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Differences in Resilience and Mental Health Symptoms Among US First Responders With Secure and Insecure Attachment

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Differences in Resilience and Mental Health Symptoms Among US First Responders With Secure and Insecure Attachment

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Objective: This observational study aimed to determine whether attachment style predicted first responders' mental health and resilience. **Method:** Data were from a treatment-seeking sample of first responders ($N = 237$). Each participant completed six assessments measuring attachment, resilience, generalized anxiety, depression, suicidality, and posttraumatic stress disorder. **Results:** On the attachment assessment, 25.3% were categorized as secure, 19.0% as dismissive, 25.3% as preoccupied, and 30.4% as fearfully attached. As predicted, securely attached participants had the lowest scores for generalized anxiety, depression, suicidality, and posttraumatic stress disorder and the highest scores on the resiliency measure, followed by dismissive, preoccupied, and fearfully attached participants. **Limitations:** These data are cross-sectional and causality cannot be inferred. **Conclusions:** Results highlight the importance of the study of attachment to psychotherapy and mental health treatment with first responders.

Keywords: attachment, depression, first responder, PTSD, resilience, suicide

LEARNING OUTCOMES

Readers will be able to:

- Conceptualize attachment theory as applied to first responders in their clinical work with this vulnerable population.
- Delineate the nominal attachment categories (secure, dismissive, preoccupied, fearful) utility as compared with the attachment secondary strategies (attachment avoidance and attachment anxiety).
- Identify ways to use attachment theory to guide practice with first responders.
- Understand when it is appropriate to conceptualize treatment via the nominal categories and the secondary strategies.
- Apply attachment behavioral system concepts to clinical work with first responders.

Because of repeated exposure to highly traumatic events (potential and actual death, injuries, and extreme violence), individuals in first responder (FR) occupations (eg, firefighters [FFs], law enforcement officers [LEOs], and emergency medical technicians [EMTs]/paramedics) are at greater risk for adverse mental health outcomes such as depression, posttraumatic stress disorder (PTSD), substance use disorders, and suicidal ideation and completion than workers not subjected to occupational trauma[1–3] (see Jones[4] for a review of prevalence rates among FRs). Attachment style can be defined as the "relatively stable pattern of thoughts, feelings, and behaviors that people exhibit in the context of their relationships."[5(p407)] It is important to study attachment in FRs because working in high-stress occupations can exacerbate the development of mental health disorders associated with insecure attachment styles. Insecurely attached FRs can be emotionally impeded from accessing adequate social support and engaging in appropriate emotional self-management and adaptive coping following exposure to stressful incidents.[6] Conversely, secure attachments are associated with resilience (ie, recovery following setbacks). First responders with secure attachment styles can better weather critical incidents and draw on coping behaviors associated with resilience in times of stress.[7] Importantly, although attachment patterns may persist across the life span, attachment styles can change with experience and environmental support[8] and in the context of corrective emotional relationships with therapists and others.[9] With this study, we aim to

- explore the literature on the relationship between attachment styles and mental health and resilience in FRs;
- search for differences in mental health between the different nominal styles of attachment in FRs; and
- inform practitioners about the importance of assessing and analyzing attachment styles when working with FRs in their clinical practice.

In the following section, we first explore the evolution of attachment theory. Next, we discuss factors that influence change in attachment stability. Finally, we conclude with research by scholars from a variety of disciplines on attachment in general and specific to FRs.

ATTACHMENT THEORY ACROSS THE LIFE SPAN

Attachment theory emphasizes the primary role of reliable, supportive attachment figures in fostering development and forming/maintaining secure and supportive adult relationships. Bowlby,[10–13] the father of attachment theory, hypothesized that variation in infant-caregiver attachment relationships depended on the quality of interaction with the caregiver, which laid the foundation for personality differences later in life.[10–13] Building on Bowlby's work, Ainsworth and Wittig[14] and Ainsworth et al[15] identified three primary attachment styles through research using the "Strange Situation" laboratory paradigm: avoidant, secure, and resistant. Main[16] further extended the study of attachment to add the disorganized-disoriented style. Adult attachment styles, on the other hand, were defined differently. Hazan and Shaver[17] developed adult attachment styles based on their theory that love and work in adulthood functioned similarly to attachment and exploration in infancy and early childhood, whereas Bartholomew[18] used a two-dimensional approach to conceptualize adult attachment, which included attachment avoidance and attachment anxiety, along with four quadrants for each nominal category: secure (comfortable with intimacy and autonomy), preoccupied (overly dependent), dismissing (denial of attachment, counter-dependent), and fearful (socially avoidant). The preoccupied and fearful attachment categories are high on the attachment anxiety dimension. Longitudinal studies shed light on how attachment evolves with development beyond early childhood and its effects on adult relationships.[19,20] In an effort to develop a more

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reliable measure of adult attachment, Brennan et al[21] developed the Experiences in Close Relationships (ECR) scale that categorized adult attachment as preoccupied, dismissive, fearful, and secure. These styles correspond to anxious (also referred to as resistant), dismissive-avoidant, fearful-avoidant, and secure styles, respectively, referred to in other literature.[5]

Although attachment styles acquired early in life are more malleable in childhood, attachment styles are amenable to change across the life span.[22] In a review of studies on the stability of attachment across the life span, McConnell and Moss[23] observed that even though both of the studies researching the short-term stability of attachment during adulthood reported a large amount of stability, fluctuations in stability were also evident, suggesting that attachment is not rigid and continues to develop during adulthood. They also concluded that the studies examining the long-term stability of attachment from infancy to adulthood presented mixed findings: whereas one study reported stability, the other two reported instability, and another one reported continuity of attachment in only 25% of the participants.

