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### **Weak Social Support as an Indicator for Worse Trauma Related Symptoms**

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Weak Social Support as an Indicator for Worse Trauma Related Symptoms

by

Michael B. Sugarman

Submitted in partial fulfillment  
of the requirements for the degree of  
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### Abstract

The current study investigated the relationship between social support and trauma related symptoms in trauma exposed participants ( $N=71$ ). Participants were recruited based on past exposure to either an interpersonal or non-interpersonal traumatic event. All participants completed the Structured Clinical Interview for DSM-IV (SCID) and the Clinician Administered PTSD Scale for DSM-5 (CAPS) to evaluate the potential presence of symptoms of psychological disorders, and to obtain information regarding any trauma related symptoms. In the full sample, weak family social support factors were associated with a greater number and severity of trauma related symptoms. After the sample was divided based on type of trauma, this association remained for interpersonal trauma exposure and physical assault exposure. These results suggest that family social support plays an important role in the lives of trauma exposed people, and this association could be used to improve treatment of people with trauma related symptoms.

### Weak Family Social Support is Associated with Trauma Related Symptoms

A large portion of the population is exposed to traumatic events. The outcomes of experiencing a traumatic event are often associated with social relationships. In the United States, approximately 50-60% of people have been exposed to a potentially traumatic event (Kessler et al., 1995). In colleges, 66% of the student population reported exposure to a traumatic event, which makes a college sample analogous to the general population in this regard (Read et al., 2011). Of trauma exposed people, approximately 6-7% will develop posttraumatic stress disorder (PTSD) (Kessler et al., 2005). The development of trauma related symptoms in trauma exposed people is influenced by factors such as age, race, gender, type of trauma, preexisting psychological disorders, history of prior trauma, type of traumatic event, and social support. Of these factors, the type of trauma (e.g. sexual assault or motor vehicle accident) and the quality of social support might be avenues for more directed treatments. If a person experiences family conflict following exposure to a traumatic event, then treatments such as family-social therapy, which targets the effects of familial relationships on psychological dysfunction, may provide relief by integrating the family into the treatment (Batten et al., 2009).

Social support can significantly impact the development of trauma related symptoms in a trauma exposed person. Social Support is the overall support that a person receives from family, friends, religious institutions, and community. The main components of social support are actual, perceived, and embedded (i.e. quality of support) support. Having general social support through the development of relationships with others leads to a greater sense of well-being. Specifically, strong social support can act as a protective buffer against the development of trauma related symptoms (Cohen & Willis, 1985). The effectiveness of specific types of social support is not clear; however developing strong social support with people who you are closer to may be the

most effective at reducing or preventing trauma related symptoms; in addition, diversifying social support by participating in social groups such as going to church or school also buffers against the development of trauma related symptoms (Platt, Keyes, & Koenen, 2014). The development of social relationships promotes the development of positive and negative behaviors, which in turn create a feedback loop, which further escalates those behaviors. The development of strong social support following exposure to a traumatic event can help to lessen trauma related symptoms. For example, veterans who became more involved with their communities following their return from deployment have shown fewer trauma related symptoms than those who did not become involved with their communities (Koenen et al., 2003). It has been suggested that people with weak social support are more likely to develop trauma related symptoms following a traumatic event. The perception of one's social support may be as important as its actual strength. For example, combat veterans with PTSD often report worse social functioning, less satisfaction from life, difficulties in romantic and family relationships, and less social support overall (Tsai et al., 2012). Specific types of perceived social support have a greater impact in preventing the development of trauma related symptoms. In people who experience childhood sexual abuse, the perception that others value them and the ability to ask others for help, reduces symptoms related to self-blame (Hyman et al., 2003). People with comorbid PTSD and major depressive disorder attribute the symptoms associated with emotional numbing that they are experiencing to their perceived poor social support (Beck et al., 2009). These changes in perceived social support may be the result of the emotional strain caused by emotional numbing and negative alterations in a person's cognition and mood.

Trauma type and severity can impact social interactions. Experiencing a very severe assault (e.g. sexual assault) makes it more likely a person will receive a negative reaction (e.g.

blaming or shunning the victim) from people they usually receive support from (Ullman et al., 2007). These negative reactions can lead to the development of poor coping mechanisms such as avoidance and self-blame, which can lead to social isolation. Women who experience childhood abuse are less likely to receive appropriate support from their family. This lack of a foundation of support can cause a deterioration of a person's social support through increased stress, a decrease in the number and quality of future supportive relationships, and more severe trauma related symptoms (Vranceanu, Hobfoll, & Johnson, 2007). On the other hand, familial support for children who have experienced a traumatic event is associated with less negative alterations in mood and cognition appraisals (Ellis, Nixon, & Williamson, 2009; Overstreet & Dempsey, 1999).

The diagnostic criteria for PTSD reflect the presence of symptoms from four distinct symptom clusters following exposure to a traumatic event in which the person experienced, witnessed, or was confronted with an event that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others, as well as the person feeling intense fear, helplessness or horror (Criterion A). These clusters are: intrusion symptoms (cluster B), avoidance of stimuli associated with the trauma (cluster C), negative alterations in cognitions and mood (cluster D), and alterations in arousal and reactivity (cluster E) (American Psychiatric Association, 2013). Intrusion symptoms include intrusive memories, distressing dreams, dissociative reactions, cued psychological distress, and cued psychological reactions. Avoidance symptoms include the avoidance of memories, thoughts or feelings, and the avoidance of external reminders. Symptoms of negative alterations in cognitions and mood include the inability to recall important aspects of the traumatic event, exaggerated negative beliefs or expectations, distorted cognitions leading to blame, persistent negative emotional state

diminished interest or participation in activities, detachment or estrangement from others, and persistent inability to experience positive emotions. The symptoms of alterations in arousal and reactivity include irritable behavior and angry outbursts, reckless or self-destructive behavior, hypervigilance, exaggerated startle response, problems with concentration, and sleep disturbance. According to the DSM-5, to be diagnosed with PTSD a person must meet criterion A, exhibit at least one symptom from both clusters B and C, and exhibit three or more symptoms from both clusters D and E; these symptoms must last more than one month, be distressing, and not be due to a medical condition or substance use. People who exhibit some of the symptoms, but do not meet the full diagnostic criteria for PTSD may be considered to experience posttraumatic stress symptoms (PTSS) or subthreshold PTSD. Of these trauma related symptoms, negative alterations in cognition and mood appear to have the strongest association with weak social support (Price, Pallito, & Legrand, 2018; Ulman et al., 2007). This may be because social support acts as a protective factor against comorbid depression following a traumatic event, and acts to increase self-compassion.

### **Interpersonal and Non-interpersonal Traumatic Events**

Traumatic events can be broadly divided into interpersonal (e.g. physical and sexual assault) and non-interpersonal events (e.g. motor vehicle accident). Different types of traumas are associated with different trauma related symptom emergence, both at the overall and symptom cluster level. This can be seen when comparing the symptom severity following exposure to civilian traumas (i.e. sexual assault, motor vehicle accident, and sudden unexpected death), where sexual assault has been shown to have a greater severity of overall and cluster symptoms than a motor vehicle accident (Kelley et al., 2009).

Exposure to interpersonal trauma can lead to a greater number and severity of trauma related symptoms than non-interpersonal traumas (Luthra et al., 2009). The development of trauma related symptoms may be influenced by the level of familiarity between the people involved. If the people are more familiar with each other, then the number and severity of trauma related symptoms may be greater, especially intrusion symptoms and negative alterations in cognitions and mood (Forbes et al., 2014). For example, women who have experienced intimate partner violence are more likely to develop trauma related symptoms. If this intimate partner violence includes chronic psychological abuse, then these symptoms are likely to be more severe than those experienced by women who were assaulted with a weapon (Dutton et al., 2006). In addition, victims of sexual assault carry a stigma that can negatively affect their social support when the details of the assault are shared. This may cause women to avoid disclosing information regarding what happened in order to avoid any negative feedback. By delaying or not disclosing information regarding a traumatic event, women risk greater symptom severity, and remove the opportunity to receive positive social support which can help reduce symptoms (Ullman & Filipas, 2005).

Symptoms regarding memory impairment have been linked to experiencing childhood physical and sexual abuse through the Betrayal Trauma Theory. Children who experience these traumatic events often disassociate the perpetrator, usually a caregiver, from the abuse. This disassociation is a survival mechanism as the child relies on their caregiver for everything at that point, and removing that relationship could remove access to physical and mental needs, while also potentially protecting them from retaliation. While this mechanism is useful in the short term, at an older age it increases the chance of developing trauma related symptoms, particularly negative alterations in cognitions and mood (Freyd, 1994). Experiencing betrayal traumas also



interferes with the development of social relationships. This interference occurs due to the person's inability to trust others after experiencing a betrayal trauma during childhood, particularly sexual or physical assault (Gobin & Freyd, 2014).

Compared to people exposed to interpersonal traumatic events, the trauma related symptoms experienced by people exposed to non-interpersonal traumatic events are fewer and less severe; however these symptoms are still distressing. The most common non-interpersonal trauma is motor vehicle accident; approximately two million people are injured in the United States each year (Center for Disease Control, 2016). The severity of motor vehicle accidents varies, and the physical and financial effects of motor vehicle accidents can be long lasting. It has been suggested that the accident itself is less integral in the development of trauma related symptoms than the outcomes of the accident. People who are in accidents that result in persistent medical and financial problems are more likely to develop and maintain trauma related symptoms than people who do not experience these persistent problems (Mayou et al., 2002).

Natural disasters such as earthquakes, hurricanes, and tsunamis can have a large impact on a person's life (e.g. loss of home, injury or death, financial loss), and experiencing one of these can lead to the development of trauma related symptoms. Following a natural disaster, strong social support can lead to a greater number of positive emotions, better quality of life and more adaptive coping mechanisms, which can mitigate the development of trauma related symptoms (Feder et al., 2013).

