PTSD as Meaning Violation: Testing a Cognitive Worldview Perspective

Crystal L. Park[1], **Mary Alice Mills**[1], and **Donald Edmondson**[2]

[1]University of Connecticut

[2]Columbia University Medical Center

Abstract

The cognitive perspective on post-traumatic stress disorder (PTSD) has been successful in explaining many PTSD-related phenomena and in developing effective treatments, yet some of its basic assumptions remain surprisingly under-examined. The present study tested two of these assumptions: (1) situational appraisals of the event as violating global meaning (i.e., beliefs and goals) is related to PTSD symptomatology, and (2) the effect of situational appraisals of violation on PTSD symptomatology is mediated by global meaning (i.e., views of self and world). We tested these assumptions in a cross-sectional study of 130 college students who had experienced a DSM-IV level trauma. Structural equation modeling showed that appraisals of the extent to which the trauma violated one's beliefs and goals related fairly strongly to PTSD. In addition, the effects of appraisals of belief and goal violations on PTSD symptoms were fully mediated through negative global beliefs about both the self and the world. These findings support the cognitive worldview perspective, highlighting the importance of the meaning individuals assign to traumatic events, particularly the role of meaning violation.

Keywords

Trauma; Cognitive perspective; Meaning; Trauma appraisals; Belief violation

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The cognitive perspective is one major lens through which post-traumatic stress is currently understood, and a number of different cognitive-based theories have been proposed (see Brewin & Holmes, 2003). Although differing in particulars, many of these theories share the notion that traumatic events violate individuals' global belief systems (worldviews),

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[2]An alternative model, in which PTSD symptoms mediated the relationship between violations and negative worldviews, was also tested following the same procedure as the models shown. In the saturated model, only the direct path from belief violations to negative self was nonsignificant and was thus trimmed. The final model was a good fit to the data, χ^2 (1)= 2.75, p=.10; CFI= .99; RMSEA= .12 (90% CI= .00-.29, PClose= .15). The standardized indirect effects of the two violation variables on the two negative worldview variables through PTSD symptoms ranged from .10-.20, indicating potential partial mediation. When comparing the two non-nested models, the model in which PTSD served as a mediator fit less well than did our theoretical model in which negative worldviews mediated the influence of violations on PTSD symptoms (AIC= 40.75 vs. 39.97).

resulting in damaged or negative beliefs that contribute to the experience and maintenance of post-traumatic stress disorder (PTSD) symptomatology. Research has provided indirect support for this general notion, but virtually no research has examined the relationship of appraisals of violations with global beliefs and PTSD symptomatology. The present study directly tested this assertion.

Cognitive Theories of PTSD

As the body of research on PTSD has grown in recent decades, so has the number of theories put forth to explain the etiology and maintenance of the disorder. Although theories of PTSD have emerged from diverse backgrounds (e.g., psychodynamic, biological, behavioral, cognitive), to date, the cognitive theories appear to be the most compelling in terms of face validity, research generation, predictive ability, treatment development, and treatment success (for reviews, see Brewin & Holmes, 2003; Dalgleish, 2004). One common theme among these cognitive theories is the deleterious impact of trauma on existing belief structures.

Pioneering the field, Horowitz (1986) suggested that trauma affects beliefs about the self, the future, and the world. In his 'Stress Response Theory', he described the oscillations between avoidance and intrusions experienced by trauma survivors as attempts to integrate information about an event that is incompatible with previously held meaning structures. 'Shattered Assumptions' theory (Janoff-Bulman, 1992) also focused on trauma's insult to meaning systems. According to this theory, all individuals develop fundamental, yet unarticulated, assumptions about the world and themselves (i.e., worldviews) that allow for healthy human functioning. The most important assumptions that constitute worldviews in this formulation include beliefs in a just, benevolent, predictable world in which the individual possesses competence and worth. The primary function of the worldview is to provide the individual with meaning, self-esteem, and the illusion of invulnerability. According to this theory, when individuals experience an event that violates their worldview (i.e., traumatic material that cannot be easily integrated with previously held worldviews), they no longer perceive the world as benevolent and predictable or themselves as competent and invulnerable and thus experience PTSD symptoms.

