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Thematic Resolution, PTSD, and Complex PTSD: The Relationship Between Meaning and Trauma-Related Diagnoses

Elana Newman,[1,3] David S. Riggs,[1] and Susan Roth[2]

The role of modifying schemas in trauma-focused psychotherapy has received theoretical and clinical attention. However, the relationship of schematic processing to posttraumatic stress disorder (PTSD) diagnosis has not been examined empirically. The current study compared measures of thematic disruption among individuals with PTSD alone, PTSD with concurrent complex PTSD, and no PTSD. Eighty two participants were interviewed to assess PTSD status, complex PTSD status, traumatic life events, and trauma-related thematic processing. Results indicated that variables quantifying thematic disruption and thematic resolution significantly distinguished those individuals with concurrent PTSD plus complex PTSD from the other two groups. Exploratory analyses indicated that PTSD symptom severity and the interpersonal nature of the trauma were related to thematic disruption.

KEY WORDS: PTSD; schemas; narrative; disorders of extreme stress; meaning.

Clinicians and theorists who study traumatic life events have emphasized the role of disrupted core beliefs and schemas to explain trauma-related symptomatology, and to guide treatment development. Authors from various theoretical orientations have posited that trauma disrupts an individual's construction of the world and fosters the development and maintenance of maladaptive belief structures and negative affective states

[1]Department of Veterans Affairs Medical Center, Boston, Massachusetts and Tufts University School of Medicine, Medford, Massachusetts 02155.
[2]Department of Psychology: Social and Health Sciences, Duke University, Durham, North Carolina 27706.
[3]To whom correspondence should be addressed at University of Tulsa, Department of Psychology, Lorton Hall, 600 South College Avenue, Tulsa, Oklahoma, 74104-3189.

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(Epstein, 1991; Foa & Riggs, 1993; Foa, Steketee, & Olasov-Rothbaum, 1989; Horowitz, 1986; Janoff-Bulman, 1992; McCann & Pearlman, 1990; Roth & Lebowitz, 1988; Roth & Newman, 1991). There is also emerging consensus that healthy adaptation following severe stressors requires both an adaptive integration of the event into one's belief system and the processing of negative emotions (e.g., Foa, Rothbaum, & Steketee, 1993; Resick & Schnicke, 1992; Roth & Newman, 1993). These authors theorize that an inability to develop an adaptive belief system that successfully incorporates the traumatic information contributes to the development of posttraumatic stress disorder (PTSD). This study is designed to look at the association of such beliefs to PTSD diagnosis.

The use of divergent language among authors who describe the emotional and cognitive organization that structures an individual's experience has contributed to a lack of clarity in the field. Terms such as schema, networks, a personal theory of reality, basic assumptions, and themes have been used to describe these cognitive-affective structures (Epstein, 1991; Foa & Riggs, 1993; Horowitz, 1986; Janoff-Bulman, 1992; McCann & Pearlman, 1990). In the present paper, we will use the term "themes" to describe the cognitive-affective internal representations or constructs of the world that structure a person's internal and external experiences (Lebowitz & Newman, 1996; Roth & Lebowitz, 1988; Roth & Newman, 1991). Roth and her colleagues posit that themes operate both within and outside awareness to shape the way an individual integrates traumatic and nontraumatic experiences (Roth & Lebowitz, 1988; Roth & Newman, 1991, 1993). These authors argue that the intense emotions evoked by traumatic experiences and the cognitive ramifications of personally confronting profound human vulnerability can dramatically influence trauma survivors' thematic constructions of the self, world, and others. Traumatic events can challenge existing adaptive themes, foster the development of maladaptive themes, or prevent adaptive themes from emerging.

