of the use of approach motives for coping humor, avoidance motives for coping humor, and physical health symptoms.

Discussion

The goal of this study was to examine the association between approach-avoidance motives for coping humor, physical health symptoms, trauma exposure in childhood, and adult relationship trauma. Due to small sample size and statistically insignificant correlations of approach-avoidance motives for humor and study variables, t-tests, and correlational analysis were conducted. Results indicated that both approach and avoidance motives for coping humor were not significantly associated with physical health symptoms, childhood trauma exposure, and adult relationship trauma. However, correlational testing indicated that adult relationship trauma exposure had a significant positive association with physical health symptoms.

A unique finding of the study was that higher levels of adult relationship trauma exposure were associated with physical health symptoms. Consistent with Smith et al. (2018) findings, exposure to adult relationship trauma in the form of IPV is associated with physical health symptoms. Similarly, adult relationship trauma exposure is also associated with health conditions such as chronic pain (Evanson, 2006; Kimbal et al., 2018). The present research demonstrated

that regardless of military affiliation, exposure to adult relationship trauma was associated with physical health symptoms. The association between adult relationship trauma exposure and physical health symptoms indicates further need to assess resilience-based interventions that could reduce the impact of physical health symptoms associated with adult relationship trauma exposure. Furthermore, I did not find evidence to suggest that exposure to childhood trauma was not associated with physical health symptoms. Felitti et al., (1998) found that childhood trauma exposure was linked to adverse health effects (e.g. chronic disease) in adulthood indicating further studies to examine factors associated with childhood trauma exposure and physical health.

In addition, I did not find evidence indicating a significant statistical association between approach-avoidance coping humor motives and study variables. In contrast, Ford, McCreighta, and Richardson (2014) findings showed approach-avoidance motives for humor use were significantly associated with stress levels. Moreover, approach motives for humor use were associated with lower stress levels. However, findings were consistent with Boyle and Reid (2004), which indicated statistically insignificant associations between humor and health outcomes among unwell people. Furthermore, findings indicate a need to assess how the relation between motives for using humor to cope and physical health symptoms may be mediated by humor style.

The present research also indicated no statistically significant differences in physical health symptoms among military-affiliated people and civilians. Previous studies indicated military-affiliated people have a higher risk for physical health symptoms due to stressors associated with military life (Gierisch et al., 2013; Oshri et al., 2015). In addition, previous research indicated that military-affiliated people also present with a higher prevalence of adult

relationship trauma (Gierisch et al., 2013; Sparrow et al.,2018). The high prevalence rate of adult relationship trauma among military affiliated people could be further studied to assess possible factors associated with military life that influence trauma exposure.

Implications

Implications of this research could contribute to the literature on the influence of adult relationship trauma exposure on health outcomes. Findings may be informative in contributing to further development of programs for individuals at risk of adult relationship trauma exposure. Results further provide new information about trauma exposure levels among military affiliated people and civilians and could contribute to research by indicating a need to assess unique factors that contribute to military health and civilian health associated with trauma exposure.

Strengths

One strength of this study was that it contributed to growing research about physical health and adult relationship trauma exposure. In this study, adult relationship trauma exposure and physical health were significantly positively associated, indicating that people who were exposed to IPV had a higher chance of experiencing physical health symptoms. Despite statistically insignificant associations with study variables, the approach-avoidance coping humor scales adds to a growing body of research about humor due to their statistically insignificant associations with study variables indicating a need for further analysis of approach-avoidance motives for coping humor. Similar to previous studies, humor was not a significant predictor of health outcomes indicating a need for further studies assessing humor and related constructs (Bennett & Lengacher, 2006; Martin, 2001).

Limitations

One limitation of this study was that approach and avoidance motives for coping humor were closely associated, indicating that study variables were assessing the same underlying construct. Furthermore, approach-avoidance motives for coping humor were not associated with any predictor variables. Findings indicate that participants could have been unaware of the difference between their approach-avoidance motives for using coping humor, what their motives for using coping humor were, or the difference between their motives for using coping humor. Future studies would benefit from the development of more approach and avoidance motives for using coping humor. Another limitation of this study was that despite using many different methods of recruitment (i.e., flyers, reaching out to military instructors, and making course announcements), the sample of military-affiliated individuals was not equal in number to the civilian sample. Future studies would benefit from expanding recruitment procedures by using crowdsourcing resources such as *Amazon Mechanical Turk* to reach more participants within and outside the university.