### **Hypothesized Models**

We developed two conceptual models to explain the role of social support and trauma type in the relation between trauma exposure and the development of trauma related symptoms. In the first model (Figure 1), social support that exists prior to a traumatic event can be either

strong or weak. Following exposure to a traumatic event, if the pre-trauma social support is strong then fewer trauma related symptoms will develop; if the pre-trauma social support is weak then more trauma related symptoms will develop. Strong social support following exposure to a traumatic event leads to fewer trauma related symptoms, regardless of whether the pre-trauma social support was strong or weak. Weak social support following exposure to a traumatic event leads to more trauma related symptoms; while this will lead to the development of more trauma related symptoms, people who had strong pre-trauma social support will have fewer symptoms than those who had weak pre-trauma social support, as the strong support acts as a buffer against the development of more severe trauma related symptoms.

The second model (Figure 2) integrates the type of trauma (interpersonal or non-interpersonal) into the first model. Pre-trauma social support can either be strong or weak. Exposure to an interpersonal traumatic event leads to the development of more trauma related symptoms. Strong social support following exposure to an interpersonal trauma will lead to the development of fewer trauma related symptoms, while weak social support following exposure to an interpersonal trauma will lead to the development of more trauma related symptoms. Exposure to a non-interpersonal traumatic event leads to the development of fewer trauma related symptoms. Strong social support following exposure to a non-interpersonal trauma will lead to the development of fewer trauma related symptoms, while weak social support following exposure to a non-interpersonal trauma will lead to the development of more trauma related symptoms. Regardless of the type of trauma or the quality of the post-trauma social support, people who had strong pre-trauma social support will develop fewer symptoms than people who had weak pre-trauma social support.

The aim of this study was to test the relation between self-reported social support and trauma related symptom count and severity, and to test variation in this association based on trauma type. We hypothesized first that people with greater self-reported social support would have fewer trauma related symptoms than people who reported less social support. We also hypothesized interpersonal trauma would be associated with more symptoms than non-interpersonal trauma.

## **Methods**

### **Participants**

Participants were recruited from the undergraduate psychology student pool at Hunter College. The sample was comprised of 61 (86%) women and 10 (14%) men. Participants were between the ages 18 and 43, with a mean age of 21.21 years ( $SD=5.10$ ). Participants identified as Asian/Pacific Islander (20%), Black (11%), Hispanic (29%), White (20%), Multiple (13%), and Other (7%) (Table 1).

### **Procedure**

Potential participants were screened to determine if they had ever been exposed to a traumatic event through the use of the Life Events Checklist (LEC) (Weathers et al., 2013). The LEC is a 17 item self-report questionnaire which assesses type of trauma exposure and how the person was exposed to it. Trauma exposure is rated as “happened to me, witnessed it, learned about it, not sure, and does not apply.” All participants completed the Structured Clinical Interview for DSM-IV (SCID) (Spitzer et al., 1996) and the Clinician Administered PTSD Scale for DSM-5 (CAPS) (Weathers et al., 2013). The SCID was used to obtain background information for each participant and to establish the potential presence of symptoms of previous and/or current psychological disorders. Participants who met criteria for any psychological

diagnosis other than PTSD were excluded from the analysis. During the SCID, the type of trauma that the participant was exposed to was determined. Following the determination of the presence of a traumatic experience, the CAPS was used to assess the participants' experiences and to assess trauma related symptoms. For analyses, the number and severity of each symptom cluster and the total number and severity of symptoms were used.

### **Self-Reported Social Support**

Using questions from the overview section of the SCID, participants were asked to report on aspects of their social support. Participants were asked the following yes or no questions: "Is religion an important part of your life? Are you close with your family? Are you currently in a romantic relationship? How satisfied are you with that relationship? Are you currently working? How satisfied are you with your current work situation? Have you recently had any problems with your family? Have you recently had any problems with your friends or living situation?" Participants were also asked the following open-ended questions: "What is your social life like? What is your family like?" Responses to both of these questions were then rated on a 5-point scale of negative, moderately negative, neutral, moderately positive, and positive. The selection of these items was based on the established literature, which has indicated an association between these individual aspects of social support and trauma related symptoms.

### **Data Analysis Plan**

All analyses were conducted with the use of SPSS v25. Analysis was conducted in several steps. First, a Pearson Correlation was conducted to determine if correlations existed between the social support factors and the number and severity of trauma related symptoms. Levene's test was then conducted, which showed that the data violated the homogeneity of

variance. A Dunn's Multiple Comparison Test was conducted, providing an adjusted  $\alpha=0.0002$  to account for potential error.

A composite score for total social support was made by adding the individual participant scores for familial closeness, family description, current problems with family, and current problems with friends or living situation. The scores for current problems with family and current problems with friends or living situation were reverse coded. The range for this score was 0-7, with 0 indicating weak social support, and 7 indicating strong social support.

The number and severity of trauma related symptoms were treated as two separate measures. While these two measures are highly correlated, they are conceptually different constructs.

In the full sample, Mann Whitney-U Tests were conducted to compare trauma related symptoms between participants who reported high and low familial closeness, between participants who did and did not report recent problems with family, between participants who did and did not report recent problems with friends or living situation, and between participants who reported exposure to an interpersonal or non-interpersonal trauma. A Kruskal-Wallis test was conducted to assess the differences in symptom count and severity for the different types of family descriptions.

The data was then divided into two groups, participants exposed to interpersonal trauma, and participants exposed to non-interpersonal trauma. Group division was determined by what trauma the participant reported during the CAPS. In both groups, Mann Whitney-U Tests were conducted to compare trauma related symptoms between participants who reported high and low familial closeness, between participants who did and did not report recent problems with family, and between participants who did and did not report recent problems with friends or living

situation. Kruskal-Wallis tests were used to assess the differences in symptom count and severity for the different types of family descriptions.

These groups were then further divided into five groups based on specific trauma exposure: sexual assault, physical assault, other interpersonal trauma exposure, motor vehicle accident, and other non-interpersonal trauma. Again this groups division was determined by what trauma the participant reported during the CAPS. In all groups, Mann Whitney-U Tests were conducted to compare trauma related symptoms between participants who reported high and low familial closeness, between participants who did and did not report recent problems with family, and between participants who did and did not report recent problems with friends or living situation. Kruskal-Wallis tests were used to assess the differences in symptom count and severity for the different types of family descriptions.

## **Results**

### **All Participants**

A Pearson Correlation revealed that in our sample, there were moderate to strong correlations between familial closeness, family description, recent problem with family, recent problem with friends or living situation, specific trauma type, interpersonal trauma type, and composite social support score with the number and severity of some or all trauma related symptoms (Table 2). This test revealed a strong negative correlation between overall social support and the number and severity of intrusion, avoidance, cognitive and mood, and total symptoms, as well as a weak negative correlation with the number and severity of arousal and reactivity symptoms. There were no correlations between current work status, current romantic relationship status, romantic relationship status satisfaction, or social life description and the number or severity of trauma related symptoms.

We conducted Mann Whitney-U tests to assess the differences in symptom count and severity between participants who reported high and low familial closeness, between participants who did and did not report recent problems with family, and between participants who did and did not report recent problems with friends or living situation. In the full sample ( $n=71$ ), familial closeness and recent problems with friends or living situation were not associated with the number or severity of any trauma related symptoms.

Recent family problems were associated with a greater number of avoidance ( $U=-4.669$ ,  $p<0.0002$ ,  $g=1.319$ ), cognitive and mood ( $U=-4.089$ ,  $p<0.0002$ ,  $g=-1.086$ ), arousal and reactivity ( $U=-3.733$ ,  $p<0.0002$ ,  $g=0.971$ ) and total symptoms ( $U=-4.240$ ,  $p<0.0002$ ,  $g=1.309$ ) (Figure 3). Recent family problems were also associated with a greater severity of intrusion ( $U=-3.834$ ,  $p<0.0002$ ,  $g=1.068$ ), avoidance ( $U=-4.858$ ,  $p<0.0002$ ,  $g=1.469$ ), cognitive and mood ( $U=-4.154$ ,  $p<0.0002$ ,  $g=1.111$ ), arousal and reactivity ( $U=-3.720$ ,  $p<0.0002$ ,  $g=0.937$ ) and total symptoms ( $U=-4.578$ ,  $p<0.0002$ ,  $g=1.310$ ) (Table 3, Figure 4).

We conducted a Kruskal-Wallis test to assess the differences in symptom count and severity for the different types of family descriptions. Family description was associated with the number of intrusion ( $H=11.185$ ,  $p<0.05$ ), avoidance ( $H=10.669$ ,  $p<0.05$ ), cognitive and mood ( $H=12.360$ ,  $p<0.05$ ), and total symptoms ( $H=10.048$ ,  $p<0.05$ ) (Figure 5). Family description was also associated with the severity of avoidance ( $H=10.817$ ,  $p<0.05$ ), cognitive and mood ( $H=14.885$ ,  $p<0.05$ ), and total symptoms ( $H=11.524$ ,  $p<0.05$ ) (Table 4). Post-hoc Dunn's Multiple Comparison Tests were conducted, revealing that participants who gave a moderately negative family description reported a significantly greater number and severity of cognition and mood symptoms than participants who gave a positive family description ( $z=20.185$ ,  $p=0.044$ ;  $z=24.009$ ,  $p=0.010$ ) (Figure 6).

We conducted a Kruskal-Wallis test to assess the differences in symptoms count and severity for the different types of specific traumas. There were differences in the number of avoidance ( $H=12.797, p<0.05$ ), cognitive and mood ( $H=10.720, p<0.05$ ), and total symptoms ( $H=12.161, p<0.05$ ) between the different types of specific traumas. Dunn's Multiple Comparison Tests were conducted, which revealed that sexual assault led to more avoidance ( $z=14.455, p=0.020$ ), cognitive and mood ( $z=20.384, p=0.034$ ), and total symptoms ( $z=23.466, p=0.011$ ) than a motor vehicle accident (Figure 7). There were also differences in the severity of avoidance ( $H=12.439, p<0.05$ ), cognitive and mood ( $H=10.650, p<0.05$ ), arousal and reactivity ( $H=9.678, p<0.05$ ), and total symptoms ( $H=12.067, p<0.05$ ) between the different types of specific traumas (Table 5). Dunn's Multiple Comparison Tests were conducted, which revealed that sexual assault led to a greater severity of avoidance ( $z=21.51, p=0.024$ ), cognitive and mood ( $z=21.834, p=0.023$ ), and total symptoms ( $z=23.933, p=0.010$ ) than a motor vehicle accident (Figure 8).