An individual's attachment style can be influenced to change unintentionally (eg, by experiencing adversity or fortuitous life events that result in reduced stress and increased well-being; see McConnell and Moss[23] for a review) or intentionally (eg, through therapy).[9] Attachment stability during adulthood could be negatively affected (transition from security to insecurity) primarily by adverse life events (eg, increased stress or child maltreatment, loss of a parent, and parental divorce in the case of short- and long-term stability, respectively) but could also be influenced by personal factors (eg, defensive coping, depressive symptomology, and hostile affect) in the case of short-term stability. Attachment stability could also be affected positively (transition from insecurity to security) by personal factors (for instance, integrated coping, improved well-being, increased positive affect, and reduced stress) in the case of short-term stability and by environmental factors (such as, better family functioning during adolescence) in the case of long-term stability from infancy to adulthood. In addition, attachment styles could be influenced not only by internal and external factors but also voluntarily in the case of treatment (see Taylor et al[24] for a review). Seedall et al,[9] for example, found a significant change in the couples' attachment over six sessions using a dimensional approach when treating couples with attachment anxiety and attachment avoidance. These findings suggest that even though the early developmental years are of greater importance for the development of attachment styles or patterns, continuity or stability of attachment is not granted, and change is possible in both directions: from security to insecurity and vice versa.

Emerging research suggests a relationship between attachment and behavioral health and well-being.[25–27] For example, secure attachment relationships support stress regulation, improved coping, and healthy support-seeking.[26] Although it is important to note that most individuals with insecure attachment do not display serious behavioral pathology or qualify for a mental health or substance use disorder diagnosis, individuals with insecure attachment are at greater risk for behavioral health problems compared to those with more secure attachment.[19,20] Namely, a fearful style is associated with having a negative self-perception and feeling unworthy and untrustworthy of others[27]; individuals with a fearful style also tend to be more dysfunctional, less flexible, and less open to new information or adaptation.[25] Moreover, insecure secondary attachment dimensions (ie, attachment anxiety and attachment avoidance) are associated with impaired coping and increased/prolonged difficulty managing symptoms related to challenges and trauma.[26] Scholars have also proposed a relationship between attachment and suicidal behavior.[28] Suicidal behaviors viewed through an attachment lens can be seen as a form of hyperactivation, with the attachment anxiety dimension undergirding preoccupied and fearful attachment categories.[26]

Research on FRs suggests occupational challenges and traumas may contribute to attachment disruptions.[29,30] Halpern et al[6] examined the effects of attachment insecurity in 189 urban ambulance workers. Fearful-avoidant attachment, characterized by the interference in accessing social support due to anticipated disappointment, was most strongly correlated with depression but was also associated with maladaptive coping, reductions in social support, and recovery delays in social withdrawal and physical arousal symptoms after exposure to a critical incident.

In another study, volunteer FFs reported higher depressive symptoms, posttraumatic stress, suicidal symptoms, and higher rates of suicide plans and attempts than career FFs.[31] Compared with career FFs, volunteer FFs who may have fewer opportunities to form supportive attachment camaraderie-based relationships with their colleagues reported higher levels of structural barriers to mental health care that fully mediated the relationship between type of employment and mental health symptoms. In the same survey, career FFs reported higher levels of problematic alcohol use than volunteer FFs; no differences between volunteer and career FFs were found for insomnia symptom severity, suicidal thoughts, plans, impulses, and suicidal ideation.[31] In the following section, we turn our attention to resilience.

Resilience

In this section, we define resilience as an outcome and process. Next, we explore research on factors that impede (risk) and support (protective) resilience. Then, we explore relationships between attachment and resilience. Lastly, we present research on attachment and resilience in FR populations.

Resilience is a concept rooted in the study of adversity and focuses on why and when individuals are exposed to the same stressors, some become ill, yet others emerge healthy.[32] The construct of resilience may be considered as an outcome in and of itself or as a process that leads to positive outcomes. For example, Southwick et al[33] defined resilience as an outcome: "A stable trajectory of healthy functioning after a highly adverse event" (as cited by Southwick et al[33(p1)]), whereas Van Breda[32] defined resilience as "the multilevel processes that systems engage in to obtain better-than-expected outcomes in the face or wake of adversity."[32(p4)] Longitudinal research shows attachment directionally precedes resilience, rather than the reverse.[34]

Research on resilience in FRs has focused on risk and protective factors. Risk factors associated with decreased resiliency among FRs include advanced age and length of time workers have been employed in emergency care.[35] Research has linked greater trauma exposure, emotional exhaustion, lack of social support, and greater alcohol and tobacco use to lower levels of trauma resiliency among FR populations.[36] Women FRs are more likely to report secondary traumatization than men, and studies have associated secondary traumatization with burnout and PTSD.[36]

Factors that promote resiliency among FRs include elevated levels of self-compassion and higher scores on mindfulness.[35,37] Greater feelings of integration in their FR work setting, participation in case discussions, receiving social support, and feeling prepared and competent minimized secondary trauma symptoms and were identified as significant protective factors associated with resilience and symptom reduction.[35,38]

Attachment is closely related to resilience.[39] Attachment relationships with spouses, partners, other family members, and supportive individuals promote resilience.[40] Attachment security can act as a resiliency resource that is protective against trauma.[41] Thus, attachment is important to study in the context of resilience because it provides a helpful lens for understanding the potentially protective effects of supportive relationships for dealing with the impact of repeated exposure to significant challenges and trauma.

