Published in final edited form as:

Prof Psychol Res Pr. 2014 December ; 45(6): 465–477. doi:10.1037/a0036235.

Family adjustment of deployed and non-deployed mothers in families with a parent deployed to Iraq or Afghanistan

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Abstract

Almost nothing is known about the family and individual adjustment of military mothers who have deployed to the conflicts in Iraq or Afghanistan (Operations Iraqi and Enduring Freedom, and Operation New Dawn; OIF, OEF, OND), constituting a gap in psychologists' knowledge about how best to help this population. We report baseline data on maternal, child, parenting, and couple adjustment for mothers in 181 families in which a parent deployed to OIF/OEF/OND. Among this sample, 34 mothers had deployed at least once, and 147 mothers had experienced the deployment of a male spouse/partner. Mothers completed self-report questionnaires assessing past year adverse life events, war experiences (for deployed mothers only), posttraumatic stress disorder (PTSD) and depression symptoms, difficulties in emotion regulation, parenting, couple adjustment, and child functioning. Mothers who had deployed reported greater distress than non-deployed mothers (higher scores on measures of PTSD and depression symptoms), and slightly more past year adverse events. A moderate number of war experiences (combat and post-battle aftermath events) were reported, consistent with previous studies of women in current and prior conflicts. However, no differences were found between the two groups on measures of couple adjustment, parenting, or child functioning. Results are discussed in terms of the dearth of knowledge about deployed mothers, and implications for psychologists serving military families.

Introduction

Despite increasing awareness of the psychological adjustment and needs of military families affected by deployments (Faberman & Foster, 2013; Park, 2011), we know very little about families where *mothers* have deployed to war. The conflicts in Iraq and Afghanistan have resulted in larger numbers of women deployed (and as a greater percentage of the overall force) than in any prior conflict (Institute of Medicine, 2013). Of the more than 1.9 million U.S. military personnel deployed in Afghanistan and Iraq since the start of those wars in 2001 and 2003, approximately 280,000 are women, accounting for approximately 14% of

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those deployed (Office of the Deputy Under Secretary of Defense, 2011). Approximately 38% of those women are mothers (Institute of Medicine, 2013). Yet, the vast majority of military family studies have focused on the deployment and reintegration of male service members with non-deployed female spouses.

The few studies that have focused on deployed military women (not specifically mothers) have examined post-deployment psychological adjustment (particularly posttraumatic stress disorder), and battle experiences, comparing women with their deployed male counterparts (Hoge, Clark, & Castro, 2007; Mattocks et al., 2012; Street, Vogt, & Dutra, 2009). We could find no quantitative studies examining the adjustment in a family context of mothers deployed to Operations Iraqi or Enduring Freedom, or Operation New Dawn (i.e. the conflicts in Iraq and Afghanistan; OIF, OEF, or OND) and no studies comparing the adjustment of these mothers compared with non-deployed mothers whose male spouse/partner deployed. In this article, our goal is to provide some preliminary information about how deployed mothers, and their non-deployed counterparts report on their own, and their family adjustment following the separation from children and family that deployment requires.

Our primary focus is on Reserve Component (i.e. National Guard and Reserves; NG/R) mothers. The recent wars have relied in an unprecedented way on NG/R troops, who are, on average, older and more likely to be married and parenting than regular active duty military personnel. NG/R personnel live in civilian communities, without the support, routine, or structure of the military base, and maintain civilian jobs and family lives. Prior to September 11th, 2001, NG/R personnel were rarely deployed to war, with deployments limited to 6 months for each 5-years of regular drill. Over the past 12 years, deployment periods have increased nearly fourfold, to 24 months in a six-year enlistment period (Committee on Armed Services, 2011). Average deployments to OIF/OEF/OND are 12-15 months, and service members have served an average of 2.2 deployments to the conflicts (American Psychological Association Presidential Task Force on Military Deployment Services for Youth, 2007; Department of Defense Task Force on Mental Health, 2007). Research that captures the impact of these large NG/R troop deployments on families is just emerging (e.g., Castaneda et al., 2008; Faber, Willerton, Clymer, MacDermid, & Weiss, 2008) and we could find no data on the family adjustment of NG/R mothers in particular. However, data from NG/R soldiers in general suggests that this population may be at higher risk for a host of post-deployment adverse outcomes than active duty service members (Milliken, Auchterlonie, & Hoge, 2007). For NG/R women in particular, the need to make transitions out of and into the maternal role, families, civilian jobs and communities which may have very little familiarity with the military, may constitute additional stressors for deployment and reintegration (Street et al., 2009; Foster, 2011).

The Impact of Deployment on Deployed and non-Deployed Mothers

What is known about the deployment experiences of military mothers?—

Mothers who deploy experience multiple sources of deployment-related stress, including actual or perceived danger in the battlefield, as well as the threat of gender violence (i.e. military sexual assault and harassment), and stress associated with the extended separation

from children at home (Mattocks et al., 2012). Despite a move towards equalization in caregiving roles, women are still typically primary caregivers for children, providing added stress with regard to transferring these responsibilities and separating for the length of the deployment. Moreover, proportionally, more female than male service members are single parents, and female service members are three times more likely than males to be married to another service member (Office of the Deputy Under Secretary of Defense, 2011), compounding the complications of deployment transitions for some families.

Prior studies conducted with Navy women found children of deployed mothers to manifest more internalizing and externalizing symptoms than children of non-deployed Navy mothers, or civilian mothers, although symptoms did not reach clinical levels (Kelley et al., 2001). In a study of Operation Desert Storm veterans, Vogt, Pless, King, and King, (2005) found that deployed women reported receiving less social support during deployment, and that both social support and relationship/family disruptions had a stronger impact on deployed women's, compared with deployed men's mental health.

