

Changes in Parenting and Youth Adjustment Across the Military Deployment Cycle

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Abstract

The present study examined how changes in at-home parents' mental health and parenting practices related to changes in their children's adjustment throughout the course of a service members' military deployment. Participants included at-home parents from 114 National Guard families who were interviewed at four different occasions across the deployment cycle. Results revealed changes across the deployment cycle among three indicators: parental warmth, depressive symptoms, and children's externalizing behaviors. Changes in parental warmth were associated with changes in children's adjustment. Overall, these findings indicate that during a parental separation, at-home parents' responses to children have important implications for children's adjustment.

Keywords: development or outcomes, family process, military families, multilevel models, parenting

Changes in Parenting and Youth Adjustment Across the Military Deployment Cycle

Many families experience events that require parents to separate temporarily from their children for a variety of reasons (e.g., extended travel for work, incarceration). Studying how these separations affect children can be a challenge, because there is often little notice and limited control in their timing and duration. Military deployments provide unique opportunities to study this phenomenon as children progress through the separation and return of a parent within a semi-structured timeframe. The findings from this research can be applicable to both military families and civilian families experiencing extended parent-child separation.

Military deployments have implications for all members of the family (Lapp, et al., 2010; MacDermid Wadsworth et al., 2016; Riggs & Riggs, 2011). Children and at-home (i.e., non-deployed) parents must both cope with separation from the absent family member. The departure of a parent/partner may have direct effects on both children's and at-home parents' adjustment (Pincus, House, Christenson, & Adler, 2001; Riggs & Riggs, 2011). There also may be indirect effects on children as their deploying parents' departure also may influence their at-home parents' mental health and their ability to engage in responsive parenting (Paley, Lester, & Mogil, 2013). However, little empirical research has examined the possible indirect effects of deployment on children through its effects on at-home parents. By examining simultaneous changes in parents and children, we can develop a better understanding of the systemic effects of deployment and how they relate to children's adjustment. Thus, this study examined how parenting practices, parents' mental health, and children's adjustment changed over the deployment cycle and the relationship between parenting practices, parents' mental health and changes in children's behavior.

Theoretical Framework

We utilized a life course perspective (Elder, Johnson, & Crosnoe, 2003) and its key tenets on transitions and developmental trajectories to guide our study. Often deployment research is narrowly focused on the period when service members are away from their families; however, we included in our evaluation the multiple transitions related to the event, starting with the notification of deployment and ending after service members return home. Each of these transitions involve family members changing and taking on new roles. According to life course theory, transitions like these can have implications for the trajectories of individuals' development (Elder et al., 2003). Based on this postulate, we examined how changes in parents' and children's behaviors and adjustment occur throughout the deployment cycle (i.e., predeployment, deployment, and reunion/reintegration), rather than isolating a single time point.

Life course theory also posits that individuals are interdependent and that their transitions can affect others (Elder et al., 2003; Greenfield & Marks, 2006). For example, changes experienced by parents can affect the interactions they have with their children, which can alter children's trajectories (Bengtson, Acock, Allen, Dilworth-Anderson, & Klein, 2005). In military families, while only service members leave the home, the other family members adjust and take on additional responsibilities once filled by the deployed service member (Lapp et al., 2010; Paley et al., 2013). These adjustments can impact children. Guided by this principle, we considered how changes in at-home parents' parenting and mental health related to changes in their children's externalizing and internalizing symptoms. By looking through the lens of life course theory, we can better understand the effects of the deployment cycle on individuals and the impact of family members on each other.

Deployment Cycle

A deployment cycle contains multiple transitions that present challenges for families. Predeployment begins when service members are notified about a deployment and ends when they leave the home. While it has been proposed that predeployment is a period of stress and preparation for military families (DeVoe & Ross, 2012; Pincus et al., 2001), research addressing this stage is lacking. Deployment involves the time when service members are away from their families. Most research during this period examine individual and family adjustment and coping styles (DeVoe & Ross, 2012). Reunion and reintegration starts with service members returning home (i.e., reunion) and continues as the family adjusts to role negotiations and changes in family routines (reintegration; DeVoe & Ross, 2012). Because each phase of the deployment cycle has unique factors for at-home parents and children, it is important to consider the entire deployment cycle.

