

Understanding Negative Outcomes Following Traumatic Exposure: The Roles of Neuroticism and Social Support

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The established literature indicates that an overwhelming majority of adults will experience at least 1 traumatic stressor during their lifetime. Such stressors have been consistently linked to a range of adverse subsequent conditions and span the mood, anxiety, and personality diagnostic categories. Yet, understanding why some individuals experience traumatic reactions and adverse outcomes and others facing significant stressors do not succumb to such problems remains a challenge. In this study, trauma-exposed participants (natural disaster, $n = 51$; sexual assault, $n = 35$) completed measures of neuroticism and social support as well as measures of adverse mental health outcomes known to be associated with traumatic exposure. Results indicate that the personality characteristic of neuroticism is generally significantly correlated with symptoms of posttraumatic stress disorder, depression, and general distress. Social support was found to have no impact alone but a differential impact on these outcomes (sometimes helpful, sometimes harmful) depending on the survivor's level of neuroticism. In considering social support options following traumatic exposure, providers are therefore encouraged to carefully consider the survivor's neurotic demeanor.

Keywords: trauma, posttraumatic, PTSD, social support, neuroticism

Personality variables are widely implicated to be linked to mental health outcomes following trauma exposure. In nonclinical populations, agreeableness and conscientiousness appear to have differential effects on outcome, such that high levels of each are linked to positive outcomes (e.g., resiliency; Miller, 2003; Riolli, Savicki, & Cepani, 2002) and low levels are related to distress (Fauerbach, Lawrence, Schmidt, Munster, & Costa, 2000; Nightengale & Williams, 2000; Talbert, Braswall, Albrecht, & Hyer, 1993).

In an early study exploring the role of neuroticism, Breslau, Davis, Andrewski, and Peterson (1995) found that retrospectively measured neuroticism was prospectively predictive of trauma exposure. Moreover, neuroticism con-

tinues to influence the liability to exposure when history of past exposure is controlled (Breslau et al., 1995), suggesting that the perception of ambiguous stimuli as more threatening (MacLeod & Cohen, 1993) does not fully account for this relationship. Rather, it may be that a more disadvantaged life leads one to both maintain a negative outlook and experience more traumatic events (Breslau et al., 1995). Negative emotionality also appears to be associated with adverse outcomes such as posttraumatic stress disorder (PTSD), depression, general health problems, and substance abuse in trauma-exposed people (Breslau, Lucia, & Alvarando, 2006; Engelhard, van den Hout, & Kindt, 2003; Khan, Jacobson, Gardner, Prescott, & Kenler, 2005; Lauterbach, Vora, & Rakow, 2005; Miller, 2003), whereas positive emotionality has been reported to lessen the expression of PTSD symptoms (Miller, 2003). Some have concluded that neuroticism includes both anxious distress (or fearful distress) and irritable distress (Shiner & Caspi, 2003). Furthermore, the heritability of neuroticism largely

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explains the genetic overlap between depression and other anxiety disorders often seen (Hettema, Neale, Myers, Prescott, & Kendler, 2006) and has been suggested to also underlie the specific comorbidity of depression and PTSD (Koenen et al., 2008). This likely occurs through genetic polymorphisms. Specifically the 5-HTTLPR polymorphism on the serotonin transporter gene is associated with both amygdala reactivity and neuroticism (Le Francois, Czesak, Steubl, & Albert, 2008; Lonsdorf et al., 2009). Thus, personality dimensions may both increase risk of traumatic stress exposure and confer increased risk of distress following such events.

Caspi, Roberts, and Shiner (2005) reported that among the hallmarks of neuroticism or negative emotionality is insecurity in relationships and difficulty responding to problematic or stressful interpersonal relationships. Such insecurity may undermine support that would otherwise help buffer some stress following traumatic events. Moreover, an individual with a more neurotic personality may experience even more heightened distress because he or she is more "anxious, vulnerable to stress, guilt-prone, lacking in confidence, moody, angry, [and] easily frustrated" than their less neurotic counterparts (Caspi et al., 2005, p. 457). Thus, those with higher levels of neuroticism may not be as equipped to experience and respond to stressors, contributing to both a diathesis and a stress. Indeed, Kendler, Gardner, and Prescott (2002) have found that individuals who are higher in neuroticism experience lower levels of social support. Unfortunately, how this may influence specific negative outcomes following certain traumatic experiences has not been studied in the existing literature.

