HHS Public Access

Author manuscript

J Fam Psychol. Author manuscript; available in PMC 2017 February 01.

Published in final edited form as:

J Fam Psychol. 2016 February ; 30(1): 52–62. doi:10.1037/fam0000152.

Relationship of Service Members' Deployment Trauma, PTSD Symptoms and Experiential Avoidance to Postdeployment Family Reengagement

Callie Brockman[a], **James Snyder**[a], **Abigail Gewirtz**[b], **Suzanne R. Gird**[a], **Jamie Quattlebaum**[a], **Nicole Schmidt**[a], **Michael R. Pauldine**[a], **Katie Elish**[a], **Lynn Schrepferman**[a], **Charles Hayes**[a], **Robert Zettle**[a], and **David DeGarmo**[c]

[a]Wichita State University

[b]University of Minnesota

[c]University of Oregon

Abstract

This research examined whether military service members' deployment-related trauma exposure, PTSD symptoms and experiential avoidance are associated with their observed levels of positive social engagement, social withdrawal, reactivity-coercion, and distress avoidance during postdeployment family interaction. Self reports of deployment related trauma, postdeployment PTSD symptoms and experiential avoidance were collected from 184 men who were deployed to the Middle East conflicts, were partnered, and had a child between 4 and 13 years of age. Video samples of parent-child and partner problem solving and conversations about deployment issues were collected, and were rated by trained observers to assess service members' positive engagement, social withdrawal, reactivity-coercion, and distress avoidance, as well as spouse and child negative affect and behavior. Service members' experiential avoidance was reliably associated with less of observed positive engagement and more observed withdrawal and distress avoidance after controlling for spouse and child negative affect and behavior during ongoing interaction. Service members' experiential avoidance also diminished significant associations between service members' PTSD symptoms and their observed behavior. The results are discussed in terms of how service members' psychological acceptance promotes family resilience and adaption to the multiple contextual challenges and role transitions associated with military deployment. Implications for parenting and marital interventions are described.

Keywords

Military Deployment; Experiential Avoidance; Family Interaction; Resilience

The potential negative impact of military service members' combat-related trauma experiences during the Operation Iraqi Freedom (OIF), Operation Enduring Freedom (OEF), and Operation New Dawn (OND) conflicts has been well documented. Combat and combat-

Correspondence should be directed to James Snyder, Department of Psychology, Wichita State University, Wichita, KS 67260-0034; james.snyder@wichita.edu.

related trauma have been linked to service members' increased risk for PTSD, depression, substance use problems, and violent behavior (Brown, Williams, Bray, & Hourani, 2012; Milliken, Auchterlonie, & Hoge, 2007; Vasterling et al., 2010). The lengthy and often multiple deployment separations and absences, role transitions, awareness of dangers to the service member, and the postdeployment health and adjustment of service members also present considerable challenges to the spouses/intimate partners and children of service members (Khaylis, Polusny, Erbes, Gewirtz, & Rath, 2011; Lester et al., 2010; Sayer, Farrow, Ross, & Oslin, 2009). The postdeployment adjustment of spouses/intimate partners is characterized by increased risk for depression and anxiety problems (Erbes, Meis, Polusny, & Compton, 2011; Renshaw et al., 2011), and that of children by increased risk for internalizing and externalizing problems (Lester et al., 2010; Ruscio, Weather, King, & King, 2002).

The impact of military service members' deployment to conflict zones is also apparent in family relationship problems. There is increased risk for marital discord, intimate partner violence, and divorce (Monson, Taft, & Fredman, 2009). Parenting and coparenting may be diminished or disrupted, as reflected in less effective limit setting and discipline, reduced positive involvement and warmth, inconsistent use of positive contingencies to promote children's skills, and reduced monitoring (Gewirtz & Davis, 2014; Gewirtz, Erbes, Polusny, & Forgatch, 2011). The challenges, uncertainty and role strain associated with deployment absences and postdeployment reintegration are a family affair, affecting nondeployed spouses/partners and children as well as service members.

It is remarkable that the majority of military service members and their intimate partners and children show considerable resilience in the face of these significant challenges, successfully accommodating and negotiating the multiple and ongoing individual and relationship issues posed by service members' often repeated deployment to combat zones and subsequent return to normative roles and responsibilities after deployment (Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009). However, little is known about how service members' experiences with trauma during deployment, postdeployment adjustment and experiential avoidance play out during ongoing interaction with spouses and children; extant research has primarily focused either on distal adjustment outcomes for individual family members or has relied on global self-reports of the family social processes that may link service members' experiences and psychological functioning with distal adjustment outcomes. The goal of the present research is to examine the associations of service members' trauma exposure during deployment, postdeployment PTSD symptoms and experiential avoidance with their observed behaviors during interaction with their spouses and children during the postdeployment period.

Trauma and PTSD Symptoms

The substantial trauma exposure of military service members who served in recent Middle East conflicts is well documented. National Guard and Reserve military service members report a mean of 3.3 combat-related traumatic events, and 5.1 traumatic events involving the aftermath of combat (King et al. 2006). Over 90% of these service members report being on combat patrol and missions during which they were subject to hostile fire, and 57% report

serving in units sustaining combat casualties. Nearly 50% saw severely wounded comrades and dead or wounded civilians, and 45% report caring for wounded or dying combatants or civilians (Polusny et al., 2011). Exposure to combat related traumatic events and aftermath is prospectively associated with a two- to threefold increase in risk for the diagnosis of PTSD relative to deployment alone or to non-deployment (Polusny et al., 2011; Smith et al., 2007), and the symptoms of PTSD often increase during the post-deployment period (Smith et al., 2007).

The processes by which military service members' trauma exposure and PTSD symptoms affect interaction with their spouses and children are not well documented (Kelley & Jouriles, 2011), but it is likely that they are carried over to service members' behavior during that interaction. The family is a crucible for strong emotions, bids for attention and affection, discipline exchanges, demands of family routines, and disagreements that may be amplified during the postdeployment reintegration period (Sayers et al., 2009). The intrusive memories, thoughts and emotions associated with trauma, and the hypervigilance, avoidance and reactivity characterizing PTSD may sensitize service members to aversive and challenging social events during family interaction (Erbes et al., 2011). Service members may react to these challenges by becoming emotionally unavailable, by behavioral withdrawal, and by undercontrolled coercive reactivity (Ruscio et al., 2002).

Research suggests that postdeployment reintegration challenges to family relationships are exacerbated by service members' exposure to trauma during deployment and by ensuing PTSD symptoms (Erbes et al., 2011; Galovski & Lyons, 2004; Khaylis et al., 2011; Renshaw et al., 2011), including low marital satisfaction, increased intimate partner aggression, and diminished parenting (Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010; Monson et al., 2009). However, previous research has relied on global self-reports of relationship quality by family members; the specific behaviors by which service members' trauma exposure and PTSD symptoms are expressed during ongoing family interaction have not been directly observed and coded.