In a retrospective analysis examining the impact of COVID on FRs' attachment, resilience, depression, generalized anxiety, posttraumatic stress, and suicidality, Carbajal et al[7] compared baseline behavioral health data collected from a treatment-seeking population of FRs before

(n = 69) and after (n = 75) the onset of the COVID-19 pandemic. They found that correlations between resilience, depression, generalized anxiety, and attachment anxiety were stronger for the post-COVID sample than the pre-COVID sample, highlighting the role attachment plays in buffering or amplifying mental health symptoms during times of great stress.

Sroufe[20] asserted that resilience is not a construct that is sedentary or fixed; rather, "findings shed light on the phenomenon of resilience as [a] developmental process."[20(p1002)] This conception would align with previous research that resilience is a modifiable risk factor among FRs.[42] In addition, PeConga et al[43] suggested that resilience could be increased during the COVID-19 pandemic by developing social support, direct prosocial behaviors, and adaptive meaning. Furthermore, research has shown that a securely attached attachment figure can promote or enhance resilience through internalization, which helps develop adaptive downregulation techniques.[26]

Current Study

Secure attachment can function as a critical resilience factor in adulthood.[44] Assessing and accounting for attachment style in therapy have been shown to improve trauma treatment outcomes.[45] Because both attachment styles and resilience could potentially be changed or developed, it is important to study possible relationships between them, as well as a hypothesized relationship between attachment and mental health issues. Those relationships, if confirmed, would have broad clinical implications in preventing and treating mental health issues among FRs.

An earlier study using a smaller subset of the same data explored correlations between pre (n = 69) and peri-COVID (n = 75) attachment, resilience, depression, generalized anxiety, PTSD, and suicidality.[7] This study fills an important gap in the research literature by examining how differences in attachment styles influence resilience and the negative effects of FRs' occupational trauma in a larger sample of FRs. The purpose of the study was to identify differences between attachment style groups on generalized anxiety, depression, suicide, and resilience in a larger sample of FRs (N = 237) to guide treatment. We hypothesized that FRs with secure attachment would have higher resilience and lower depression, generalized anxiety, PTSD, and suicidality scores than those who were insecurely attached.

METHODS

Procedures

Sample Description and Setting

Data analyzed from this study were collected from treatment-seeking FRs who voluntarily sought mental health treatment between 2019 and 2021 at an outpatient nonprofit agency in the South-Central United States that specializes in serving veterans, FRs, health care workers, and their families. Data were collected from the demographic questionnaire, routine informed consent, and clinical assessments completed by new clients and used for ongoing internal program evaluation purposes. For inclusion in the current study, participants must have completed six standardized assessments measuring attachment, resilience, generalized generalized anxiety, depression, PTSD, and suicidality. After excluding participants with missing information on these assessments, the sample size was 237 participants, who were 70% male, with a mean age of 37.47 (SD, 10.41) years. This study was approved by the University of Texas Health Science Center Institutional Review Board (HSC-SPH-20-1264).

Measures

Experiences in Close Relationships

The ECR scale assesses adult attachment.[21] It includes 36 questions on a 7-point Likert scale with responses ranging from 1 ("disagree strongly") to 7 ("agree strongly") on two factors: attachment avoidance and attachment anxiety. The ECR can be used to categorize a respondent into one of the four nominal categories: secure, dismissive, preoccupied, or fearful. An example is: "I often worry that my partner will not want to stay with me." In the current study, the Cronbach α of the scale was $\alpha = 0.923$.

Response to Stressful Experiences Scale-22

Johnson et al[46] developed the Response to Stressful Experiences Scale-22 (RSES-22) to assess resilience, and it has since been validated with FRs.[47] Twenty-two questions are summed with a range of 0 to 88. Recommended cut scores were not provided by the authors; however, higher scores represent more resilience.[46,47] An example item is: "During and after life's most stressful events, I tend to take action to fix things." In the current study, Cronbach α for the scale was $\alpha = 0.920$.

Generalized Anxiety Disorder-7

Spitzer et al[48] developed the Generalized Anxiety Disorder-7 (GAD-7) to screen for generalized anxiety disorder. The GAD-7 responses range from 0 ("not at all") to 3 ("nearly every day"), and aggregated scores range from 0 to 21, with higher scores indicating more severe generalized anxiety. In the original primary care validation sample, the optimal cutoff score was determined as 10; however, a systematic review and meta-analysis study by Plummer et al[49] found the GAD-7 acceptably identified generalized anxiety disorder at cutoffs of 7 to 10. They recommended using a cutoff for 8 or 9 to optimize sensitivity for identifying any anxiety disorder. An example item is: "Over the last 2 weeks, how often have you been bothered by the following problems: Worrying too much about different things? In the current study, the Cronbach α of the scale was $\alpha = 0.907$.

Patient Health Questionnaire-9

Kroenke et al[50] developed the Patient Health Questionnaire-9 (PHQ-9) to assess the presence of depression, and responses range from 0 ("not at all") to 3 ("nearly every day").[50] Aggregated scores range from 0 to 27, with higher scores indicating a greater severity of depression. According to a meta-analysis by Manea et al,[51] 10 is the most often recommended PHQ-9 cutoff score; however, the PHQ-9 was determined to acceptably detect major depressive disorder using cutoff scores ranging from 8 to 11. An example item is: "How often have you been bothered by the following over the past 2 weeks: Feeling down, depressed, or hopeless?"[50] In the current study, the Cronbach α of the scale was $\alpha = 0.888$.