Family and Social Support Variables

Following exposure to a traumatic stressor, individuals commonly access family and social networks to elicit support (Ruch & Chandler, 1983; Thoits, 1984, 1986). Recognizing this behavior, an early longitudinal study examining the effect of such social support revealed that recovery was contingent on social support received after a traumatic event (Burgess & Holmstrom, 1978). Social support has also been inversely linked to somatic symptoms and subjective feelings of well-being following trauma

(Kimmerling & Calhoun, 1994). Moreover, a greater number of social interactions centered on discussing the traumatic experience have been found to be predictive of less subsequent depression (Atkeson, Calhoun, Resick, & Ellis, 1982). Perhaps not surprisingly, then, social support is among the most salient variables in conceptualizing the etiology of PTSD, as found in two recent meta-analyses (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003). Drawing on the multitude of studies exploring risk factor correlates, Brewin et al. (2000) concluded from their meta-analysis that factors associated with greater vulnerability to PTSD were only predictive for certain populations (e.g., military vs. civilian or female vs. male) under certain circumstances (e.g., trauma severity, additional life stress, and age at exposure). However, the strongest predictor overall was social support. More recently, Ozer et al. (2003) similarly found that prior characteristics (e.g., trauma, psychological adjustment, and family history of psychopathology) were less predictive of adjustment following trauma than other posttrauma variables, including social support. Specifically, social support was important in the aftermath of the trauma when PTSD symptoms emerged.

Unfortunately, family and friends may not always provide responses that the trauma survivor considers helpful (e.g., Callahan & Dittloff, 2007). Recent empirical examinations of social support provision to trauma survivors have found that both helpful and unhelpful responses are commonly experienced simultaneously (Andrews, Brewin, & Rose, 2003; Borja, Callahan, & Long, 2006; Campbell, Aherns, Self, Wasco, & Barnes, 2001; Lincoln, Chatters, & Taylor, 2005; Ullman, 1996). It is perhaps not surprising that such responses differentially affect posttraumatic outcomes. For example, individuals who receive negative reactions from their support system (e.g., minimizing the traumatic impact or blaming the victim for the trauma) following a sexual assault are more likely to show an increase in psychological symptoms (Davis, Brickman & Baker, 1991) and poorer adjustment (Ullman, 1996). Providing further support for these findings, Ullman (1996) found that negative reactions, even when provided in an attempt to be supportive, are associated with slower self-rated recovery and greater symptoms of psychological distress than when positive or neutral support is provided (Ullman, 1999). When survi-

vors receive insensitive or negative reactions, the simple perception of a social network does not yield a significant decrease in PTSD symptoms (Borja et al., 2006). In contrast, survivors exposed to traumatic events may experience fewer symptoms of distress and depression (hopelessness or feelings of isolation) if they perceive a supportive network to be helpful (Borja et al., 2006). Among aspects of social support that appear to be related to outcomes are expression choice and the timing of discussion of thoughts and feelings (Seery, Silver, Holman, Ence, & Chu, 2008). Taken together, the findings indicate that it is the quality, not the quantity, of support that is linked to psychological outcomes following trauma exposure.

The Present Study

Clearly, many predictive variables for distress following traumatic exposure have been identified, but neuroticism and social support are among the most robust and extensively studied. As noted earlier in this review, the established literature for each of these variables suggests the possibility that they may interact with one another. More specifically, the literature indicates that (a) the relationship between neuroticism and traumatic outcomes may be moderated by some other variable (Strelau & Bogdan, 2005) and (b) social support may differentially affect posttraumatic emotional outcomes (Borja et al., 2006). Yet, to date there has not yet been an empirical examination that integrates these observations into a formal hypothesis. In this study, therefore, we sought to address this gap in the literature and hypothesized that (a) neuroticism would be significantly related to three commonly reported adverse outcomes following trauma exposure, including PTSD symptoms, depressive symptoms, and general distress, and (b) social support would moderate the relationship between neuroticism and distress following traumatic exposure for each of these adverse outcomes (i.e., PTSD symptoms, depressive symptoms, and general distress).