Spouse and Child Behavior

It is also likely that spouses and children of military service members recognize and are affected by the behavioral manifestations of service members' PTSD symptoms, and are aware of service members' trauma exposure during deployment. Service members' reactive-coercive and withdrawal-avoidant responses are also likely to evoke reciprocal and complementary reactions from spouses/intimate partners and children who are also adapting to postdeployment shifts in roles and routines. Spouses and children may be tentative during interaction to avoid provocation of negative emotional and behavioral responses by the service member. They may quickly acquiesce in the face of conflict and engage in rapid soothing or attention contingent on service members' distress and demands - "walking on egg shells." Spouses and children may also make frequent and insistent bids for attention and engagement in response to service members' real or perceived unavailability and withdrawal, or may reciprocate the aversive emotional and behavior displays of the service member.

The social responses of family members are mutually entrained, creating mutual positive engagement, reactive-coercive and withdrawal-avoidant patterns of interaction (Gottman, 1994; Patterson, 1982; Patterson & Reid, 1970), and the family interaction of military service members is no exception. As such, spouse and child behavior has a powerful and immediate influence on service members' behavior during family interaction. Estimation of the unique effects of service members' trauma exposure and PTSD symptoms on their behavior during family interaction must first account for the proximal, direct influence of spouse and child behavior.

Experiential Avoidance

Experiential avoidance occurs when an individual is unwilling or unable to remain in contact with negative or other unwanted thoughts, memories or feelings, and attempts to avoid, escape or alter the form, frequency or context in which those experiences occur, even if such actions are inconsistent with the individual's goals and values (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Experiential avoidance may be linked to service members' behavior during family interaction in two ways. First, it may mediate and sustain the associations of trauma exposure and PTSD symptoms with service members' avoidant and coercive-reactive behavior during interaction with their spouses and children. Experiential avoidance is a functional response to trauma exposure in that ensuing distress may be attenuated by avoidance or suppression of thoughts, memories and feelings associated with traumatic events, and by hypervigilance to minimize occasions of their recurrence and associated emotional arousal (Hayes, Strosahl, & Wilson, 2012). While potentially adaptive in reducing distress in the short term, the continued use of avoidant and vigilant responses may be associated with the maintenance or increased frequency of these unwanted experiences over the longer term (Kumpula, Orcutt, Bardeen, & Varlovitzky, 2011) which then interfere with service members' capacity to positively engage family members.

Research supports the role of experiential avoidance in the development of PTSD symptoms after exposure to trauma (e.g., Kashdan, Morina, & Priebe, 2009), including hyperarousal and reexperiencing as well as avoidance symptom clusters. Meyer et al. (2013) have recently reported that experiential avoidance is a reliable and substantive predictor of PTSD symptoms of military service veterans who were exposed to trauma during deployment to OIF/OEF, after controlling for peri-traumatic dissociation and negative emotionality. Experiential avoidance is also associated with the maintenance of PTSD symptoms over time (Boden, Bonn-Miller, Vujanovic, & Drescher, 2012; Kumpula et al., 2011).

Second, service members' experiential avoidance may diminish their capacity to respond constructively to the strong emotions, challenges, and demands of other family members during daily interaction. These emotions, challenges and demands may evoke unwanted negative affect and thoughts in service members who then engage in experiential avoidance in an attempt to diminish or control their occurrence. There is some evidence that avoidance and numbing symptoms associated with trauma exposure and PTSD interfere with communication, problem solving, self-disclosure, positive involvement and expressions of warmth during family interaction (Palmer, 2008). There is also evidence that the hyperarousal symptoms of PTSD may be associated with increased risk for verbal and

physical aggression toward intimate partners (Galovsky & Lyons, 2004). As such, it may be that experiential avoidance extends to attempts to manage internal thoughts and feelings not only associated with trauma and PTSD symptoms, but also associated with situational demands and challenges that are part and parcel of social interaction in the family context.

Experiential avoidance diminishes individuals' ability to flexibly adapt to situational demands encountered during changes in experiential context. As a consequence, individuals are less able to base their actions on current environmental opportunities consistent with chosen values in contrast to a more exclusive self-focus on the control or avoidance of internal events (Hayes, Villatte, Levin, & Hindebrandt, 2011; Kashdan, 2010). Socially, experientially avoidant individuals are less intentional, attentive, environmentally engaged, empathic, and emotionally regulated. Experiential avoidance is apparent in social responses that reflect hypervigilance, reactivity, reliance on overlearned responses to the challenging behaviors of others, and in disengagement from social opportunities due to the perceived effort or demands associated with those opportunities (Duncan, Coatsworth, & Greenberg, 2009; Sandoz, Moyer, & Armelie, 2014).

Acceptance (or low experiential avoidance) may be a key process for military service members as they face a substantial contextual shift on return to their families after deployment to conflict zones. It may be difficult for service members to disengage and distance themselves from military training, and salient combat experiences and events. The subsequent distressing thoughts, memories and feelings engendered by such experiences may diminish relationship-enhancing behaviors and efforts to re-establish normative roles as spouse/partner and parent.

Hypotheses

The following associations are hypothesized: (a) military service members' self-reports of trauma exposure during deployment to conflict zones, PTSD symptoms, and experiential avoidance will be reliably intercorrelated; (b) PTSD symptoms and experiential avoidance will be negatively correlated with service members' observed positive engagement, and positively correlated with their withdrawal, negative reactivity and distress avoidance, and with spouses' and children's observed negative affect and behavior; and (c) service members' experiential avoidance but not PTSD symptoms will be reliably correlated with their observed behavior, controlling for child and spouse negative affect and behavior in multivariate regression analyses. In other words, experiential avoidance is expected to play a key role in service members' behavior during family interaction over and above the proximal influence of other family members during that interaction, and may serve as a mediator of the association of trauma exposure and PTSD symptoms with that behavior.

Method

Participants

The participants were 184 male National Guard or Reserve military service members who had been deployed in OIF/OEF/OND conflicts, their intimate partner or spouse, and a target child between 4 and 13 years of age. The men were primarily White, non-Hispanic (85%),

an average of 37.2 years old (*SD* = 6.5), relatively well educated (41.7% had some college education and 52.2% had a four year or advanced college degree), and middle to upper middle class (6.8% reported annual family incomes below $30,000, 25.8% from $30,000 to $60,000, and the remaining 67.4% above $60,000). The mean number of deployments was 2 (*SD* = 1.1, range = 1-8) and the mean total months of deployment was 24 months (*SD* = 11 months), comparable to that for National Guard and Reservists' OIF/OEF/OND deployment patterns more generally (Department of Defense Task Force on Mental Health, 2007). The majority of the men were Army National Guard or Army Reservists (72.6%) with the remainder serving in the Air Guard and Navy National Guard or Navy Reserves, or other military branches. Based on self-reported military rank, 75.8% were enlisted men or warrant officers and the remaining held ranks of second lieutenant or above.

The average age of spouses or intimate partners of the men was 35.6 years (*SD* = 6, range 23 to 51), and most had some college education (39.3%), completed college (37.2%) or an advanced degree (14.1%). Ninety-four percent of the coupled men in the study were currently married, 1.9% had never been married, and 3.8% were separated or divorced at the time of the assessment. The mean length of relationships with partners was 9.6 years. The mean age of the target children was 8.3 years (*SD* = 2.4, range = 4.1 to 13.1 years), and 53.3% of the children were girls. The mean number of children in the families was 2.4 (*SD* = .9, range = 1 to 5).