Another influential cognitive theory, presented by Foa and her colleagues (1989), was based on the idea of fear networks. Drawing on earlier work by Lang (1979), Foa and her colleagues suggested that traumatic events are represented in memory differently than other types of events, with traumatic events represented as interconnections between nodes in an associative fear network with a low activation threshold and unusually strong response elements. According to this theory, traumatic events differ from other events in that they violate formerly held concepts of safety. This disruption in safety beliefs means that the fear networks are easily activated by a wide variety of environmental cues, including those related only tangentially to the actual event. This model was later elaborated as 'emotional processing theory' (Foa & Riggs, 1993; Foa & Rothbaum, 1998) to include broader information about the relationship between pre- and post-trauma worldviews and PTSD. In particular, emotional processing theory holds that individuals with rigid pre-trauma belief systems are more vulnerable to PTSD than those with more flexible belief systems. That is,

in the face of trauma, rigid positive beliefs about the self and world are more vulnerable to disruption, and rigid negative beliefs more vulnerable to confirmation. The model further suggests that negative appraisals of trauma responses (e.g., response of self to trauma, response of others, response to early trauma symptoms) may interact with preexisting beliefs to reinforce the feelings of pervasive threat and incompetence characteristic of chronic PTSD.

Ehlers and Clark's (2000) cognitive model further elaborates the above ideas. Within their framework, traumatic events are processed in a manner that produces feelings of current and pervasive threat (to safety, sense of self, or future). Negative trauma-related appraisals are posited as one mechanism that produces this sense of threat along with poorly elaborated and unintegrated memory for the traumatic event. Such threat appraisals may be focused on the actual event, peri-traumatic behavior of self or others, or trauma-related symptoms, and may be related to danger, shame, violations of personal or societal standards, and future prospects.

Park and her colleagues (Park, 2008; Park, Edmondson, Fenster, & Blank, 2008; Park & Folkman, 1997) extended the cognitive perspective in two important ways. First, they emphasized that individuals' meaning systems comprise not only central beliefs or assumptions but also hierarchies of goals that structure and direct their lives. Therefore, although appraisals of belief violation have a potentially powerful impact on meaning systems, appraisals of the trauma as violating important life goals can also have a potent negative impact (Park, in press). That is, when events are appraised as violating what one *wants* or what one *wants to have happen* it can be highly distressing, regardless of whether that event is consistent with one's beliefs. In fact, some research suggests that goal violation is more strongly related to distress than is belief violation (e.g., Park, 2008). This cognitive perspective, termed the meaning making model, also explicitly highlights the role of cognitive appraisals of *discrepancies* in affecting worldviews. That is, although many cognitive theories are based on a traumatic occurrence that is discrepant with pre-existing meaning systems (e.g., Epstein, 1991; Janoff-Bulman, 1989; McCann & Pearlman, 1990), few have *explicitly* articulated the importance of understanding and directly assessing this discrepancy.

Empirical Support for the Cognitive Worldview Perspective

According to prevailing cognitive theories, PTSD symptoms are at least in part caused or maintained by the negative impact of trauma on belief systems (cf. Park, in press). Studies of PTSD typically assess belief systems with measures such as the World Assumptions Scale (WAS; Janoff-Bulman, 1989), the Trauma and Attachment Belief Scale (TABS; Varra, Pearlman, Brock, & Hodgson, 2008) or the Post-Traumatic Cognitions Inventory (PTCI; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). Many studies using these instruments have shown that negative views of self and world following trauma exposure are related to higher levels of PTSD symptoms (e.g., Agar, Kennedy, & King, 2006; Foa et al., 1999; Jind, 2001; Kangas et al., 2005; Varra et al., 2008; Moser et al., 2007; Pyevich et al., 2003). However, interpretation of these studies is problematic, as these measures *do not* assess situational appraisals of violation or changes in worldviews, but rather simply assess the

degree to which worldviews are negative or negative relative to a comparison group. Although the WAS, the TABS, and the PTCI were designed to characterize worldviews following trauma, these measures are often used in studies that purport to assess *alterations* in worldviews.