Suicidal Behaviors Questionnaire—Revised

Osman et al[52] developed the 4-item Suicidal Behaviors Questionnaire—Revised (SBQ-R) to assess suicidality, and a cutoff score of 8 was determined to maximize sensitivity and specificity for differentiating suicide risk levels in adults. Aggregated scores range from 3 to 18, with higher scores indicating a greater risk of suicide. An example item is: "How likely is it that you will attempt suicide someday?" In this sample, Cronbach α for the scale was $\alpha = 0.852$.

PTSD Checklist-5

Blevins et al[53] developed the PTSD Checklist-5 (PCL-5) to assess for the presence of PTSD.[53] It comprised 20 questions ranked on a Likert scale from 0 ("not at all") to 4 ("extremely"), which are aggregated, with scores ranging from 0 to 80. Higher scores indicate more severe PTSD symptoms. An example item would be: "In the past month, how much were you bothered by avoiding memories, thoughts, or feelings related to the stressful experience?" Scholars recommend an aggregated cutoff score of 41 on the PCL-5 for a probable PTSD diagnosis in FRs.[54] In the current study, the Cronbach α of the scale was $\alpha = 0.936$.

TABLE 1. Demographics

Characteristic	Sample ($N = 237$)
Age, y	
Mean	37.47
Median	35.00
SD	10.41
Range	48
Length of time as FR, y	
Mean	11.89
Median	10.00
SD	9.26
Range	40
Race, n (%)	
White	189 (79.8)
Hispanic	28 (11.8)
African American	9 (3.8)
Asian	6 (2.5)
Two or more	3 (1.3)
Native American	2 (0.8)
FR subtype, n (%)	
LEO	127 (53.6)
EMT	56 (23.6)
Fire	49 (20.7)
Two or more	5 (2.1)
Prior service, n (%)	58 (24.5)

EMT, emergency medical technician; FR, first responder; LEO, law enforcement officer.

Data Analytic Plan

Statistical analysis was performed using the Statistical Package for the Social Sciences version 27.0 (IBM Corp, Armonk, NY). There were no missing values in the sample, and all the mental health measures were normally distributed. Based on ECR scores, FRs were placed into one of the four nominal attachment categories (secure, dismissive, preoccupied, and fearful) corresponding to attachment style, hereafter referred to as "attachment" groups or categories. From there, the researchers tested mean differences between attachment groups by conducting five one-way analyses of variance (ANOVAs) tests for each mental health measure (RSES-22, GAD-7, PHQ-9, SBQ-R, and PCL-5). For the ANOVAs, we computed partial η-squared statistics as a measure of effect size (η_p^2). Effect size ranges are 0.01 (small), 0.06 (medium), and 0.14 (large).[55] In this sample, attachment groups were categorized as one of four nominal categories: secure, dismissive, preoccupied, and fearful. If the model was statistically significant, Tukey honestly significant difference (HSD) was conducted post hoc to identify which nominal attachment categories were significant compared with the others.

RESULTS

Participants

The average age of the participants was 37.47 (SD, 10.41) years. The majority of the sample were men (70% [n = 166]), with women comprising the remainder of the sample (30% [n = 71]). Most of the respondents identified as White (79.8% [n = 189]), Hispanic (11.8% [n = 28]), African American (3.8% [n = 9]), Asian American (2.5% [n = 6]), two or more ethnicities (1.3% [n = 3]), and Native American (0.8% [n = 2]). More than half the sample were LEOs (53.6% [n = 127]), followed by EMTs (23.6% [n = 56]), FF (20.7% [n = 49]), and FRs in two or more categories (2.1% [n = 5]). The average time working as an FR was 11.89 (SD, 9.26) years. Twenty-four percent of the sample ($n = 58$) had prior military service. See Table 1 for demographic information for the study participants.

Descriptive Statistics

Based on average scores for the nominal attachment groups, the securely attached FR group had the highest resilience scores (mean, 68.33 [SD, 11.30]) of all the groups, and those in the fearful group had the lowest resilience scores (mean, 57.64 [SD, 11.90]). Those in the securely attached group had the lowest generalized anxiety scores (mean, 10.18 [SD, 5.74]), whereas those in the fearfully attached group had the highest generalized anxiety scores (mean, 13.99 [SD, 5.50]). Also, securely attached FRs had the lowest depression scores (mean, 9.81 [SD, 6.32]), whereas fearfully attached FRs had the highest depression scores (mean, 14.07 [SD, 14.07]). In addition, securely attached FRs had the lowest suicidality scores (mean, 3.90 [SD, 2.46]), and FRs with a fearful attachment category had the highest suicidality scores (mean, 5.67 [SD, 3.65]). Lastly, securely attached FRs had the lowest PTSD scores (mean, 27.38 [SD, 16.66]), and FRs in the fearfully attached category had the highest PTSD scores (mean, 38.83 [SD, 17.47]) (Table 2).

One-Way ANOVA

There was a statistically significant difference in resilience scores between attachment group categories as determined by the one-way ANOVA ($F_{3,233} = 9.59$, $P < 0.001$) with a medium effect size ($\eta_p^2 = 0.11$; 95% confidence interval [CI], 0.04 to 0.18). A Tukey post hoc test revealed that there was a statistically significant difference between mean resilience scores for secure attachment; dismissive (95% CI, 1.23 to 13.35; $P = 0.011$), preoccupied (95% CI, 2.94 to 14.16; $P < 0.001$), and fearful (95% CI, 5.32 to 16.07; $P < 0.001$) categories (Table 3 and Figure 1).