Procedure

The data used in this report involve a subset of military service members and their families participating in a larger randomized control trial of a behavioral parenting skills training intervention, After Deployment: Adaptive Parenting Tools (ADAPT). ADAPT was specifically designed to meet the postdeployment needs of National Guard and Reserve service members deployed to OIF/OEF/OND, and their families (Gewirtz, Pinna, Hanson, & Brockberg, 2014). Participants were recruited via presentations at mandatory predeployment and reintegration events for National Guard and Reserve personnel in Minnesota, mailings from the Minneapolis Veterans Affairs Medical Center to all OIF/OEF/OND veterans, family picnics for individual units or services, general community events for and by the military, announcements in fliers and media, social media and by word of mouth, with active facilitation by key administrative military service officers and veterans affairs staff. Participation in the research was voluntary.

Interested families could go directly online to consent to participate, or do so after requesting contact with program staff. Consenting participants and their partners were directed to a HIPAA-compliant web site to complete separate initial on-line assessments. After completion of the initial assessments, project staff scheduled an in-home assessment with family members during which additional self-report data were collected and video records of the interactions among male service members, their spouses/partners and children were obtained. Parents each received $25 for the online assessment, and the family received $50 for the in-home assessment. Following the in-home assessment, families were randomized to a services-as-usual condition (i.e., family "tip sheets" and online parenting

resources) or to the ADAPT intervention. This report uses cross-sectional data collected at baseline prior to intervention assignment.

Measures

Deployment Risk and Resilience Inventory (DRRI)—Two scales from the DRRI (King et al., 2006; Vogt, Proctor, King, King, & Vasterling, 2008) were used to assess combat-related trauma. The Combat Experiences scale is comprised of 15 yes-no items about experiences during combat (e.g., "I was part of an assault on entrenched or fortified positions"; "I fired my weapon at the enemy"; "I personally witnessed someone from my unit or an ally unit being seriously wounded or killed"). The internal reliability of this scale and its association with PTSD symptoms are well established (King et al., 2006; Vogt et al. 2008). The internal reliability for this sample for this sample was $\alpha = .88$. The Aftermath of Battle Scale is comprised of 15 yes-no items related to observations and experiences of events and activities resulting from combat (e.g., "I took care of wounded or dying people"; "I saw bodies of dead civilians"; "I observed homes or villages that had been destroyed"). The internal reliability of this scale and its association with new onset of PTSD symptoms after deployment is established (Polusny et al., 2011). The internal reliability for this sample for this sample was $\alpha = .91$. The Combat Experiences and Aftermath scales were correlated . 91, and combined for analyses.

Posttraumatic Stress Disorder Checklist-Military (PCL-M)—The PCL-M (Weathers, Litz, Herman, Huska, & Keane, 1994) is a 17 item self-report scale in which service members rate the extent to which they were bothered by military-related PTSD symptoms over the past 30 days, using a 5 point scale (*1 = not at all, 5 = extremely*). The items parallel *DSM IV* symptoms associated with Criteria B (reexperiencing – 5 items), C (avoidance/numbing – 7 items) and D (hyperarousal – 5 items) for the diagnosis of PTSD. The PCL-M has been repeatedly demonstrated to have good internal reliability and validity in prior research (Weathers et al., 1994; Wilkins, Lang, & Norman, 2011). The internal reliability of the scale in this sample was $\alpha = .93$.

Acceptance and Action Questionnaire –II (AAQ-II)—The AAQ-II (Bond et al., 2011) is a seven item self-report questionnaire using a 7 point Likert scale (*1 = never true, 7 = always true*) assessing experiential avoidance. Items include: "I am afraid of my feelings" and "Emotions cause problems in my life." The AAQ-II has a single factor structure, good internal consistency and test-retest reliability, and shows reliable associations with thought suppression, depression, anxiety, and global distress (Bond et al., 2011). The AAQ-II predicts PTSD symptoms of OIF/OEF veterans who experienced combat-related trauma (Meyer et al. 2013). The internal reliability of the scale in this sample was $\alpha = .93$.

Service Members' Behavior During Family Interaction

Service members' interaction with their spouses and children was videotaped during a series of 5-minute structured dyadic or triadic tasks, three of which are used in this report: (a) problem solving with their child, (b) conversations with their child about (re)deployment, and (c) problem solving with their spouse/partner about co-parenting. Observers rated each family member's behavior at the end of each of the three 5-minute tasks using the Macro-

Level Family Interaction Coding System (MFICS; Snyder, 2013), newly developed for this study. The MFICS is comprised of 55 Likert scale items (1 = not true, not occur, 5 = clearly evident, very descriptive), logically designed using an a priori, face-valid approach to assess the occurrence of behaviors reflecting positive engagement (20 items), withdrawal and avoidance (18 items), and reactivity-coercion (17 items).

Four observers who made ratings of the video samples were first trained until each reached an item level reliability kappa of > .70 on 35 minute samples of interaction for four consecutive families. Bi-weekly recalibration meetings were used to minimize observer drift and continue training. Reliability of observer ratings was assessed for 25% of the family video samples, without observer awareness of which samples were used to assess reliability. The average ICCs for the scales for service members resulting from the psychometric analyses (see the first section of the results) were as follows: .71 for the positive engagement scale, .74 for the withdrawal scale, .47 for the reactivity-coercion scale, and, .53 for the distress avoidance scale. The average ICCs for spouse reactivity-coercion was .92 and for child reactivity-coercion was .80.

Results

Service Members' Behavior During Family Interaction

Scales for positive engagement, withdrawal and reactivity-coercion from the MFICS were tested using a series of separate fixed number (n = 1) factor analyses to test the loading of the observer rating items designed a priori to describe those scales, separately for each dyadic interaction task (Snyder, 2013), reflecting this initial use of the MFICS. The results relevant to the current analyses are shown in Table 1. Fourteen items loaded > .70 on a single positive engagement factor for each task, and describe service members' social responsiveness, active involvement, interest, and cooperation during interaction with other family members. Nine items loaded > .39 on a single withdrawal factor for each task, and describe service members' lack of social engagement and energy, disinterest, and nonresponsiveness during family interaction. Seventeen items loaded > .44 on a single reactivity-coercion factor on each task, and describe service members' nattering, verbal aggression, dismissal of others' negative affect and behavior, and aversive escalation. The same 17 items loaded > .55 on a single reactivity-coercion factor for mothers' and > .38 on a single reactivity-coercion factor for children.