A more thorough understanding of the impact of appraised meaning is important for several reasons. Research has consistently demonstrated that there are large individual differences in trauma response that are not accounted for by event severity (Ozer, Best, Lipsey, & Weiss, 2003). According to cognitive models, one important determinant of PTSD symptomatology is the appraised meaning that individuals assign to the traumatic event. However, very few studies have assessed event appraisals per se as determinants of PTSD. Instead, many studies that purportedly examined "traumatic appraisals" instead assessed global meaning with measures such as the PTCI (e.g., Ehring, Ehlers, & Glucksman, 2006; Field, Norman, & Barton, 2008; O'Donnell, Elliott, Wolfgang, & Creamer, 2007). As noted above, these measures only assess global worldviews, not situational appraisals.

Only a handful of studies have explicitly examined the notion that cognitive appraisals are involved in the development and maintenance of PTSD. These studies have found that appraisals of stress symptoms (e.g., Clohessy & Ehlers, 1999; Ehlers & Steil, 1995; Mayou, Bryant, & Ehlers, 2001) or of the impact of the event on one's life (e.g., Dunmore, Clark, & Ehlers, 1999, 2001; Fairbrother & Rachman, 2006) are related to PTSD. However, these studies are rare, leaving the proposition of the central role of event appraisals minimally scrutinized.

Further, in spite of the centrality of appraisals of discrepancy or violation, an important underpinning of many theories of PTSD (e.g., Janoff-Bulman, 1992), we were unable to locate any studies of PTSD that directly examined the role of appraisals of the extent to which the event *violated* global beliefs[1]. We also found no studies that assessed traumatic events as violating global goals, although goal discrepancy has been related to distress (e.g., depression, anxiety) for those dealing with highly stressful circumstances such as bereavement and serious illness (e.g., Park, 2008; van der Veek, Kraaij, van Koppen, Garnefski, & Joekes, 2007). Thus, the extent to which appraisals of the traumatic event as violating global meaning is related to PTSD symptomatology remains unknown.

Further, because so few studies have examined situational appraisals of traumatic events, there is little information about how appraisals of trauma are related to global beliefs about the self and world. Studies that have assessed both of these elements are quite scarce (e.g., Dunmore et al., 1999, 2001), and even these few studies have not examined the entire linkage (i.e., situational appraisal→worldviews→PTSD). Thus, a central proposition of cognitive perspectives on PTSD, that the extent to which situational appraisals of traumatic events relate to PTSD through their impact on global beliefs, has yet to be tested.

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[1]Some researchers have used narrative coding to try to capture belief disruption (e.g., Newman, Riggs, & Roth, 1991). However, these narrative coding schemes measure and summarize a broad swath of beliefs, symptoms, and functioning, failing to isolate the effects of violation or discrepancy.

Aims of the Present Study

The prominence of the cognitive perspective of PTSD indicates its success in explaining many related phenomena and giving rise to effective treatments. However, some basic assumptions of this perspective remain surprisingly under-examined. The present study tested two of these assumptions: (1) appraisals of the extent to which the event violates global meaning (i.e., beliefs and goals) influences PTSD symptomatology, and (2) the effect of appraisals of the event as violating global meaning on PTSD symptomatology is mediated by negative worldviews (i.e., views of self and world).

Method

Participants and Procedures

The present analyses are part of a larger study designed to test a writing intervention for resolving traumatic events. Participants were 130 college students (60.8% female) drawn from the Psychology Department participant pool at a large public university in the Northeast. All potential participants (i.e., all students enrolled in introductory psychology courses) were screened for trauma exposure using the Traumatic Life Events Questionnaire (Kubany et al., 2000; see below for measure and event details), and only those reporting at least one event that met DSM-IV criteria A1 and A2 were sent an email invitation to enroll. Participants received course credit for this wave of data. Ages ranged from 17 to 28, with a mean age of 18.67 years. The sample was 87.7% Caucasian, 4.6% Asian, 3.1% African American, 1.5% multiracial, and 3.1% another racial group. Participants logged in to a secure, encrypted server to complete measures of trauma history, event appraisals, negative global worldviews, and posttraumatic stress symptoms.