There was a statistically significant difference in generalized anxiety scores between attachment categories as determined by the one-way ANOVA ($F_{3,233} = 5.25$, $P < 0.01$) with a medium effect size ($\eta_p^2 = 0.06$; 95% CI, 0.01 to 0.12). A Tukey post hoc test revealed

TABLE 2. Descriptive Statistics of Mental Health Assessments

	Mean (SD)	Minimum	Maximum	Range
Resilience				
Secure	68.33 (11.30)	23	88	65
Dismissive	61.04 (14.07)	24	88	64
Preoccupied	59.78 (10.56)	24	78	54
Fearful	57.64 (11.90)	26	81	55
Generalized anxiety				
Secure	10.18 (5.74)	0	21	21
Dismissive	11.16 (5.76)	0	21	21
Preoccupied	12.35 (6.02)	0	21	21
Fearful	13.99 (5.50)	0	21	21
Depression				
Secure	9.83 (6.32)	0	25	25
Dismissive	10.80 (6.14)	1	23	22
Preoccupied	13.08 (7.03)	0	25	25
Fearful	14.07 (6.56)	1	27	26
Suicidal ideation				
Secure	3.90 (2.46)	3	12	9
Dismissive	4.69 (2.85)	3	13	10
Preoccupied	5.55 (3.19)	3	16	13
Fearful	5.67 (3.65)	3	14	11
PTSD				
Secure	27.38 (16.66)	0	67	67
Dismissive	31.51 (17.99)	1	72	71
Preoccupied	36.15 (20.29)	0	75	75
Fearful	38.83 (17.47)	1	74	73

Generalized Anxiety Disorder-7 (generalized anxiety), PTSD Checklist-5 (PTSD), PHQ-9, Patient Health Questionnaire-9 (depression), Responses to Stressful Experiences Scale-22 (resilience), Suicide Behaviors Questionnaire—Revised (suicidal ideation). Secure (25.3% [n = 60]), dismissive (19.0% [n = 45]), preoccupied (25.3% [n = 60]), and fearful (30.4% [n = 72]).

PTSD, posttraumatic stress disorder.

TABLE 3. Tukey HSD Post Hoc Test for Resilience by Attachment Category

	Mean Difference (SE)	*P*	95% CI
Resilience			
Secure			
Dismissive	7.29 (2.34)	0.011	1.23 to 13.35
Preoccupied	8.55 (2.17)	<0.001	2.94 to 14.16
Fearful	10.69 (2.08)	<0.001	5.32 to 16.07
Dismissive			
Secure	−7.29 (2.34)	0.011	−13.35 to −1.23
Preoccupied	1.26 (2.34)	0.95	−4.80 to 7.32
Fearful	3.41 (2.26)	0.43	−2.44 to 9.25
Preoccupied			
Secure	−8.55 (2.17)	<0.001	−14.16 to −2.94
Dismissive	−1.26 (2.34)	0.95	−7.32 to 4.80
Fearful	2.14 (2.08)	0.73	−3.23 to 7.52
Fearful			
Secure	−10.69 (2.08)	<0.001	−16.07 to −5.32
Dismissive	−3.41 (2.26)	0.43	−9.25 to 2.44
Preoccupied	−2.14 (2.08)	0.73	−7.52 to 3.23

Response to Stressful Events Scale (resilience). Secure (25.3% [n = 60]), dismissive (19.0% [n = 45]), preoccupied (25.3% [n = 60]), and fearful (30.4% [n = 72]).
CI, confidence interval; HSD, honestly significant difference.

TABLE 4. Tukey HSD Post Hoc Test for Generalized Anxiety and Depression by Attachment Category

	Mean Difference (SE)	*P*	95% CI
Generalized anxiety			
Secure			
Dismissive	−0.97 (1.13)	0.83	−3.90 to 1.96
Preoccupied	−2.17 (1.05)	0.17	−4.88 to 0.55
Fearful	−3.80 (1.00)	0.001	−6.40 to −1.20
Dismissive			
Secure	0.97 (1.13)	0.83	−1.96 to 3.90
Preoccupied	−1.19 (1.13)	0.72	−4.13 to 1.74
Fearful	−2.83 (1.09)	0.049	−5.66 to −0.01
Preoccupied			
Secure	2.17 (1.05)	0.17	−0.55 to 4.88
Dismissive	1.19 (1.13)	0.72	−1.74 to 4.13
Fearful	−1.64 (1.00)	0.36	−4.24 to 0.96
Fearful			
Secure	3.80 (1.00)	0.001	1.20 to 6.40
Dismissive	2.83 (1.09)	0.049	0.01 to 5.66
Preoccupied	1.64 (1.00)	0.36	−0.96 to 4.24
Depression			
Secure			
Dismissive	−0.97 (1.29)	0.88	−4.31 to 2.38
Preoccupied	−3.25 (1.20)	0.035	−6.34 to −0.16
Fearful	−4.24 (1.14)	0.002	−7.20 to −1.27
Dismissive			
Secure	0.97 (1.29)	0.88	−2.38 to 4.31
Preoccupied	−2.28 (1.29)	0.29	−5.63 to 1.06
Fearful	−3.27 (1.24)	0.045	−6.49 to −0.05
Preoccupied			
Secure	3.25 (1.20)	0.035	0.16 to 6.34
Dismissive	2.28 (1.29)	0.29	−1.06 to 5.63
Fearful	−0.99 (1.14)	0.83	−3.95 to 1.98
Fearful			
Secure	4.24 (1.14)	0.002	1.27 to 7.20
Dismissive	3.27 (1.24)	0.045	0.05 to 6.49
Preoccupied	0.99 (1.14)	0.83	−1.98 to 3.95

Generalized Anxiety Disorder-7 (generalized anxiety), Patient Health Questionnaire-9 (depression). Secure (25.3% [n = 60), dismissive (19.0% [n = 45]), preoccupied (25.3% [n = 60]), and fearful (30.4% [n = 72]).
CI, confidence interval; HSD, honestly significant difference.

significant differences between mean generalized anxiety scores for the secure and fearful attachment (95% CI, −6.40 to −1.20; $P = 0.001$) categories. However, there was no significant difference in generalized anxiety scores between the secure attachment category compared with the dismissive (95% CI, −3.90 to1.96; $P = 0.83$) and preoccupied (95% CI, −4.88 to0.55; $P = 0.17$) categories (Table 4 and Figure 2).