Given the initial application of the MFICS, the 15 items that did not load on any of the positive engagement, withdrawal and reactivity-coercion scales in the previous analyses were examined for each of the three tasks in which fathers were involved (problem solving with spouses, and problem solving and deployment conversations with children), using an exploratory principal components factor analysis. One interpretable factor emerged for each of the tasks, and was comprised of 10 rating items describing service members' behavioral responses to the aversive behavior or affective distress of their child or partner – what will be called Distress Avoidance. All 10 items describing distress avoidance loaded > .37 on this single factor for interaction with children, and > .39 for interaction with spouses/ partners. Five of the items reflect rapid soothing, and minimizing responses to others'

aversive behavior or distress, and 5 items reflect fear, wariness, ignoring, and low empathy in response to others' distress.

There were reliable correlations between problem solving and the deployment conversation with children for service members' positive engagement (.66), withdrawal-avoidance (.40), reactivity-coercion (.30), and distress avoidance (.40; all *p*s < .001). Given these correlations, and to reduce the number of analyses for hypothesis testing, service members' positive engagement, withdrawal, reactivity coercion and distress avoidance were each averaged across the problem solving and deployment conversation tasks with their children. The correlations among the four observation scales describing service members' observed social behavior during interaction with their children and spouses are shown in Table 2. During interaction with their children, service members' positive engagement was negatively correlated with their withdrawal and reactivity coercion, but was unrelated to their distress avoidance. Service members' reactivity-coercion was weakly correlated with their withdrawal and distress avoidance. Child reactivity-coercion was positively correlated with service members' reactivity-coercion and distress avoidance and negatively correlated with service members' positive engagement. During problem solving interactions with their spouses, service members' positive engagement was negatively correlated with their withdrawal, reactivity-coercion and distress avoidance, and their distress avoidance was positively correlated with their reactivity-coercion. Spouse reactivity-coercion was negatively related to service members' positive engagement, and positively related to service members' reactivity-coercion, withdrawal and distress avoidance.

Preliminary Analyses

The mean time from the end of the last deployment to the assessment was 28.3 months (*SD* = 28.0 months, range = 1 to 118 months). The mean total length of all deployments was 24 months (*SD* = 11months). Both time since last deployment and total months deployed were related to trauma exposure (*r* = .29 and *r* = .33, respectively, *p*s < .05) but not to PTSD symptoms, experiential avoidance or service members' behavior during dyadic interaction.

The mean DRRI Combat Experiences scale score was 4.4 (*SD* = 3.7) and the mean DRRI aftermath scale score was 4.5 (*SD* = 4.3). As shown in Table 2, the mean total trauma exposure score was 8.8 (*SD* = 7.6), roughly comparable to reports of larger samples of deployed National Guard and Reservist military (King et al., 2006). The mean AAQ-II score was 16.2 (*SD* = 7.9), slightly lower than that reported by OEF/OIF veterans by Meyer et al. (2013). The mean PCL-M score for PTSD symptoms was 29.0 (*SD* = 11.0, range = 17 to 71), comparable to symptom levels reported by larger samples of deployed National Guard and active duty military service members (Vasterling et al., 2010). Trauma exposure, psychological flexibility and PTSD symptoms were reliably intercorrelated (all ps < .001).

Hypothesized Bivariate Relationships

Service members' trauma exposure was not reliably related to their observed behavior nor to that of their spouses or children (see Table 2). Service members' experiential avoidance and PTSD symptoms were negatively correlated with their positive engagement during interaction with both their children and spouses. Service members' experiential avoidance

was positively correlated with their distress avoidance during observed interaction with their spouses and children, and with their withdrawal during interaction with their spouses. Service member PTSD symptoms were positively related to their distress avoidance during interaction with their children but not spouses, and positively related to their withdrawal during interaction with their spouses but not children. Service members' experiential avoidance and PTSD symptoms were unrelated to their reactivity-coercion during interaction with their spouses and children.

Multivariate Relationships

The hypothesized multivariate associations of service members' trauma exposure, PTSD symptoms, and experiential avoidance with their behavior during interaction with their spouses and children were tested in a series of regression models, separately for positive engagement, withdrawal, distress avoidance and reactivity-coercion, separately for spouses and children. In each regression analysis, the temporally proximal observed aversive affect and behavior (reactivity-coercion) of the spouse or child with whom the service member was interacting was also entered as a predictor.

Association of service members' trauma exposure, PTSD symptoms, and experiential avoidance with their behavior during interaction with their spouses

The results of the regression analyses for service members' behavior during problem solving with their spouse are shown in Table 3, separately for their positive engagement, distress avoidance, withdrawal, and reactivity-coercion. Spouses' temporally proximate aversive behavior and affect (reactivity-coercion) during observed interaction was reliably associated with reduced positive engagement, and with increased distress avoidance, withdrawal, and reactivity-coercion by service members. The reliable associations of service members' PTSD symptoms with less positive engagement, and with more distress avoidance and withdrawal in the bivariate analyses were reduced to nonsignificance in the multivariate analysis including service members' experiential avoidance and spouses' reactivity-coercion.

Association of service members' trauma exposure, PTSD symptoms, and experiential avoidance with their behavior during interaction with their children

The results of the regression analyses for service members' behavior during problem solving and deployment conversations with their children are shown in Table 4, separately for their positive engagement, distress avoidance, withdrawal, and reactivity-coercion. Children's temporally proximate aversive behavior and affect (reactivity-coercion) during observed interaction was strongly associated with reduced positive engagement and with increased reactivity-coercion by service members. Service members' experiential avoidance was reliably associated with less positive engagement and with more distress avoidance. The reliable associations of service members' PTSD symptoms with less positive engagement, and with more distress avoidance and withdrawal in the bivariate analyses were reduced to nonsignificance in the multivariate analysis including service members' experiential avoidance and children's reactivity-coercion.

Discussion

Families are frequently challenged by role transitions, absences, stress, and trauma. Some families are resilient in the face of these challenges, successfully renegotiating and realigning relationships in ways that support constructive family functioning and family members' adaptation while other families are less able to do so. Research on military service members carries considerable promise for understanding individual and social processes related to familial risk and resilience. Relative to other transitions and highly stressful events experienced by families, deployment of a parent to a military conflict zone involves protracted absences and role transitions. Repeated exposure to and involvement in violence and its aftermath in combat zones are potentially traumatogenic for the deployed parent, and are vicarious and indirect threats to at home family members. The multiple challenges associated with military deployment provide an opportunity for the systematic assessment of their effects on families and the development of interventions to address families' needs (Salzman et al., 2011). A number of intraindividual and social processes are potentially linked to family resilience and positive outcomes for family members who are exposed to stressful and traumatic circumstances (Luthar, 2006; Salzman et al., 2011). This report examined the association of three intraindividual characteristics of military service members - deployment-related trauma exposure, PTSD symptoms, and experiential avoidance - with their constructive behavioral re-engagement with their spouses and children after deployment to the OIF/OEF/OND conflicts.