In this paper, an unresolved theme is defined as a theme that is influenced by the trauma and provides an overly biased or confined way of relating to the world (Roth & Newman, 1991, 1993). For example, a heterosexual woman who was abducted and raped by a group of male acquaintances she trusted described that after the assault she perceived that all men were untrustworthy and dangerous; thereafter she avoided all contact with all men. Her approach to trusting people would be considered an unresolved theme since she is overly restricting her interactions with others. A resolved theme, on the other hand, is defined as a theme that both incorporates the trauma and permits flexible emotional engagement with the world. For example, at a later time, the woman depicted above might state that after her rape she didn't trust any men but now she realizes

that only some men (and women) are untrustworthy. She now believes that each person needs to be evaluated individually and trust must be developed gradually over time. Her revised approach to trusting others would be considered resolved, since she has developed an adaptive construction that allows her to function with awareness that both trust and mistrust are part of her social world. Finally, a nonrelevant theme is defined as a theme that has not been disrupted by trauma. A theme may not be disrupted because either an event did not challenge a theme, or alternatively, the person's pre-existing theme might be sufficiently flexible to incorporate the trauma. A nonrelevant theme is distinguished from a resolved theme, in that trauma survivors deny that the nonrelevant theme ever created a problem, whereas a resolved theme was at one time problematic.

Systematizing the assessment of such themes is a difficult task due to the complexity of the constructs as well as the idiosyncratic ways individuals may describe belief systems. Several authors have created self-report measures to assess trauma-related themes (Dansky, Roth, & Kronenberger, 1990; Pearlman, MacIan, Johnson, & Mas, 1990). Self-report measures, while time efficient, may be insufficient to assess the breadth of meaningful themes. For self-report measures, respondents must have the ability and insight to accurately reflect upon their thought processes and emotions, internally label these experiences, link these to a traumatic event, and report them using the available response format. Roth and her colleagues (Roth & Lebowitz, 1988; Roth & Newman, 1991, 1993) have argued that a better way to document this critical aspect of trauma response is through the coding of narrative material. Narrative methodology, while extremely time intensive, allows the interviewee the opportunity to define his/her own experience, minimizes the systematic error created by reliance on self-report format, and provides a direct means of understanding how a person constructs and transforms his/her experiences (Lebowitz & Newman, 1996; Lebowitz & Roth, 1994; Newman, forthcoming; Roth, Lebowitz, & DeRosa, 1996; Roth & Newman, 1993).

Using narrative methodology, Roth and Newman developed a measurement system to describe how an individual copes with thematic issues in recovery from sexual trauma (Roth & Newman, 1991, 1992a, 1992b, 1993). The measurement system is based on the salient sexual trauma themes described by Roth and Lebowitz (1988), the schemas detailed by Epstein (1991), the coping literature (Horowitz, 1986; Roth & Cohen, 1986), and clinical experience. They define 15 trauma-related themes (Table 1). Each theme is rated as resolved, unresolved, or nonrelevant (Roth & Newman, 1992b, 1993).

In several earlier studies, the coding system has been proven to be useful in depicting trauma-related cognitive and affective themes (Roth &

Table 1. Brief Definitions of Themes

Helplessness: Feelings of absolute powerlessness during exposure to a traumatic event that may generalize beyond the actual moments of the traumatic events(s).

Rage. Anger and hostility may be manifested directly (e.g., at perpetrators) or indirectly (e.g., guilt about one's anger, avoiding and distancing oneself from anger, fearing expression of anger would further endanger the self or others).

Fear. Fright and terror during exposure and after exposure to a traumatic event may continue, as well as from fear of the event(s) being repeated.

Loss. Grief, regret, and mourning regarding the way portions of one's life have been altered by a traumatic event.

Shame. Deep feelings of embarrassment, humiliation, and mortification for being exposed to traumatic events.

Guilt *Feelings* of culpability, the *emotional* self-reproach for having any role in the event, as well as reactions prior, during and subsequent to the event(s).

Diffuse affect: Intense non-specific emotions, such as pain, misery, discomfort, and hurt.

Benign world: Ideas and expectations that the world is malevolent, dangerous, and/or unrewarding.

Meaningful world: Ideas and expectations that the world is unpredictable, unfair, and out of one's control.

People trustworthy. Ideas and expectations of others being dangerous, unhelpful, unfair, capable of deception, betrayal and exploitation, and generally untrustworthy.

Self worthy. Expectation that one is an incompetent and incapable person who is not equipped to handle traumatic and nontraumatic situations.

Self-blame: The cognition of holding oneself responsible for being exposed to traumatic events, or for responding in a certain way to the experiences.