One of the most illustrative studies of women's experiences during deployment is a qualitative study of 19 women deployed to OIF and OEF, the majority of whom were NG/R service members (Mattocks et al., 2012). Women (an unidentified proportion of whom were mothers) participated in semi-structured interviews about their military experiences and adaptations. Qualitative analyses revealed two key themes: stressful military experiences, and post-deployment reintegration problems, with subgroups of stressors in each of these categories. Stressful military experiences included combat-related experiences, military sexual trauma, and separation from family. As would be expected, stressful reintegration experiences included dealing with combat stress reactions, and disrupted relationships with family and friends.

The impact of deployment on non-deployed mothers: At-home mothers remain with their children but become solo caregivers, needing to manage the household, reassure and comfort children, while dealing with their own anxiety about their partner's wellbeing. Risks for mothers' mental health problems (Mansfield et al., 2010), child maltreatment (Gibbs, Martin, Kupper, & Johnson, 2007), and child behavioral and emotional challenges (Kelley et al., 2002) are associated with deployment. There is little evidence to support the hypothesis that stress related to deployment contributes to the demise of marriages, but deployment may impact marital satisfaction and child outcomes (Karney & Crown, 2007).

Psychosocial functioning data gathered from non-deployed caregivers (86% mothers) with 5-12 year old children during deployment of a parent showed increased parental stress to be a strong predictor of poor child functioning (Allen, Rhoades, Stanley, & Markman, 2011). Results of mixed-method studies have revealed differences among military components and deployment lengths. For example, caregivers affiliated with the National Guard (but not Reserves) reported significantly poorer emotional well-being compared to active duty affiliated caregivers (Lara-Cinisomo et al., 2012; Mansfield et al., 2010). Mansfield et al., (2010) found that length of deployment was positively associated with diagnoses of depressive disorders among female spouses of Army active duty service members and Lara-Cinisomo et al. (2012) found that across service branches (Army, Navy, Air Force, and

Marines) and components (Active, National Guard, and Reserve) those caregivers whose spouses were deployed longer reported significantly poorer emotional well-being, and increased household and relationship stressors. Given the critical role that maternal well-being has on child and family functioning, it is important to understand how the stress of deployment *and reintegration* is impacting families.

Reintegration following deployment: We could find no published research on the family adjustment of mothers deployed to OIF, OEF, or OND. Studies have examined individual adjustment of female service members, with a focus on PTSD (e.g. (Hoge, et al., 2007)). For example, findings suggest that female service members are more likely than males to have a history of exposure to traumatic events (e.g. Rosen & Martin, 1996a, 1996b) which may increase their vulnerability for PTSD following battle experiences (Surís, Lind, Kashner, Borman, & Petty, 2004). In a study of Gulf War veterans, Vogt, Pless, King, and King (2005) found that while both men and women were exposed to mission-related stressors, women reported more interpersonal stressors, such as concerns about disruption of family relationships, lack of deployment social support, and sexual harassment, and these stressors were more strongly associated with mental health for women than for men. However, several studies have found combat exposure to have similar effects on PTSD symptoms for men and women, suggesting that gender matters less than the intensity and frequency of combat stressors in determining risk (Hoge et al., 2007; Kulka et al., 1990; Sutker, Davis, Uddo, & Ditta, 1995).

Concerns about disruptions to family relationships are particularly salient for deployed women and are associated with post deployment adjustment (Vogt et al., 2005). Transitioning from war to home also may require a recalibration of emotional responding (Ruscio, Weathers, King, & King, 2002). Work in combat zones requires sensitivity to danger, exposure to potentially traumatic events, and immediate reactivity and suppression of emotions, which may impair emotion regulation capacities (MacDermid, 2006; Vujanovic, Niles, Pietrefesa, Schmertz, & Potter, 2011). The family environment is the locus of family members' most intense exchanges of emotions. Reintegrating mothers may react to intense family interactions (e.g. those involving discipline, or conflict) by withdrawing, overreacting, or dismissing children's emotion displays – modeling the use of emotion suppression as a tool to cope with negative emotions, thereby increasing children's risk for psychological problems (Gewirtz & Davis, November, 2013; Tiwari et al., 2008). PTSD symptoms also may exacerbate parenting challenges (Cozza, Chun, & Polo, 2005; Deater-Deckard, Sewell, Petrill, & Thompson, 2010; Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010).

Comparing deployed mothers with their non-deployed counterparts: On the basis of the relatively scant research reported above, we were interested in differences between deployed and non-deployed mothers on individual and family dimensions. Specifically, we sought to:

- i. Examine pre-deployment recent life stressors among these two groups of women, and, for deployed mothers, describe combat experiences.
- ii. Compare individual and family adjustment: maternal, and child adjustment, couple adjustment, and parenting.

Based on the combat stress and reintegration literature, we predicted that deployed mothers would report greater distress (i.e. more depression and PTSD symptoms) as well as more difficulties in emotion regulation than non-deployed mothers. Given prior research with male service members indicating the spillover effects of PTSD and depression on children, we predicted that deployed women would also report more challenges with their couple relationships, parenting, and children's behavior. The sample for this study was gathered as part of baseline data collection for a larger-scale study of parenting in military families following deployment (NIH R01-DA030114).

Methods

Design and Participants

In this paper we report on information gathered at baseline (T1) for mothers in the first 181 families in the After Deployment, Adaptive Parenting Tools (ADAPT) prevention study. The ADAPT study is a National Institutes of Health-funded randomized controlled trial examining the effectiveness of a parenting program targeting military families who are reintegrating following deployment (Gewirtz, Erbes, Polusny, Forgatch, & DeGarmo, 2011; Gewirtz, Pinna, Hanson, & Brockberg, in press). For the current study, baseline (i.e. pre-intervention) data were examined. For inclusion in the ADAPT study, families were required to have at least one child living with them between the ages of four and twelve (i.e. the target child), and at least one parent who had returned from at least one deployment to OIF, OEF, or OND. Focusing on the experience of the first 181 mothers in the study at baseline, participants included deployed mothers (19%) and never deployed mothers who were married or partnered with deployed men (81%).

