

Attachment Style Classification and Posttraumatic Stress Disorder in Former Prisoners of War

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Adult attachment style and post-traumatic stress disorder (PTSD) symptomatology were investigated in 107 former prisoner of war veterans. Those with secure attachment styles scored significantly lower on measures of PTSD than did those with insecure styles, and attachment style was a stronger predictor of PTSD symptom intensity than was trauma severity. The suggested association between attachment style and PTSD's development and persistence are discussed in relation to research and clinical practice.

It has become clear that trauma is a necessary but not sufficient precursor for the development of posttraumatic stress disorder (PTSD). Although trauma exposure is a significant predictor of PTSD, the National Comorbidity Survey (Kessler, Sonnega, Bromet, & Nelson, 1995) found that only 18% of women and 10% of men so exposed developed the disorder. A prominent risk factor in the development of PTSD is severity of the trauma (Foy, Sippelle, Rueger, & Carroll, 1984). However, a study of prisoners of war (POWs) who suffered very severe trauma, found that barely half (53%) had ever met criteria for PTSD (Engdahl, Dikel, Eberly, & Blank, 1997). This suggests that exposure to trauma, even when severe, is not the only risk factor for development of PTSD, or that there may be one or more protective factors possessed by some individuals. It is clearly important to identify and clarify those factors that may either increase or decrease the likelihood of the development of PTSD.

Disrupted attachment has been proposed as a risk factor (van der Kolk, 1987), but has received only limited study. Attachment theorists propose

that the quality of caregiver-infant relationships shapes children's views of themselves and others. This view guides future behavior, expectations, affects, and reactions to distress in relationships and may be intensified during times of stress (Ainsworth & Bowlby, 1991; Arend, Gove, & Sroufe, 1979; Bowlby, 1982). Bartholomew and Horowitz (1991) proposed that, as a function of early childhood experiences, individuals exhibit a distinct attachment style in their adult relationships. These attachment styles have been characterized as secure or insecure, and insecure attachment has been further divided into preoccupied, fearful, and dismissive types.

Insecure attachment has been implicated in a number of psychiatric disorders such as depression (Petter, West, Mahoney, & Keller, 1993), somatization (Stuart & Noyes, 1999), and chronic pain (Hallberg & Carlsson, 1998). A number of researchers have also suggested that disrupted attachment may contribute to the development of PTSD (van der Kolk, 1988; Sable, 1995). Two studies (Muller, Sicoli, & Lemieux, 2000; Alexander et al., 1998) have shown a relationship be-

tween insecure attachment and PTSD symptomatology in adults who were abused as children.

The present study was designed to explore the effect of attachment style on individuals traumatized as adults. Relationships among adult attachment style, severity of trauma experienced as an adult, and PTSD symptoms were examined in veterans who had been POWs. Previous research with this sample (Engdahl et al., 1997; Engdahl, Dikel, Eberly, & Blank, 1998) established that they had all been exposed to severe trauma, but that a significant minority (47%) had not developed PTSD. Other PTSD risk factors than trauma severity could therefore be explored. The study hypotheses were that: a) participants with an insecure attachment style would report more PTSD symptoms than those with a secure attachment style; and b) insecure attachment style would be a significant predictor of PTSD and have predictive power equal to or greater than that of trauma severity.

METHOD

Sample

The original sample (Engdahl et al., 1997) consisted of 262 former POW veterans residing in the community. For the present study, surveys were mailed to 156 participants identified as still living and having a current address in the upper Midwest. Of these 156, 107 (69%) responded. Their average age at the time of their capture was 22.6 ± 3.3 years, and the average length of their captivity was 17.0 ± 14.5 months. At the time the survey was completed, their mean age was 75.4 ± 3.5 years, and 84% were married.

Instruments

Bartholomew's Relationship Questionnaire (BRQ) (Bartholomew & Horowitz, 1991; Bartholomew, 1990) is a self-classification, categorical measure that asks participants to select which of four paragraphs identifying four adult attachment styles (secure, dismissive, preoccupied, and fearful) most nearly described their own. Scharfe and Bartholomew (1994a, 1994b) reported moderate stability, over an eight-month and a two-year period, for adult attachment styles derived from this measure.