We conducted a Mann Whitney-U test to assess the differences in symptom count and severity between participants who experienced an interpersonal or non-interpersonal trauma. There were no significant differences between the two groups overall, however, when looking at the specific trauma types, there are significant differences between trauma related symptoms following sexual assault and those following a motor vehicle accident.

### **Interpersonal Trauma Exposure**

Fifty-four participants reported an interpersonal trauma: 22 experienced physical assault, 29 experienced sexual assault, and 3 experienced some other interpersonal trauma. Other interpersonal traumas included: a mother who repeatedly threatened suicide and 2 cases of severe bullying. We conducted a Kruskal-Wallis test to assess the differences in symptom count and



severity for the different types of family descriptions among participants who experienced an interpersonal trauma. Family description was associated with the number of avoidance ( $H=9.768$ ,  $p<0.05$ ), cognitive and mood ( $H=10.455$ ,  $p<0.05$ ), and total symptoms ( $H=9.600$ ,  $p<0.05$ ) (Figure 9), as well as the severity of avoidance ( $H=11.547$ ,  $p<0.05$ ), cognitive and mood ( $H=13.971$ ,  $p<0.05$ ), and total symptoms ( $H=10.308$ ,  $p<0.05$ ) (Table 6). A Dunn's Multiple Comparison Test revealed that participants who gave positive family descriptions reported less severe cognitive and mood symptoms than participants who gave moderately negative family descriptions ( $z=3.116$ ,  $p=0.018$ ) (Figure 10).

We conducted Mann Whitney-U Tests to assess the differences in symptom count and severity between participants who did and did not report recent problems with family. Recent family problems were associated with more avoidance ( $U=-4.117$ ,  $p<0.0002$ ,  $g=1.306$ ), cognition and mood ( $U=-3.679$ ,  $p<0.0002$ ,  $g=1.111$ ), and total symptoms ( $U=-3.853$ ,  $p<0.001$ ,  $g=1.281$ ) (Figure 11). Recent family problems were also associated more severe avoidance ( $U=-4.518$ ,  $p<0.0002$ ,  $g=1.524$ ), cognitive and mood ( $U=-3.771$ ,  $p<0.0002$ ,  $g=1.153$ ), and total symptoms ( $U=-4.038$ ,  $p<0.0002$ ,  $g=1.278$ ) (Table 7, Figure 12).

Mann Whitney-U Tests were also conducted to assess differences in symptoms count and severity for participants with and without recent problems with friends or living situation, and for familial closeness. There were no differences in symptom count or severity within these groups.

### **Non-interpersonal Trauma Exposure**

Seventeen participants reported a non-interpersonal trauma, 11 (16%) motor vehicle accident, and 6 (8%) other non-interpersonal trauma. Other non-interpersonal traumas included 3 instances of house fires, a drowning accident, an earthquake, and exposure to a warzone. None

of the social support factors were associated with the number or severity of trauma related symptoms.

### **Specific Trauma Exposure**

We conducted a Mann Whitney-U test to assess the differences in symptom count and severity between participants who did and did not report recent problems with family among participants who experienced physical assault. Recent family problems were associated with more severe avoidance symptoms ( $U=-3.600$ ,  $p<0.0002$ ,  $g=2.474$ ) (Table 8, Figure 13). None of the other social support factors were associated with the number or severity of trauma related symptoms following exposure to a physical assault, nor were they with either the number or severity of trauma related symptoms among those exposed to the other trauma types.

## **Discussion**

### **All Participants**

Consistent with previous research, the results provided support for the hypothesis that social support is associated with trauma related symptoms (Guay, Billette, & Marchand, 2006). Social support factors were most strongly associated with negative alterations in cognitions and mood in the full sample; this relationship was retained when looking at participants who were exposed to interpersonal trauma. In the full sample, regardless of the type of trauma that was experienced, family description was related to all symptom clusters except for arousal and reactivity, and recent problems with family related to the number and severity of all symptom clusters, except for the number of intrusive symptoms. The participants' overall social support was also shown to be correlated with the trauma related symptoms they experienced, with arousal and reactivity symptoms being the weakest relationship.

### **Interpersonal and Non-interpersonal Traumatic Events**

In addition to the association of social support factors with the number and severity of symptoms, there were also differences in trauma related symptoms depending on the type of trauma that was experienced. While not significant, there was a greater number and severity of trauma related symptoms in participants who experienced an interpersonal trauma than those who experienced a non-interpersonal trauma, especially when comparing the symptoms of people who had experienced sexual assault to the symptoms of those who experienced motor vehicle accidents.

This difference in trauma related symptoms between the interpersonal and non-interpersonal group may be related to the chronicity of the interpersonal traumas that were experienced. Exposure to multiple or repeated traumatic events, especially during childhood may lead to the development of more severe trauma related symptoms than exposure to one traumatic event (Cloitre et al., 2009). This idea is supported by our data, as most of the participants who experienced an interpersonal trauma, experienced a chronic trauma, often a form of domestic abuse, while the participants who experienced a non-interpersonal trauma all experienced acute, one-time traumas. The effects of chronic traumas may also be compounded with the effects of not disclosing information about the trauma. People who experience a chronic trauma during childhood (e.g. sexual abuse) are less likely to seek out support the longer the elapsed time has been (Ullman & Brecklin, 2002). Even when discussing chronic traumatic events, it is often not done directly, instead women who experience repeated childhood traumas may only disclose after going to a medical doctor for what they think are unrelated somatic symptoms (Stige, Træen, & Rosenvinge, 2013).

Within the interpersonal trauma exposure group, family description and recent problems with family continued to be associated with the number and severity of avoidance, negative

alterations in cognitions and mood, and total symptoms. Within the non-interpersonal trauma exposure group, none of the social support factors were associated with the number or severity of trauma related symptoms. This is most likely due to the small sample size of participants who were exposed to a non-interpersonal trauma.

### **Specific Trauma Types**

When looking at specific types of trauma exposure, only the trauma related symptoms of participants who experienced physical assault were associated with social support factors. For participants who experienced physical assault, those who reported having a recent problem with their family had more severe avoidance symptoms.

The observed relationship between recent family problems and trauma related symptoms may be due to the family either being the source of the trauma. For the participants who experienced physical and/or sexual abuse from family members this could likely be causing some of the reported problems.

### **Factors with No Association**

Not all of the social support factors were associated with the number and severity of trauma related symptoms. Religious importance, social life description, current work situation, current romantic relationship status, and romantic relationship status satisfaction were neither correlated nor associated with the number and severity of symptoms in any of the trauma exposure conditions. These results contrast literature on the role that social support plays in the development and maintenance of trauma related symptoms (Schumm, Briggs-Phillips, & Hobfoll, 2006; Hyman et al., 2003). The reasons for these differences are not entirely clear. The role of religion in trauma is not as understood as the other social support factors, however it has been indicated that the use of religion as a coping mechanism has a bi-directional association

with trauma related symptoms (Chen & Koenig, 2006). It is possible that because the question about religion asked if religion was important to the participant, and not how involved they were with their religion, that an association with trauma related symptoms was not seen. A strong religious affiliation can either act as a protective factor against the development of trauma related symptoms or as a catalyst for the development of more severe symptoms, which may be seen as punishment from God (Feder et al., 2013). A potential reason for why current work and relationship status were not associated with symptoms may be related to participants being college students. Forty-five participants were employed at the time of their interviews, and thirty-six were in romantic relationships. However, because of the participants' ages, it is likely that their current work and relationship statuses are not permanent, and thus they may not be relying on them for support as much as someone with a more permanent career or relationship might. Social life descriptions were most likely not associated with trauma related symptoms because of the lack of variation in responses, as most participants described their social lives in a very similar manner.

### **Clinical Implications**

Presently, the use of family therapy, specifically couples therapy, for the treatment of PTSD is regarded as insufficient in the Department of Veterans Affairs and Department of Defense (Department of Veterans Affairs, Department of Defense, 2017). This classification of insufficient is due to the limited number of studies on specific couples therapy techniques for treating PTSD. The two studies that were focused on revolved around the use of Cognitive-Behavioral Conjoint Therapy (CBCT) for PTSD and Strategic Approach Therapy (SAT). These treatment techniques have shown promising results in limited trials. CBCT for PTSD, which was developed to treat trauma related symptoms and improve relationship functioning, has been

shown to successfully improve both of these (Monson et al., 2012). SAT is a 10-session intervention which aims to reduce avoidance symptoms and emotional numbing following trauma exposure, and initial trials have shown improvements in both of these aspects, as well as showing overall improvement in symptoms due to the involvement of a significant other in treatment sessions (Sautter et al., 2009). In addition to these more recent techniques, Emotionally Focused Couple Therapy (EFCT) may be an effective treatment option for trauma exposure. The goal of EFCT is to have a person identify and process emotions related to a trauma, and to have the person understand how those emotions are related to relationships. A limited trial of EFCT in couples where one person had been exposed to sexual assault showed success in reducing trauma related symptoms and improving the couples' relationships (MacIntosh & Johnson, 2008).

The results of this study further bolster the literature on the association of social support and trauma related symptoms. Participants who reported having weaker social support, had more trauma related symptoms than those who had stronger social support. Among these participants, the symptoms that were most common and most severe were negative alterations in cognitions and mood. Extrapolating these results to the general population, suggests that when a person with weak social support is exposed to a traumatic event, the most distressing trauma related symptoms they will experience involve negative alterations to cognitions and mood. If this is the case, then the use of treatments such as SAT, CBCT, and EFCT in couples may be highly effective in both treating the symptoms as well as improving the relationship. Further investigations of these treatments for trauma related symptoms need to be conducted before a more conclusive statement can be made about the effectiveness however.