Demographic information is found in Table 1. Half of the women (51.4%) reported completing at least a Bachelor's degree. This sample of women was predominantly White (91.2%); only 3.4% reported Hispanic/Latina ethnicity. Household incomes ranged from \$5,000 to \$155,000 per year. The median income was \$70,000 for the total sample (\$75,000 for the households of non-deployed mothers; \$65,000 for households of deployed mothers). Nearly half of all the mothers were employed full-time (45.3%).

Deployed mothers were less likely to be married/partnered (73.5%) compared to non-deployed mothers (94.6%). In the deployed mothers' households, 62% had a partner at home ($n=20$ male/female and $n=1$ female/female co-parents), while the remaining 38% were dually deployed ($n=13$ families with both parents on deployment). These demographic differences are consistent with data on military compared with civilian women in the larger population (Office of the Deputy Under Secretary of Defense, 2011), confirming that, socio-demographically, the mothers in this sample look quite similar to the larger military population in marital and partner military status. Number of children in the household ranged from 1 to 5, with non-deployed women reporting slightly higher average numbers of children (2.30) than deployed women (1.97).

Military affiliations of the deployed mothers are shown in Table 2. Most women were in the Army National Guard (64.7%) with the remaining members of the Army Reserves (14.7%), Air National Guard (8.8%), Active Duty Army (5.9%), and Air Force Reserves (2.9%).

Almost one third of the sample was deployed more than once. Over 40% were deployed between 7 to 12 months, nearly a quarter were deployed 13-18 months, and a fifth were deployed at least 19 months. Women were deployed in OIF (62%), and OEF (50%); almost 18% were deployed to both.

Procedures

Participants in the ADAPT study were recruited through multiple methods, including outreach to military organizations, media coverage, and word-of-mouth. Families entered the study through an online portal, and participant data was collected both online (following informed consent with procedures approved by the University of Minnesota's Institutional Review Board) and in families' homes. Parents are given a \$25 gift card for each online assessment (up to 2 parents/caregivers per family) and \$50 per family for each in-home assessment and children are given a small gift (\$1 to \$5). This study reports on a subset of the measures gathered online and in families' homes at baseline. At baseline, families must have at least one parent who has returned from deployment to OEF, OIF, or OND; thus, the participants in this study have all experienced either a deployment, or the deployment of a spouse.

Measures

Negative life events were measured with the Life Events Questionnaire (LEQ; (Norbeck, 1984; Sarason, Johnson, & Siegel, 1978). The LEQ is list of 82 events which respondents rate according to whether the event occurred in the last year, whether it had a good or bad effect, and how strong the effect was (0 = "no effect", 4 = "great effect.") The LEQ is a modification of existing instruments, with a particular emphasis on experiences that are relevant in the lives of women of child-bearing age (Norbeck, 1984; Sarason et al., 1978). The LEQ is significantly correlated with other stress-related measures, and the 1-week test-retest reliability was high (.78 - .83; Norbeck, 1984). Because the LEQ produces a count of negative life events rather than a scale, alphas are not reported. The sum of the negative life events reported was used in this study.

Stressful military experiences were measured with the Deployment Risk and Resilience Inventory (DRRI; (King, King, Vogt, Knight, & Samper, 2006). The DRRI was developed using a national sample of Gulf War veterans (King et al., 2006). The inventory measures key risk and resilience factors for military personnel who have been deployed to war zones. This study utilized the sections of the DRRI about combat experiences and post-battle experiences. Each section includes 15 items that may be experienced during deployment. Examples include "I or members of my unit received hostile incoming fire," and "I or members of my unit were attacked by terrorists or civilians". Items are rated "yes" or "no." The DRRI has been validated with a large and diverse sample of military personnel deployed to OIF (Vogt, Proctor, King, King, & Vasterling, 2008).

Maternal psychopathology—Self-reported psychopathology was measured with the 25-item version of the Hopkins Symptom Checklist (HSCL-25; (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974)). The HSCL-25 contains 10 items that measure symptoms of anxiety and 15 items that measure symptoms of depression, rated on a 4-point scale (1 =

“not at all,” 2 = “a little,” 3 = “quite a bit,” and 4 = “extremely”). The HSCL-25 has been demonstrated to adequately identify depression in community samples (Hesbacher, 1980; Sandanger et al., 1998; Sandanger et al., 1999). The HSCL-25 produces a total score, the average of all 25 items, and a depression score, the average of the 15 depression items. Reliability was good for both scores ($\alpha = .91$ for depression and $.93$ for total).

Emotional regulation was measured with the Difficulties in Emotion Regulation Scale (DERS; (Gratz & Roemer, 2004)). The DERS is a 36-item questionnaire that assesses common problems with emotion regulation in six domains: non-acceptance/avoidance of emotions, difficulties engaging in goal-directed behavior when experiencing negative emotions, difficulties with impulse control, lack of awareness of emotion states, limited access to emotion regulation strategies, lack of clarity about discrete emotional states. A total score is also computed by averaging all the items ($\alpha = 0.94$). Items are rated on a 5-point scale (1 = almost never, 5 = almost always). The DERS has good internal consistency, construct and predictive validity (Gratz & Roemer, 2004).

Posttraumatic stress symptoms were measured with the PTSD Checklist (PCL; (Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL is a 17-item questionnaire that measures symptoms of posttraumatic stress as defined by the DSM-IV. Items are rated on a five-point scale, from “not at all” to “extremely.” The military version of the PCL asks about symptoms in response to “stressful military experiences”; the civilian version asks about symptoms in response to “stressful experiences.” Example items are “Repeated, disturbing memories, thoughts or images or a stressful experience,” “Feeling distant or cut off from other people,” and “Having difficulty concentrating.” Deployed participants completed the military PCL and non-deployed participants completed the civilian PCL. Scores are obtained for symptoms of intrusion, avoidance, and arousal, as well as a total symptom severity score which is the sum of all 17 items. The PCL has been empirically supported as a valid and reliable screening instrument for PTSD in both military and civilian populations (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Ruggiero, Del Ben, Scotti, & Rabalais, 2003). Cronbach’s alpha ranged from 0.82 for arousal symptoms to 0.88 for intrusive symptoms; $\alpha = 0.92$ for the total symptom score.