Service members' trauma exposure, experiential avoidance, and PTSD symptoms were reliably interrelated. PTSD symptoms, by definition, are associated with trauma, but not all individuals exposed to trauma are affected equally. In the context of this trauma, service members' experiential avoidance was reliably and robustly associated with their self-reported PTSD, and shared twice as much variance with PTSD symptoms as trauma exposure. This is consistent with findings reported by Meyer et al. (2013) as well as with other research indicating attempts to avoid or control thoughts, emotions and memories associated with deployment-related trauma are associated with concurrent and subsequent risk for PTSD symptoms (Boden et al., 2012; Ozer et al., 2003). However, interpretation of these correlational findings are tempered by a number of factors: they may reflect shared source variance (service members' self report); trauma exposure, experiential avoidance and PTSD symptoms are assessed concurrently at one time point, and the AAQ-II measure of experiential avoidance and PCL-M measure of PTSD symptoms share similar items related to avoidance.

The central hypotheses focus on the association of service members' intraindividual characteristics with their behavior during observed interaction with their spouses and children. The reciprocal influence of family members' behavior during ongoing interaction is empirically well established (Patterson & Reid, 1970; Patterson, 1982; Gottman, 1994) so that the unique association of service members' characteristics with their social behavior is best assessed by controlling for the other family members' behavior. Spouse and child reactivity-coercion was selected as the control variable because of their well-established strong dyadic effects of these behaviors on ongoing parent-child and partner interaction. Consistent with previous research, spouse negative affect and aversive behavior (reactivity-

coercion) were strongly associated with less positive engagement, and with more distress avoidance, withdrawal, and reactivity-coercion of service members. Children's reactivity-coercion had reliable but more modest associations with service members' reduced positive engagement and increased reactivity coercion. The difference between the associations of service members' behaviors with reactivity-coercion by their spouses and children may reflect the relative equality between adult partners. In addition, the assessment of interaction between service members and spouses relied exclusively on the problem solving task whereas the assessment of the interaction between service members and their children also included deployment conversations which may have evoked less reactivity-coercion and more sensitive responding.

Controlling for the behavior of spouses, service members' experiential avoidance was reliably associated with less positive social engagement and social withdrawal during dyadic interaction with their spouses. Controlling for the behavior of children, service members' experiential avoidance was reliably associated with less positive social engagement and more distress avoidance during dyadic interaction with their children. This is consistent with the hypothesis that military service members who report higher levels of experiential avoidance during the postdeployment period would be observed to less successfully and constructively interact with their partners and children. Constructive engagement reflects in-the-moment purposeful attention to other family members' affect and behavior, and social responsiveness characterized by cooperation, open expression and communication, support, and caring (Kashdan, 2010). Consistent with research and theory, service members who reported low experiential avoidance appeared to be invested in family relationships and connected to other family members (Gewirtz & Davis, 2014; Sandoz et al., 2014).

The hypothesis was also supported when examining service members' responses to other family members' negative affect and behavior, as reflected by service members' distress avoidance. High levels of distress avoidance reflect service members' displays of wariness and discomfort in response to other members' anger and aversive behavior, accompanied by service members' efforts to minimize and deflect others' distress – including ignoring it, a lack of empathy, distraction, and rapid one-sided validation and soothing. Service members reporting lower experiential avoidance were observed to respond to the aversive behavior and affective distress of their partners and children with less distress avoidance; this may reflect a capacity to set aside self-focused efforts to manage or control the anxiety and wariness evoked by the distress and demands of others, and genuine and deliberate, in-the-moment, other-focused caring and support (Sandoz et al., 2014).

Service members exhibiting low distress avoidance are able to respond supportively and constructively to their partners' and children's distress and opposition, despite the escape contingencies associated with responses that preempt or diminish other family members' anger, distress and opposition (Snyder et al., 1994), and that reduce the service member's own discomfort engendered by family members' distress, anger and opposition (Smith-Slep & Heyman, in press). This is consistent with research suggesting individuals who are mindful and accepting of their own and their family members' emotions display more effective parenting practices (Gewirtz & Davis, 2014; Shea & Coyne, 2011), and more

effectively communicate and problem solve with their intimate partners (Leonard, Follette, & Compton, 2006).

The reliable associations of service members' experiential avoidance with lower levels of positive engagement and with higher levels of withdrawal and distress avoidance during interactions with spouses and children were still apparent after controlling for spouses' and children's anger and aversive behavior (reactivity-coercion) toward the service member during ongoing interaction. Service members' experiential avoidance was associated with service members' responses even in the context of the empirically well established, temporally proximal influence of the aversive behaviors of other family members (Snyder & Stoolmiller, 2002). Similarly, the reliable associations of service members' experiential avoidance with less positive engagement and more withdrawal and distress avoidance during interactions with their intimate partners and children were apparent in the multivariate analyses that included service members' PTSD symptoms. In fact, the bivariate relationship of PTSD symptoms and service members' observed behavior was reduced to nonsignificance in the multivariate analyses, suggesting that experiential avoidance may be an important process which may potentially serve to mediate or moderate the association of PTSD with service members' behavior during interaction with their spouses and children. This suggests that low experiential avoidance is related to service members' capacity to set aside their own distress, whether engendered by the sequalae of combat-related experiences or by in-the-moment distress of other family members, in ways that are associated with constructive involvement with family members during postdeployment reintegration (Sandoz et al., 2014). The association of service members' experiential avoidance and PTSD symptoms with problematic relationships with spouses and with children is clearly consistent with a large body of research (Erbes et al., 2011; Gewirtz et al., 2010). However, in contrast to previous research that has largely relied on global reports of relationship quality and parenting, this report documents that the association of experiential avoidance with family relationship quality is also apparent in specific patterns of service members' observed behavior during family interaction.

Experiential avoidance of service members is likely not the only intrapersonal or social process associated with their family's resilience to significant stressors and challenge. The experiential avoidance and adjustment of the intimate partners/spouses and children of deployed service members may play a similar and equally important role in family resilience, reflecting psychological and social processes at a relationship level (Sandoz et al., 2014). Family resilience is also fostered by the longer-term history of family relationships, and the relationship skills all family members bring to coping with adversity and challenge, renegotiation of family roles and responsibilities, renewal of family bonds, and reestablishing effective parent-child and marital communication and problem solving (Sayers et al., 2009). In fact, it is likely that the relationship between family members' experiential avoidance and adjustment, and the quality of their social interaction is reciprocal; successfully engaging in the valued family roles, making efforts to promote a shared sense of purpose, committing to collaboration, and using effective communication and problem solving are likely to reciprocally diminish family members' experiential avoidance and to promote their positive growth.

These data suggest behavioral parenting interventions could usefully focus on reducing family members' experiential avoidance (Thompson et al., 2011; Vujanovic et al., 2011), integrating it into the well-developed focus on parenting and marital relationship skills. This additional focus on reducing experiential avoidance and its integration into parent behavioral skills training is apparent in the randomized control trial ADAPT intervention study from which these baseline data are drawn (Gewirtz et al., 2011, 2014) as well as in other behavioral parenting programs (Coyne & Murrell, 2009). The explicit integration of tactics that reduce parents' experiential avoidance (i.e., increase their mindfulness) may promote their distress tolerance and reduce their avoidance in responding to the daily challenges that arise in the family, broadening the skill set they bring to problem solving, limit setting, and discipline exchanges in the natural family environment (Duncan et al., 2009). The additional focus on mindfulness may also enhance the practice and application of those skills in the home setting (Dumas, 2005). Enhancing parents' mindfulness is also likely to promote their children's psychological flexibility or mindfulness both directly as a result of social shaping during family interaction and indirectly by parental modeling (Snyder et al., 2013).