Conclusion

The present study contributes to existing research about adult relationship trauma exposure and physical health symptoms. Results indicated that adult relationship trauma exposure was associated with physical health symptoms. Findings can be further used to assess protective factors that can reduce the aversive impact of adult relationship trauma exposure. The present study also showed that military-affiliated individuals were about equally likely to experience similar rates of childhood trauma exposure compared to civilians. Findings also indicated a significant positive association between adult relationship trauma exposure and childhood trauma exposure. In addition, approach-avoidance motives for humor use were not

associated with study variables, indicating the need for additional studies to assess approach-avoidance motives for humor use. Overall, the present study demonstrates a link between adult relationship trauma exposure and physical health symptoms.

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Table 1

Zero-Order Correlations for Study Variables (N = 100)

Variable	1	2	3	4	5
1. Childhood Trauma Exposure	(.79)				
2. Adult Relationship Trauma Exposure	.200*	(.93)			
3. Avoidance Motives for Coping Humor	.007	.090	(.71)		
4. Approach Motives for Coping Humor	-.020	.080	.866**	(.66)	
5. Physical Health Symptoms	.090	.227*	.031	-.061	(.91)

Notes. M is mean. *SD* is standard deviation. Internal consistency reliability (Cronbach's alpha) is in the diagonals.

* is $p < .05$. ** is $p < .01$. *** is $p < .001$.

Table 2

Results of Independent-Samples t-Test examining mean differences

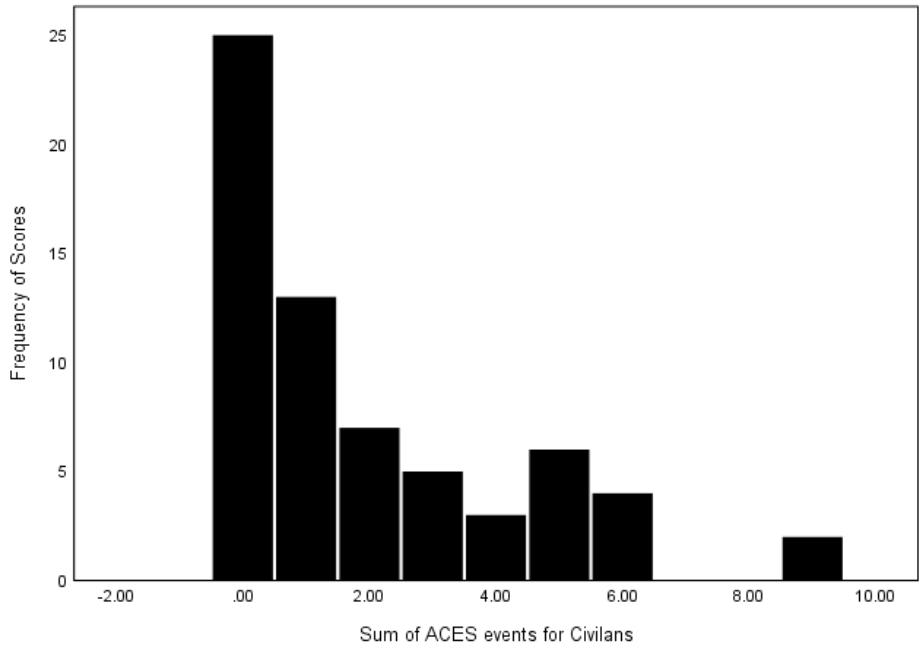
Variable	Military Affiliated (n = 35)	Civilian (n = 65)	t(df)	p	95% C.I.
	M (SD)	M (SD)			
Avoidance motives for coping humor	2.13 (.54)	2.03 (.54)	.84 (98)	.406	-.131, .321
Approach motives for coping humor	2.02 (.43)	2.02 (.54)	.041 (98)	.967	-.206, .215
Physical health symptoms	1.79 (.68)	1.79 (.63)	.001 (98)	.999	-.278, .279

Note. There were no statistically significant differences between the two groups in terms of the use of approach motives for coping humor, avoidance motives for coping humor, and physical health symptoms.