The military provides many services to help families cope with deployment; however, access to these services varies. For example, Active Duty families tend to live on or near a base providing easy access to formal military services and surrounding them with other military families who provide empathetic support (Schuh, Kees, Blow, & Gorman, 2016). In contrast, National Guard families often live in civilian communities. They are less likely to utilize military services (Flittner O'Grady et al., 2015) and to live near other military families (Schuh et al., 2016). This study's focus on National Guard families more closely mirrors that of civilian family separations.

Changes in at-home parents across the deployment cycle. During predeployment, military spouses often perceived that their life is “on hold” (Lapp et al., 2010). Throughout deployment, at-home parents cope with their own feelings (e.g., worry or distress), navigate increased parenting demands and household responsibilities, and help their children adjust to the

separation from the service member (DeVoe & Ross, 2012; Paley et al., 2013). At-home parents may experience increases in depression, anxiety, and sleep difficulties (Mansfield et al., 2010). Finally, during reunion and reintegration, at-home parents joy may mix with increased stress due to role negotiations and changes in family routines (DeVoe & Ross, 2012). In sum, at-home parents experience many challenges throughout the deployment cycle that can impact their well-being and parenting.

Changes in children across the deployment cycle. Deployment cycles have varying effects on children as well. Young children may have difficulty understanding why their parents are deploying and their limited language development may make it difficult to express their emotions. Older children, in contrast, may have a better understanding of deployment, but may still feel increased anxiety and concern (Heubner, Mancini, Wilcox Grass, & Grass, 2007). Older children may have experienced previous deployments and have learned how to cope. There may also be expectation that older children should help more at home in the absence of the service member (Chandra, 2016). These differences in children's cognitive ability, previous experience, and family expectations can influence adjustment to the deployment cycle.

While most children from military families adjust without problems, for some the deployment cycle is associated with increased difficulties (Card et al., 2011; Chandra, Burns, Tanielian, Jaycox, & Scott, 2008; Lester, et al., 2010). Multiple studies have demonstrated that children of deployed parents exhibit more externalizing (e.g., aggressiveness and agitation) and internalizing (e.g., depression or anxiety) behaviors than children without deployed parents (Aranda, Middleton, Flake, & Davis, 2011; Chartrand, Frank, White, & Shope, 2008; Lester et al., 2010). These differences extend to both active duty families and National Guard families (Creech, Hadley, & Borsari, 2014). Researchers have found that children's problem behaviors

appear at various times, although they appear most consistently during the period the service member is away (i.e., deployment; Barker & Berry, 2009; Creech et al., 2014). Unfortunately, much of this research has relied on retrospective data or cross-sectional data; therefore, additional research using longitudinal data to follow families as they progress through the deployment cycle is needed.

The Connection Between At-Home Parents and Children Across the Deployment Cycle

During a separation, children look to their at-home parents for comfort, reassurance, and support (Paley et al., 2013). Parental responsiveness can dampen the adverse effects of an event on children (Chu & Lieberman, 2010; Rentz et al., 2007; Riggs & Riggs, 2011). Having sensitive and responsive parents teaches children their parents are a dependable source of support, which influences children's abilities to self-regulate their behavior (Paley et al., 2013). When parents are less responsive, their children may experience more stress and anxiety (Paley et al., 2013; Paris et al., 2010). We advance the literature by investigating how changes in parenting across the deployment cycle relate to changes in children's externalizing and internalizing behaviors.

In addition to how parenting changes may affect children, changes in the parents' mental health may have cascading implications for their children's adjustment (Saltzman et al., 2011). Previous research demonstrates that parents' mental health relates to child outcomes during a deployment (Kelley, 1994). The current study advances the literature by examining whether this association is unique and whether parenting is the mechanism that connects parents' mental health and children's adjustment.

Current Study

The present study builds on prior work that investigated the effects of the deployment cycle on changes in parents' responsiveness and children's behaviors. First, we assessed how at-home parents' parenting behaviors and mental health changed over the course of deployment. Based on previous assertions regarding the stressors and emotions associated with each phase of the deployment cycle (DeVoe & Ross, 2012; Pincus et al., 2001), we expected quadratic patterns of change. Given that feelings of worry and distress begin in predeployment and are often coupled with additional feelings of loss and increased parenting burdens, we expected that difficulties would begin and rise from predeployment into deployment. Yet, we also expected that as deployments progressed and reunion approached, the at-home parent would find working patterns of functioning while difficulties diminish. As such, we hypothesized that responsive parenting would decrease from predeployment through deployment and then increase following reunion. In a corresponding inverse pattern, we expected parents' depressive symptoms to increase from predeployment through deployment and then decrease following reunion.