Method

Participants

Participants were drawn from 946 college students simultaneously screened via two large south central university research participant pools for an online study “examining stressful

life events and current adjustment.” Registration in the participant pool was required for the purposes of preventing duplicate responding, limiting participation to the university sample, and providing course credit. All participants were treated in accordance with APA’s *Ethical Principles of Psychologists and Code of Conduct* (American Psychological Association, 2002), and the study was approved and conducted in compliance with the Institutional Review Board at each university. Although the universities were less than 4 hr away from one another, differences between them were examined. The only significant differences pertained to age and scores on the Symptom Checklist-90—Revised (Derogatis, 1977) General Severity Index (GSI) scale. However, these differences were not clinically significant (mean ages = 19.7 and 21.5, respectively; there was a difference of subclinical *T* scores of 60 and 54, respectively).

As described more fully in the introduction, multiple traumatic exposures are likely to reduce one’s coping ability (Green et al., 2000), and the role of social support in predicting outcomes may vary according to the type of trauma (Brewin et al., 2000). Thus, all individuals were screened using the Life Events Checklist (LEC; Gray, Litz, Hsu, & Lombardo, 2004) to identify the number and type of traumatic stressors experienced. To be included in the current study, participants had to report (a) direct exposure to a natural disaster (i.e., flood, hurricane, tornado, or earthquake) or experience of a sexual assault (i.e., rape, attempted rape, or made to perform any sexual act through force or threat of harm) and (b) concurrent fear, helplessness, or horror at the time of the trauma exposure (American Psychological Association, 2000). Participants were excluded if they reported experiencing both of these index traumas or if they reported experiencing other events they subjectively considered “worse.”

The resultant sample yielded 86 participants who met inclusion criteria across both universities. Of the 86 participants, 51 had experienced a natural disaster and 35 reported experiencing sexual assault. Within the natural disaster sample, there was a disproportionate balance of men ($n = 11$) and women ($n = 39$), with one individual not reporting their gender. This imbalance was more pronounced among the sexual assault sample; a greater proportion

of women met criteria (men, $n = 1$; women, $n = 34$). No differences were found on any included measures with respect to gender. The natural disaster sample ranged in age from 18 to 27 ($M = 19.82$, $SD = 1.79$), and the sexual assault sample ranged in age from 18 to 32 ($M = 20.97$, $SD = 3.51$). The majority of the participants in both samples were Caucasian (90.2% of the natural disaster sample and 77.1% of the sexual assault sample). A minority of the natural disaster sample identified as Native American (5.9%) or Hispanic (3.9%). The sexual assault sample was somewhat more diverse, with participants also identifying as African American (11.4%), Native American (5.7%), Hispanic (2.9%), or multiracial or biracial (2.9%).

Measures

Life Events Checklist (LEC). The LEC is a face-valid 17-item measure of self-reported exposure to potentially traumatic events (Blake et al., 1995; Gray et al., 2004). The LEC includes all categories of traumatic events defined by the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; American Psychiatric Association, 2004) for the purpose of establishing a history of traumatic exposure. Participants are instructed to indicate their level of exposure for each of the items. The LEC is as reasonably correlated to PTSD as other established measures of trauma exposure (Pearson r s ranging from .34 to .48) as well as other measures of psychopathology known to be associated with trauma exposure, with Pearson r s ranging from .27 to .82 (Gray et al., 2004).

Revised NEO Personality Inventory (NEO-PI-R). The Revised NEO Personality Inventory (Costa & McCrae, 1992) is a psychometrically robust measure used to assess normal adult personality using the five-factor model (Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness). Participants rate their agreement with self-descriptive statements such as "I'm a worrier" on a 5-point Likert scale ranging from *strongly disagree* (0) to *strongly agree* (4). Internal consistency for the neuroticism scale used in this study was .88.