Reciprocity. Belief that as a result of the trauma a person is not worthy of equal relationships in which they can both give and receive support and nurturance and, in more intimate relationships, love.

Alienation. Feeling one is different, disconnected, detached and set apart from other people or from their own self-definition.

Legitimacy. Feeling deviant about one's reactions, that one's feelings are somehow not valid, and/or that one is crazy, overreacting or deficient in response to the traumatic event(s).

Newman, 1991, 1992a, 1993) and appears sensitive to changes over time (Newman, 1992; Roth & Newman, 1993). In addition, one study found that the extent of thematic resolution was negatively correlated with general psychological symptoms (Dansky, 1991). With the exception of one small qualitative study (Newman, 1992), none of the previous research using the

thematic coding system has examined to what degree thematic resolution is specifically related to trauma-related diagnoses such as PTSD.

Although PTSD is the most widely recognized trauma-related disorder (American Psychiatric Association [APA], 1994), some have argued that it does not sufficiently portray the distinctive changes in affective, behavioral, and interpersonal regulation observed among those exposed to on-going repetitive traumatic stressors (Herman, 1992a, 1992b; Spitzer, Kaplan, & Pelcovitz, 1989). A number of authors have suggested alternative classification schemes to better describe the range of difficulties found among survivors of chronic trauma (Herman, 1992a, 1992b; Pelcovitz et al., 1997; Spitzer, Kaplan, & Pelcovitz, 1989; Terr, 1991; van der Kolk et al., 1996; World Health Organization, 1994). One noteworthy proposal is the category of Complex PTSD, which has been referred to in the literature under a number of alternative names, including disorders of extreme stress (DES), disorders of extreme stress not otherwise specified (DESNOS), associated features of PTSD, and complicated PTSD (Herman, 1992a, 1992b; Pelcovitz et al., 1997; van der Kolk et al., 1996). Currently in DSM-IV, the constellation of DES symptoms is described as a possible associated feature of PTSD, most commonly observed in those who experienced an "interpersonal stressor" such as being taken hostage, experiencing torture, or experiencing physical or sexual abuse during childhood (APA, 1994). Although complex PTSD is controversial, data suggest this may be a subtype of PTSD that provides clinically meaningful information to help treatment planning (Newman, Orsillo, Herman, Niles, & Litz, 1995; Pelcovitz et al., 1997; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1996; van der Kolk et al., 1996). For example, in the DSM-IV PTSD field trial study, approximately 97% of those individuals diagnosed with complex PTSD also were diagnosed with PTSD (van der Kolk et al., 1996). It has been argued that complex PTSD, as compared to simple PTSD, reflects a broader and more severe form of pathological traumatic adaptation that is likely to occur subsequent to early and repetitive trauma (Herman, 1992b; van der Kolk et al., 1996). Since the symptoms of complex PTSD are believed to reflect a trauma-induced change in affective, behavioral, and interpersonal regulation, complex PTSD symptoms may be related to a disruption in trauma-related themes. Therefore, in the current study, we examined possible thematic distinctions between participants with PTSD, complex PTSD, and neither diagnosis.

The current investigation examined the differences in demographic variables, stressor exposure variables, and thematic variables among three groups of treatment- seeking individuals with trauma histories. Based on semi-structured interviews, participants were diagnosed as not having PTSD, having PTSD only, or having both PTSD and complex PTSD. We

predicted that individuals with complex PTSD and PTSD alone, as compared to those without PTSD, would have experienced a greater number of potentially traumatic events (PTEs), would have experienced their first PTE at a younger age, and would experience greater thematic disruption as reflected by fewer nonrelevant themes and less thematic resolution as indicated by a greater number of unresolved themes. Because disrupted themes are thought to underlie the symptoms of PTSD (and complex PTSD), we predicted that the thematic variables would be particularly important in discriminating participants diagnosed with PTSD and PTSD with concurrent complex PTSD from those without PTSD. Further, because complex PTSD is thought to reflect a broad disruption of themes, we hypothesized that participants with concurrent PTSD and complex PTSD would evidence more thematic disruption (more unresolved and fewer nonrelevant themes) than would those with PTSD alone. Finally, we conducted exploratory analyses to examine the association of PTSD symptom severity and interpersonal trauma exposure with thematic disruption.