Second, we examined changes in children's externalizing and internalizing behaviors over the course of deployment. Again, for both externalizing and internalizing behaviors, we expected a quadratic pattern of change, with increases from predeployment through deployment and leveling off following the deployed parents' return. Finally, we assessed how changes in parents' parenting behaviors and mental health related to changes in the children's externalizing and internalizing problems over the course of deployment. We expected that changes in responsive parenting would be inversely related to changes in children's behavioral problems. For example, decreases in responsive parenting would be related to increases in externalizing and internalizing behaviors. In contrast, we expected positive associations between changes in parental depression and children's externalizing and internalizing behaviors.

Methods

Participants

The data for this article come from an ongoing study of National Guard families' experiences with deployment. To be eligible for the larger study, service members needed to be (a) in the Indiana National Guard, (b) anticipating a deployment, (c) and currently living with a significant other. Researchers received listings of scheduled deployments for Indiana National Guard Units occurring from July 2011 to February 2016. Researchers contacted Command for each unit and obtained permission to approach service members regarding the study at a predeployment briefing. Approximately one week before predeployment briefings, researchers mailed materials describing the study to families expecting to deploy. As an additional recruitment method, researchers attended predeployment briefings and randomly approached families in person. Because we were unable to determine how many service members were eligible or approached to participate, a response rate was unable to be calculated.

A total of 309 families, representing 36 different National Guard units, agreed to participate in the study. Since the focus of this study was on parenting and children's behaviors over the course of deployment, families were excluded from analyses if they did not have children between the ages of 3 and 18 years ($n = 141$), their deployment was canceled ($n = 47$), or they were missing data on deployment history ($n = 7$). Therefore, the final sample included 114 families representing 23 units. In comparison to the excluded families, the at-home parents included in our sample were more likely to be married (92.1% vs. 80.2%; $\chi^2 = 7.93, p < .01$) and older (mean age in years 32.1 vs. 27.5; $t = 5.24, p < .001$). Furthermore, service members from included families had been in the military longer (10.9 vs. 7.44 years; $t = 4.87, p < .001$) and had experienced more deployments (1.4 vs. 0.9, $t = 2.55, p < .05$) on average.

The current study's at-home parents averaged 32.1 years of age ($SD = 7.2$, range 21 to 57 years), primarily Caucasian (91.2%), and female (93.9%). Nineteen percent of at-home-parents had a high school diploma or less, 40% had some college education, 42% completed college or an advanced degree. Fourteen percent of the at-home parents reported also being in the military. Most families (76%) had at least two children living in the home (range 1 to 5). For families with more than one child, this study focused on the oldest child between the ages of 3 and 18 years who lived in the home. On average, the focal child was 8.7 years of age (range 3 to 18 years); half of the focal children were female (50%). Most of the service members occupied enlisted paygrades (76.9%) and had been in the military for 4 to 15 years (60.2%). Most of the service members (71.8%) had previously experienced a deployment ($M = 1.50$, $SD = .89$, $Mdn = 1$, $Mode = 1$, range 1 to 4 prior deployments for those who experienced a deployment).

Procedure

Trained interviewers visited these families and completed in-person interviews at six time points. Due to the ongoing nature of this study, this article focuses on the first four time points. The first interview, referred to as Predeployment, occurred one to four months before deployment. The second and third interviews, referred to as Deployment 1 and Deployment 2, occurred approximately three and eight months respectively after the service member had left the home. The fourth interview, referred to as Reunion, occurred approximately one month after the service member had returned home. Interviews ranged in length from 30 minutes to 2 hours. At Predeployment and Reunion, service members and their at-home partners were both interviewed. During the deployment waves, only the at-home partners were interviewed. At each time point, at-home parents reported on their own mental health, parenting practices, and their oldest child's behaviors. For the purposes of this study, service members' reports of demographic data and

deployment history were collected during the predeployment phase. For all other data, reports were taken from the at-home parent during their respective phases.