### **Limitations and Future Directions**

The findings of this study provided mixed support for the hypothesis that having strong social support is related to a reduced number and severity of trauma related symptoms. This association was most clearly evident in participants who were exposed to interpersonal traumas. The main limitation of this study was that it was conducted using preexisting data, and thus the questions were limited to what information was available. Because the data used was not collected specifically for this study, it was not possible to ask more specific questions regarding the social support factors being investigated, particularly those involving religious importance. The results of the study also cannot provide the direction of the relationship, which leads to four potential directions: strong social support prior to trauma exposure protected against the development of trauma related symptoms, weak social support prior to trauma exposure increased the likelihood of developing trauma related symptoms, strong social support following trauma exposure mitigated the effects of the trauma, or weak social support following trauma exposure worsened the effects of the trauma. Another limitation is that it is not possible to control for the severity of the trauma, as that measure would be entirely subjective to both the person who experienced it, as well as for the interviewer. While it was not possible to control for trauma severity, traumas that could be considered more severe (e.g. severe sexual assault) have been shown to lead to a greater number and severity of trauma related symptoms. Menstrual cycle and the use of hormonal birth control were also not taken into consideration, and both of these factors have been shown to impact trauma related symptoms in women (Rieder, 2019). Future expansions of this study should include a larger sample size, specifically recruiting for an equal amount of interpersonal and non-interpersonal trauma exposure, and a more diverse age group, possibly recruiting participants who are married and those who have more permanent jobs. In addition to increasing the sample size and diversity, future work should also include the

use of the Quality of Relationships Inventory and the Multidimensional Scale of Perceived Social Support, as they both address more in depth questions about the sources and quality of a person's social support.



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Table 1.

Demographic information of participants

<b>All Participants</b>	<i>n</i> =71
Age (mean $\pm$ <i>SD</i> years)	21.21 (5.10)
Sex, <i>n</i> (%)	
Female	61 (86%)
Male	10 (14%)
Race, <i>n</i> (%)	
Hispanic	21 (29%)
Asian/Pacific Islander	14 (20%)
White	14 (20%)
Black	8 (11%)
Multiple	9 (13%)
Other	5 (7%)
Trauma Exposure	
Sexual Assault	29 (41%)
Physical Assault	22 (31%)
Motor Vehicle Accident	11 (16%)
Other Noninterpersonal Trauma	6 (8%)
Other Interpersonal Trauma	3 (4%)
<b>Interpersonal Trauma Exposure</b>	<i>n</i> =54
Age (mean $\pm$ <i>SD</i> years)	22.13 (5.53)
Sex, <i>n</i> (%)	
Female	45 (83%)
Male	9 (17%)
Race, <i>n</i> (%)	
Hispanic	17 (31%)
Asian/Pacific Islander	10 (19%)
White	9 (17%)
Black	7 (13%)
Multiple	8 (15%)
Other	3 (5%)
<b>Non-interpersonal Trauma Exposure</b>	<i>n</i> =17
Age (mean $\pm$ <i>SD</i> years)	22.47 (3.50)
Sex, <i>n</i> (%)	
Female	16 (94%)
Male	1 (6%)
Race, <i>n</i> (%)	
Hispanic	4 (24%)
Asian/Pacific Islander	4 (24%)
White	5 (29%)
Black	1 (6%)
Multiple	1 (6%)



Other	2 (11%)
<b>Sexual Assault</b>	<i>n</i> =29
Age (mean $\pm$ <i>SD</i> years)	23.17 (6.80)
Sex, <i>n</i> (%)	
Female	27 (93%)
Male	2 (7%)
Race, <i>n</i> (%)	
Hispanic	6 (21%)
Asian/Pacific Islander	5 (17%)
White	5 (17%)
Black	5 (17%)
Multiple	7 (24%)
Other	3 (4%)
<b>Physical Assault</b>	<i>n</i> =22
Age (mean $\pm$ <i>SD</i> years)	21.14 (3.45)
Sex, <i>n</i> (%)	
Female	16 (73%)
Male	6 (27%)
Race, <i>n</i> (%)	
Hispanic	11 (50%)
Asian/Pacific Islander	4 (18%)
White	3 (13%)
Black	1 (5%)
Multiple	1 (5%)
Other	2 (9%)
<b>Motor Vehicle Accident</b>	<i>n</i> =11
Age (mean $\pm$ <i>SD</i> years)	21.82 (2.86)
Sex, <i>n</i> (%)	
Female	10 (91%)
Male	9 (9%)
Race, <i>n</i> (%)	
Hispanic	3 (27%)
Asian/Pacific Islander	4 (37%)
White	1 (9%)
Black	0 (0%)
Multiple	1 (9%)
Other	2 (18%)
<b>Other Non-interpersonal Trauma</b>	<i>n</i> =6
Age (mean $\pm$ <i>SD</i> years)	23.67 (4.50)
Sex, <i>n</i> (%)	
Female	6 (100%)
Male	0 (0%)
Race, <i>n</i> (%)	
Hispanic	1 (17%)
Asian/Pacific Islander	0 (0%)
White	4 (66%)

Black	1 (17%)
Multiple	0 (0%)
Other	0 (0%)
<b>Other Interpersonal Trauma</b>	<i>n</i> =3
Age (mean $\pm$ <i>SD</i> years)	19.33 (0.58)
Sex, <i>n</i> (%)	
Female	2 (67%)
Male	3 (33%)
Race, <i>n</i> (%)	
Hispanic	1 (33%)
Asian/Pacific Islander	1 (33%)
White	1 (33%)
Black	0 (0%)
Multiple	0 (0%)
Other	0 (0%)

Table 2.

Pearson correlation of social support factors and trauma related symptoms

	Intrusion Symptom Count	Intrusion Severity	Avoidance Symptom Count	Avoidance Severity
Total Social Support	-0.225	-0.193	-.284*	-.302*
Interpersonal or Noninterpersonal	-0.202	-0.212	-.325**	-.361**
Specific Trauma	-0.071	-0.061	-.242*	-.283*
Problem with Friend/Living Situation	-.307**	-.274*	-0.137	-0.231
Problem with Family	-.440**	-.467**	-.546**	-.589**
Romantic Relationship Satisfaction	-0.135	-0.158	-0.089	-0.082
Romantic Relationship	-0.046	-0.019	-0.145	-0.09
Family Description	-.345**	-.333**	-.358**	-.373**
Family Close	-.283*	-.246*	-0.182	-0.225
Work	0.166	0.042	0.069	0.105
Social Life	-0.047	-0.09	-0.149	-0.146
Religion Importance	-0.081	-0.045	0.002	0.026

	Cognition and Mood Symptom Count	Cognition and Mood Severity	Arousal and Reactivity Symptom Count	Arousal and Reactivity Severity	Total Symptom Count	Total Severity
	-0.15	-0.185	-0.163	-0.192	-0.178	-0.196
	-0.171	-0.156	-0.149	-0.188	-0.225	-0.231
	-0.056	-0.031	0.067	0.048	-0.056	-0.053
	-0.055	-0.065	0.035	0.027	-0.048	-0.038
	-0.344**	-0.365**	-0.184	-0.204	-0.356**	-0.360**
	-0.244*	-0.228	-0.16	-0.114	-0.260*	-0.23
	-0.071	-0.022	-0.026	-0.004	0.026	0.017
	0.015	0.016	0.042	0.075	-0.022	-0.017
	0.003	-0.039	0.17	0.124	0.034	0.014
	-0.245*	-0.240*	-0.071	-0.027	-0.234*	-0.207
	-0.284*	-0.298*	-0.252*	-0.259*	-0.310**	-0.316**
	-0.475**	-0.482**	-0.431**	-0.421**	-0.545**	-0.545**

Note. \* $p < 0.05$ . \*\* $p < 0.01$ .

Table 3.

### Reported Recent Family Problems

Mann Whitney U: Problem with Family Full Sample				
Symptom	Symptom Count		Symptom Severity	
	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Intrusion	-3.230	0.001	-3.834	>0.001
Avoidance	-4.669	<0.001	-4.858	>0.001
Cognitive and Mood	-4.089	>0.001	-4.154	>0.001
Arousal and Reactivity	-3.733	<0.001	-3.720	>0.001
Total Symptoms	-4.240	<0.001	-4.578	>0.001

Table 4.

## Reported Family Description

Kruskal-Wallis: Family Description Full Sample				
	Symptom Count		Symptom Severity	
Symptom	<i>H</i>	<i>p</i>	<i>H</i>	<i>p</i>
Intrusion	11.185	<0.05	8.598	0.072
Avoidance	10.669	<0.05	10.817	<0.05
Cognitive and Mood	12.360	<0.05	14.885	<0.05
Arousal and Reactivity	4.421	0.352	5.840	0.211
Total Symptoms	10.048	<0.05	11.524	<0.05

Table 5.

## Reported Specific Trauma Exposure

Kruskal-Wallis Test: Specific Trauma				
	Symptom Count		Symptom Severity	
Symptom	<i>H</i>	<i>p</i>	<i>H</i>	<i>p</i>
Intrusion	5.030	0.284	6.347	0.175
Avoidance	12.797	<0.05	12.439	<0.05
Cognitive and Mood	10.720	<0.05	10.650	<0.05
Arousal and Reactivity	8.699	0.069	9.678	<0.05
Total Symptoms	12.161	<0.05	12.067	<0.05

Table 6.

## Reported Family Description for Interpersonal Trauma Exposure

Kruskal-Wallis Test: Family Description Interpersonal				
	Symptom Count		Symptom Severity	
Symptom	<i>H</i>	<i>p</i>	<i>H</i>	<i>p</i>
Intrusion	8.510	0.075	6.115	0.191
Avoidance	9.768	<0.05	11.547	<0.05
Cognitive and Mood	10.455	<0.05	13.971	<0.05
Arousal and Reactivity	3.897	0.420	4.625	0.328
Total Symptoms	9.600	<0.05	10.308	<0.05

Table 7.