Measures

Trauma history was assessed using the Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000). The TLEQ assesses exposure to 21 types of traumatic events (DSM Criterion A1). When an event is endorsed as having been experienced, participants are asked whether they experienced "intense fear, helplessness, or horror" in response to the event (DSM Criterion A2). Events meeting both Criteria A1 and A2 are coded are traumas, and these events are then summed to yield the total number of trauma categories endorsed. This sum score reflects the total number of trauma *categories or types* experienced rather than the total number of traumatic events, as the measure does not assess for multiple experiences of the same trauma. Participants are then asked to choose which of the experienced events is "the most distressing," and that most distressing event is used as the index event in subsequent assessment of PTSD symptoms and situational appraisals.

Appraisals of the traumatic event were assessed using the Meaning Assessment Scale (Park, 2008; Park & Edmondson, 2009). The Meaning Assessment Scale Appraised Violations Subscales measure the extent to which an event is appraised as violating two domains of global meaning: beliefs and personal goals. The beliefs subscale asked participants to rate on a scale of 1 (not at all) to 5 (completely) three questions beginning with the stem: "How much does your most stressful or traumatic life event violate your sense…" with 3 endings:

"of the world as fair or just?", "of being in control of your life?", and "that God is in control?" Cronbach's alpha for the belief violation scale in this sample was .63. The goals subscale asks participants to rate on the same 1 to 5 scale the extent to which the traumatic event interferes with their ability to accomplish or experience each of 12 personal goals (e.g., companionship, spirituality, physical health, self-acceptance). Cronbach's alpha for the goal violation scale in this sample was .94.

Negative global beliefs were assessed with the 'Negative Cognitions about the Self' and 'Negative Cognitions about the World' subscales of the Post-traumatic Cognitions Inventory (PTCI) (Foa et al., 1999). The PTCI asks participants to respond to 33 items regarding their thoughts on an identified trauma on a scale from 1 (totally disagree) to 7 (totally agree). The Negative Cognitions about Self consists of 21 items (e.g., "I am a weak person"; Cronbach's alpha in this sample = .96) and the Negative Cognitions about the World consists of 7 items (e.g., "You can never know who can harm you"; Cronbach's alpha in this sample = .85). Items for each scale are summed. The PTCI and its subscales have been shown to have good reliability and convergent validity and to discriminate between traumatized people with and without PTSD (Foa et al., 1999).

Posttraumatic stress symptoms were assessed with the Posttraumatic Stress Diagnostic Scale (PTDS; Foa, Cashman, Jaycox, & Perry, 1997). The PTDS is a self-report measure that assesses the 17 symptoms of PTSD as laid out in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994). Foa et al. (1997) demonstrated that the PTDS has high internal consistency, test-retest reliability, sensitivity, and specificity with traumatized populations. Cronbach's alpha in the present study was .91.

Results

Description of Traumatic Events

Participants experienced between one and five traumatic events meeting criteria A1 and A2, with a mean of 1.68 traumas (SD=.92). The most commonly reported events were "sudden unexpected death of a close friend or loved one" (68.5%), "a motor vehicle accident that required medical attention or that badly injured or killed someone" (19.2%), and "some other kind of accident in which you or someone else was badly hurt" (17.7%). Events commonly identified as the most distressing were sudden death friend or loved one (47.7%), some other traumatic event (24.6%), motor vehicle accident that required medical attention or that badly injured or killed someone (12.3%), life threatening illness (3.1%), and sexual abuse (2.3%). Individuals' event rated most traumatic occurred from one week to 10.75 years ago (mean = 2.69 yrs, SD=2.69).

Means and Bivariate Correlations

Means, standard deviations, ranges and correlations for all study variables are presented in Table 1. Neither age, gender, nor time since index trauma was related to any study variable, nor were they interrelated. Further, given that time since trauma was positively skewed, we used a logarithm transformation and reassessed the transformed variable's relationship to

study variables and found none. Number of categories of lifetime traumatic experiences was related at the bivariate level to age (r= .19, p= .04) and belief violation resulting from the index trauma (r= .18, p= .046). As hypothesized, both types of traumatic appraisals (i.e., violation of beliefs and personal goals) were positively related to PTSD symptoms, as were both aspects of negative worldviews (i.e., negative views of the world and self). Further, Baron and Kenny's (1986) requirements for testing mediation were met (i.e., traumatic appraisals were also related to the proposed mediators: negative views of the world and self).