Measures

Parent's responsiveness. At-home parents reported on eight items from the Parental Acceptance and Warmth Scale (Schaefer, 1965; Schludermann & Schludermann, 1970). Sample items from this scale include "I see [child's] good points more than her/his faults" and "I cheer [child] up when she/he is sad." At-home parents reported on the same questions at all measurement occasions using a 5-point scale (1 = *never*, 5 = *always*). Averaging responses created scale scores, with higher scores reflecting greater responsiveness by the parent. Cronbach's α s for this scale across time ranged from .79 to .87. See Table 1 for descriptive data on all independent and dependent variables across time.

INSERT TABLE 1 ABOUT HERE

Depressive symptoms. At-home parents reported on their depressive symptoms using the short form of the Center for Epidemiologic Studies Depression Scale (CES-D; Andresen, Malmgren, Carter, & Patrick, 1994). Using a 4-point scale (1 = *rarely or none*, 4 = *most or all of the time*), participants responded to 10 items asking how often they had felt a particular way during the previous week. Items from the scale include "I felt depressed" and "I felt fearful." Scale scores were derived by averaging the results, with higher scores reflecting more depressive symptoms. Cronbach's α s for this scale across time ranged from .71 to .79.

Children's adjustment. At-home parents reported on their child's adjustment using the externalizing and internalizing subscales from the Social Skills Rating System (SSRS; Gresham & Elliott, 1987). Parents answered three items on both externalizing and internalizing behaviors. Example items include "fights with others" (externalizing) and "appears lonely" (internalizing).

Parents reported on each item using a 3-point scale (0 = *never* to 2 = *very often*). Scale scores were derived by averaging responses across the items, with higher scores reflecting more externalizing and internalizing problems. Cronbach's α s for these scales across time ranged from .57 to .79 for externalizing problems and from .58 to .62 for internalizing problems.

Controls. We included child, at-home parent, and military parent characteristics as control variables. Child characteristics included the age and gender (0 = female, 1 = male) of the focal child. At-home parent characteristics included gender (0 = female, 1 = male), race (0 = white, 1 = non-white), and education (ranged from 0=less than high school degree to 5=graduate degree). The military parents' pay grade and number of deployments experienced in the last five years was also included.

Analytic Strategy

To address our research goals, we tested a series of multi-level models (MLM) using the MIXED procedure with Maximum Likelihood estimation in SAS 9.4. Because MLM does not require equal spacing between observations, we used the time since the predeployment interview (measured in weeks) as our measure of time. This measure of time accounts for differences in participants' deployment durations and differences in assessment dates. Additionally, our MLM approach accommodates missing data and reduces bias in the estimation of parameters and standard errors (Schafer & Graham, 2002; Singer & Willett, 2003).

To address our first and second goals, specifically how parenting behaviors, at-home parents' depressive symptoms, and children's externalizing and internalizing problems changed over the course of deployment, we estimated a series of growth curve models for each variable separately. First, we ran unconditional means models that did not include any predictors. These models served to establish the baseline amount of variance explained at each level. Second, we

modeled the trajectory of each variable from Predeployment through Reunion. Unconditional growth models were tested in steps, first including only linear effects for time and then adding quadratic effects of time. In this step, we also evaluated whether intercepts and slopes should be treated as fixed or random. Conditional models subsequently included known correlates such as children's age and gender, at-home parents' education and race, and deployed parents' military pay grade.

With a focus on within-individual change over time, our subsequent models examined the associations between changes in parenting behaviors, at-home parents' depressive symptoms, and children's adjustment taking into account the normative deployment-related changes in the earlier models. We specifically structured our analyses to examine within-individual change. At Level 1, we included effects for all time-varying variables, namely: weeks since deployment, parental responsiveness, and parents' depressive symptoms. Parental responsiveness and parents' depressive symptoms were person mean-centered (i.e., centered around each individual's cross-time mean; within-person effects). The cross-time means for parental warmth and parents' depressive symptoms (i.e., between-person effects) and other time-invariant variables were included at Level 2. By including these two indices for both parental responsiveness and parents' depressive symptoms, our models disaggregated variance so that Level 1 effects tested whether changes in parental responsiveness and parents' depressive symptoms were linked to changes in children's adjustment beyond stable individual differences (Enders & Tofighi, 2007; Hoffman & Stawski, 2009).