The Experiences in Close Relationships Questionnaire (ECR) (Brennan, Clark, & Shaver, 1997) is a self-rated, 36-item, continuous measure of these four adult attachment styles. Participants are asked to rate statements that address how they feel in romantic relationships, using a 7-point Likert

scale (1=disagree strongly to 7=agree strongly). As a continuously scaled inventory, it permitted the examination of concurrent validity of the BRQ. The BRQ and ECR correlated at 0.78, indicating that the measures tap the same construct. The BRQ was used in all but the regression analysis, which requires a continuous measure.

The PTSD Checklist Military Version (PCL-M) for DSM-IV (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996) is a self-rated scale consisting of 17 DSM-IV symptoms. Participants are asked to identify which of these symptoms they have experienced during the prior month, rating their severity on a 5-point scale. The PCL-M has high sensitivity and specificity for PTSD experienced by combat veterans, and internal consistency for the total scale was 0.94. Current PTSD diagnoses were calculated from the PCL-M using an algorithm that approximated the DSM-IV diagnostic criteria.

For the sake of convenience, data previously gathered (Engdahl et al., 1997) on demographic factors, weight loss in captivity (an indicator of trauma severity), and scores on the Combat Exposure Scale (CES) (Keane et al., 1989) was used in the current investigation. Since these variables have been found stable (Engdahl et al., 1997), their re-use was judged unlikely to interfere with validity of data.

RESULTS

Overall, 65% of the 107 former POWs reported insecure attachment styles as measured by the BRQ. This was significantly higher [$\chi^2=13.45$, $p<.001$, $df(1)$, $N=480$] than the 45% rate reported in studies of college students (Shaver & Hazan, 1993). Among those with insecure attachment, 42% met current criteria for PTSD, assessed using the PCL-M, compared to 10.8% of those reporting secure attachment [$\chi^2=10.95$, $p=.001$, $df(1)$, $N=106$].

On the ECR subscales measuring secure, preoccupied, fearful, and dismissive attachment, a multivariate ANOVA found significant differences between those meeting and those not meeting PTSD diagnostic criteria ($F(2,102)=11.32$, $p<.001$). On the preoccupied, fearful, and dismissive scales, veterans meeting current PTSD criteria scored significantly higher than those who did not [$F(1,103)=19.61$, $p<.001$; $F(1,103)=22.27$, $p<.001$; $F(1,103)=16.87$, $p<.001$; respectively]. Conversely, on the secure scale of the ECR, veterans meeting PTSD criteria scored significantly lower than those who did not [$F(1,103)=21.22$, $p<.001$].

Veterans with insecure attachment style (as defined by the BRQ) had significantly higher PCL-M total scores [$F(1,104)=13.88, p<.001$], and higher scores on all the three PTSD symptom criteria groups of re-experiencing [$F(1,104) 4.52, p=.036$], avoidant [$F(1,104)=14.87, p<.001$], and hyperarousal [$F(1,104)=13.70, p<.001$] (see TABLE 1).

A hierarchical regression was conducted to compare the relative contributions of attachment style to prediction of PTSD symptoms and of combat exposure and weight loss in captivity to such prediction. The predictors were entered in the following order: combat exposure, percent weight loss, and attachment insecurity. Results are shown in TABLE 2, and indicate that although all three predictors were significant, a substantial amount of the overall predictive power came from the attachment variable. Subsequent analyses found no significant interactions among the three predictors.

Using PTSD diagnosis as a dependent variable, the analysis was repeated, using logistic regression. In place of ECR as a continuous measure of attachment, the BRQ was used as an indicator of insecure attachment style. Variables were entered hierarchically in the same order as the ordinary least-squares regression. In this case, only weight loss in captivity ($p=.023$, Odds Ratio [OR]=1.048, 95% Confidence Interval [CI]=1.006 to 1.091) and insecure attachment style ($p=.003$, OR=5.8, 95% CI=1.79 to 18.67) were significant predictors of PTSD diagnosis. For each 1% weight lost there was a 5% increase in likelihood of PTSD. Thus a POW who lost 20% of his body weight would be twice as likely to have PTSD as one who lost no weight. Those with insecure attachment were 5.8 times more likely to have PTSD than were those with a secure attachment style.