Interpersonal Support Evaluation List (ISEL). The ISEL (S. Cohen, Mermelstein, Kamarck, & Hoberman, 1985) is a 40-item self-report inventory that instructs participants to

rate how true each statement is about them on a 4-point Likert scale ranging from *definitely false* (0) to *definitely true* (3) to assess perceived availability of social resources. The ISEL has been widely used to measure social support among trauma survivors (Crane & Constantino, 2003; Dutton, Hohnecker, Halle, & Burchard, 1994; Simeon, Greenberg, Nelson, Schmeidler, & Hollander, 2005). Scores on this measure may range from 0 to 140, with higher scores indicating increased perception of social support. In responding to this questionnaire, participants were instructed to answer with regard to their worst experience and indicate what support responses they experienced following a traumatic event. A composite score of total support from all items was used and found to have excellent internal consistency within the current sample ($\alpha = .93$).

Symptom Checklist-90-Revised (SCL-90-R). SCL-90-R (Derogatis, 1977) is a well-established 90-item self-report instrument used to assess psychological distress. Participants rate how much symptoms such as headaches have bothered them on a 5-point Likert scale ranging from *not at all* (0) to *extremely* (4). The Global Severity Index (GSI), measuring broad distress, was used with excellent resultant internal consistency ($\alpha = .95$) in this sample.

Quick Inventory of Depressive Symptomatology (QIDS). Constructed to briefly assess *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., or *DSM-IV*; American Psychiatric Association, 1994) depression, the QIDS is available as a reliable self-report instrument (Rush, Carmody, & Reimtz, 2000). This measure was derived from the longer, 30-item Inventory of Depressive Symptomatology (Rush, Gullion, Basco, Jarrett, & Trivedi, 1996). Sixteen items correspond to nine domains: sad mood, concentration, self-criticism, suicidal ideation, interests, energy-fatigue, sleep disturbance, change in appetite-weight, and psychomotor retardation-agitation. A 4-point scale for each item ranges from 0 to 3. The scores from the nine major depression symptom domains are added (taking the highest score from multiple items that capture a single domain), so that total scores on this measure may range from 0 to 27, with higher scores indicating increased depressive symptomatology. This measure has previously been demonstrated to have good internal consistency ($\alpha = .86$; Rush

et al., 2003), and found to have adequate internal consistency with the current sample ($\alpha = .69$). Moreover, this measure is highly correlated with other well-established measures of depression (e.g., Hamilton Rating Scale for Depression, $r = .84$; Rush et al., 2000).

Davidson Trauma Scale (DTS). The 17-item DTS (Davidson et al., 1997) is a self-rating scale measuring each of the *DSM-IV* symptoms of PTSD on 5-point scales to capture frequency (*not at all to every day*) and severity (*not at all distressing to extremely distressing*) of the symptoms. Although not intended for diagnostic purposes, it is useful as a symptom severity measure and as a predictor of treatment response. This measure has been demonstrated to be a reliable and valid instrument for a broad range of traumas, including exposure to natural disasters (test-retest reliability, $r = .86$, and internal consistency, $r = .99$; Davidson, Tharwani, & Connor, 2002). Furthermore, the DTS possesses similar accuracy in diagnostic assessment to other accepted measures. This measure had excellent internal consistency ($\alpha = .96$; Davidson et al., 1997) in the current sample.

Results

Although participants who acknowledged a history of sexual assault reported more neuroticism, less support, and more distress across all domains, there were no significant differences between groups on any measured variables. Table 1 provides means and standard deviations for all measures for both trauma samples.

Pearson correlations revealed that neuroticism was significantly associated with all adverse outcomes in the sexual assault and natural disaster groups, with the exception of PTSD

symptoms in the natural disaster sample (see Table 2). In addition, we conducted Pearson correlations to explore the relationships between social support and the outcome variables (QIDS, GSI, and DTS). Social support was not significantly related to the outcome variables in either trauma sample.