Depression scores also significantly differed between attachment categories as determined by the one-way ANOVA ($F_{3,233} = 5.61$, $P = 0.001$) with a medium effect size ($\eta_p^2 = 0.07$; 95% CI, 0.01 to 0.13). A Tukey post hoc test revealed a statistically significant difference in depression scores between secure and preoccupied (95% CI, −6.34 to −0.16; $P < 0.05$), and fearful attachment (95% CI, −7.20 to −1.27; $P < 0.01$). However, there was not a significant difference on mean depression scores between the secure and dismissive attachment (95% CI, −4.31 to 2.38; $P = 0.88$) categories (Table 4 and Figure 2).

There was a statistically significant difference in suicidality scores between attachment categories as determined by the one-way ANOVA ($F_{3,233} = 4.37$, $P < 0.01$) with a small effect size ($\eta_p^2 = 0.05$; 95% CI, 0.01 to 0.11). A Tukey post hoc test revealed that there was a statistically significant difference between secure attachment suicidality scores, and preoccupied (95% CI, −3.12 to −0.18; $P < 0.05$) and fearful attachment (95% CI, −3.18 to −0.36; $P < 0.01$). However, there was not a significant difference on mean suicidality scores for the secure and dismissive attachment (95% CI, −2.38 to 0.80; $P = 0.57$) categories (Table 5 and Figure 2).

There was a statistically significant difference in PTSD scores between attachment categories as determined by the one-way ANOVA

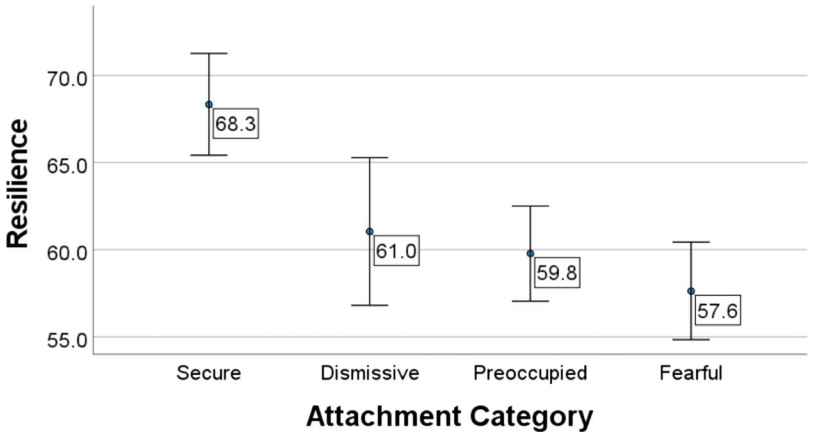

FIGURE 1. Resilience by nominal attachment category.

($F_{3,233} = 4.93$, $P < 0.01$) with a medium effect size ($\eta_p^2 = 0.06$; 95% CI, 0.01 to 0.12). A Tukey post hoc test revealed a statistically significant difference in mean PTSD scores between secure and preoccupied (95% CI, −17.33 to −0.20; $P < 0.05$), and fearful (95% CI, −19.65 to −3.25; $P < 0.01$) attachment categories. However, there was no significant difference in mean PTSD scores for the secure and dismissive attachment (95% CI, −13.38 to 5.12; $P = 0.66$) categories (Table 5 and Figure 2).

DISCUSSION

Secure attachment is an important resilience factor for FRs working in high-stress occupations. The main purpose of the current study was to determine if differences existed by FR attachment categories for resilience and mental health symptoms. This study demonstrates that FRs who are securely attached had the highest resilience scores and lowest depression, generalized anxiety, PTSD, and suicidality scores, compared with FRs with insecure attachment.

First responders in the securely attached category fell just above the established GAD-7 cutoff of 10 for anxiety, whereas those in the fearful group scored well above the cutoff.[49] Securely attached FRs fell slightly below the PHQ-9 cutoff of 10, whereas FRs in the fearful group scored well above the cutoff for a diagnosis of major depressive disorder.[51] Securely attached FRs scored well below the SBQ-R cutoff of 8 for suicidality, in contrast to those with a fearful attachment, who scored well above it. Fearfully attached FRs had higher mean PCL-5 scores in comparison to securely attached FRs; however, both groups scored less than 41 points, which is the recommended cutoff score for FRs on the PCL-5.[54]

In other words, those securely attached had the lowest scores on negative outcomes, followed by dismissive, preoccupied, and attached FRs, respectively. In contrast, securely attached FRs had the highest resilience scores (and thus were the most adaptive), whereas FRs in the dismissive, preoccupied, and fearfully attached categories had the lowest resilience scores.

The most consistent findings regarding generalized anxiety and depression were that FRs who were fearfully attached were significantly different from those who were securely or dismissively attached. For both generalized anxiety and depression, the secure versus fearful attachment link was stronger than the fearful and dismissive relationship, which fell just under the 0.05 level of significance. In a longitudinal study using an EMT sample, Halpern et al[6] uncovered that the fearful-avoidant attachment relationship with depression was independent of the relationship between attachment style and physical arousal, and social withdrawal postcritical incident. Our cross-sectional results also support that relationship.