Finally, because all of the data were reported by at-home parents, we assessed systematic method variance using Harman's one factor test (Burnett, Williamson, & Bartol, 2005). The results from this test showed that no single factor accounted for a disproportionate amount of

variance and that the data did not fit into a one-factor confirmatory factor model. These findings indicate that common method variance was not likely to influence the interpretation of the results.

Results

Changes Across the Deployment Cycle

At-home parents' responsiveness. The unconditional model for parental responsiveness revealed significant within-person variation (i.e., over time; $\sigma^2 = .065$, $SE = .006$, $p < .001$) and between-person variation ($\tau = .140$, $SE = .023$, $p < .001$). Deviance tests from the unconditional growth models indicated that parental responsiveness was best characterized by linear change (the quadratic effect was not significant) and random intercepts and slopes for linear time. A significant negative effect of time in the conditional growth models evidenced a linear decline in parental responsiveness from Predeployment to Reunion net of other controls (see left side of Table 2). A significant negative effect of child age indicated that parents of older children were less responsive to their children's behavior than parents of younger children.

INSERT TABLE 2 HERE

At-home parents' depressive symptoms. The unconditional model for parents' depressive symptoms revealed significant within-person variation (i.e., over time; $\sigma^2 = 16.95$, $SE = 1.59$, $p < .001$) and between-person variation ($\tau = 10.53$, $SE = 2.28$, $p < .001$). Deviance tests from unconditional growth models revealed that parents' depressive symptoms were best characterized by linear and quadratic change as well as random intercepts and slopes for linear time. As can be seen on the right side of Table 2, a positive effect for linear time indicated that parents' depressive symptoms increased across the transition through deployment. This effect was qualified, however, by a significant negative quadratic effect, indicating that the linear

increase leveled and began to return to predeployment rates (especially as Reunion approached and occurred). No other demographic variable was related to parents' depressive symptoms.

Children's externalizing behaviors. The unconditional model for children's externalizing behaviors revealed significant within-person variation (i.e., over time; $\sigma^2 = .101$, $SE = .009$, $p < .001$) and between-person variation ($\tau = .113$, $SE = .021$, $p < .001$). Unconditional growth models revealed that children's externalizing behaviors were best depicted by linear and quadratic effects of time and random intercepts. Conditional models showed a significant positive effect for linear time, indicating an increase in children's externalizing behaviors across the deployment cycle (see left side of Table 3). This linear increase, however, was qualified by a significant negative quadratic effect. Specifically, the increase in externalizing behaviors leveled off late in the deployment transition and declined as reunion approached and occurred. No other variables were related to children's externalizing behaviors.

Children's internalizing behaviors. The unconditional model for children's internalizing behaviors revealed significant within-person variation (i.e., over time; $\sigma^2 = .097$, $SE = .009$, $p < .001$) and between-person variation ($\tau = .127$, $SE = .023$, $p < .001$). Unconditional growth models indicated the best fitting model included linear time and random intercepts. Conditional models revealed no significant pattern of change in internalizing symptoms overall (i.e., linear effect was not significant; see right side of Table 3).

INSERT TABLE 3 HERE

Linking Changes in At-Home Parents' Responsiveness and Depressive Symptoms to Changes in Children's Externalizing and Internalizing Behaviors

Externalizing behaviors. Results from the model predicting changes in children's externalizing behaviors as a function of changes in parental responsiveness, parents' depressive

symptoms, and other control variables are presented in Table 4. Significant between- and within-person effects were found. A significant negative between-person effect indicated that less parental responsiveness, on average, was associated with higher externalizing behaviors across time. Similarly, another significant negative between-person effect indicated that more parental depression, on average, was associated with higher externalizing behaviors across time. The significant negative within-person effect revealed that controlling for average levels (i.e., between-person differences), decreases in parental responsiveness over time were associated with increases in externalizing behaviors over time. This effect for parental responsiveness was net of effects for parents' depressive symptoms and time (i.e., normative deployment related change). In fact, given the non-significant effects for time, the results from this model suggest that changes in parental responsiveness accounted for the time-related changes observed in children's externalizing behaviors in previous models.