We then conducted hierarchical regression analyses to examine whether social support moderated the relationship between neuroticism and outcomes (QIDS, GSI, and DTS) within each group. The continuous variables of social support (ISEL) and neuroticism (NEO-PI-R Neuroticism scale) were centered by subtracting the sample mean from the individual scores before entering them into the equation (following the procedures articulated in J. Cohen, Cohen, West, & Aiken, 2003). We then entered the interaction of social support (ISEL) and neuroticism (see Table 3).

For the natural disaster sample, neuroticism accounted for a significant amount of variance in the outcomes of general distress (Symptom Checklist-90—Revised GSI) and depression (QIDS), although support did not. Although a possible interaction between neuroticism and social support was indicated for the outcome of general distress ($p = .08$), visual inspection reveals little to no interaction occurring and is not therefore not considered suggestive of a trend approaching significance (see Figure 1). Levels of distress were highest for those with the highest amounts of neuroticism and lowest among those who reported lower levels of neuroticism. Depression was not explained by an interaction of neuroticism and support. For the outcome of PTSD symptoms (DTS), neuroticism accounted for a significant amount of variance in symptomatology. Furthermore, support

Table 1
Means and Standard Deviations on Dependent Measures According to Type of Trauma

Trauma type	ISEL	NEO N	GSI	QIDS	DTS
Natural disaster					
<i>M</i>	93.49	94.84	0.48	7.16	25.12
<i>SD</i>	14.96	15.91	0.31	4.57	23.45
Sexual assault					
<i>M</i>	91.70	99.40	0.56	10.18	38.50
<i>SD</i>	17.62	25.53	0.46	5.55	29.70

Note. ISEL = Interpersonal Support Evaluation List, Total; NEO N = Revised NEO Personality Inventory, Neuroticism scale; GSI = Symptom Checklist-90—Revised, Global Severity Index; QIDS = Quick Inventory of Depressive Symptomatology; DTS = Davidson Trauma Scale.

Table 2
Zero-Order Correlations Among Social Support, Neuroticism and Global Distress for Natural Disaster and Sexual Assault Survivors

Variable	1	2	3	4	5
1. NEO N					
Natural disaster	—	-.37*	.52**	.48**	.20
Sexual assault	—	-.39*	.80**	.70**	-.37*
2. ISEL					
Natural disaster		—	-.21	-.26	-.02
Sexual assault		—	-.37	-.29	.14
3. GSI					
Natural disaster			—	.50**	.38*
Sexual assault			—	.80**	.64**
4. QIDS					
Natural disaster				—	.34*
Sexual assault				—	.39*
5. DTS					
Natural disaster					—
Sexual assault					—

Note. ISEL = Interpersonal Support Evaluation List, Total; NEO N = Revised NEO Personality Inventory, Neuroticism scale; GSI = Symptom Checklist-90—Revised, Global Severity Index; QIDS = Quick Inventory of Depressive Symptomatology; DTS = Davidson Trauma Scale.

* $p \leq .05$. ** $p \leq .001$ (two-tailed).

and neuroticism were able to account for a significant amount of variance in interaction (see Figure 2). For individuals with lower levels of support, there were more similar levels of PTSD symptoms. Levels of PTSD were highest for those with both high levels of social support and high levels of neuroticism.

Within the sexual assault survivor sample, for all three outcomes (distress, depression, and PTSD) neuroticism accounted for a significant amount of variance. In contrast, support scores did not produce a main effect for any outcome. The interaction of neuroticism and support yielded a trend toward significance for depression (see Figure 3). The effect of social support depended on the level of neuroticism, such that individuals with high levels of neuroticism (i.e., 1 or more standard deviations above the mean) experienced the greatest depression when they also had high levels of perceived social support (i.e., 1 or more standard deviations above the mean). In contrast, when individuals with low levels of neuroticism had high levels of support, they experienced the least depression. Neuroticism and social support did not produce a significant interaction to account for a significant amount of variance in distress or PTSD symptoms.