Appendix A

Figure 1

Bar graph of summed ACES scores for civilian respondents before median spilt

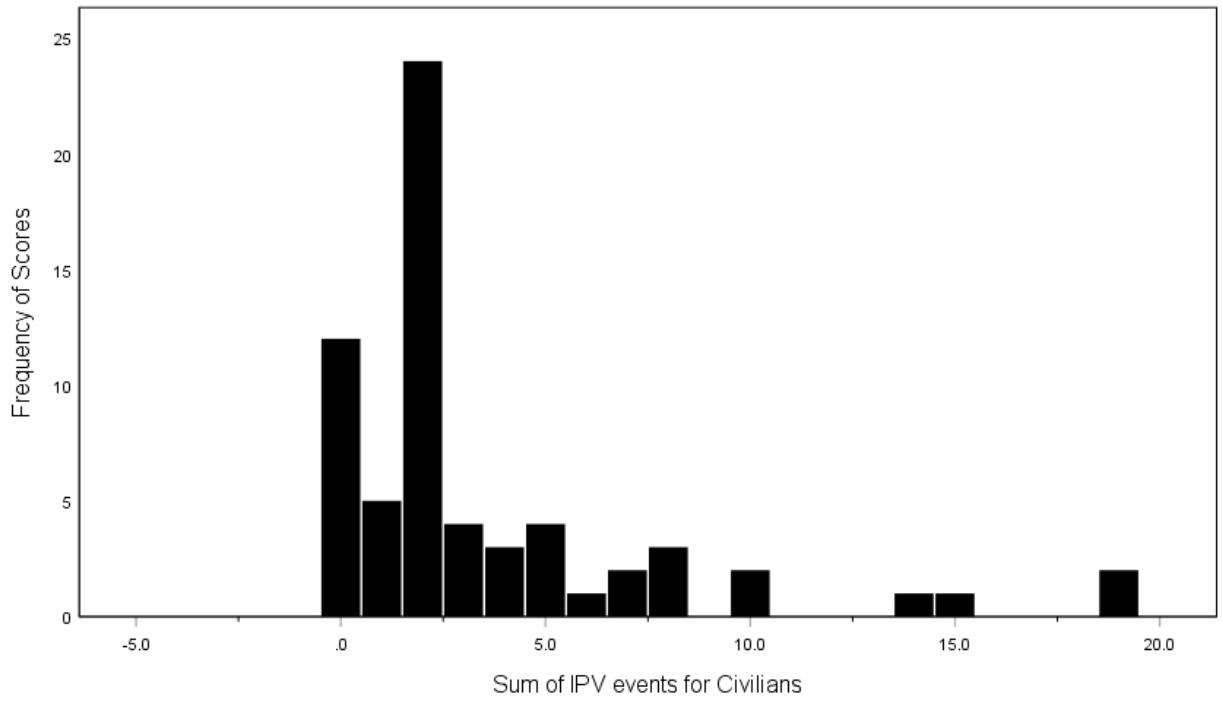


Note. Prior to the median split, civilian respondents (*n* = 65) had a mean score of 1.94 (*SD* = 2.32) for ACE items.