Method

Participants

Participants in the current study completed the DSM-IV PTSD Field Trial Study at the Duke University site for which Susan Roth served as principal investigator (see Kilpatrick et al., in press, for information on procedures and results for the entire Field Trial). Participants were recruited from an outpatient alcohol treatment program, two general outpatient clinics, a student counseling center, two private practitioners specializing in trauma, and an inpatient affective disorders psychiatric unit.

At each clinic, participants completed a brief screening instrument to assess exposure to stressful events and a release form permitting the researchers to contact them about a study. The brief screening form included eight questions screening for exposure to the following "high-magnitude" events: combat/military experience, physical abuse or assault, sexual abuse or assault, homicide, disaster, accident, chemical or radiation exposure and other life threatening life events. Four additional questions assessed exposure to stressful life experiences that occurred over the past year including financial stress, interpersonal stress, death or illness of loved one, severe illness and whether close friends or family were at risk or in danger due to the Gulf War, which was on-going at the time of assessment. The three requirements for participation were (a) reported exposure to a stressor; (b) willingness to participate; and (c) ability to give legal consent. Individuals

who reported experiencing one stressful event and who signed a release form were invited to participate in the Field Trial study. Of 102 participants at the Duke site, only the 84 participants who completed all of the interviews below and endorsed exposure to at least one event qualifying for the DSM III-R PTSD definition of a trauma were included in the current analyses.

The group of 84 was predominantly White (93%) and female (68%) with an average age of 38 (SD = 11.48). On the whole, this treatment seeking group experienced numerous PTEs (M = 4.9, SD = 2.97) with the average age of first exposure at 10.1 (SD = 9.26) years of age.

Procedure

As part of the DSM-IV Field Trial participants were administered a variety of standard interviews assessing exposure to PTEs and trauma-related sequelae. In addition those participants at the Duke site completed the thematic interview developed by Roth and Newman (1992b, 1993). Participants completed informed consent procedures at the beginning of the assessment and did not receive any monetary compensation for participation.

Measures

Potential Stressor Events Interview (PSEI). The PSEI is a structured interview which delineates self-reports of life-time exposure to sexual and physical assault, rape, serious motor vehicle accident, additional bereavement, injury or property loss, evacuation, and other stressful life changes (Falsetti, Resnick, Kilpatrick, & Freedy, 1994; Kilpatrick, Resnick, & Freedy, 1991). The interview assesses "high-magnitude stressors" which are all those stressors that met the DSM-III-R PTSD criteria for a trauma. Additionally it assesses for the presence of low magnitude stressors, which are those stressful life events (e.g., chronic illness, relationship conflicts, business losses) that do not qualify as traumatic events according to DSM criteria. The interview classifies each experience by age of onset. The total number of PTEs was derived by counting high magnitude stressors which were elicited from a participant during the structured interview.

Structured Clinical Interview for DSM-III-R (SCID-Patient Version). Diagnosis was based on the SCID module for PTSD (Spitzer, Williams, Gibbon, & First, 1990) which has been widely used for diagnosing PTSD. Several studies have documented the reliability and validity of this instrument (e.g., Kulka et al., 1990; McFall, Smith, Rozwell, Tarver, & Malas,

1990). Although participants may have reported numerous stressful life events, current PTSD diagnosis was only assessed in relation to a maximum of four events: the first, most recent, and worst high magnitude stressor; and the worst low magnitude stressor that occurred within the past year. To assure that diagnoses were consistent with the DSM criteria, we excluded from the analyses all individuals who had PTSD related to only a low magnitude stressor.

Structured Clinical Interview for Disorders of Extreme Stress (SCID-DES). The SCID-DES is a semi-structured interview developed for the DSM-IV Field Trial to assess complex PTSD (van der Kolk, Pelcovitz, et al., 1992). The SCID-DES assesses symptoms of impaired affect modulation; self-destructive and impulsive behavior; dissociation; somatic complaints; feelings of ineffectiveness; shame; despair or hopelessness; impaired relationships with others; and loss of previously sustaining beliefs. It has excellent interrater reliability with kappa coefficients ranging from .88 to 1.00 and high internal consistency (Cronbach's alpha=.96; Pelcovitz et al., 1997). The complex PTSD diagnosis was determined from criteria listed in the DSM-IV DESNOS final report (van der Kolk, Roth, et al., 1992).