These findings should be considered as preliminary and interpreted with some caution due to several design and measurement limitations. First, the data are cross-sectional and correlational. As such, the direction of the relationships among the variables cannot be unambiguously ascertained, and observed relationships may be due to unobserved third variables. Confidence in the relative degree to which experiential avoidance, deployment trauma and PTSD symptoms are inter-related is also diminished in that these three constructs rely exclusively on service members' self report; as such, estimates of the size and reliability of the parameters estimating those associations may be affected by this single source measurement methodology. While the use of observation of family interaction provided the means to ascertain overt behavioral referents of experiential avoidance, a large number of statistical tests were made in the regression analyses, increasing the likelihood of Type II error. Finally, the sample has unique characteristics, including modest levels of service members' experiential avoidance and PTSD symptoms that may limit generalization to other samples of military service members and their families. However, this may reflect the relative resources of the participating families who are older, married and established in their communities at the time of deployment and postdeployment. In addition, the levels of experiential avoidance and PTSD symptoms characteristic of service members in this sample are not substantially different than those reported for larger, more representative samples of National Guard and Reservists who served in recent middle-east conflict zones (Meyer et al., 2013; Vasterling et al., 2010).

In summary, the data suggest that military service members' experiential avoidance may play a role in how they and their families constructively adapt to the challenges encountered during postdeployment reintegration. Among other adaptation processes, service members' successful reinvestment and reengagement in family roles and responsibilities may involve: (a) recognizing and adapting to changing situational demands when moving from military training and combat involvement back to the family context; (b) reconciling intrapersonal and interpersonal/family needs and goals, (c) adeptly shifting between self- and other-focus to take advantage of environmental opportunities, (d) decreasing reliance emotion

suppression and on overlearned, automatic vigilance and reactive responding to threat, and (e) behaviorally reconnecting with family members in value-congruent ways.

Acknowledgments

This research was supported by funding from the National Institute for Drug Abuse, R01 DA030114 and R21 DA034166.

References

Boden MT, Bonn-Miller MO, Vujanovic AA, Drescher KD. A prospective investigation of changing avoidant and active coping and posttraumatic stress disorder symptoms among military veterans. Journal of Psychopathology and Behavior Assessment. 2012; 34:433–439. doi: 10.1007/s10862-012-9293-6.

Bond FW, Hayes SC, Baer RA, Carpenter KM, Guenole N, Orcutt HK, Waltz T, Zettle RD. Preliminary psychometric properties of the Acceptance and Action Questionnaire –II: A revised measure of psychological inflexibility and experiential avoidance. Behavior Therapy. 2011; 42:676–688. doi: 10.1016/j.beth.2011.03.007. [PubMed: 22035996]

Brown JM, Williams J, Bray RM, Hourani L. Postdeployment alcohol use, aggression, and post-traumatic stress disorder. Military Medicine. 2012; 177:1184–1190. doi: 10.7205/milmed-d-11-00119. [PubMed: 23113445]

Coyne, LW.; Murrell, AR. The joy of parenting: An acceptance and commitment therapy guide to effective parenting in the early years. New Harbinger Publications; Oakland, CA: 2009.

Dumas JE. Mindfulness-based parent training: Strategies to lessen the grip of automaticity in families with disruptive children. Journal of Clinical Child and Adolescent Psychology. 2005; 34:779–791. doi: 10.1207/s15374424jccp3404_20. [PubMed: 16232075]

Duncan LG, Coatsworth JD, Greenberg MT. A model of mindful parenting: Implications for parent-child relationships and prevention research. Clinical Child Psychology Review. 2009; 12:255–270. doi: 10:1007/s10567-009-0046-3.

Erbes CR, Meis LA, Polusny MA, Compton JS. Couple adjustment and posttraumatic stress disorder symptoms in National Guard veterans of the Iraq war. Journal of Family Psychology. 2011; 25:479–487. doi:10.1007/s10567-009-0046-3. [PubMed: 21639633]

Galovski T, Lyons JA. Psychological sequalae of combat violence: A review of the impact of PTSD on the veteran's family and possible interventions. Aggression and Violent Behavior. 2004; 9:477–501. doi:10.1016/s1359-1789(03)00045-4.

Gewirtz, AH.; Davis, L. Parenting practices and emotion regulation in National Guard and reserve families: Early findings from the after deployment Adaptive Parenting Tools/ADAPT study.. In: MacDermid, S.; Riggs, DS., editors. Military deployment and its consequences for families. Springer; New York: 2014. p. 111-131.

Gewirtz A, Erbes CR, Polusny MA, Forgatch MS. Helping military families through the deployment process: Strategies to support parenting. Professional Psychology: Research and Practice. 2011; 42:56–62. doi:10.1037/a0022345.

Gewirtz AH, Pinna KL, Hanson SK, Brockberg D. Promoting parenting to support reintegrating families: After deployment, adaptive parenting tools. Psychological Services. 2014; 11:31–49. doi: 10.1037/a0034134. [PubMed: 24564441]

Gewirtz AH, Polusny MA, DeGarmo DS, Khaylis A, Erbes CR. Posttraumatic stress symptoms among National Guard soldiers deployed to Iraq: Associations with parenting behaviors and couple adjustment. Journal of Consulting and Clinical Psychology. 2010; 78:599–610. doi:10.1037/a0020571. [PubMed: 20873896]

Gottman, JM. What predicts divorce? The relationship between marital processes and marital outcomes. Lawrence Erlbaum Associates; Hillsdale, New Jersey: 1994.

Hayes, SC.; Strosahl, KD.; Wilson, KG. Acceptance and commitment therapy: The process and practice of mindful change. Guilford; New York: 2012.

Hayes SC, Wilson KD, Gifford EV, Follette VM, Strosahl K. Experiential avoidance and behavioral disorders: A functional approach to diagnosis and treatment. Journal of Consulting and Clinical Psychology. 1996; 64:1152–1168. doi:10.1037//0022-006x.64.6.1152. [PubMed: 8991302]

Hayes SC, Villette M, Levin M, Hildebrandt M. Open, aware and active: Contextual approaches as an emerging trend in the behavior and cognitive therapies. Annual Review of Clinical Psychology. 2011; 7:141–168. doi:10.1146/annurev-clinpsy-032210-104449.