Couple adjustment—Self-reported relationship satisfaction was measured with the seven-item version of the Dyadic Adjustment Scale-7 (DAS-7; (Spanier, 1976). The DAS consists of six items that measure how often respondents perceive that they and their partners agree about major life domains (e.g. mutual goals, spending time together, exchanging ideas, etc.) rated on a 6-point scale (0 = always disagree, 5 = always agree) and one global satisfaction that measures overall happiness in the relationship rated on a seven-point scale (0 = extremely unhappy, 6 = perfect). For scoring, all items are converted to a five-point scale and averaged to provide a single score ($\alpha = 0.88$). The instrument is appropriate for both married and cohabiting couples (Hunsley, Best, Lefebvre, & Vito, 2001). The DAS-7 has been demonstrated to have discriminant validity (Sharpley & Rogers, 1984), and good internal consistency (Hunsley, et al., 2001).

Parenting—Self-reported positive and negative parenting practices were measured with the nine-item version of the Alabama Parenting Questionnaire-9 (APQ-9; (Elgar,

Waschbusch, Dadds, & Sigvaldason, 2007)). The APQ-9 is a list of statements about parenting behaviors; respondents rate the behaviors on a five-point scale according to how often the situation happens (1 = never, 5 = always). The APQ-9 measures parenting practices in three domains: positive parenting (example item: “You compliment your child after he/she has done something well”), inconsistent discipline (example item: “Your child talks you out of being punished after he/she has done something wrong”), and poor supervision (example item: “Your child is out with friends you don’t know”). The APQ-9 has adequate reliability and validity (Elgar et al., 2007). Cronbach’s alpha was .91 for positive parenting and .54 for inconsistent discipline. Due to a lack of variance on individual items (likely due to relatively young child age) and a low alpha, we withdraw the poor supervision scale from the current analyses.

Parental efficacy—Parental efficacy was assessed with the Parental Locus of Control Scale (PLOC; (Campis, Lyman, & Prentice-Dunn, 1986). The PLOC is a 22-item questionnaire assessing parental efficacy in four domains. The parenting self-efficacy scale measures the degree to which parents do not feel effective in the parenting role. An example item is “No matter how hard a parent tries, some children will never learn to mind.” The parental responsibility scale measures the degree to which parents do not feel responsible for their children’s behavior. An example item is “Children’s behavior problems are often due to mistakes their parents made” (reversed). The child control scale reflects the degree to which parents feel that child’s demands control their lives and engage in excessive gratification of children’s needs. An example item is “My life is chiefly controlled by my child.” The parental control scale measures the degree to which parents feel unable to control their child’s behavior. An example item is “It is often easier to let my child have his/her way than to put up with a tantrum.” Items are rated on a five-point scale from “strongly agree” to “strongly disagree.” The original PLOC consisted of 47 items. The shortened version of the PLOC was created by selecting the items from each subscale that had the highest factor loadings in the original study (Hassall, Rose, & McDonald, 2005). Good construct and discriminant validity has been established both for parents of children with behavior problems and community samples (Lovejoy, Verda, & Hays, 1997; Roberts, Joe, & Rowe-Hallbert, 1992). Cronbach’s alpha for the total 22-item scale was 0.71.

Child psychosocial functioning was measured with the Behavioral and Emotional Rating Scale, Second Edition (BERS-2; (Epstein, 2000) parent version. The BERS-2 is a 52 item scale that assesses children’s emotional and behavioral strengths in five dimensions: interpersonal strength, family involvement, intrapersonal strength, school functioning, and affective strength. Respondents are asked to rate the child on each item using a scale of zero to three (0 = “not at all like the child,” “3 = very much like the child”). The BERS-2 has been demonstrated to have excellent test-retest reliability, criterion and construct validity (Buckley & Epstein, 2004; Epstein, Cullinan, Ryser, & Pearson, 2002). Alphas for the scales ranged from .80 for affective strength to .91 for interpersonal strength. The Total Strength Index, which is the mean of all 52 items, was used in this study.

Analytic Strategy

All analyses were performed using IBM SPSS Statistics Version 20. Before conducting multivariate analyses of maternal outcomes, we compared contextual characteristics of the two groups of mothers enrolled in the ADAPT study. Adjusted counts of negative life events were compared using ordinary least squared (OLS) regression, controlling for married/partnered status (married/partnered = 1 vs. not married/partnered = 0) and target child's age. Univariate statistics (Mean, SD) are reported for the DRRI-2 measures of combat and post-battle experiences for deployed mothers only. Analyses of ADAPT mothers' self-reported functioning and ratings of their target child's functioning were conducted using ordinary least squares regression. Comparisons of deployed and non-deployed mothers' psychosocial and relationship adjustment were adjusted for married/partnered status. Comparisons of parenting and target child functioning were adjusted for married/partnered status and target child's age. Due to unbalanced data and some violations of the OLS assumption of homogeneity of variance, results should be regarded as preliminary.

Results

Non-deployed mothers reported an average of 5.16 negative events in the past year, while deployed mothers reported almost 6 (5.73; SE=0.38); these were not significantly different. Table 3 lists the frequency of negative life experiences reported by the two groups of women. Examples of commonly reported negative events for both groups of women included change in closeness with partner, trouble with in-laws, conflicts with spouse/partner about parenting, and major changes in finances.