Mediation Model

To address the mediation hypothesis, we tested a path model using Amos 16 (Arbuckle, 2007). The full information maximum likelihood estimation method (FIML) was used to generate standardized parameter estimates because it is robust to violations of multivariate normality and performs well for model estimation with missing data by estimating variable means and intercepts (Peters & Enders, 2002). All data were screened prior to analysis to assure normality; all distributions were sufficiently normal to assume multivariate normality (Kline, 2005). Multiple fit indices were used to assess model fit, and their standard cutoff recommendations (Hu & Bentler, 1999) were employed. The model chi-square statistic was used to determine the fit of each model to the observed data (Bollen, 1989). A nonsignificant model chi-square ($p > .05$) suggests good model fit, as it indicates that the model does not differ significantly from the observed data. The comparative fit index (CFI) and root-mean-square error of approximation (RMSEA) are based on the noncentrality parameter, and they were also used to assess the fit of each model. A CFI greater than .95 and a Root Mean Square Error of Approximation (RMSEA) of .05 or less suggest good fit (Hu & Bentler, 1999), and a probability (p) value for RMSEA test of close fit (PClose; Browne & Cudeck, 1993) greater than .05 suggests that an observed RMSEA value is not significantly greater than .05.

The path model was tested in two steps. First, a saturated model (i.e., 0 df; see Figure 1) was tested that included the number of lifetime traumatic experiences variable, the traumatic appraisal variables, the negative views of the world and self (i.e., the proposed mediators), and PTSD symptoms, and non-significant paths were trimmed. Next, the trimmed model was tested. In the first step, the bivariate relationship between lifetime traumatic experiences and belief violation was found to be non-significant when the relationship between belief violation and goal violation was held constant (path weight= .17, p= .05), and the specified direct paths from the two appraisal variables to PTSD symptoms were found to be non-significant (both ps > .06). Thus, the lifetime traumatic experiences variable and the direct paths from the appraisal variables to PTSD symptoms were trimmed.

The final model (see Figure 2) was a good fit to the data, χ^2 (2)= 3.97, p=.14; CFI= .99; RMSEA= .09 (90% CI= .00-.20, PClose= .23), and all paths were significant (all ps< .05). Thus, although the appraisal variables showed significant bivariate relationships to PTSD symptoms, when the mediator variables (i.e., negative views of the world and self) were modeled concurrently, those relationships were non-significant. The standardized indirect

effect of belief violation on PTSD symptoms through both mediating variables was .23, and that of goal violation through the two mediators was .32.

Discussion

Results of the present study further our knowledge of the roles played by appraisals of traumatic events in the experiencing of PTSD symptoms. In particular, individuals' appraisals of the extent to which traumatic events violate meaning are fairly strongly related to PTSD over time, a commonly asserted but rarely tested assumption of cognitive theories of PTSD. Importantly, we tested appraisals of belief violation and personal goal violation separately, and found that these appraisals of violation independently predicted subsequent PTSD symptoms. These findings bolster the importance of attending to the meanings that individuals assign to events in terms of their impact on their pre-existing views of themselves and the world and in terms of their ability to attain personally relevant goals (Park, 2008).

In addition, these violations predicted the negative views of self and world assessed by the PTCI, demonstrating an important pathway through which trauma appraisals might influence subsequent negative worldviews. It is interesting to note that higher levels of both types of appraisals of violations (beliefs and goals) were related to more negative views of both the self and the world, although goal violation appeared to be more strongly related to negative global beliefs, particularly views of the self. Further, negative self views appeared to be more strongly related to PTSD, consistent with previous research (e.g., Adams & Boscarino, 2006).

Finally, in line with our hypotheses, we found that the effects of appraisals of violations of beliefs and goals on PTSD symptoms were fully mediated through negative global beliefs about both the self and the world. These findings are consistent with the notion that appraisals of violation damage beliefs about oneself and the world, and that damage plays a role in the development and maintenance of PTSD (e.g., Foa & Rothbaum, 1998; Janoff-Bulman, 1992). It is important to note that our final model explained nearly half of the variance (48%) in PTSD symptoms in this sample, as well as 22% and 38% of the variance in negative views of the world and self, respectively.