Thematic interview. In addition to the above interviews, which were standard across all trial sites, the Duke site included a semi-structured interview designed to elicit narratives from which thematic content and resolution were coded (Roth & Newman, 1991, 1992b, 1993). The interview itself begins with a series of semi-structured prompts designed to allow the individual an opportunity to respond spontaneously with little input from the interviewer. Over the course of the interaction, the interview becomes increasingly structured, as needed, to elicit the information necessary for accurately coding thematic resolution. For example, as the survivor discusses relevant themes, the interviewer may ask questions to assess the appropriate level of resolution. If certain thematic categories are not discussed spontaneously, the interviewer inquires about these categories with standard open-ended probes (e.g., Have you ever experienced feelings of shame, embarrassment, or humiliation? What sorts of situations make you feel that way?). If a theme appeared currently resolved, the interviewer ascertained if the theme category had ever been problematic for the person in relation to the trauma, in order to distinguish resolved and nonrelevant themes.

As the interview was administered, the interviewer rated the extent to which each of the 15 themes was adaptively resolved using a 6-point scale. In the current study, we condensed the 6-point rating for each theme into two categories, adaptively resolved or unresolved. Alternatively, a theme could be rated as nonrelevant if the participant indicated that a theme was never problematic for them. Thus the final coding scheme allowed us to

identify each of the 15 themes as unresolved, resolved, or nonrelevant for the person. The total number of themes coded as resolved, unresolved or nonrelevant were summed. Although theoretically, scores on unresolved, resolved, or nonrelevant themes could range from a minimum of 0 to a maximum of 15, scores for unresolved themes ranged from 0 to 12, scores for resolved themes ranged from 0 to 15 and number of nonrelevant themes ranged from 0 to 14. Using the collapsed categories, Cohen's kappa for judgments of thematic resolution across themes was high (all values above .92; Roth & Newman, 1993).

Impact of Event Scale (IES). The IES (Horowitz, Wilner, & Alvarez, 1979) is a 15-item scale that measures intrusive and numbing/avoidance symptoms of PTSD. It has been applied to several populations of trauma survivors and has strong psychometric properties (Horowitz et al., 1979; Kulka et al., 1990; Schwarzwald, Solomon, Weisenberg, & Mikulincer, 1987; Zilberg, Weiss, & Horowitz, 1982). For example, Horowitz et al. found good test-retest reliability (.87 for all 15 items, .89 for the Intrusion subscale, and .79 for the Avoidance subscale) and acceptable levels of internal consistency (.78 for Intrusion and .82 for Avoidance using Cronbach's alpha). The 0-5 rating scale format of the IES was used in the present study. Since administration of the IES was optional, not all participants completed the IES due to time constraints.

Results

Of the 84 participants with complete data, 43 (51%) were diagnosed with current PTSD. Of the participants with current PTSD, 23 (53%) also received a current diagnosis of complex PTSD. Thirty nine (46%) of the participants were not diagnosed with PTSD. The remaining two individuals, who were diagnosed with complex PTSD only, were dropped from the analysis. Thus, the three groups in the analysis were those without PTSD (PTSD-; $n = 39$), those with PTSD only (PTSD+; $n = 20$), and those with PTSD and complex PTSD (PTSD/CP+; $n = 23$).

To examine potential differences among the three groups, we conducted multivariate analysis of variance (MANOVA) comparing current age, age of first PTE, number of unresolved themes, and number of nonrelevant themes. The results of this analysis indicated the three groups were significantly different from one another, $F(10,150) = 4.09, p < .001$ based on Wilk's Lambda. Follow-up univariate analyses of variance (ANOVAs) revealed significant group differences only on the thematic variables, $F(2,79) = 19.44, p < .001$ and $F(2,79) = 11.21\ p < .001$, for number of unresolved themes and number of nonrelevant themes, respectively. The

univariate analysis also revealed a trend for group differences on for number of PTEs, $F(2,79) = 211.21$ $p < .07$.