Discussion

The results help further clarify the relationships among the personality trait of neuroticism, the experience of social support, and commonly experienced adverse mental health outcomes following two distinct traumatic events (natural disaster and sexual assault trauma). As noted, neuroticism was significantly related to all adverse mental health outcome measures for both groups in this study, consistent with emerging genetic data (Koenen et al., 2008; Le Francois et al., 2008; Lonsdorf et al., 2009). Social support was unrelated to all outcomes, in contrast to the meta-analyses of predictors of traumatic stress outcomes (Brewin et al., 2000; Ozer et al., 2003), which likely included simply negative events that were potentially traumatic. In fact, this variable contributed little when measured alone in relationship to outcomes or in concert with neuroticism, with the exception of general distress for those exposed to natural disasters and potentially for the outcomes of depression and PTSD for survivors of sexual assault, where trends emerged.

Interestingly, the role of support was not always positive, as it is widely accepted to be in the literature. High levels of support actu-

Table 3
Regression Analyses Predicting Social Support With Moderation Effects

Step, outcome, and variable	β	t for partial regression coefficients	R^2 for set	F for set	df
Step 1					
PTSD			.02	0.44	2, 35
Neuroticism	0.17	0.94			
Social support	0.08	0.41			
Depression			.21	5.56	2, 41
Neuroticism	0.42	2.83**			
Social support	-0.08	-0.54			
Global distress			.25	6.13*	2, 36
Neuroticism	0.50	3.24**			
Social support	0.00	-0.02			
Step 2					
PTSD			.16	2.13	3, 34
Neuroticism	0.19	1.09			
Social support	0.16	0.91			
Neuroticism \times Social Support	-0.39	-2.33*			
Depression			.24	4.13	3, 40
Neuroticism	0.42	2.93**			
Social support	-0.04	-0.23			
Neuroticism \times Social Support	-0.16	-1.10			
Global distress			.32	5.44	3, 35
Neuroticism	0.55	3.58**			
Social support	0.08	0.52			
Neuroticism \times Social Support	-0.27	-1.81			
Step 1					
PTSD			.14	3.53	2, 26
Neuroticism	0.46	2.45*			
Social support	0.31	1.66			
Depression			.51	17.29***	2, 29
Neuroticism	0.76	5.38***			
Social support	-0.01	-0.04			
Global distress			.60	15.56***	2, 21
Neuroticism	0.78	5.01***			
Social support	0.02	0.14			
Step 2					
PTSD			.13	2.39	3, 25
Neuroticism	0.49	2.53*			
Social support	0.34	1.76			
Neuroticism \times Social Support	0.14	0.75			
Depression			.55	13.70***	3, 28
Neuroticism	0.78	5.85***			
Social support	0.05	0.37			
Neuroticism \times Social Support	0.23	1.89			
Global distress			.59	12.09***	3, 20
Neuroticism	0.82	5.40***			
Social support	0.08	0.62			
Neuroticism \times Social Support	0.22	1.64			

Note. PTSD = posttraumatic stress disorder.

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

ally appear to interact negatively for individuals with high levels of neuroticism for certain mental health outcomes. This may help serve to clarify previous research in which

support has been negatively associated with adjustment or in which no effect was found (Kimmerling & Calhoun, 1994; Popiel & Suskind, 1985). The diathesis and stress may be