Limitations to our findings must be noted. We assessed a sample wherein the traumatic exposure had occurred at varying lengths of time previously, from one week to 10.75 years ago, and our study was a cross-sectional snapshot of ongoing processes that likely unfold over a significant period of time. Our sample also reported on a heterogeneous range of traumatic events, and it remains unknown whether the relations among appraisals, global beliefs, and PTSD symptomatology would differ in the context of different types of traumas. We used a relatively new tool to measure appraisals of discrepancy (Park, 2008; Park & Edmondson, 2009), a necessity given that there are currently no well-validated measures of appraisals of discrepancies. Surprisingly, in our sample, time since the most traumatic event occurred was unrelated to participants' appraisals of it as violating their beliefs and goals, and it was also unrelated to PTSD symptoms. Some previous research has suggested that meaning making often continues over long periods of time (e.g., Silver et al., 1983; Cleiren,

1993). Although we would expect that it may eventually diminish, the time frame over which this may occur has not been specified and could vary widely across individuals (Park, in press).

In addition, our sample consisted of a young and relatively advantaged population, college students. Our sample was also relatively small, given that twenty-three distinct parameters were estimated in the most complex path model we tested. Though our sample size was within the bounds suggested by one of the most widely used rules of thumb concerning sample size in SEM (i.e., 5-10 participants for each parameter estimated; Bentler & Chou, 1987), it was near the minimum generally suggested. The sample size issue may also have influenced the RMSEA index, which suggested good fit (particularly given that PClose was non-significant), but had a large confidence interval around the estimate.

Given these limitations, the present findings must be interpreted with caution. Even so, these results are important in that they provide the first test of this element of the cognitive perspective on PTSD, the appraisals of discrepancy. We found that appraisals are closely related to PTSD symptomatology, with the effects mediated through negative beliefs about one's self and the world. These findings suggest that conceptualizations of PTSD symptomatology should be sharpened to include a more explicit focus on situational appraisals as well as their mediation in terms of changes to global meaning systems (Park, in press).

These results, although preliminary, suggest important directions for future research. The need is obvious for studies of trauma exposure that assess not only global beliefs with instruments such as the PTCI, but also situational appraisals using instruments developed for that purpose (e.g., SAM; Peacock & Wong, 1990; Meaning Assessment Scale; Park & Edmondson, 2009). Further, given the central role of appraisals of violation, these appraisals should be explicitly measured as well. Ideally, studies would be conducted prospectively, with long-term repeated assessments to examine trajectories of change in situational appraisals, global meaning, and PTSD symptoms.

Potential clinical implications may be gleaned from the present results. Our findings suggest that explicitly addressing the appraised meaning of the event and its implications for one's life may be a promising approach to therapy. Some current interventions indeed take this approach (Ehlers, Clark, Hackmann, McManus, & Fennell, 2005; Resick & Schnicke, 1993; Resick, Monson, & Chard, 2007). Work by Foa and her colleagues have shown that global beliefs in world and self change through emotional processing therapy (Rauch & Foa, 2006) although such therapeutic efforts do not focus directly on the situational appraisals. Perhaps future research will demonstrate that a focus on situational appraisals is a fruitful way to change negative self and world beliefs and thus reduce PTSD symptomatology.

Although the present study was exploratory in nature, our findings were supportive of the cognitive worldview perspective on PTSD and highlight the important role played in PTSD symptomatology by the meanings that individuals assign to their traumatic encounters. Such results suggest that future work that more clearly distinguishes among meaning-related constructs and assesses them carefully will produce a clearer understanding of the

development and maintenance of post-traumatic stress as well as promising directions for its alleviation.