To further examine the significant univariate differences, we conducted pairwise comparisons with Bonferroni corrections (acceptable $p < .05/3 = .0167$ for each comparison). For unresolved themes, the PTSD/CP+ group differed significantly from the PTSD- group, $F(1,60) = 52.26, p < .001$, and the PTSD+ group, $F(1,41) = 15.53, p < .001$. The difference between the PTSD+ and PTSD- groups was not significant, $F(1,57) = 2.33$, $p > .10$. Similarly, for nonrelevant themes, the PTSD/CP+ group differed significantly from PTSD- group, $F(1,60) = 25.92, p < .001$, and the PTSD+ group, $F(1,41) = 6.91, p < .012$. The difference between the PTSD+ and PTSD- groups was not significant, $F(1,57) = 3.10, p < .085$. An examination of the mean scores (see Table 2) indicated that the PTSD/CP+ participants had the most unresolved themes and fewest nonrelevant themes, the PTSD- group had the fewest unresolved themes and the most nonrelevant themes, and the PTSD+ group fell between the PTSD/CP+ and PTSD- groups.

To examine the ability of the demographic stressor and thematic variables to discriminate the members of the three groups (PTSD-, PTSD+, PTSD/CP+), we conducted a hierarchical discriminant function analysis using demographic variables (age, gender), trauma history variables (age of first potentially traumatic event, number of potentially traumatic events), and thematic variables (number of unresolved themes, number of nonrelevant themes) as predictors. On the basis of all six predictors, two discriminant functions were calculated, with a combined $\chi^2(12, N = 82) = 32.29$, $p < .001$. After removal of the first function, there was no longer significant discriminating power, $\chi^2(5, N = 82) = 5.574, p < .36$. The two discriminant

Table 2. Mean Scores of Participants by PTSD Status

Variable	PTSD- $n = 39$ M (SD)	PTSD+ $n = 20$ M (SD)	PTSD/CP+ $n = 23$ M (SD)
Age	38.74 (11.89)	38.6 (13.50)	35.61 (8.96)
Percentage of women	59%	80%	74%
Age of first PTE exposure	11.00 (8.56)	12.17 (12.68)	6.74 (6.29)
Number of PTEs	4.61 (2.94)	4.1 (2.1)	5.96 (2.75)
Number of unresolved themes[a]	7.94 (3.81)	9.75 (4.96)	13.91 (1.00)
Number of nonrelevant themes[a]	4.54 (3.63)	2.75 (3.81)	0.61 (0.84)

[a] $p < .001$.

Table 3. Classification of Participants' Status based on Discriminant Function Analyses with Demographics, Trauma History, and Thematic Variables as Predictors

Actual Group	Number of Cases	Predicted Group Membership Based on Discriminant Function		
		PTSD–	PTSD+	PTSD/CP+
PTSD–	39	51%	31%	18%
PTSD+	30	20%	40%	40%
PTSD/CP+	23	4%	13%	83%

functions accounted for 88% and 12%, respectively, of the between-group variability. The two theme variables contributed significantly ($p <. 001$) to the discriminant functions. For the first function, the group centroids for the PTSD-, PTSD+ and PTSD/CP+ group were –.57, –.18 and 1.12, respectively, indicating that the first discriminant analysis maximally separated the PTSD- and PTSD/CP+ group, with the PTSD+ group falling in between the other two groups. The group centroids for the second function were .19, –.47, and .09 among the PTSD-, PTSD+ only and PTSD/CP+ groups, respectively.

Based on these discriminant functions, we were able to correctly classify 57% of the participants as PTSD-, PTSD+, and PTSD/CP+. As can be seen on Table 3, the discriminant function was most successful for correctly classifying the PTSD/CP+ group. Notably, a large number of the misclassifications (23%) resulted from the classification of PTSD+ individuals as PTSD/CP+. If the two PTSD positive groups were collapsed, so that the discriminant functions are classifying participants as having a trauma-related diagnosis or not, 71% of the participants were correctly classified.