A recent study investigated differences between treatment-seeking and non–treatment-seeking EMS professionals. The researchers found that those who presented for their intake appointment scored statistically significantly higher on all measures including attachment, PTSD, depression, and generalized anxiety. The attachment avoidance effect size was small, whereas attachment anxiety had a medium effect size. A separate study comparing LEOs versus EMTs/FFs at baseline found no significant difference in attachment avoidance. In contrast, the EMT/FF group had significantly higher attachment anxiety with a large effect size (Ponder et al, under review). Furthermore, LEOs were 233% more likely to be securely attached than the FF/EMT group. Lastly, FFs/EMTs were 62% more likely to have a preoccupied attachment style.[56]

First responders in the secure attachment category had the lowest prospective depression within a longitudinal clinical sample, whereas those with fearful attachment had the highest scores.[57] Those in the secure attachment category also had the lowest retrospective depression over the 3-year data collected. In contrast, fearfully attached clients had the highest retrospective depressive scores. Using the dimensional approach, relationships between attachment anxiety and depression are explained by the tendency to rely on emotionally focused coping. In contrast, the link between attachment avoidance and depression is characteristic of distant coping and a hesitancy to seek support.[26] In a large sample of Danish trauma survivors, Armour et al[58] found that persons with secure attachment had the lowest levels of PTSD, depression, and anxiety, followed by those with a preoccupied attachment style. Survivors who were fearfully attached had the highest levels of PTSD, depression, and anxiety. Our findings align with the previously mentioned study in that those with fearful attachment had the highest scores, and those securely attached had the lowest.

Our study has important clinical implications that can be used to inform practitioners about the importance of assessing and analyzing attachment styles when treating FRs. Working with clients to identify their attachment style and build a trusting therapeutic relationship

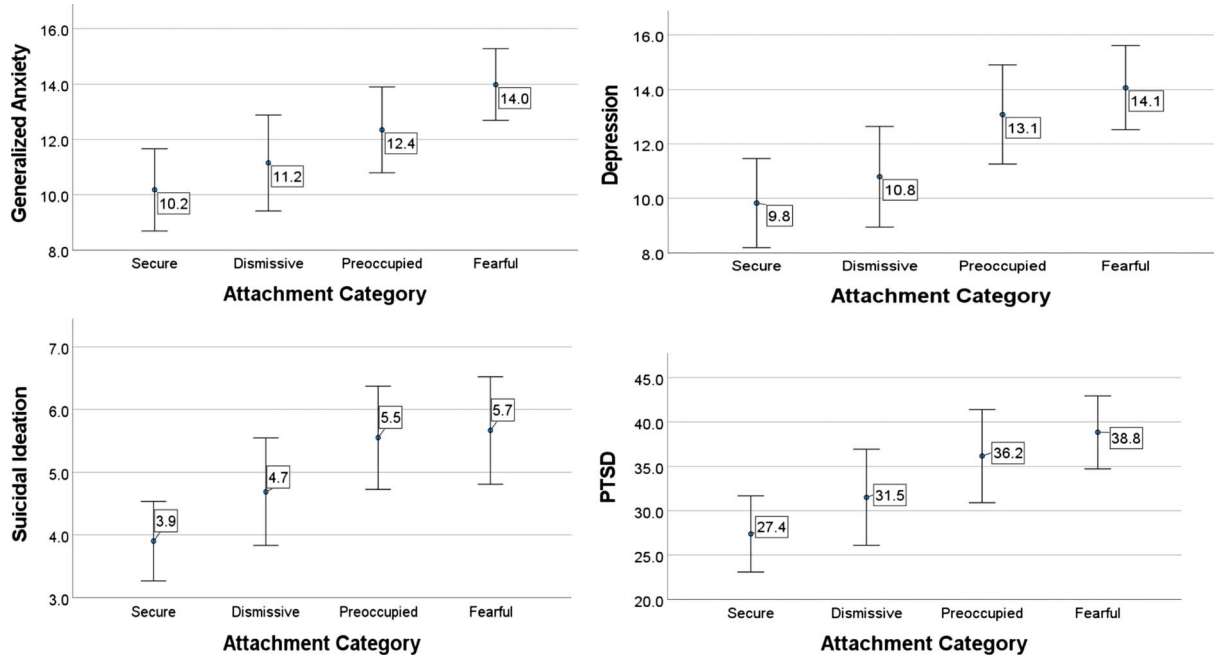

FIGURE 2. Generalized anxiety, depression, suicidal ideation, and posttraumatic stress disorder by nominal attachment category.

TABLE 5. Tukey HSD Post Hoc Test for Suicidal Ideation and PTSD by Attachment Category