Acknowledgments

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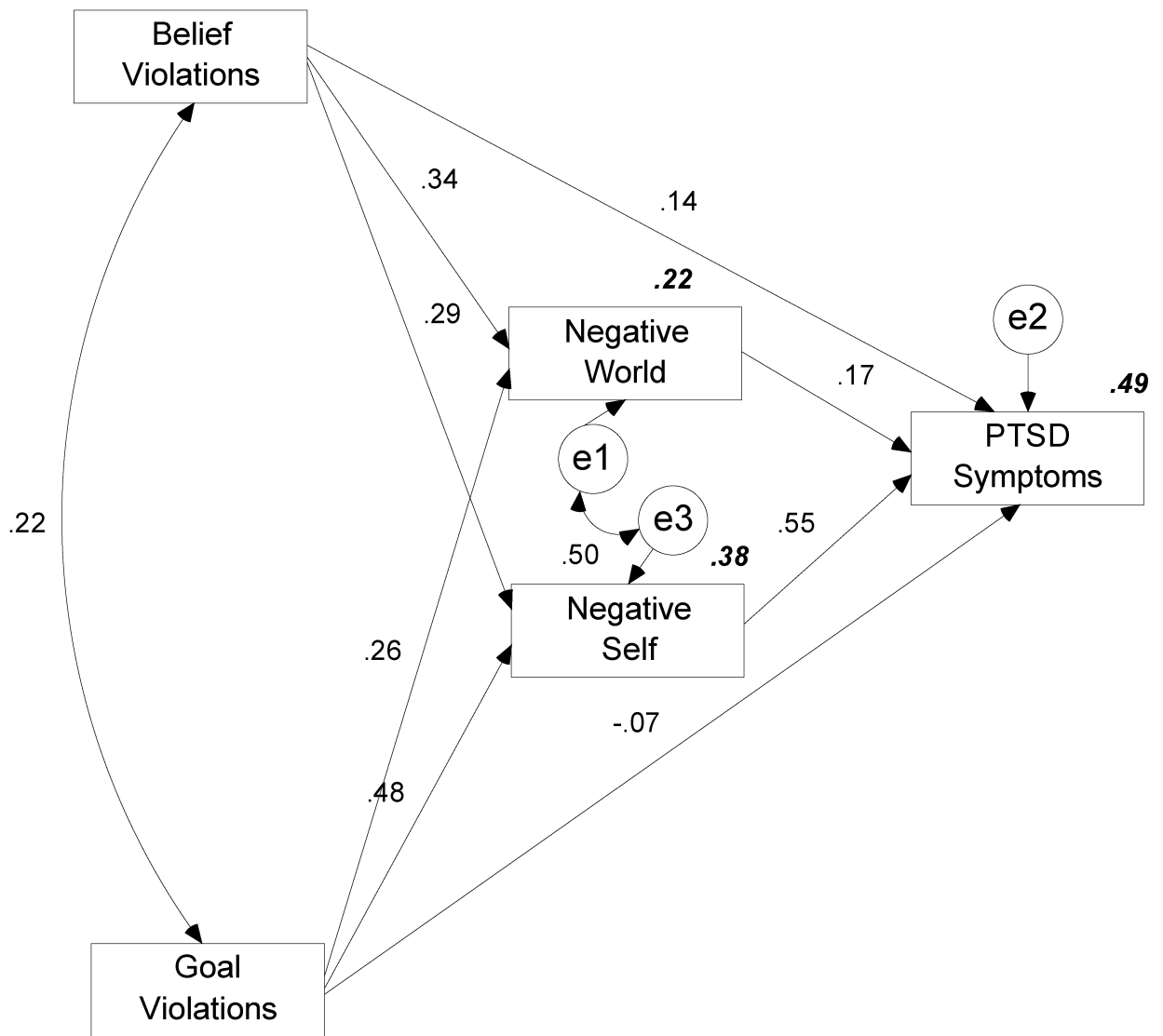
Figure 1.
Saturated model including the trauma violation appraisal variables, the negative views of the world and self (i.e., the proposed mediators), and PTSD symptoms.
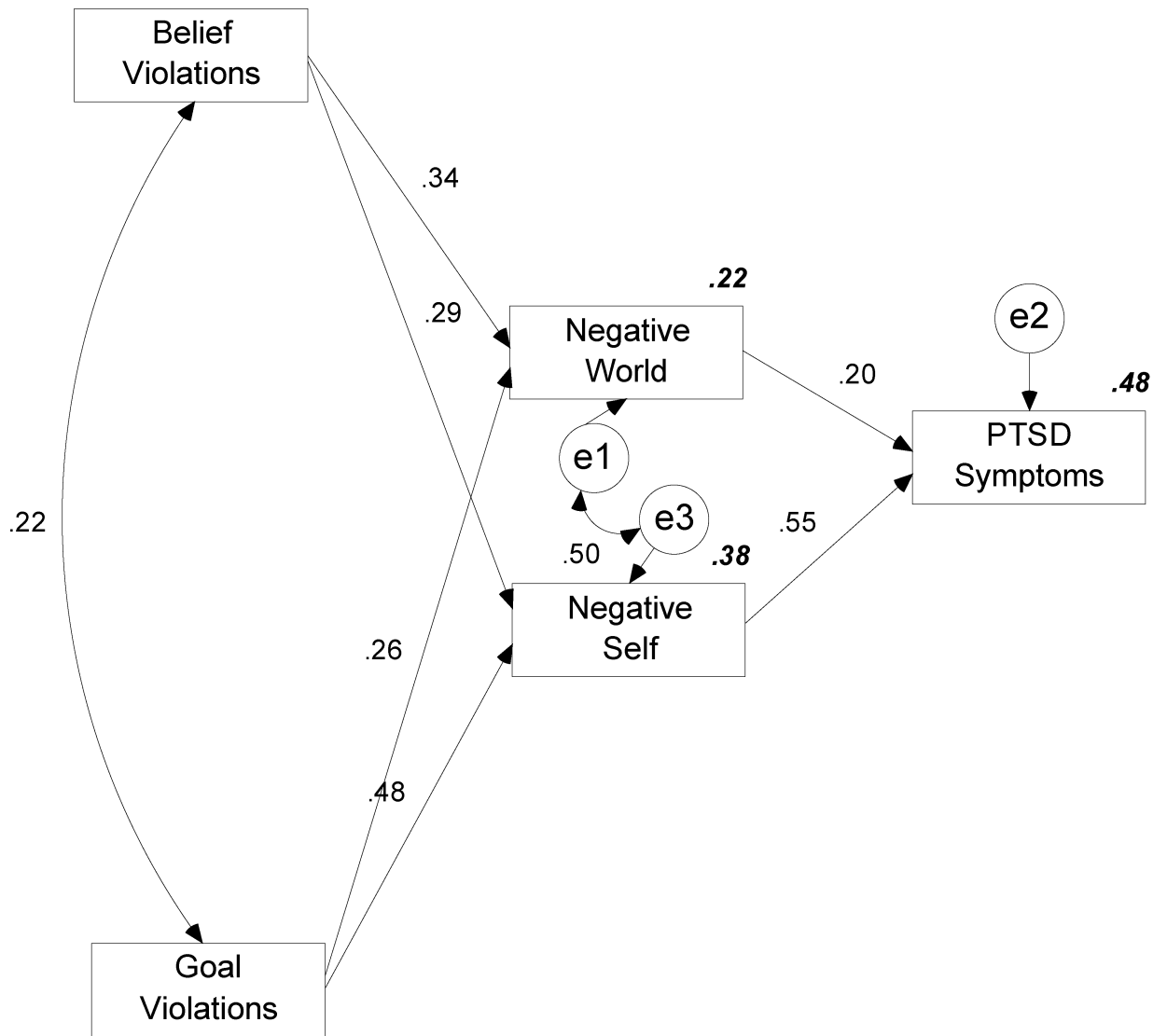
Figure 2.
Final model with non-statistically significant paths trimmed.

Table 1

Means (standard deviations), ranges, and correlations among background variables, trauma violation appraisals, negative worldview, and PTSD symptoms

	Mean (SD)	Range	1.	2.	3.	4.	5.	6.	7.	8.
1. Belief violations	6.4 (2.6)	3-13	1							
2. Goal violations	19.4 (9.68)	0-55	.22*	1						
3. Negative world cognitions	20.9 (10.6)	7-48	.40**	.33**	1					
4. Negative self cognitions	38.6 (21.6)	21-88	.39**	.54**	.63**	1				
5. PTSD symptoms	8.4 (7.9)	0-35	.43**	.31**	.54**	.67**	1			
6. Age	18.7 (1.4)	17-28	−.07	.16	.13	.07	.02	1		
7. Gender	--	--	.11	−.02	.04	−.02	.05	−.09	1	
8. Time since event (months)	32.8 (32.3)	.25-129	.02	−.11	.06	.05	.19	−.15	.06	1
9. Number of trauma categories endorsed	1.68 (.92)	1-5	.18*	.05	.06	.09	.09	.19*	.06	.15

*
Indicates correlation is significant at p< .05

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Indicates correlation is significant at p< .01