The thematic variables were associated with trauma-related diagnosis, with quantifiable distinctions between PTSD with and without concurrent CP+. It is unclear whether PTSD/CP+ reflects a qualitatively different form of PTSD or simply reflects the most severe cases of PTSD. To explore this question, we conducted an ANOVA comparing the severity of intrusive and avoidant symptoms using the 50 participants who had also completed the Impact of Event Scale (IES). The results of the ANOVA indicated the three groups were significantly different, $F(2,49) = 16.40$, $p < .0001$; IES mean scores were 29.62 ($SD = 10.86$), 39.36 ($SD = 9.03$), and 47.28 ($SD = 8.37$) for the PTSD-, PTSD+, and PTSD/CP+ groups respectively. Pairwise comparisons (using Bonferroni corrections) revealed a significant dif-

ference between the PTSD/CP+ group and the PTSD- group, $t(49) = 5.71$, $p < .001$, and a trend for a difference between the PTSD/CP+ group and the PTSD+ group, $t(49) = 2.15$, $p < .04$. Also, there was a significant difference between the PTSD+ group and the PTSD- group, $t(49) = 2.72$, $p < .01$.

We also conducted a post-hoc analysis to examine the possibility that disruption of themes characterizes the trauma rather than individual resilience. We separated participants into two groups based on self-reports of exposure to PTEs: (1) those who experienced at least one interpersonal assault ($n = 63$) and (2) those who never experienced an interpersonal stressor ($n = 19$). We conducted a MANOVA comparing current age, age of first PTE, number of PTEs, number of unresolved themes and number of non-relevant themes between these two groups. The results of this analysis indicated the two groups were significantly different, $F(5,78) = 13.66$, $p < .001$ based on Wilk's Lambda. Follow-up univariate ANOVAs indicated that the group who experienced interpersonal traumas, as compared to the group who never experienced interpersonal traumas, had more unresolved themes $F(1,82) = 20.67$, $p < .001$, and fewer nonrelevant themes, $F(1,82) = 25.54$, $p < .001$. However, the group that experienced interpersonal traumas also experienced their first PTE at a younger age, $F(1,82) = 19.25$, $p < .001$, and experienced more PTEs, $F(1,82) = 34.81$, $p < .001$. To better understand the effect of interpersonal traumas on thematic variables, we conduced analysis of covariance controlling for age of first PTE and number of PTEs. Even when controlling for these variables, a significant difference emerged for both unresolved themes, $F(1,80) = 14.35$, $p < .001$, and nonrelevant themes, $F(1,80) = 14.00$, $p < .001$.

Discussion

The present results demonstrate the importance of thematic issues in understanding posttrauma pathology. Trauma-exposed individuals with a diagnosable posttraumatic disorder (PTSD+, PTSD/CP+) experienced more thematic disruption and demonstrated less resolution of themes than did those without a posttraumatic diagnosis. Specifically, individuals diagnosed with PTSD who also met criteria for the proposed category of complex PTSD, had significantly more unresolved themes and fewer nonrelevant themes than those without PTSD and those diagnosed with PTSD without complex PTSD. However, counter to our prediction, the group with PTSD alone did not significantly differ on these thematic variables from those without PTSD. The observed difference in thematic resolution between

PTSD and complex PTSD suggests the importance of looking at the heterogeneity of PTSD.

The present results offer partial support for theories that posit disruptions of cognitive and emotional processing underlie posttrauma pathology (Epstein, 1991; Foa & Riggs, 1993; Foa et al., 1989; Horowitz, 1986; Janoff-Bulman, 1992; McCann & Pearlman, 1990; Roth & Lebowitz, 1988; Roth & Newman, 1991, 1993). In the present study, individuals who had PTSD with concurrent complex PTSD demonstrated more difficulties resolving trauma-related issues and creating adaptive meaning in their current lives than individuals without PTSD and those with PTSD who did not have concurrent complex PTSD. Consistent with the present results, a recently completed study found the number of unresolved themes was related to the diagnosis of PTSD among nontreatment seeking survivors of a disaster (DeRosa et al., 1995). Together, the results of these two studies support the hypothesis that inability to create adaptive meaning in the wake of trauma is associated with the development and maintenance of PTSD.