Reported Recent Family Problems for Interpersonal Trauma Exposure

Mann Whitney U: Problem with Family Interpersonal				
Symptom	Symptom Count		Symptom Severity	
	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Intrusion	-2.720	0.007	-3.124	0.002
Avoidance	-4.117	<0.001	-4.518	<0.001
Cognitive and Mood	-3.679	<0.001	-3.771	<0.001
Arousal and Reactivity	-3.171	0.002	-2.997	0.003
Total Symptoms	-3.853	<0.001	-4.038	<0.001

Table 8.

Reported Recent Family Problems for Physical Assault Exposure

Mann Whitney U: Family Problem Physical Assault				
Symptom	Symptom Count		Symptom Severity	
	<i>U</i>	<i>p</i>	<i>U</i>	<i>p</i>
Intrusion	-1.656	0.144	-2.187	0.036
Avoidance	-3.159	0.003	-3.600	<0.001
Cognitive and Mood	-3.042	0.003	-2.946	0.003
Arousal and Reactivity	-2.925	0.006	-2.718	0.006
Total Symptoms	-3.077	0.001	-3.181	0.001

Figure 1.

Hypothetical Model of the Role of Social Support in the Relation between Trauma Exposure and the Development of Trauma Related Symptoms.

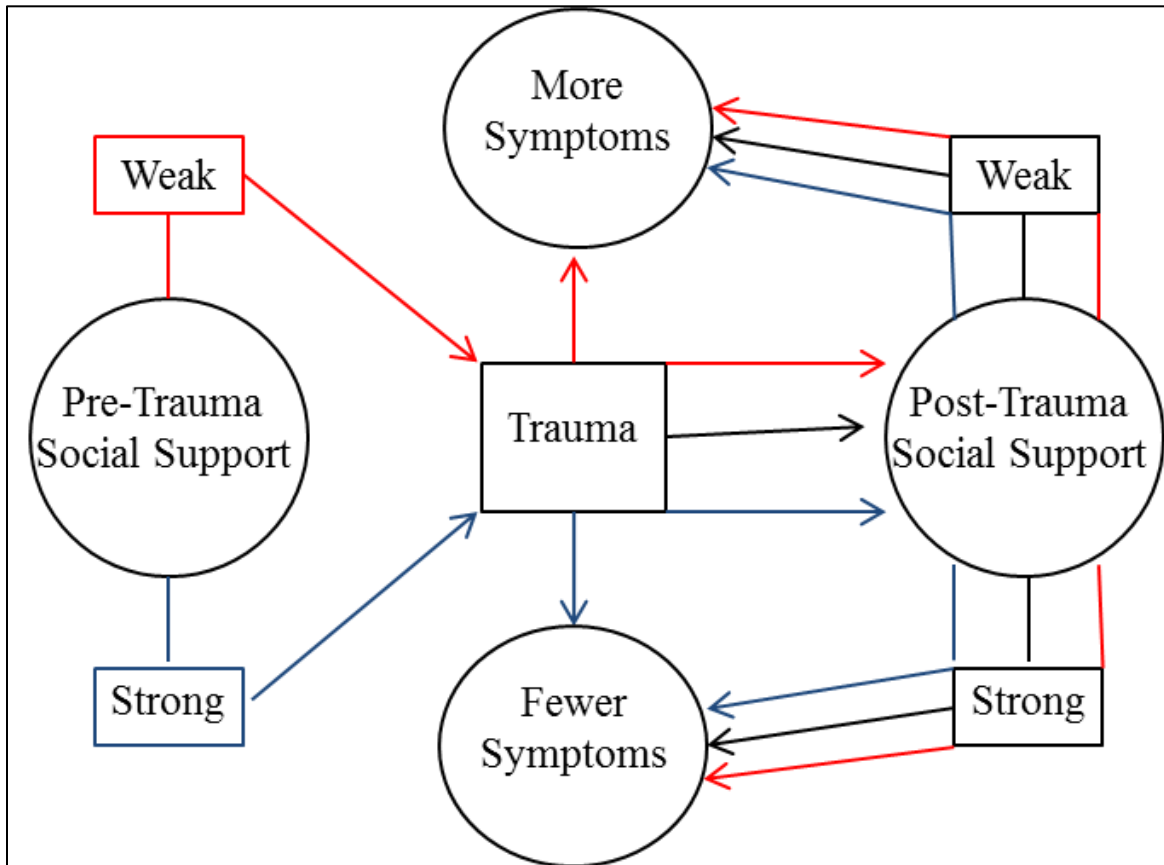


Figure 2.

Hypothetical Model of the Role of Social Support and Type of Trauma in the Relation between Trauma Exposure and the Development of Trauma Related Symptoms.

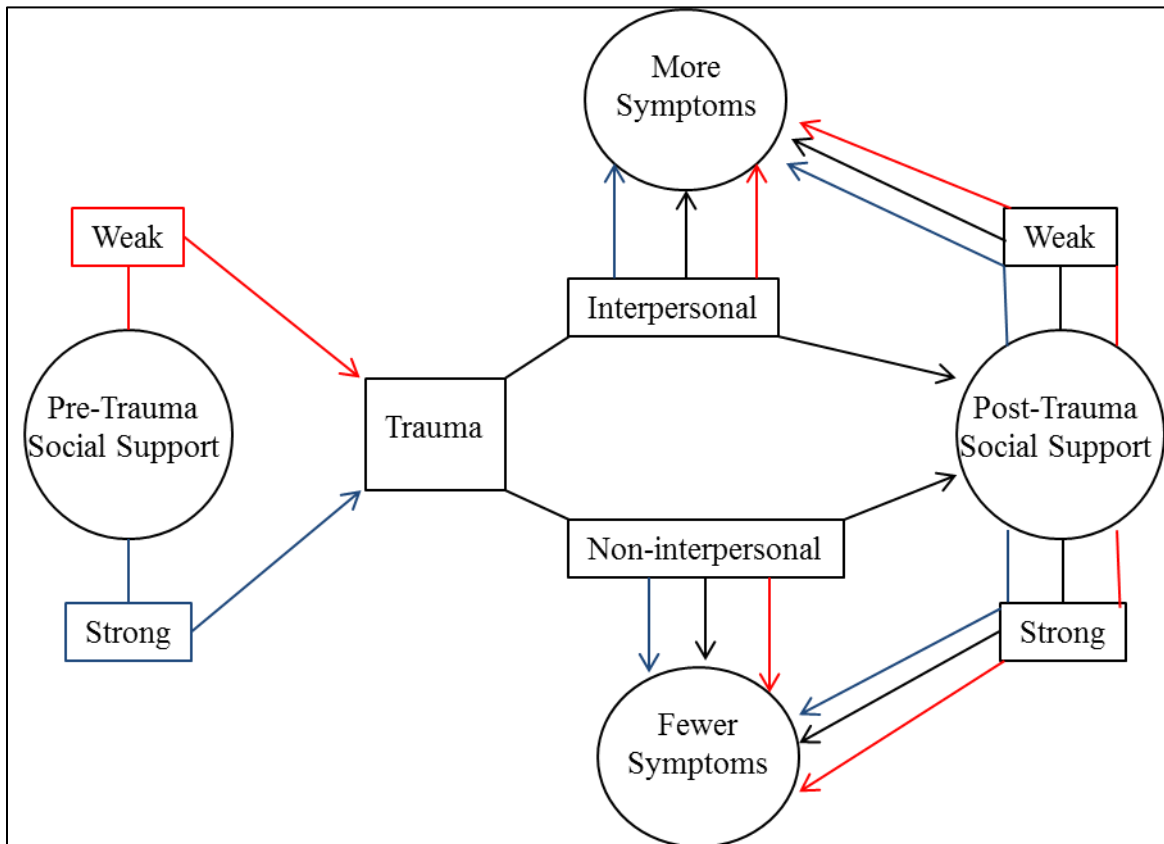
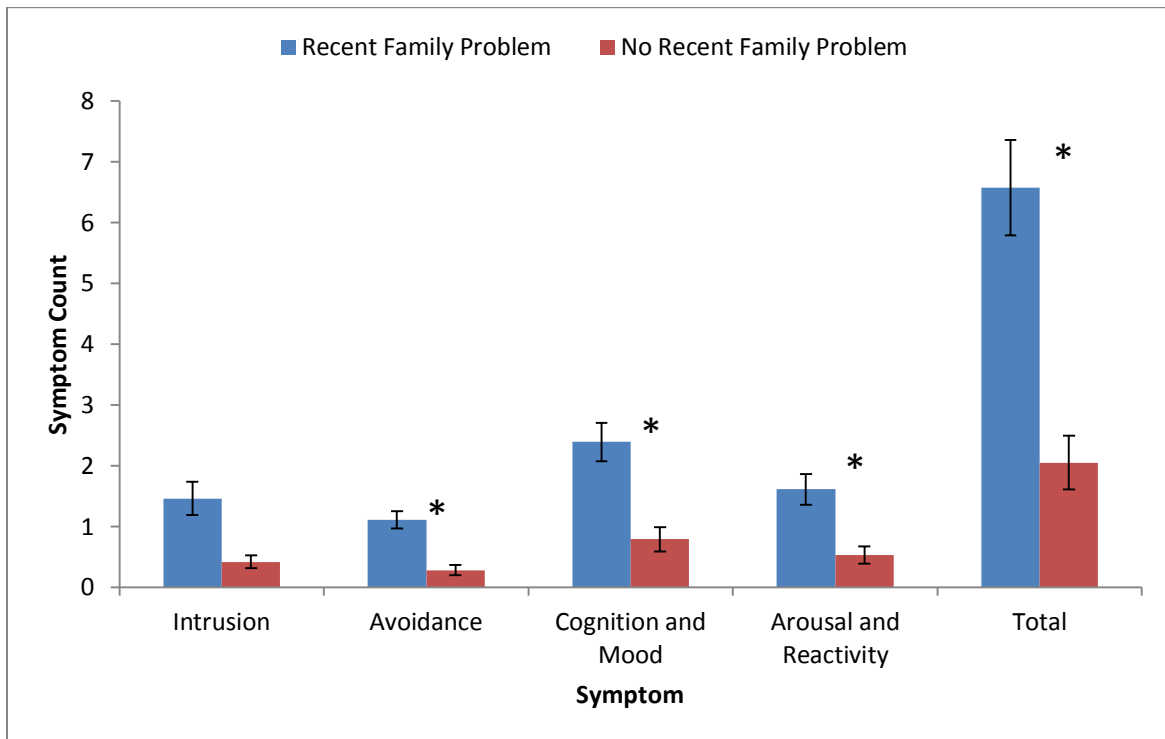


Figure 3.