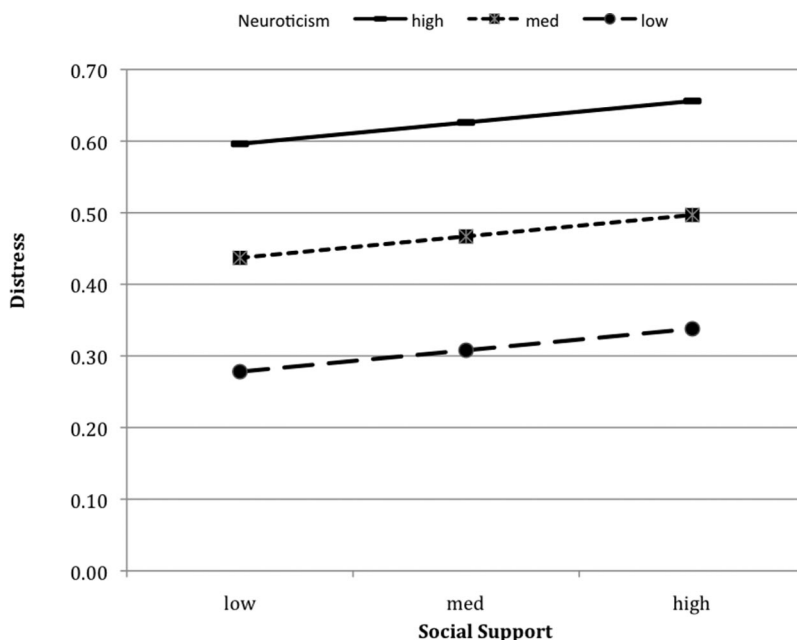


Figure 1. Social support does not moderate effect of neuroticism on general distress within a natural disaster sample. med = medium.

present (Caspi et al., 2005) for an individual high in neuroticism, perhaps dependent on the quality and quantity of support. Future research is encouraged to explore the specific behaviors of support and their interpretation by a survivor as well as the amount of support that is offered.

These findings may be helpful in predicting those who are more likely to experience specific adverse mental health outcomes following two distinct traumatic experiences. As noted in the introduction, social support has historically often been conceptualized dichotomously in the literature as simply present or absent (Cook & Bickman, 1990; Jankowski et al., 2004; Kimmerling & Calhoun, 1994; Schnurr, Lunney, & Sengupta, 2004; Schumm, Briggs-Phillips, & Hobfoll, 2006). Yet, recent studies have revealed that social support can evidence both “positive” and “negative” forms (Borja et al., 2006; Campbell et al., 2001; Ullman, 1996). That is, some experience negative, potentially damaging reactions from individuals in their support system (referred to as *negative social support*), and others experience more helpful, positive reactions from individuals in their so-

cial support system (referred to as *positive social support*). It is important to note that negative support may actually be well intentioned but negatively received.

These forms (positive and negative support) are known to differentially affect mental health outcomes following traumatic exposure (Andrews et al., 2003; Borja et al., 2006; Campbell et al., 2001; Lincoln et al., 2005; Ullman, 1996). For those with higher levels of neuroticism, this appears to be particularly salient because they may be especially sensitive to what is said and done after such a personal traumatic experience (Caspi et al., 2005). The support received may have been well intentioned but not what the survivor needed at that time. Although this relationship has been demonstrated with sexual assault survivors in the past, it was also found for natural disaster survivors in the current sample.

In considering social support options following traumatic exposure, providers are therefore encouraged to carefully consider the survivor’s neurotic demeanor. On the basis of the current findings, for some traumatic event survivors increasing social support may actually be con-

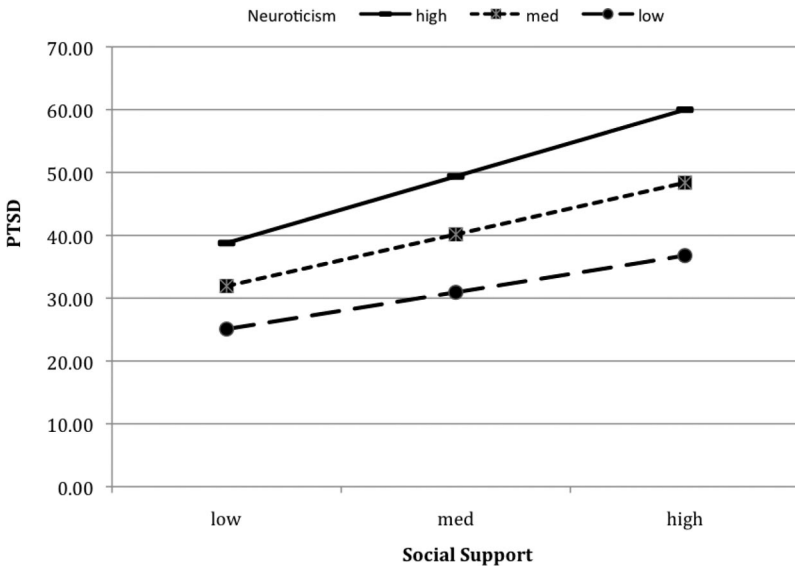


Figure 2. Social support moderates effect of neuroticism on posttraumatic stress disorder (PTSD) symptoms within a natural disaster sample. med = medium.