Deployed mothers were also asked about their combat and post-battle experiences. DRRI-2 combat experiences ranged from 0 to 10 experiences reported, with an average of almost 3 experiences (2.91; SD=3.16). Table 4 lists all of the reported combat experiences. Frequently reported experiences included the deployed mother or members of her unit receiving hostile incoming fire (83%), the deployed mother going on combat patrols or missions (39%), and the deployed mother or members of her unit being attacked by terrorists (30%). DRRI-2 post battle experiences ranged from 0 to 15 experiences reported, with an average of almost 3.5 experiences (3.48; SD=4.38). Frequently reported post battle experiences (see Table 4) included the deployed mother observing people begging for food (61%), observing homes or villages that had been destroyed (39%), observing refugees who had lost their homes or belongings as a result of a battle (30%), and being exposed to the sight, sound, or smell of animals that had been wounded or killed (30%).

Adjusted mean scores for psychosocial and relationship adjustment, parenting, and target child functioning are shown in Table 4. Deployed mothers scored significantly higher than non-deployed mothers on both the HSCL depression and total symptoms scales, even after adjusting for married/partnered status. Compared to non-deployed mothers, deployed mothers scored an average of 10 points higher on the DERS scale, indicating significantly more problems regulating emotions. Predictably, deployed mothers also scored significantly higher than civilian mothers with regard to measures of PTSD, with the exception of the avoidance symptom scale (although results are marginal, given the Bonferroni correction for multiple significance tests).

With regard to scores on relationship adjustment and parenting measures, no significant differences between non-deployed and deployed mothers were found. Moreover, maternal ratings of their child's positive functioning were very similar; no significant differences were noted in BERS Strength Index scores.

Discussion

Compared to non-deployed mothers, the deployed mothers in our study reported a slightly greater number of past year negative life events (5.73), but fewer than the average number (8.36) reported by single enlisted Navy mothers in a recent study (Tucker & Kelley, 2009). Of note is that specific life events differed in the frequency of reports by each group. Deployed mothers reported far higher frequencies of past year difficulty in finding a job, and housing, troubles and changes in responsibilities at work, and problems in school. Deployed mothers also reported more conflicts with partners around parenting than non-deployed mothers, and more custody battles. Finally, although they were very low base rate events, deployed mothers reported credit rating difficulties, and minor violations of the law at much higher rates than non-deployed mothers. Past year life events which non-deployed mothers endorsed more frequently than deployed mothers appear, not surprisingly, to be related to deployment: separation from spouse due to work, travel, etc; change in partner's work outside the home; change in childcare arrangements; taking on full responsibility for parenting as a single parent, change in family get-togethers; and change in social activities. Non-deployed mothers also reported much more trouble with in-laws.

These data highlight the stressors each group experiences in the context of deployment and reintegration. Particularly among civilian soldiers, the disruptions to everyday life and work of the deployment experience can be extensive. Recent reports have highlighted the relatively higher rates of unemployment among military compared with non-military populations (Faberman & Foster, 2013; Kleykamp, 2013). For the deployed women in this sample, these events also occur against a different backdrop than for the non-deployed mothers – i.e., more single or dually-deployed households, with slightly lower incomes.

Conflicts over parenting – a key shared responsibility, particularly for deployed mothers who have been separated from their children for significant periods of time, are commonly reported in reintegrating military families (Allen, Rhoades, Stanley, & Markman, 2011; Beder, Coe, & Sommer, 2011; Gewirtz et al., 2011). For non-deployed mothers, salient life changes relate to the experience of parenting alone during a deployment, and the support (or lack thereof) from other family members to manage family responsibilities. Anecdotally, some non-deployed mothers reported surprise that they did not receive more help from parents or in-laws during deployment, with one mother reporting that her own mother had told her brusquely that marrying a National Guard member was a “personal choice” that she would need to pay the price for (in parenting alone while her spouse was deployed).

Very little has been reported on the *combat experiences* of mothers. Two earlier studies have used the DRRI to report on the combat experiences of women in general, and compare female combat experiences to those of males. Vogt and colleagues (Vogt et al., 2005; Vogt, Proctor, King, King, & Vasterling (2008) examined male and female combat and combat

aftermath experiences among Gulf War, and OIF personnel. In both contexts, women were exposed to fewer battle and aftermath of combat traumatic experiences compared with men, but OIF samples showed women experiencing more combat and fewer aftermath incidents than first Gulf War samples. Our sample of mothers reported more combat experiences than Gulf War women veterans, but fewer than OIF deployed active duty women service members in the Vogt, et al., (2008) study. Interestingly, however, more than 80% of women in our sample reported being exposed to hostile incoming fire, affirming the oft-reported description of OIF, OEF, and OND, as conflicts where the frontlines are everywhere (Street et al., 2009). Most of the research on combat exposure is focused on its impact on psychopathology and related psychosocial outcomes. Little is known about how exposure to combat might affect a mother's identity as a parent. Qualitative studies in particular would enable researchers to examine the narratives and themes of both non-deployed and deployed mothers as they articulate their experiences, the meanings they attribute to them, and influences on their maternal identity.

Compared to civilian partners of deployed men, the deployed mothers in our sample reported significantly greater distress; more PTSD and depression symptoms, and more difficulties in emotion regulation. Given the obvious - more exposure to potentially traumatic war events - this is not surprising. The determinants of distress in deployed mothers are likely multi-determined, however. Beyond combat, deployed women may face a host of other stressors associated with deployment and being a civilian soldier: lack of social support, fear of sexual assault, and challenges related to separation from children and family (Street et al., 2009). Examining these factors was beyond the scope of the current study, but longitudinal studies are urgently needed to understand the predictors of distress in deployed mothers.

Contrary to our expectations, deployed and non-deployed mothers did not differ in their reports of couple adjustment, parenting, or child behavior. These data contrast with prior military and civilian literature demonstrating significant positive associations between mothers' self-report of distress, and reports of child behavior problems (Forgatch, Patterson, & Skinner, 1988; Jensen, Martin, & Watanabe, 1996; Shaw, Connell, Dishion, Wilson, & Gardner, 2009). However, some non-military data on mothers in high-risk contexts has demonstrated that, in certain circumstances, mothers' mental health appears to be independent of child adjustment (Gewirtz, DeGarmo, & Medhanie, 2011; Gewirtz, DeGarmo, Plowman, August, & Realmuto, 2009). It is not hard to understand how a deployed mother might work hard to separate her own distress from her parenting role in order to provide better care for her children. Indeed, deployed mothers, used to operating in an environment that may require suppression of emotions, may be adept at submerging their own feelings in order to be competent mothers.