Appendix B

Figure 2

Bar graph of summed IPV events for civilians before median split

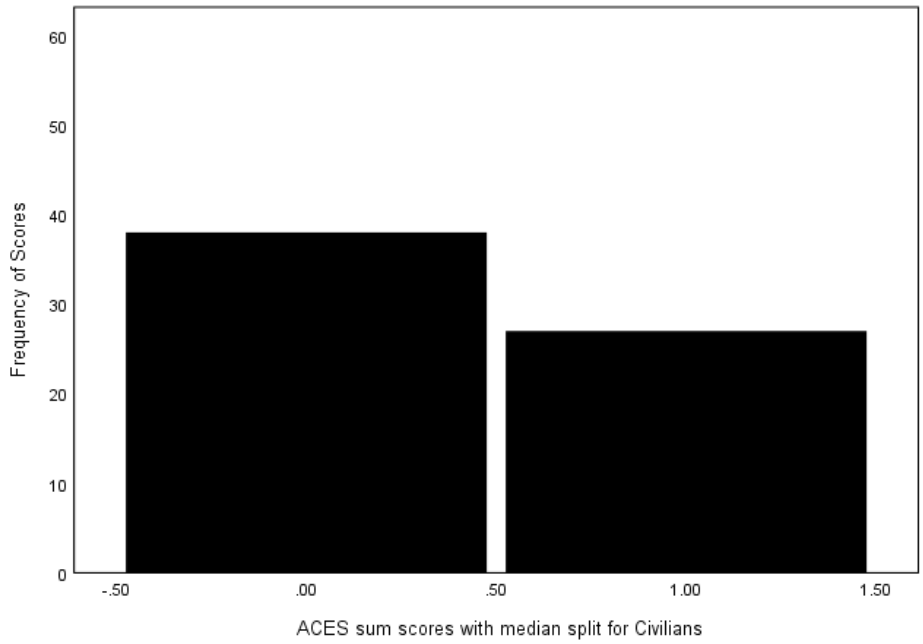


Note. Prior to a median split, the mean score for IPV events among civilian respondents (n = 65) was 3.56 (SD = 4.26).

Appendix C

Figure 3

Bar graph of summed ACES scores for civilian respondents with median split

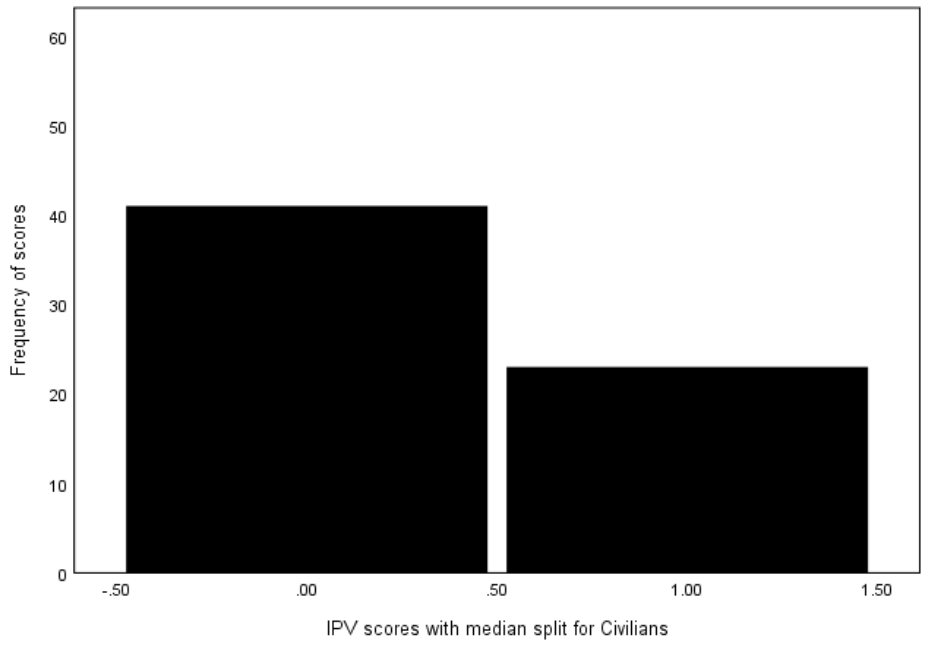


Note. After the median split, the mean ACE score was .42 (*SD* = .49) among civilian respondents (*n* = 65). Furthermore, 38 civilian respondents had exposure to low trauma (ACES score of 0-2), and 30 (ACES score that was 3 or higher) were exposed to moderate trauma.