Kashdan TB, Rottenberg J. Psychological flexibility as a fundamental aspect of health. Clinical Psychology Review. 2010; 30:865–878. doi: 10.1016/j.cpr.2010.03.001. [PubMed: 21151705]

Kashdan TB, Morina N, Priebe S. Post-traumatic stress disorder, social anxiety disorder, and depression in survivors of the Kosovo War: Experiential avoidance as a contributor to distress and quality of life. Journal of Anxiety Disorders. 2009; 23:185–196. doi:10.1016/j.janxdis.2008.06.006. [PubMed: 18676121]

Kelley ML, Jouriles E. An introduction to the special section on U.S. military operations: Effects on military partners and children. Journal of Family Psychology. 2011; 25:459–460. doi:10.1037/a0024569. [PubMed: 21842993]

Khaylis A, Polusny MA, Erbes CR, Gewirtz A, Rath M. Posttraumatic stress, family adjustment, and treatment preferences among National Guard soldiers deployed to OEF/OIF. Military Medicine. 2011; 176:126–131. doi:10.7205/milmed-d-10-00094. [PubMed: 21366071]

King LA, King DW, Vogt DS, Knight J, Samper RE. Deployment risk and resilience inventory: A collection of measures for studying deployment-related experiences of military personnel and veterans. Military Psychology. 2006; 18:89–120. doi:10.1207/s15327876mp1802_1.

Kumpula MJ, Orcutt HK, Bardeen JR, Varkovitzky RL. Peritraumatic dissociation and experiential avoidance as prospective predictors of posttraumatic stress symptoms. Journal of Abnormal Psychology. 2011; 120:617–627. doi: 10.1037/a0023927. [PubMed: 21604826]

Lester P, Peterson K, Reeves J, Krauss L, Glover D, et al. The long war and parental combat deployment: Effects on military children and at-home spouses. Journal of the American Academy of Child and Adolescent Psychiatry. 2010; 49:310–320. doi:10.1016/j.jaac.2010.01.003. [PubMed: 20410724]

Leonard, LM.; Follette, VM.; Compton, JS. A principle based intervention for couples affected by trauma.. In: Follette, V.; Ruzek, J., editors. Cognitive-behavior therapies for trauma. 2nd Edition. Guilford Press; New York: 2006. p. 362-387.

Luthar, SS. Resilience in development: A synthesis of research across five decades.. In: Cicchetti, D.; Cohen, DJ., editors. Developmental psychopathology: Risk, disorder and adaptation. Wiley; New York: 2006. p. 740-795.

Meyer EC, Morissette SB, Kimbrel NA, Kruse MI, Bird Gulliver S. Acceptance and Action questionnaire –II scores as a predictor of posttraumatic stress disorder symptoms among war veterans. Psychological Trauma: Theory, Research, Practice and Policy. 2013; 5:521–528. doi: 10.1037/a0030178.

Milliken CS, Auchterlonie JL, Hoge CW. Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. Journal of the American Medical Association. 2007; 298:2141–2148. doi:10.1001/jama.298.18.2141. [PubMed: 18000197]

Monson CM, Taft CT, Fredman SJ. Military-related PTSD and intimate relationships: From description to theory-driven research and intervention development. Clinical Psychology Review. 2009; 29:707–714. doi:10.1016/j.cpr.2009.09.002. [PubMed: 19781836]

Ozer EJ, Best SR, Lipsey TL, Weiss DS. Predictors of post-traumatic stress disorder and symptoms in adults: A meta-analysis. Psychological Bulletin. 2003; 129:52–73. doi: org/10.1037/1942-9681.s.1.3. [PubMed: 12555794]

Palmer C. A theory of risk and resilience factors in military families. Military Psychology. 2008; 20:205–217. doi: 10.1080/08995600802118858.

Patterson, GR. Coercive family process. Castalia Publishing Company; Eugene, OR: 1982.

Patterson, GR.; Reid, JB. Reciprocity and coercion: Two facets of social systems.. In: Neuringer, C.; Michael, JL., editors. Behavior modification in clinical psychology. Appleton-Century-Crofts; New York: 1970. p. 133-177.

Pietrzak RH, Johnson DC, Goldstein MB, Malley JC, Southwick SM. Psychological resilience and post-deployment social support protect against traumatic stress and depression symptoms in soldiers returning from Operations Enduring Freedom and Iraqi Freedom. Journal of Special Operations. 2009; 9:67–7. doi:10.1002/da.20558.

Polusny MA, Erbes CR, Murdock M, Arbisi PA, Thuras P, Rath MB. Prospective risk factors for new onset post-traumatic stress disorder in National Guard soldiers deployed to Iraq. Psychological Medicine. 2011; 41:687–698. doi:10.1017/s0033291710002047. [PubMed: 21144108]

Renshaw KD, Allen ES, Rhoades GK, Blais RK, Markman HJ, Stanley SM. Distress in spouses of service members with symptoms of combat-related PTSD: Secondary traumatic stress or general psychological distress. Journal of Family Psychology. 2011; 25:461–469. doi:10.1037/a0023994. [PubMed: 21639635]

Ruscio AM, Weathers FW, King LA, King DW. Male war-zone veterans' perceived relationships with their children: The importance of emotional numbing. Journal of Traumatic Stress. 2002; 15:351–357. doi:10.1023/a:1020125006371. [PubMed: 12392222]

Salzman WR, Lester P, Beardslee WR, Layne CM, Woodward K, Nash WP. Mechanisms of risk and resilience in military families: Theoretical and empirical basis for a family-focused resilience enhancement program. Child and Family Psychology Review. 2011; 14:213–230. doi:10.1007/s10567-011-0096-1.

Sandoz EK, Moyer DN, Armelie AP. Psychological flexibility as a framework for understanding and improving family reintegration following military deployment. Journal of Marital and Family Therapy. 2014 doi: 10.1111/jmft.12986.

Sayers SL, Farrow V, Ross J, Oslin DW. Family problems among recently returned military veterans. Journal of Clinical Psychiatry. 2009; 70:163–170. doi:10.4088/jcp.07m03863. [PubMed: 19210950]

Shea SE, Coyne LW. Maternal dysphoric mood, stress, and parenting practices in mothers of Head Start preschool children: The role of experiential avoidance. Child and Family Behavior Therapy. 2011; 33:231–247. doi:10.1080/07317107.2011.596004.

Smith TC, Ryan MA, Wingard DL, Slymen DJ, Sallis JF, Kritz-Silverstein D. New onset and persistent symptoms of post-traumatic stress disorder self reported after deployment and combat exposures: Prospective population based US military cohort study. British Medical Journal. 2007; 336:366–337. doi:10.1136/bmj.39430.638241.AE. [PubMed: 18198395]

Smith-Slep, A.; Heyman, RE. Coercive process and intimate partner violence in committed relationships.. In: Dishion, TJ.; Snyder, J., editors. Oxford Handbook of Coercive Relationship Dynamics. Oxford University Press; New York: in press

Snyder, J. Macro-Level Family Interaction Coding System (MFICS): Technical Report. Department of Psychology, Wichita State University; Wichita, Kansas: 2013.

Snyder J, Edwards P, McGraw K, Kilgore K, Holton A. Escalation and reinforcement in mother-child conflict: Social processes associated with the development of physical aggression. Development and Psychopathology. 1994; 6:305–321. doi:10.1017/s0954579400004600.

Snyder, J.; Lowe, S.; Bullard, L.; Schrepferman, L.; Wachlarowicz, M.; Marvin, C.; Reed, A. Effective parenting practices: Social interaction learning theory and the role of emotion coaching and mindfulness.. In: Larzelere, RE.; Sheffield, A.; Harrist, AW., editors. Authoritative parenting: Synthesizing nurturance and discipline for optimal child development. American Psychological Association Press; Washington, DC: 2013. p. 189-210.