traindicated. Rather than blanket approaches instructing individuals to seek immediate assistance from their friends and families regardless of the traumatic situation or support they may receive, individuals who experience traumatic events should receive specific feedback on what

is likely to be useful as well as who may potentially be most helpful (Borja et al., 2006). For clinicians working with patients, this idiographic approach is likely to benefit the patient and the therapeutic process. Furthermore, depending on a patient's clinical presentation, this

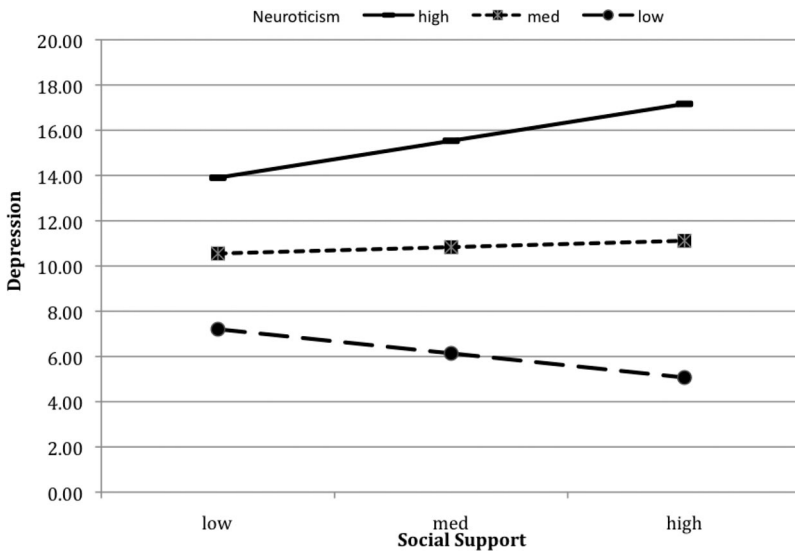


Figure 3. Trend suggesting that social support may moderate effect of neuroticism on depressive symptoms within a sexual assault sample. med = medium.

study's results may further provide insight into areas to assess and target in treatment.

As a limitation, this study used only post-trauma measurement of neuroticism. Some may suggest that one's level of neuroticism may shift as a function of traumatic exposure. However, a previous investigation of this hypothesis using a prospective design indicated that neuroticism is a reasonably stable personality trait, despite subsequent emergence of trauma symptoms (Engelhard, van den Hout, & Kindt, 2003). An alternative interpretation might be that those higher in neuroticism who currently experience more distress might be more pessimistic in their evaluation of social support available to them in the past. Such current distress or neediness in more neurotic individuals might affect their perception of past unmet needs. Future research is encouraged to explore this possibility longitudinally. Personality trait expression and the perception of support may shift as a function of a traumatic exposure experience. The lapse of time may be particularly salient with respect to mental health outcomes.

Although this study has a number of significant findings, it also has weaknesses. As previously mentioned, closer examination of support quantity and quality would be a useful extension of the current study. Although significant results were found across analyses in the predicted directions, it is recommended that the findings be replicated with more diverse samples in the future.

The results shed further light on the role of support in predicting outcomes following traumatic events. A particular strength of this study is the stringent inclusion criteria. Specifically, participants in this study had all directly experienced a natural disaster or sexual assault in which they experienced fear, helplessness, or horror, and they considered this experience the worst potentially traumatic event in their lives. Furthermore, these participants had not experienced both a natural disaster and a sexual assault, and where other traumas were indicated, they considered their experience of either natural disaster or sexual assault to be the worst of the previous traumatic exposures. Thus, these unique findings help further clarify the relationships among the personality trait of neuroticism, the state experience of social support, and commonly reported adverse mental health outcomes following natural disasters and sexual assaults.

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