An alternative explanation is that both deployed and never-deployed mothers are reporting lower levels of couple adjustment, parenting and child behavior than a comparison sample of mothers in never-deployed or non-military families. However, scores on the BERS indicated mothers reporting their children as behaving within the normal range. Although we have no direct comparison group for the assessment of couple adjustment, in comparison to

a sample of National Guard males returning from deployment (Park, 2011), our sample of females report slightly higher couple adjustment, and more effective parenting.

Limitations

Although we accounted for key potentially confounding variables in our analyses (i.e. partner status, child age), one important factor we were not able to control for, given the nature and size of this dataset, was deployment status of the partner. All of the civilian women had deployed spouses, but several of the deployed mothers were in dually deployed families. Dually deployed families face unique challenges in that – unless both deploy simultaneously – both parents experience being at-home *and* being deployed. Far more research is needed to understand the needs of this population.

Our sample also was limited by the fact that it was gathered in a state with no military installations (only NG/R military families and veterans) and since the goal was to study families experiencing deployment, we excluded families with a parent in the NG/R who was not deployed. This limits the generalizability of the findings to NG/R families where a parent has deployed. Finally, although efforts were made to recruit broadly (all deploying families in the state were notified about the study) the sample represents only those who volunteered to participate.

Clinical Practice Implications

This is the first study that we know of to report on the family functioning of OIF/OEF/OND deployed mothers. Findings suggest that clinicians working with military families, and especially NG/R might consider carefully issues related to the unique challenges facing deployed and non-deployed mothers during and following deployment. Although this research did not document stressors and adjustment according to the time frame during which they occurred, understanding the phases associated with deployment, often referred to collectively as the ‘deployment cycle’ (MacDermid, 2006; Pincus, House, Christenson, & Adler, 2007) may provide a useful framework for clinicians assisting mothers. Stressors associated with each phase (pre-deployment, deployment, and reintegration) vary. At the pre-deployment phase, for example, families face the uncertainty surrounding a parent’s leaving. During the deployment, stress for the mother at home may be associated with her social support, and resources, as well as her communication with, and safety concerns about the service member. It is during the reintegration stage that many families report the greatest challenges (Nelson Goff, Crow, Reisbig, & Hamilton, 2007), partly because the expectation that things will be ‘back to normal’ with the service member’s return often is proven wrong. Instead, many refer to the “new normal” of life after deployment that includes the parenting, relationship and work stressor events reported by deployed mothers.

Our findings suggest that challenges differ by a mother’s deployment status. Psychologists might see presenting issues of non-deployed mothers related to parenting burden, the stress and potential isolation of being a single at-home caregiver during deployment, and increased conflicts with other family members. Among deployed NG/R mothers reintegration issues may include challenges related to finding new employment or returning to a prior position, transitioning or returning to school, and returning to a largely civilian job or school

environment where there may be little understanding of deployment or the military. Relationship issues may center on reintegrating into a family environment which contrasts markedly with the highly structured, hierarchical and rigid military context. Mothers will be renegotiating their parenting (and partnering) roles, and reconnecting with children. One mother in our study articulated her own experience thus:

“When I left, they were Mommy’s girls. I took them to daycare. I picked them up. Y’know, everything. Then when I came back, there was lot of conversation about what I missed. (They were with their dad). When I came home, she (my youngest) would not let go of me. She hugged so hard, it would actually hurt sometimes. She would just squeeze me. They talk about how they (the girls) were the ones that went places and everyone else had a mom.

Moms carry that guilt. You as a mommy think that you are supposed to be there all the time. Not that men don’t have the same experience. But, when ...I was talking to my male counterparts, when they were coming home it was to play with kids. It wasn’t now I’m coming home and now I have to take **care** of the kids. It wasn’t that they were going back into a caregiver role”.

Addressing challenges around separation from children and the consequent implications for relationships (especially with young children), the stressful nature of the battlefield for female military personnel, and consequent distress, appear to be key treatment issues for this population of competent, stressed women. Psychologists in the community who provide services for NG/R families and particularly deployed mothers should be informed about the deployment and battlefield landscape for women, a context that is less supportive for females and more fraught with concerns about physical safety and sexual harassment. Our findings suggest that women, even if they do not meet diagnostic criteria for PTSD or depression, may be struggling to process memories of traumatic combat and combat aftermath events during reintegration, and psychologists can play a critical role in normalizing reactions, processing experiences, and treating symptoms. A key need for deployed mothers may be to access help from psychologists as they manage reintegration and residual combat experiences concurrent with expectations for an immediate return to household and parenting responsibilities. Tensions between work and family, often present for working mothers, appear to be especially heightened for this population. At the same time, it seems important not to assume that deployment is ‘just’ a stressful process. The study participant quoted above also commented on the fulfilling nature of her deployment:

“I joked with my office mate when we were in Afghanistan. If we could just get child-size protective vests and we could bring them over. Because other than that, being away from our children, I think (we) both loved being on deployment. We were doing our jobs; we were doing what we were trained to do. She described it like, if you were talking to your kid, as if they were a dancer, but never got to dance in a dance. Wouldn’t you really want to dance in the dance if given the opportunity? So, the same thing. If all you did was train and prepare and train to be a soldier, but never had the opportunity to be a soldier in a combat situation, when given the opportunity, you’d feel like you’d miss something important.”

The distress revealed by deployed mothers provides a poignant reminder of their service – and their sacrifice – on behalf of our country, and reflects a powerful need for psychologists to learn more about how to support military families.