Snyder, J.; Stoolmiller, M. Reinforcement and coercion mechanisms in the development of antisocial behavior: The family.. In: Reid, JB.; Patterson, GR.; Snyder, J., editors. Antisocial behavior in children and adolescents: A developmental analysis and model for intervention. American Psychological Association Press; Washington, DC: 2002. p. 65-100.

Thompson RW, Arnkoff DB, Glass CR. Conceptualizing mindfulness and acceptance as components of psychological resilience to trauma. Trauma, Violence, & Abuse. 2011; 12:220–235. doi:10.1177/1524838011416375.

Vasterling JJ, Proctor SP, Friedman MJ, Hoge CW, Heeren T, King LA, King DW. PTSD symptom increases in Iraq-deployed soldiers: Comparison with nondeployed soldiers and associations with baseline symptoms, deployment experiences and postdeployment stress. Journal of Traumatic Stress. 2010; 23:41–51. doi:10.1002/jts.20487. [PubMed: 20135698]

Vogt DS, Proctor SP, King DW, King LA, Vasterling JJ. Validation of scales from the deployment risk and resilience inventory in a sample of Operation Iraqi Freedom veterans. Assessment. 2008; 15:391–403. doi:10.1177/1073191108316030. [PubMed: 18436857]

Vujanovic AA, Niles B, Pietrefesa A, Schmertz SK, Potter CM. Mindfulness in the treatment of posttraumatic stress disorder among military veterans. Professional Psychology: Research and Practice. 2011; 42:24–31. doi:10.1037/2326-4500.1.s.15.

Weathers, F.; Litz, B.; Huska, J.; Keane, T. PTSD checklist-military version. National Center for PTSD. Behavioral Sciences Division; Boston: 1994.

Wilkins KC, Lang AJ, Norman SB. Synthesis of the psychometric properties of the PTSD checklist (PCL) military, civilian and specific versions. Depression and Anxiety. 2011; 28:596–606. doi: 10.1002/da.20837. [PubMed: 21681864]

Table 1

Factor Loadings and Alpha for Scales Describing Family Members' Observed Behavior During Family Interaction

Behavior Scale	Mean Item Loading	Range Item Loading	Cronbach: scale α	Example items (common across tasks)
		Service Members		
Positive Engagement				
-child problem solving	.78	.71-.82	.95	attentive, responsive, attached, cooperative, supportive, affectionate
-child deployment	.81	.68-.86	.96	
-mom problem solving	.82	.74-.87	.96	
Withdrawal				
-child problem solving	.68	.40-.84	.85	disinterested, distant, passive, ignores, reticent, low energy
-child deployment	.74	.44-.85	.90	
-mom problem solving	.71	.39-.83	.88	
Reactivity-Coercion				
-child problem solving	.63	.44-.77	.88	natters, angry, irritable, volatile, dismissive, critical, escalates
-child deployment	.64	.49-.74	.86	
-mom problem solving	.71	.44-.87	.92	
Distress Avoidance				
-child problem solving	.59	.37-.79	.77	wary, fearful, measured, low empathy, ignores, accepts, soothes
-child deployment	.52	.39-.75	.75	
-mom problem solving	.59	.39-.84	.78	
		Spouses		
Reactivity-Coercion				
-dad problem solving	.76	.55-.85	.93	(same items as reactivity-coercion-dads)
		Children		
Reactivity Coercion				
-dad problem solving	.86	.52-.91	.98	(same items as reactivity-coercion dads)
-dad deployment	.77	.38-.86	.92	

Table 2

Correlations Among and Descriptive Statistics for Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Trauma Exposure													
2. Experiential Avoidance	.30***												
3. PTSD Symptoms	.43***	.69***											
4. Service Member + Engage with Child	−.14	−.23**	−.21**										
5. Service Member Withdrawal with Child	.14	.11	.17*	−.65***									
6. Service Member Reactive Coercive with Child	.12	.08	.07	−.48***	.20**								
7. Service Member Distress Avoidance with Child	−.08	.16*	.15*	−.14	.03	.28***							
8. Service Member + Engage with Spouse	−.08	−.34***	−.32***	.65***	−.45***	−.26***	−.07						
9. Service Member Reactive Coercive with Spouse	.08	.12	.13	−.30***	.18*	.40***	.04	−.61***					
10. Service Member Withdrawal with Spouse	−.01	.29***	.21**	−.48***	.56***	.20**	.04	−.60[c]	.14				
11. Service Member Distress Avoidance with Spouse	.01	.20**	.09	−.12	.05	.18*	.09	−.40***	.53***	.22**			
12. Child Reactive Coercive with Service Member	−.08	.13	.08	−.17*	−.01	.38***	.66***	−.04	.05	−.01	.07		
13. Spouse Reactive Coercive with Service Member	.01	.13	.11	−.24**	.24***	.28***	.07	−.53***	.80***	.24***	.63***	.05	
Mean	8.78	16.24	28.96	3.54	1.31	1.11	0.89	3.26	1.24	1.42	0.79	1.15	1.35
SD	7.61	7.85	11.03	0.58	0.33	0.26	0.48	0.73	0.48	0.50	0.47	0.46	0.55

* $p < .05$

** $p < .01$

*** $p < .001$

Table 3

Regression Analyses of the Role of Service Members' Trauma Exposure, PTSD Symptoms and Experiential Avoidance on Their Observed Social Behavior During Problem Solving with Their Spouses

	Service Members' Behavior During Problem Solving Conversations			
Predictors	**Positive Engagement**	**Distress Avoidance**	**Withdrawal**	**Reactivity-Coercion**
Service Members' Deployment Trauma	.01	−.01	−.08	.12
Service Members' PTSD Symptoms	−.13	.03	.01	.06
Service Members' Experiential Avoidance	−.20*	.19*	.22*	−.08
Spouse Reactivity-Coercion	−.44***	.55***	.26***	.78***
R^2	.33	.35	.15	.48
$F_{(4, 162)}$	19.10***	20.59***	6.38***	36.99***

**$p < .01$

*$p < .05$

***$p < .001$

Table 4

Regression Analyses of the Role of Service Members' Trauma Exposure, PTSD Symptoms and Experiential Avoidance on Their Observed Social Behavior during Problem Solving and Deployment Conversations with Their Children

	Service Members' Behavior During Problem Solving & Deployment Conversation			
Predictors	**Positive Engagement**	**Distress Avoidance**	**Withdrawal**	**Reactivity-Coercion**
Service Members' Deployment Trauma	−.08	−.04	.03	.19*
Service Members' PTSD Symptoms	−.07	.10	.02	−.01
Service Members' Experiential Avoidance	.21*	−.26*	−.11	−.01
Child Reactivity-Coercion	−.20**	.05	.04	.38***
R^2	.14	.05	.02	.18
$F_{(5, 160)}$	5.53***	2.54*	1.02	8.17***

* $p < .05$

** $p < .01$

*** $p < .001$