	Mean Difference (SE)	*P*	95% CI
Suicidal ideation			
Secure			
Dismissive	−0.79 (0.62)	0.57	−2.38 to 0.80
Preoccupied	−1.65 (0.57)	0.021	−3.12 to −0.18
Fearful	−1.77 (0.54)	0.007	−3.18 to −0.36
Dismissive			
Secure	0.79 (0.61)	0.57	−0.80 to 2.38
Preoccupied	−0.86 (0.61)	0.50	−2.45 to 0.73
Fearful	−0.98 (0.59)	0.35	−2.51 to 0.55
Preoccupied			
Secure	1.65 (0.57)	0.021	0.18 to 3.12
Dismissive	0.86 (0.61)	0.50	−0.73 to 2.45
Fearful	−0.12 (0.54)	0.997	−1.53 to 1.29
Fearful			
Secure	1.77 (0.54)	0.007	0.36 to 3.18
Dismissive	0.98 (0.59)	0.35	−0.55 to 2.51
Preoccupied	0.12 (0.54)	0.997	−1.29 to 1.53
PTSD			
Secure			
Dismissive	−4.13 (3.57)	0.66	−13.38 to 5.12
Preoccupied	−8.77 (3.31)	0.043	−17.33 to −0.20
Fearful	−11.45 (3.17)	0.002	−19.65 to −3.25
Dismissive			
Secure	4.13 (3.58)	0.66	−5.12 to 13.38
Preoccupied	−4.64 (3.58)	0.57	−13.89 to 4.61
Fearful	−7.32 (3.44)	0.15	−16.24 to 1.59
Preoccupied			
Secure	8.77 (3.31)	0.043	0.20 to 17.33
Dismissive	4.64 (3.58)	0.57	−4.61 to 13.89
Fearful	−2.68 (3.17)	0.83	−10.88 to 5.52
Fearful			
Secure	11.45 (3.17)	0.002	3.25 to 19.65
Dismissive	7.32 (3.44)	0.15	−1.59 to 16.24
Preoccupied	2.68 (3.17)	0.83	−5.52 to 10.88

Suicidal Behaviors Questionnaire—Revised (suicidal ideation), PTSD Checklist-5 (posttraumatic stress disorder). Secure (25.3% [n = 60]), dismissive (19.0% [n = 45]), preoccupied (25.3% [n = 60]), and fearful (30.4% [n = 72]).

CI, confidence interval; HSD, honestly significant difference; PTSD, posttraumatic stress disorder.

can aid them in rebuilding other important relationships in their lives. Our findings indicate that FRs had the highest scores in the fearful category, followed by the preoccupied and dismissive categories. This finding aligns with our findings regarding depression, generalized anxiety, and PTSD. In other words, our findings suggest that of the negative attachment styles, fearful attachment is the style that frequently sustains psychological symptoms. A key takeaway for practitioners is the importance of assessing and addressing a client's maladaptive attachment styles. Identifying and treating attachment dysfunction might more broadly improve treatment outcomes by generalizing to other clinical issues that need to be addressed. Many FRs do not seek treatment. Rikkers and Lawrence[59] found that FRs in Australia did not immediately seek help for their mental health symptoms, and because of their treatment delay, their symptoms were worse than those who sought immediate help.

In a study of a 24-week-long neuroscience-based intervention guided by attachment theory, Ponder and Smith[60] found that the intervention increased resilience by 11% and relationship satisfaction by 12%. Also, the intervention reduced depression by 33%, generalized anxiety by 67%, suicidality by 17%, and PTSD by 64%.

Recently published research supports that affective depression is an area to target for clinical focus when treating FRs. Whitworth et al[61] found that affective depression mediated the relationship between PTSD to suicidality, whereas somatic depression did not. Furthermore, a network analysis of treatment-seeking FRs uncovered that affective depression and the PTSD symptom cluster of negative alterations in cognitions and mood had the highest strength centrality. However, those two nodes did not significantly differ from one another.[62] In comparing treatment and non–treatment-seeking LEOs, the researchers found that those not undergoing treatment had 1.76 times the odds of experiencing suicidality.[63] The only statistically significant predictor of suicide in both samples was affective depression.[61,63] In a network analysis of treatment-seeking FRs, the construct of resilience was upstream from suicide in the directed acyclic graph.[62] This finding suggests that resilience can be conceptualized as *activated* or *applied* as needed[62] and underscores the necessity of resilience training to buffer against suicidality among FRs.

An important step in preventing and treating mental health problems among FRs is not only the availability of personal and community resources but also education on mental health, as was suggested by results from a qualitative study exploring barriers and facilitators to seeking mental health care among FFs.[64] In this study, Jones et al[64] identified a third broad category called *knowledge* (education and awareness) that reflected FRs' need to know more about mental health problems (symptoms, when to seek help, availability of resources, and benefits of seeking help) but also that they need to be educated about the possibility of their health being affected by day-to-day operations. The presence of knowledge about mental health problems and symptom severity, in combination with shared personal experiences by colleagues, support by peers and administration, and having had a prior positive experience with a therapist, is a factor that can positively influence FRs to seek mental health care. However, the absence of knowledge about mental health problems and severity, combined with barriers to care observed among FRs (eg, mental health stigma, illness viewed as a sign of weakness, fear of confidentiality breach, a previous negative experience with a therapist, and the concern of being a family burden), is a factor that can prevent FRs from getting needed help.[65] Therefore, including education on attachment style and the effects of attachment on personal and professional relationships, as well as treatment-seeking behavior, in preventive programs aimed at improving FRs' mental health outcomes might encourage help-seeking by overcoming internal barriers.

Limitations

This study included a treatment-seeking sample; it is unknown if similar findings would be present in a nonclinical sample. We did not collect data on substance use. Lack of data on substance use is problematic because 34% of the FRs who sought treatment before the pandemic screened positive for a possible substance use disorder, yet 44% of those who sought treatment after the onset of the pandemic screened positive for a possible substance use disorder.[66] Future studies should conduct analyses on each FR subtype (LEO, FF, EMT) and include call dispatchers. Future studies should also model these data longitudinally to see if a change in the relationship between any variables could be detected and if addressing attachment style impacts symptomatology. Another limiting factor is based on caution that the ECR scale loses some reliability when scores are collapsed into a nominal category.[21] Consequently, we recommend using more than one measure to assess attachment category. Notwithstanding, this study offers a meaningful contribution that can propel the FR attachment literature forward.

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