## Recent Family Problems Symptom Count in Full Sample

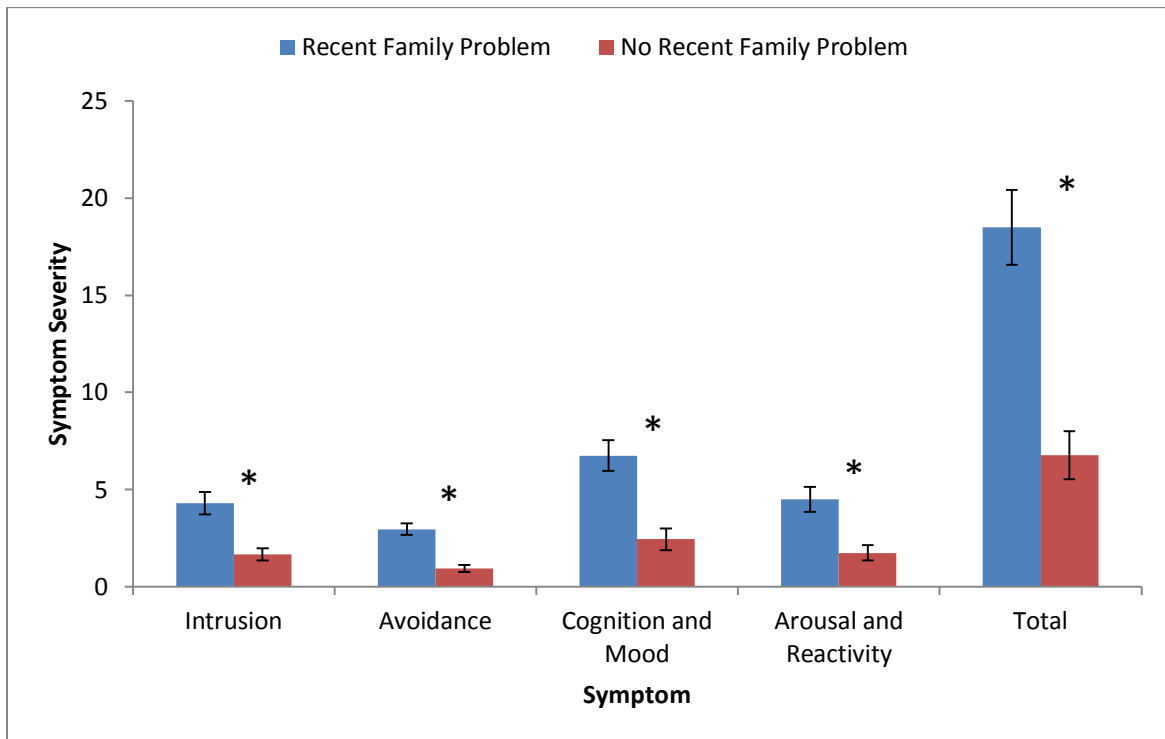


Note.  $*p < 0.001$



Figure 4.

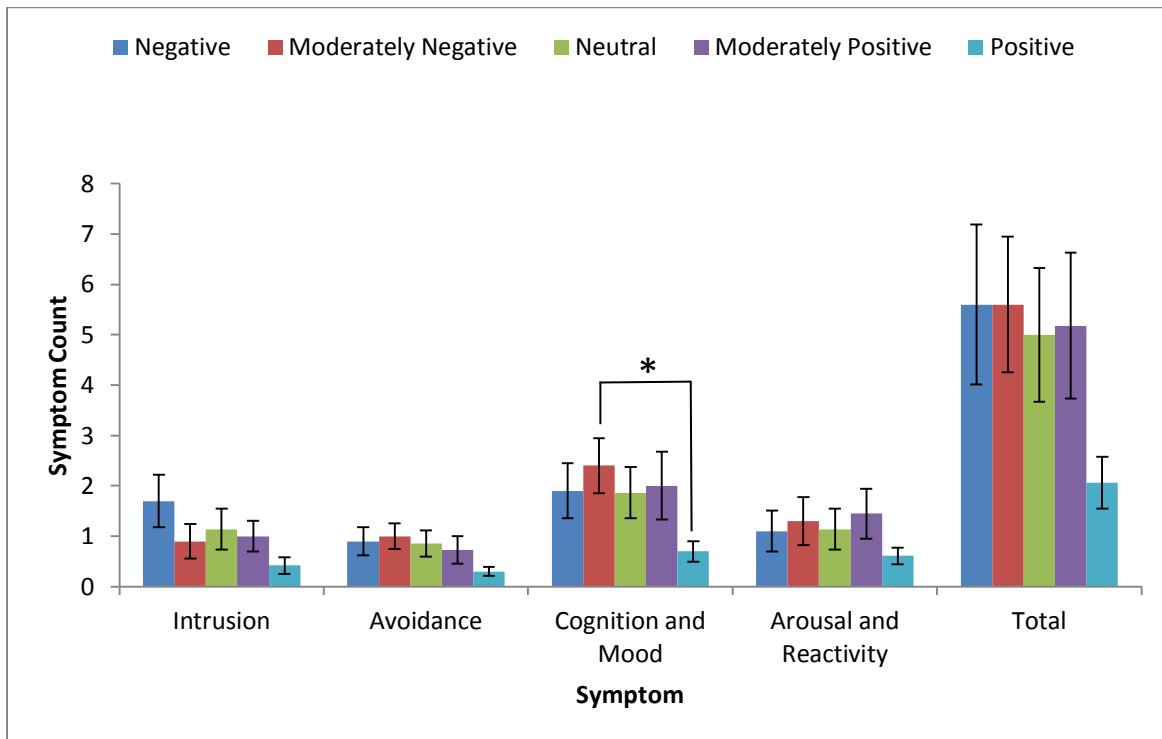
## Recent Family Problems Symptom Severity in Full Sample



Note. \* $p < 0.001$

Figure 5.

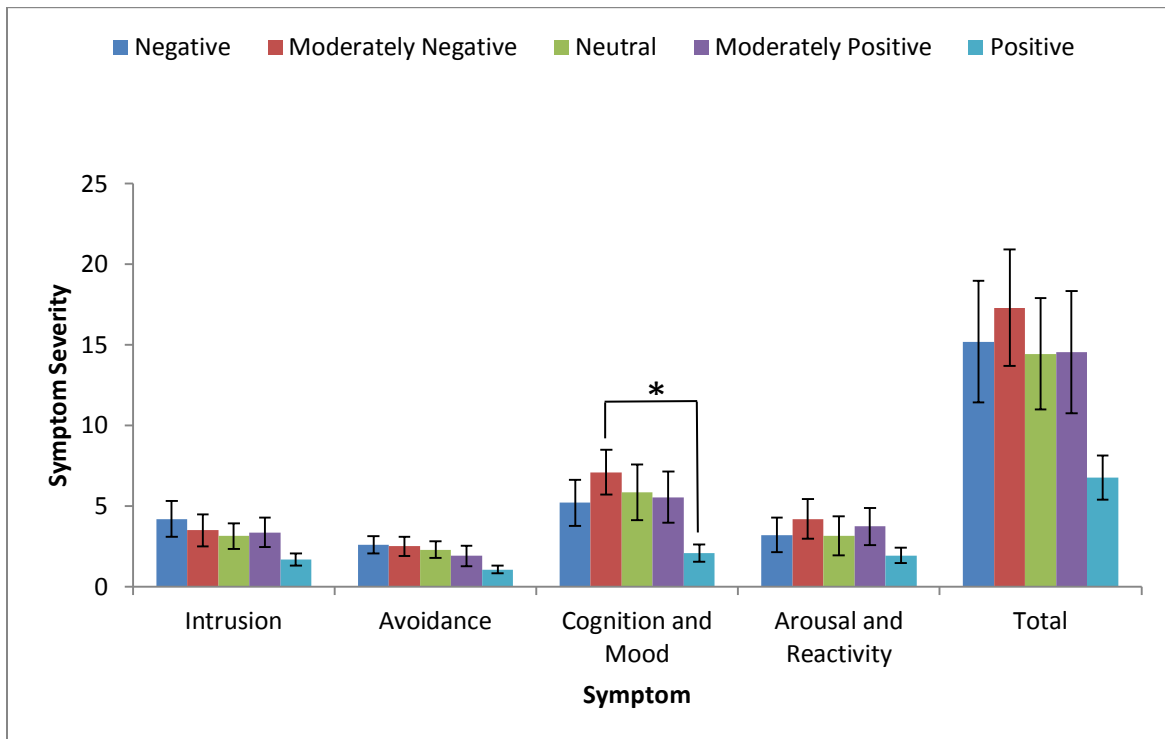
Family Description Symptom Count in Full Sample



Note. \*post-hoc  $p < 0.05$

Figure 6.