Appendix D

Figure 4

Bar graph of summed IPV scores for civilian respondents with median split

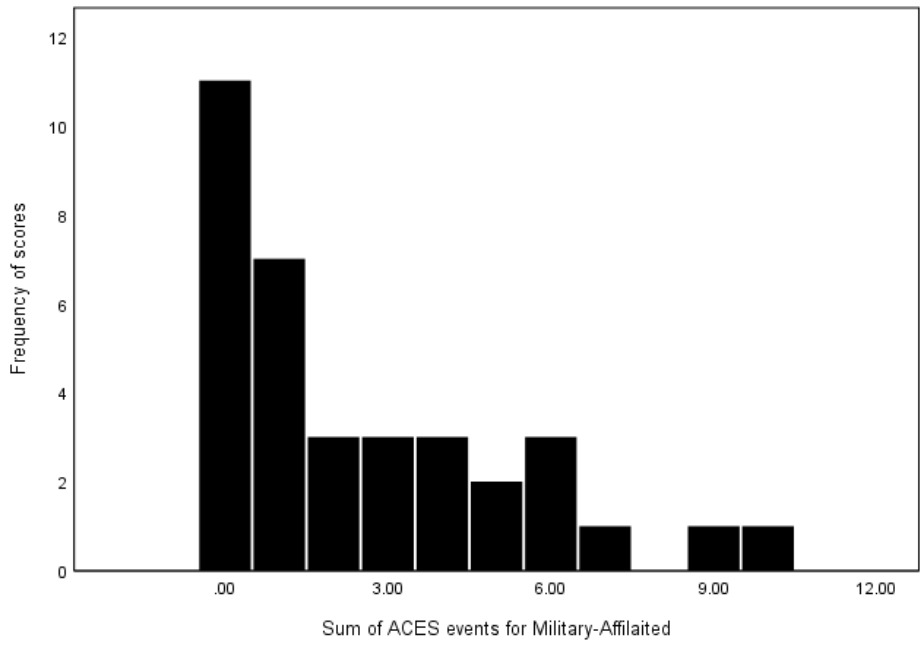


Note. After the median split, the mean IPV score was .36 (*SD* = .48) among civilian respondents (*n* = 65). Furthermore, 41 civilian respondents had exposure to low trauma (ACES score of 0-2), and 23 (ACES score that was 3 or higher) were exposed to moderate trauma.

Appendix E

Figure 5

Bar graph of summed ACE scores for military-affiliated respondents before median split

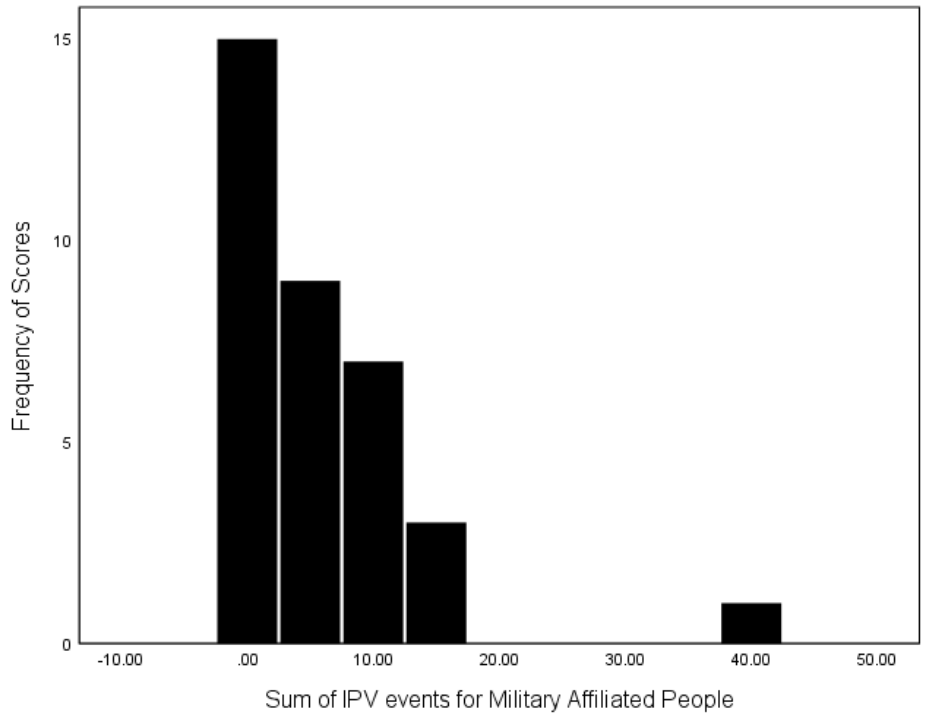


Note. Prior to the median split, military-affiliated respondents (n = 35) had a mean score of 2.51 (SD = 2.77) for ACE items.

Appendix F

Figure 6

Bar graph of summed IPV scores for military-affiliated respondents before median split