However, the failure to find significant differences between the PTSD only and no PTSD groups raises questions regarding the proposed mechanism linking thematic disruption and posttraumatic symptoms. There are several potential explanations for the absence of significant differences on the thematic variables between the PTSD only and the no PTSD group. First, data from the participants in the present study who completed the IES suggested that those individuals categorized with complex PTSD represented the most severe cases of PTSD. Therefore, it is possible that thematic disruption is associated only with severe PTSD symptoms and that alternative mechanisms may underlie less severe manifestations of the disorder. For example, mild PTSD may be more anxiety driven whereas severe PTSD reflects changes in basic cognitive-affective organization. A second explanation for the present findings is that the direction of causality implied in the theory (thematic disruption causes PTSD symptoms) is inaccurate. Perhaps living with chronic and severe PTSD symptoms leads to disruption in themes. Alternatively some third variable may influence both thematic disruption and PTSD separately.

We should also note several methodological issues that may account for the finding that individuals with PTSD alone did not differ from those without PTSD. First, the themes assessed in the study were selected based on previous work with incest survivors in treatment. These individuals suffer from a broad range of severe trauma-related problems and represent a group that the category of complex PTSD was created to describe. Thus, these particular themes may not be the best ones to depict thematic changes associated with less severe PTSD. Second, it is important to note that many of the non-PTSD individuals endorsed some PTSD symptoms.

It is possible that there is some thematic disruption associated with these symptoms that reduces the observed differences between the PTSD only (mild PTSD) and no PTSD groups. As the sample used in the present study was relatively small, we may not have had enough power to detect a difference between the group without PTSD and the PTSD only group.

The results of the current study raise two issues in need of further examination. First, our results offer some new data to inform discussions about the complex PTSD construct. The finding that individuals identified as complex PTSD represent the most severe cases of PTSD in the present sample suggests that this category may represent a marker of the severity of PTSD symptoms rather than a qualitatively distinct subtype of PTSD. However, the relatively small sample used in the present study and the fact that this sample was further reduced for the analysis of the IES data argue strongly for future research to replicate the present findings.

Second, one aspect of the thematic processing that has not been previously examined is the apparent lack of thematic disruption as represented by the nonrelevant code (Roth & Newman, 1992b, 1993). Conceptually the nonrelevant code reflects those themes never challenged at the time of the trauma as opposed to disrupted themes that were later adaptively integrated (resolved themes). Theoretically it is unclear if this lack of thematic disruption reflects characteristics of the trauma or individual resilience. Regardless, the number of nondisrupted themes was related to posttraumatic diagnosis in the present study. Exploratory analyses comparing individuals who experienced interpersonal assaults and those who did not indicated that interpersonal trauma was associated with greater thematic disruption. However, in this small sample, a self-reported history of interpersonal traumas also appears to be a marker of different life and personal experiences (e.g., earlier and more traumas) that may impact significantly on themes. Though the present results suggest that different types of trauma may affect themes differently, future research is needed to understand the impact of specific trauma characteristics on thematic variables.

There are several limitations to this study that should be noted. The study is based on a relatively small number of treatment-seeking volunteers. The generalizability of the current findings to other populations is unclear. In addition, as outlined above, the use of a cross-sectional design limits our conclusions regarding the causal relationship between thematic disruption and symptoms. Furthermore, the same interviewers who conducted the PTSD assessment conducted the thematic assessment interviews. Therefore, interviewers were not blind to participants' diagnostic status and the results of the thematic assessment may reflect interviewers' bias. In addition, the lack of a nontrauma exposed group raises the possibility that thematic prob-

lems may be more closely related to overall psychological distress than to trauma-related distress.

Despite these shortcomings, the present data offer empirical support for the expanded utility of the coding system developed by Roth and her colleagues (Lifton, Newman, Lebowitz, & Roth, 1996; Roth & Lebowitz, 1988, Roth & Newman, 1991, 1992b, 1993) and illustrate the importance of measuring meaning among trauma survivors with PTSD. Future researchers should address these concerns by conducting longitudinal studies and examining thematic issues in other populations with raters who are blind to participants' diagnostic status. In addition, documenting the disruptions of specific themes and their relationship to posttrauma pathology is an important area for future research. Finally, understanding the relationship between symptom change and thematic change in psychotherapy could help us improve trauma-focused interventions.

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