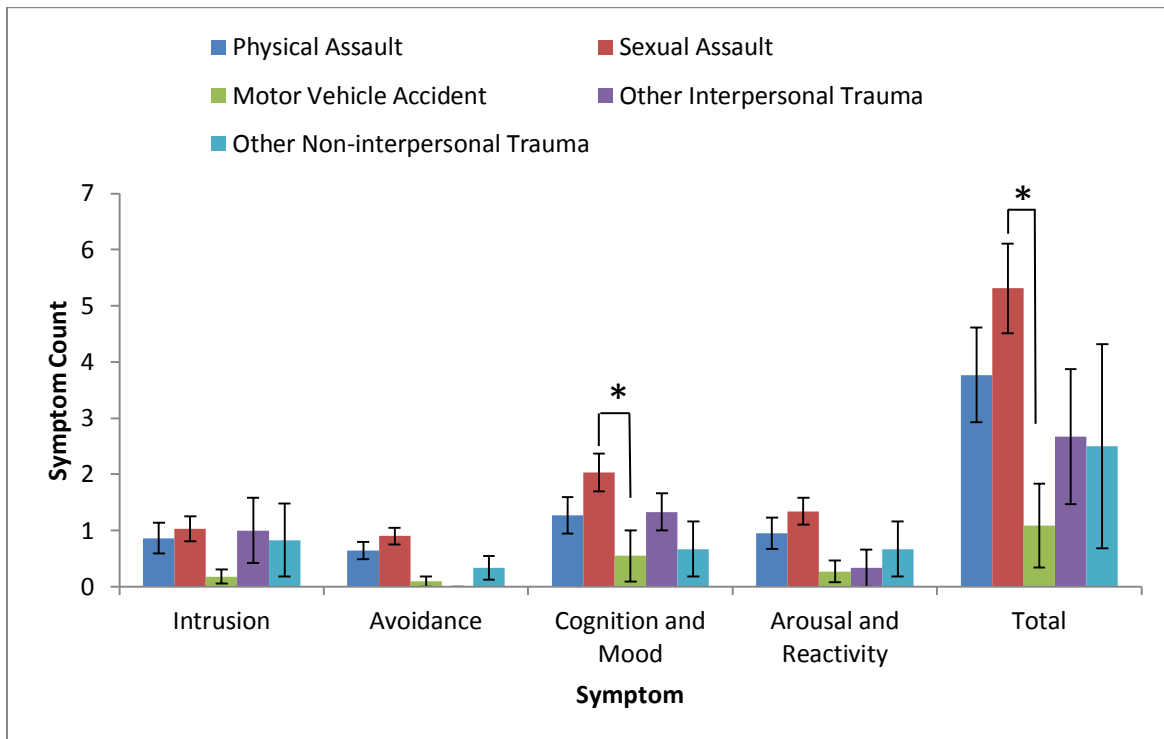
## Family Description Symptom Severity in Full Sample



Note. \*post-hoc  $p < 0.05$

Figure 7.

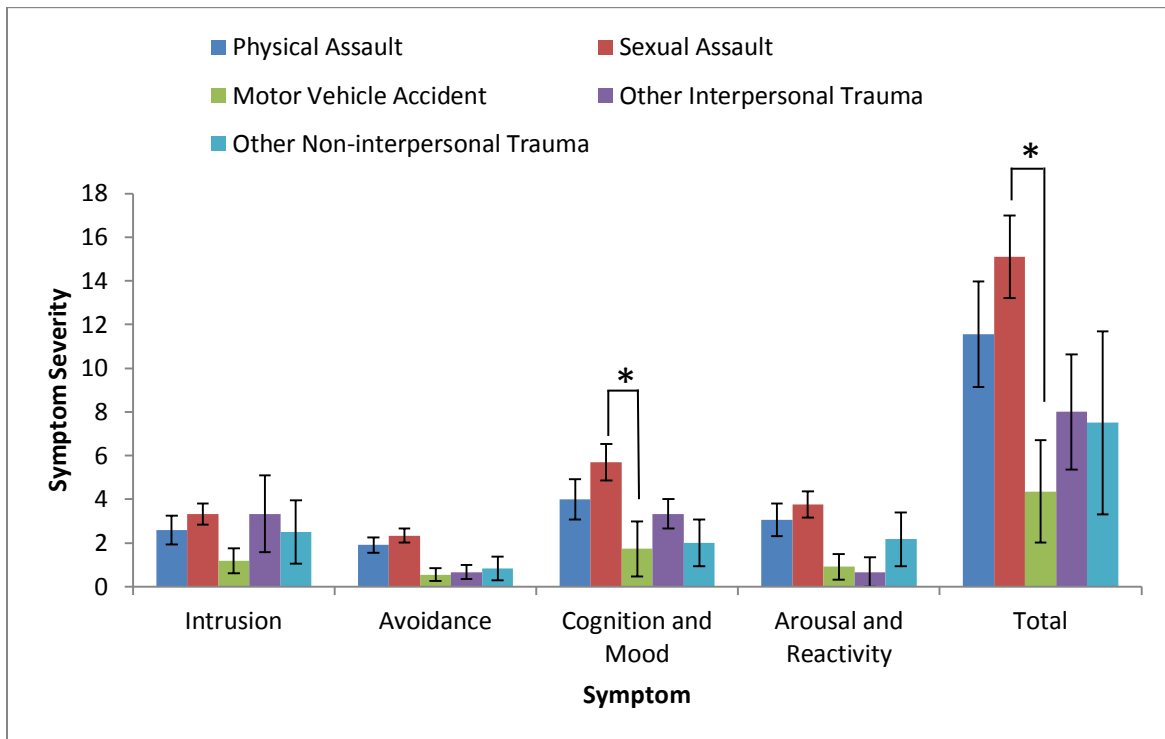
## Specific Trauma Exposure Symptom Count Full Sample



Note. \*post-hoc  $p < 0.05$

Figure 8.

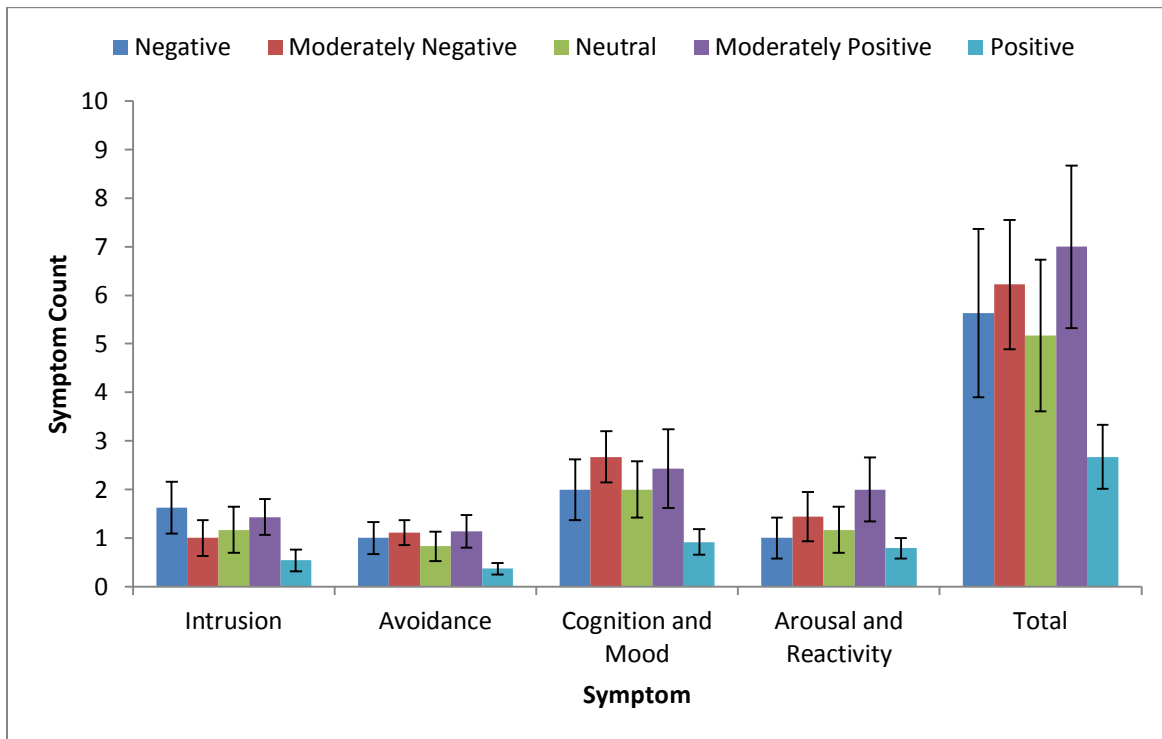
## Specific Trauma Exposure Symptom Severity Full Sample



Note. \*post-hoc  $p < 0.05$

Figure 9.

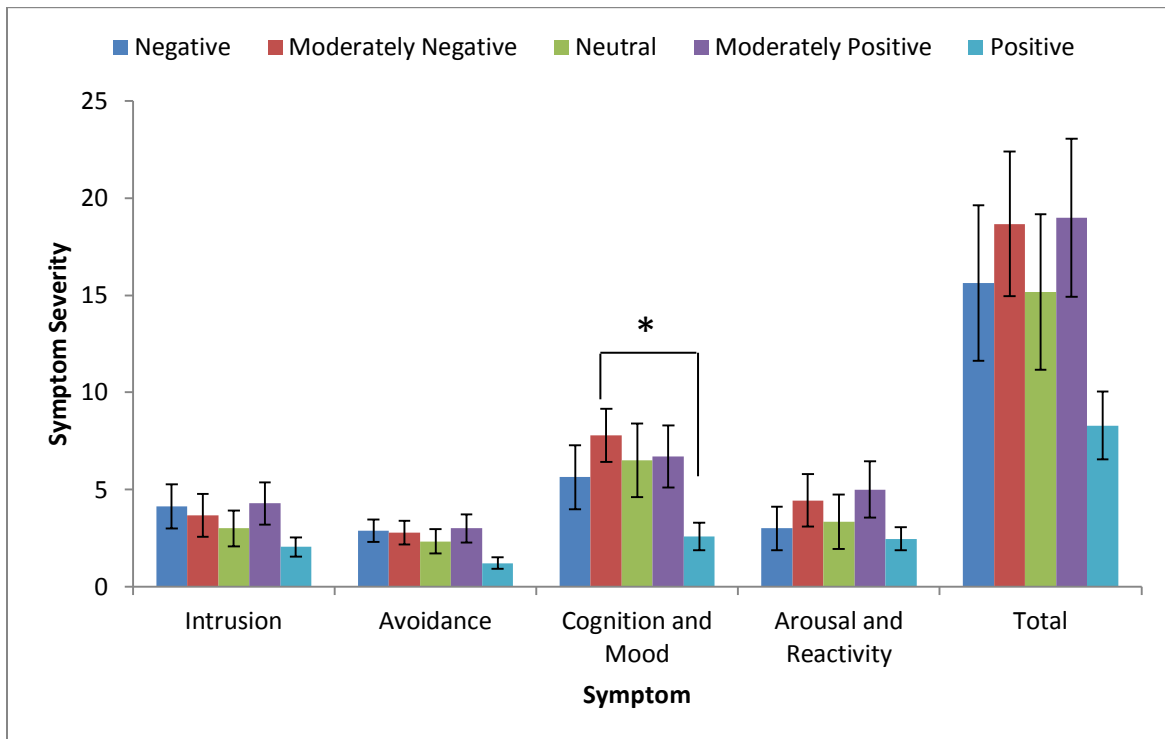
## Family Description Symptom Count: Interpersonal Trauma Exposure



*Note.* The significant differences in the avoidance, cognition and mood, and total symptom clusters did not survive Dunn's Multiple Comparison Test.