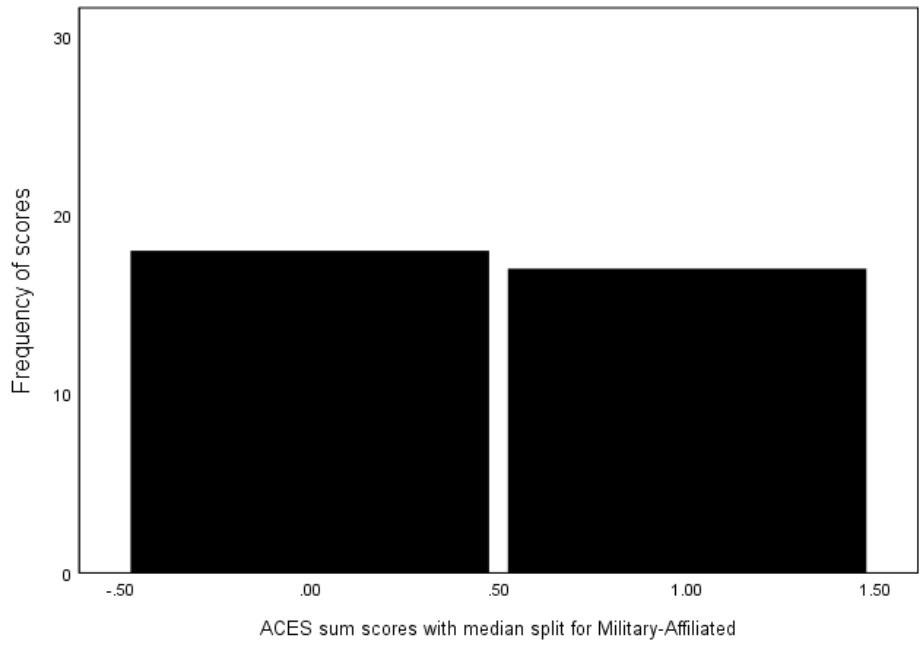


Note. Prior to a median split, the mean score for IPV events among military-affiliated respondents (n = 35) was 6.11 (SD = 7.89).

Appendix G

Figure 7

Bar graph of summed ACES scores for military-affiliated respondents with median split

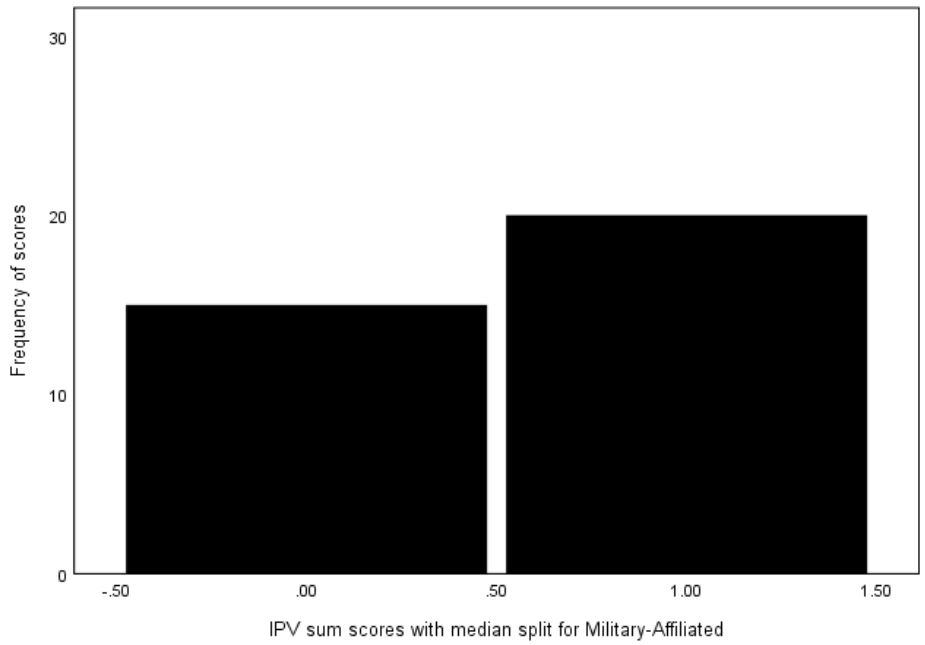


Note. After the median split, the mean ACES score was .49 (*SD* = .51) among military affiliated respondents (*n* = 35). Furthermore, 18 military-affiliated respondents had exposure to low trauma (ACES score of 0-2), and 17 (ACES score that was 3 or higher) had exposure to moderate trauma.

Appendix H

Figure 8

Bar graph of summed IPV scores for military affiliated respondents with median split



Note. After the median split, the mean IPV score was .57 (*SD* = .502) among military-affiliated respondents (*n* = 35). Furthermore, 15 military-affiliated respondents had exposure to low trauma (IPV score of 0-2), and 20 (IPV score that was 3 or higher) had exposure to moderate trauma.