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Table 1

Demographic Characteristics of Female ADAPT Participants

	Non-Deployed Mothers (N = 147)		Deployed Mothers (N = 34)		Total (N = 181)	
	n	%	n	%	n	%
Highest Education Level						
High school/GED or less	12	8.2	1	2.9	13	7.2
Some college/AA degree	58	39.5	17	50.0	75	41.4
4 yr. college degree	54	36.7	12	35.3	66	36.5
Graduate degree	23	15.6	4	11.8	27	14.9
Racial Groups						
White	138	93.9	27	79.41	165	91.2
Nonwhite	9	6.1	7	20.6	16	8.8
Hispanic/Latina	2	1.4	4	12.1	6	3.4
Occupational Status						
Employed full time	64	43.5	18	52.9	82	45.3
Employed part time	35	23.8	3	8.8	38	21.0
Retired	0	0.0	1	2.9	1	0.6
Homemaker	39	26.5	2	5.9	41	22.7
Student	6	4.1	8	23.5	14	7.7
Unemployed	3	2.0	2	5.9	5	2.8
Married/Partnered	139	94.6	25	73.5	164	90.6
Household Income: M (SD)	\$72,192	(\$33,830)	\$69,411	(\$35,776)	\$71,667	(\$34,121)
median	\$75,000		\$65,000		\$70,000	
range: \$5,000-\$155,000						
Children in Household	2.30	0.93	1.97	0.87	2.24	0.92
median	2.00		2.00		2.00	
range: 1-5						
Female Target Child	78	53.4	17	50.0	95	52.8
Age of Target Child: M (SD)	7.73	(2.24)	8.02	(2.40)	7.79	(2.25)
median	7.11		7.80		7.29	
range: 4.18-13.11						

Table 2

Characteristics of Deployed ADAPT Mothers

	Deployed Mothers (<i>N</i> = 34)	
	<i>n</i>	<i>%</i>
Military affiliation		
Air National Guard	3	8.8
Army National Guard	22	64.7
Army Reserves	5	14.7
Air Force Reserves	1	2.9
Active Duty Army	2	5.9
Unknown	1	2.9
Number Times Deployed since 2001		
1	24	68.6
2	6	17.1
3	2	5.7
5	1	2.9
Unknown	1	2.9
Times Deployed: <i>M</i> (<i>SD</i>)	1.38	(0.89)
Number of Months Deployed		
6 months or less	4	11.8
7-12 months	15	44.1
13-18 months	8	23.5
19-24 months	6	17.6
31-36 months	1	2.9
OEF Deployed (Afghanistan)	17	50.0
OIF Deployed (Iraq)	21	61.8

OEF = Operation Enduring Freedom; OIF = Operation Iraqi Freedom.

Table 3

Contextual Characteristics of Female ADAPT Participants: Negative Life Events from the LEQ

	Non-Deployed Mothers (N = 132)		Deployed Mothers (N = 32)	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Bad Experience in Past Year				
Major personal illness/injury	24	18%	5	16%
Major change in eating habits	14	11%	3	9%
Major change in sleeping habits	40	30%	9	28%
Major change in usual type and/or amount of recreation	18	14%	4	13%
Major dental work	6	5%	1	3%
Pregnancy	1	1%	-	
Miscarriage or abortion	6	5%	1	3%
Menopause	-		-	
Major difficulties with birth control pills or devices	5	4%	1	3%
Difficulty in finding a job	16	12%	8	25%
Beginning work outside home	3	2%	1	3%
Changing to a new type of work	2	2%	1	3%
Changing your work hours or conditions	19	14%	4	13%
Change in your responsibilities at work	7	5%	4	13%
Troubles at work with your employer or co-workers	23	17%	11	34%
Major business readjustment	1	1%	2	6%
Being fired or laid off from work	8	6%	3	9%
Retirement from work	-		2	6%
Taking courses by mail or studying at home to help in your work	1	1%	-	
Beginning or ceasing school, college, or training program	4	3%	-	
Change of school, college, or training program	1	1%	-	
Change in career goal or academic major	-		-	
Problem in school, college, or training program	3	2%	5	16%
Difficulty finding housing	2	2%	5	16%
Changing residence within the same town or city	1	1%	-	
Moving to a different town, city, state, or country	2	2%	2	6%
Major change in your life conditions (home improvements or a decline in your home or neighborhood)	7	5%	6	19%
Began a new, close, personal relationship	2	2%	-	
Became engaged	-		-	
Girlfriend or boyfriend problems	5	4%	2	6%
Breaking up with a girlfriend or boyfriend or breaking an engagement	1	1%	2	6%
Wife or girlfriend's pregnancy	-		-	
Wife or girlfriend having a miscarriage or abortion	-		-	
A change in closeness with your partner	28	21%	6	19%

	Non-Deployed Mothers (N = 132)		Deployed Mothers (N = 32)	
Infidelity	6	5%	2	6%
Trouble with in-laws	29	22%	2	6%
Separation from spouse or partner due to conflict	5	4%	1	3%
Separation from spouse or partner due to work, travel, etc.	36	27%	5	16%
Reconciliation with spouse or partner	-		-	
Divorce	2	2%	-	
Change in your spouse or partner's work outside the home (beginning work, ceasing work, changing jobs, retirement, etc.)	23	17%	3	9%
Gain of a new family member (through birth, adoption, relative moving in, etc.)	3	2%	1	3%
Child or family member leaving home (due to marriage, to attend college, or for some other reason)	7	5%	1	3%
Major change in the health or behavior of a family member or close friend (illness, accidents, drug or disciplinary problems, etc.)	20	15%	4	13%
Death of a spouse or partner	-		-	
Death of a child	1	1%	-	
Death of a family member or close friend	23	17%	6	19%
Birth of a grandchild	-		-	
Change in marital status of your parents	2	2%	-	
Change in child care arrangements	13	10%	2	6%
Conflicts with spouse or partner about parenting	47	36%	16	50%
Conflicts with child's grandparents (or other important person) about parenting	16	12%	3	9%
Taking on full responsibility for parenting as a single parent	23	17%	2	6%
Custody battles with former spouse or partner	6	5%	4	13%
Major personal achievement	-		-	
Major decision regarding your immediate future	4	3%	2	6%
Change in your personal habits (your dress, life-style, hobbies, etc.)	3	2%	2	6%
Change in your religious beliefs	-		-	
Change in your political beliefs	-		-	
Loss or damage of personal property	6	5%	6	19%
Took a vacation	1	1%	-	
Took a trip other than a vacation	3	2%	1	3%
Change in family get-togethers	10	8%	1	3%
Change in your social activities (clubs, movies, visiting)	15	11%	2	6%
Made new friends	3	2%	-	
Broke up with a friend	8	6%	3	9%
Acquired or lost a pet	15	11%	3	9%
Major change in finances (increased or decreased income)	40	30%	9	28%
Took on a moderate purchase, such as a TV, car, freezer, etc.	6	5%	1	3%
Took on a major purchase or a mortgage loan, such as a home, business, property, etc.	1	1%	1	3%
Experienced a foreclosure on a mortgage or loan	-		2	6%