Figure 10.

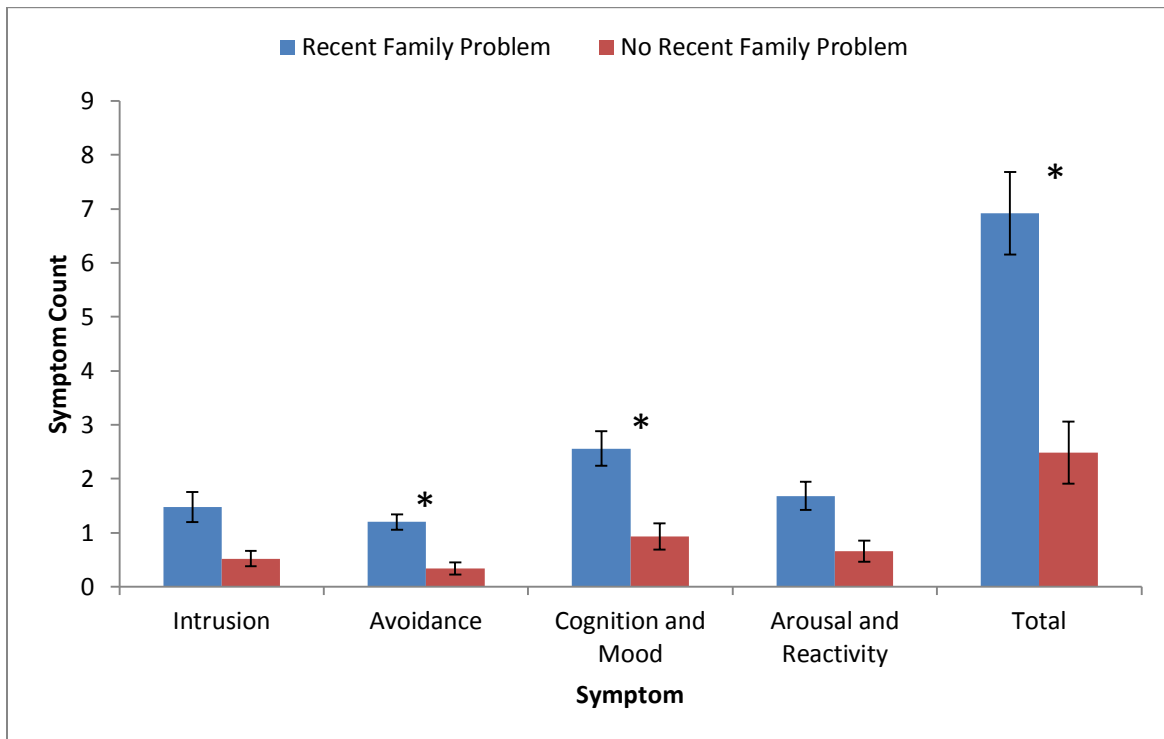
## Family Description Symptom Severity: Interpersonal Trauma Exposure



Note. \*post-hoc  $p < 0.05$

Figure 11.

Recent Family Problems Symptom Count: Interpersonal Trauma Exposure

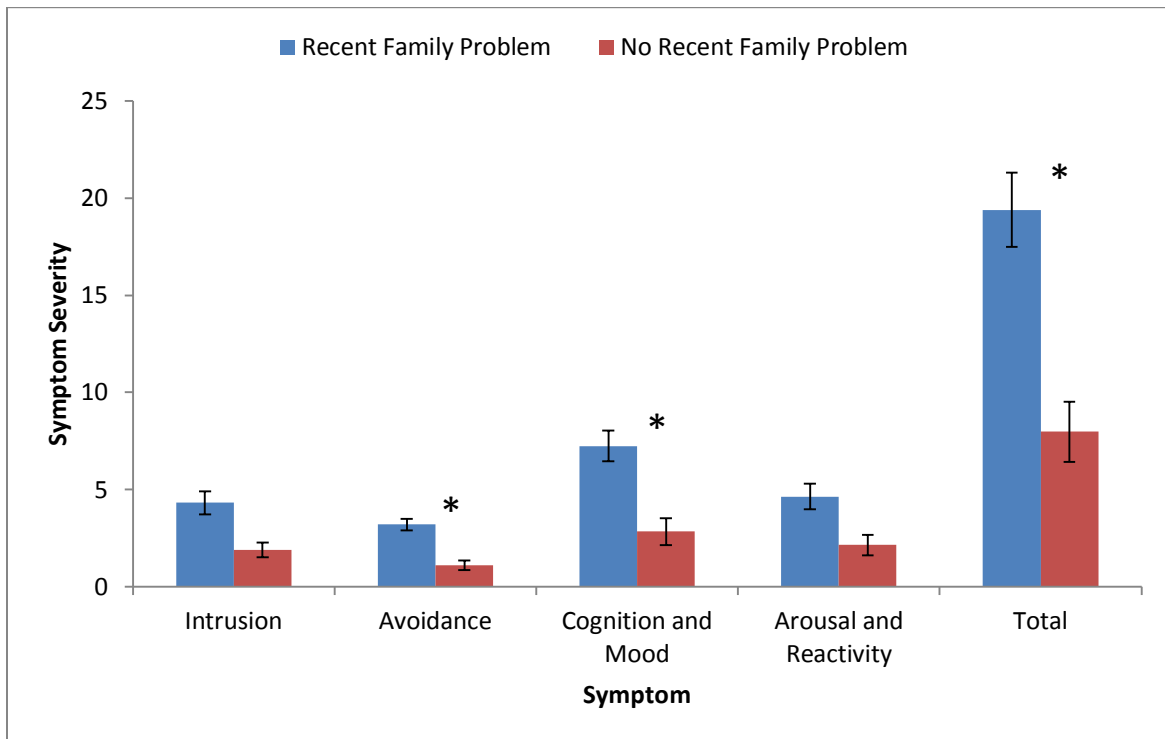


Note. \* $p < 0.001$



Figure 12.

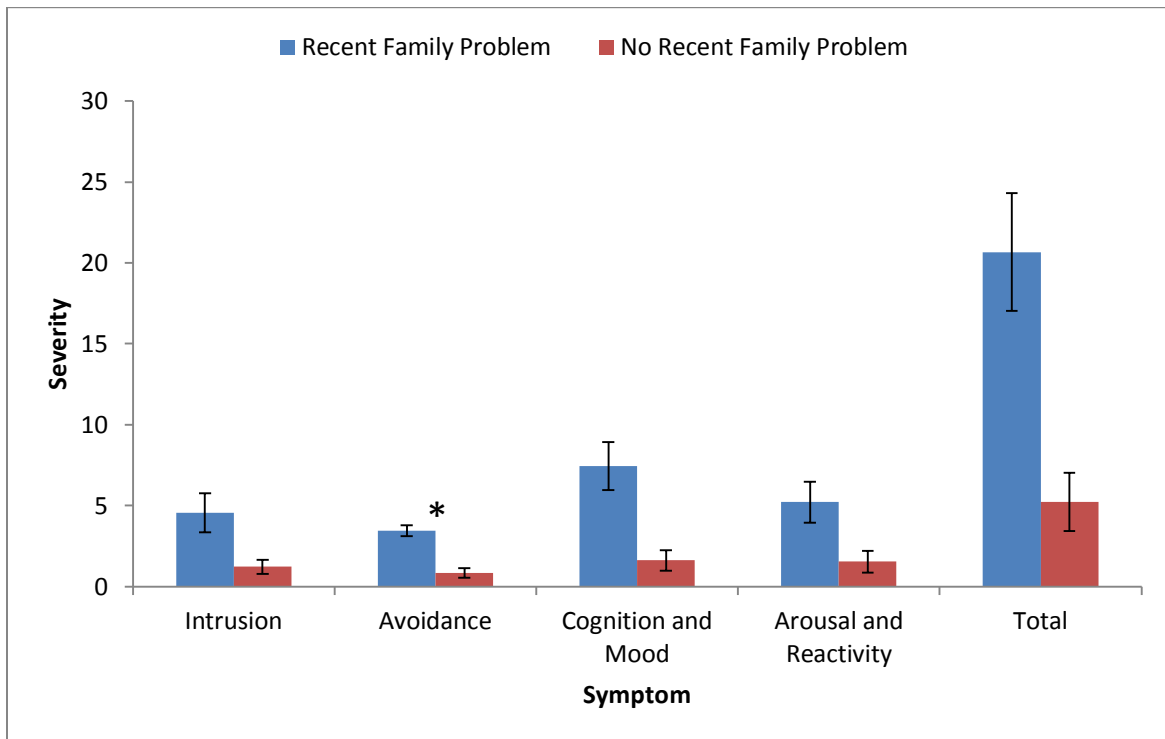
Recent Family Problems Symptom Count: Interpersonal Trauma Exposure



Note. \* $p < 0.001$

Figure 13.

## Recent Family Problems Symptom Severity: Physical Assault Exposure



Note. \* $p < 0.001$