DISCUSSION

The study findings showed that insecurely attached POWs were more likely to have PTSD and to exhibit more symptoms than were those with a

secure attachment style. Since insecure attachment style was associated with elevated scores in all three categories of PTSD symptoms, it is unlikely that the attachment instrument was simply measuring avoidant PTSD symptoms. While trauma severity, weight loss in captivity, and attachment style all predicted PTSD symptoms, attachment style was found to be the strongest predictor. Trauma severity and attachment style made independent contributions to PTSD prediction, with no interaction effect between the two variables. This raises the possibility that these POWs' attachment style had not been changed by the exposure to trauma. If this is true, then attachment style may be an important risk or resilience factor for PTSD.

In such case, a secure attachment style could be protective, in that a positive view of oneself and others may permit better use of both internal and external supports. This would lead to a higher tolerance of traumatic events and less likelihood of developing PTSD when exposed to such events. An insecure attachment style, on the other hand, may pose both intrapsychic and interpersonal barriers to recovery from trauma exposure. Unsuccessful early attachment behavior might lead to cognitive biases against the availability of others during times of stress. Such biases, coupled with poor affect regulation, might mean that an individual is more easily overwhelmed by trauma and less resilient in its aftermath. Since individuals with insecure attachment are likely to view relationships as less reliable, they are also likely to use them less effectively in coping with and recovering from the effects of trauma.

Attachment style has been found to be an important variable in psychotherapy outcome (Fonagy *et al.*, 1996). Given the present study findings, attachment style should be a consideration in treatment planning and the process of psychotherapy for combat veterans with PTSD. For example, more attention is probably required to the development of the working alliance when patients have an in-

Table 1
PTSD MEASURES BY ADULT ATTACHMENT STYLE (BRQ)

MEASURE	SECURE ATTACHMENT STYLE			INSECURE ATTACHMENT STYLE			ANALYSIS		
	N	M	SD	N	M	SD	F	df	p
PCL									
Total Score	37	33.57	11.62	69	44.03	14.79	13.88	104	.001
Subscales									
Re-experiencing	37	10.59	4.61	69	12.67	4.87	4.52	104	.036
Avoidant	37	12.49	4.55	69	17.26	6.75	14.87	104	.001
Hypervigilant	37	10.49	4.27	69	14.10	5.05	13.70	104	.001

Table 2

HIERARCHICAL REGRESSION OF PCL TOTAL SCORE ON COMBAT INTENSITY, WEIGHT LOSS IN CAPTIVITY, AND ADULT ATTACHMENT STYLE

VARIABLE	COEFFICIENTS		β	<i>t</i>	SIG.	<i>R</i>	<i>R</i> ²	ΔR^2	ΔF
	UNSTANDARDIZED B	SE							
Combat Intensity	0.662	0.211	0.305	3.134	0.002	0.305	0.093	0.093	9.821
Combat Intensity	0.489	0.207	0.225	2.362	0.20				
% Body Weight Lost	0.374	0.111	0.322	3.379	0.001	0.436	0.190	0.097	11.420
Combat Intensity	0.505	0.176	0.233	2.876	0.005				
% Body Weight Lost	0.323	0.094	0.278	3.420	0.001				
Insecure Attachment	0.486	0.079	0.485	6.161	0.000	0.650	0.423	0.233	37.957

Note. Higher scores on attachment measure indicate greater insecurity in attachment.

secure attachment style. Unless attachment style is taken into account when working with a patient with PTSD, problems with developing the therapeutic relationship, as well as with relationships in general, might be incorrectly attributed to the traumatic event. In fact, they may be related to the patient's older patterns of behavior and require long-term intervention.

These interpretations of the study findings should be considered tentative in view of the data's reliance on self-report, retrospective information, and the single source of information regarding attachment style. Since the study was not prospective, the adult attachment style revealed by the data may not correspond to the respondent's early attachment style, rendering causal interpretations impossible. The generalizability of results is also limited, because the sample was restricted to elderly POWs of homogenous race, marital status, and education. Nevertheless, the findings provide suggestive evidence for another possible contributing factor in the development and persistence of PTSD. Future research needs to pursue other sources for the measurement of attachment styles to determine whether self-reports reflect actual behavior. A prospective study would further clarify the role of attachment style as a risk factor for PTSD. It would also be interesting to ascertain whether the three insecure attachment styles have different effects on the formation of PTSD and of specific symptom patterns within a diverse civilian population. Finally, the impact of attachment style on treatment outcome needs additional investigation.

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