	Non-Deployed Mothers (N = 132)		Deployed Mothers (N = 32)	
Credit rating difficulties	21	16%	8	25%
Being robbed or victim of identity theft	3	2%	1	3%
Being a victim of a violent act (rape, assault, etc.)	-		-	
Involved in an accident	5	4%	-	
Involved in a law suit	2	2%	2	6%
Involved in a minor violation of the law (traffic tickets, disturbing the peace, etc.)	7	5%	4	13%
Legal troubles resulting in your being arrested or held in jail	-		-	
Other	8	6%	6	19%

LEQ = Life Events Questionnaire.

Table 4

Contextual Characteristics of Female Deployed ADAPT Participants: DRRI-2

	Deployed Mothers (N = 23)	
	n	%
DRRI-2 Combat Experience		
I went on combat patrols or missions	9	39%
I, or members of my unit, encountered land or water mines or booby traps	6	26%
I, or members of my unit, received hostile incoming fire from small arms, artillery, rockets, mortars, or bombs	19	83%
I, or members of my unit, received “friendly” incoming fire from small arms, artillery, rockets, mortars, or bombs	4	17%
I was in a vehicle (e.g., truck, tank, APC, helicopter, plane or boat) that was under fire	2	9%
I, or members of my unit, were attacked by terrorists or civilians	7	30%
I was part of a land or naval artillery unit that fired on the enemy	3	13%
I was part of an assault on entrenched or fortified positions	1	4%
I took part in an invasion that involved naval and/or land forces	-	
My unit engaged in battle in which it suffered casualties	5	22%
I personally witnessed someone from my unit or an ally unit being seriously wounded/killed	3	13%
I was wounded or injured in combat	-	
I fired my weapon at the enemy	3	13%
I killed or think I killed someone in combat	2	9%
DRRI-2 Postbattle Experiences		
I observed homes or villages that had been destroyed	9	39%
I saw refugees who had lost their homes and belongings as a result of battle	7	30%
I saw people begging for food	14	61%
I, or members of my unit, took prisoners of war	3	13%
I interacted with enemy soldiers who were taken as prisoners of war	2	9%
I was exposed to the sight, sound, or smell of animals that had been wounded or killed from war-related injuries	7	30%
I took care of injured or dying people	4	17%
I was involved in removing dead bodies after battle	3	13%
I was exposed to the sight, sound, or smell of dying men and women	4	17%
I saw enemy soldiers after they had been severely wounded or disfigured in combat	3	13%
I saw the bodies of dead enemy soldiers	4	17%
I saw Americans or allies after they had been severely wounded or disfigured in combat	6	26%
I saw the bodies of dead Americans or allies	4	17%

DRRI-2 = Deployment Risk and Resilience Inventory-2; only asked of deployed women.

Table 5

Comparison of Adjusted Outcomes across Female ADAPT Participants

Adjusted Mean Scores (SE)							
	Sample Size	Non-Deployed Mothers		Deployed Mothers		t	P-level ⁴
Psychosocial Adjustment ¹							
HSCL: Depression Score ²	169	1.52	(0.04)	1.82	(0.09)	3.04	0.003
HSCL: Total Symptom Score ²	169	1.49	(0.04)	1.75	(0.08)	3.11	0.002
DERS: Emotional Regulation	171	67.67	(1.57)	78.55	(3.29)	2.95	0.004
PCL: PTSD Total Symptom Score ²	132	27.16	(0.97)	33.70	(2.22)	2.65	0.009
PCL: PTSD Intrusive Symptoms ²	132	7.52	(0.34)	9.89	(0.79)	2.69	0.008
PCL: PTSD Avoidance Symptoms	132	10.5	(0.40)	12.16	(0.92)	1.62	0.108
PCL: PTSD Hyper-Arousal Symptoms ²	132	9.14	(0.35)	11.66	(0.80)	2.83	0.005
Relationship Adjustment ¹							
DAS: Couple Adjustment Score	173	24.18	(0.37)	23.63	(0.84)	0.6	0.549
Parenting ³							
PLOC: Total Score ²	132	3.54	(0.04)	3.68	(0.09)	1.38	0.174
APQ: Positive Parenting Score	173	13.18	(0.15)	13.1	(0.31)	0.24	0.814
APQ: Discipline Score	173	7.38	(0.17)	7.34	(0.37)	0.1	0.920
Target Child Functioning ³							
BERS: Strength Index Score	127	99.6	(1.46)	100.85	(3.38)	0.33	0.741
n and % scoring < 85		16	15.2%	2	9.1%		

¹ Ordinary least squares regression model adjusted for married/partnered vs. not status² Variances for the two groups of women are significantly different; interpret with caution.³ Ordinary least squares regression model adjusted for married/partnered vs. not status and target child's age⁴ Bonferroni correction for multiple tests of significance: 0.05/12 = 0.004