Internalizing behaviors. Table 4 also shows the results for internalizing behaviors. A significant negative within-person effect for parental responsiveness indicated that, controlling for average levels, decreases in parental warmth were associated with increases in children's internalizing behaviors over time. A significant positive between-person effect for parents' depression indicated that higher depression averages were linked to higher internalizing behaviors among children.

INSERT TABLE 4 HERE

Discussion

The aim of this study was to understand the indirect effects of parental deployment on children's adjustment by examining changes in at-home parents' parenting and mental health. Previous studies of military families have found that at-home parents are at risk for developing

mental health problems (Mansfield et al., 2010) and their children are at risk for developing externalizing and internalizing problems (Card et al., 2011; Chandra et al., 2008); however, research investigating the interdependence of parents and their children in this context is lacking.

Guided by life course theory and military researchers (DeVoe & Ross, 2012; Elder et al., 2003; Pincus et al., 2001), our findings support that at each stage of the deployment cycle, there were individual changes occurring for both at-home parents and children. As expected, parental responsiveness decreased over the course of deployment; however, inconsistent with our prediction, parental responsiveness continued to decline at Reunion. In contrast, at-home parents' depressive symptoms increased from Predeployment through Deployment and then decreased as Reunion approached. These findings suggest that the anticipation and ultimately the return of service members correspond with changes in the families, particularly the at-home parents' depressive symptoms. However, the continued decline of parental responsiveness suggests that parenting behaviors may take longer to adjust. These findings could also indicate that the service members' return is more directly linked to at-home parents' feelings rather than their parenting behaviors. Therefore, interventions to support families should continue to address parenting behaviors and parent-child relationships even after service members return home.

Additionally, we found that the age of the child was related to at-home parents' levels of responsiveness. Parents of older children reported less responsiveness than parents of younger children. Perhaps parents expect younger children to have more difficulties coping with the deployment cycle and thus are more responsive to their younger children's needs. Young children are also more dependent on their parents to fulfill their needs (Chandra, 2016). As such, parents of younger children may feel more of a demand to respond and support to their children.

This finding could also reflect developmental changes in parenting and parent-child relationships as youth age and seek greater autonomy. As such, older children may seek support from other sources (e.g. friends, teachers, or coaches) besides parents.

As predicted, children's externalizing behaviors increased early during deployment and declined as Reunion approached. These findings are similar to previous work that found children exhibit more problem behaviors during deployment (Card et al., 2011; Chartrand et al., 2008) and that these behaviors taper off during reunion and reintegration (Barker & Berry, 2009; Creech et al., 2014). For children's internalizing behaviors, although there was significant within-person variation over time, there was not a common pattern of change over the course of deployment. Perhaps internalizing symptoms increased for some youth, yet remained stable or even declined for other youth. Future work with larger samples would benefit from applying growth mixture models to potentially capture different group-based trajectories. The lack of findings for internalizing could also reflect parents reporting internalizing symptoms less frequently than externalizing behaviors (Pavuluri, Luk, & McGee, 1996). Notwithstanding, for both externalizing and internalizing behaviors, patterns of change varied across individuals. These results are important as they provide an indication that changes associated with the deployment of a parent are not universal and some may be the result of other factors.

Supporting another component of the life course theory (Elder et al., 2003; Greenfield & Marks, 2006), our results also demonstrated the interdependence of children and at-home parents. We found that parental responsiveness and parents' depression were related to children's externalizing and internalizing behaviors. More specifically, our results showed that when parental responsiveness was included as a predictor, the effect of time became non-significant. This pattern suggests that changes in children's externalizing behavior were more

strongly linked with changes in at-home parents' behavior than the mere experience of separation from the service member. We also found that changes in parental responsiveness was negatively related to changes in children's internalizing problems. These findings are consistent with research showing more positive and less coercive parenting behaviors were related to fewer emotional and behavioral symptoms among at-risk children (Gewirtz et al., 2009).

In addition to parenting responsiveness, our models revealed that between-person differences in at-home parents' depressive symptoms were linked to children's externalizing and internalizing symptoms. Specifically, at-home parents with greater depressive symptoms reported children having greater difficulties (i.e., more externalizing and internalizing symptoms) than at-home parents with fewer depressive symptoms. These results are consistent with previous research that found that parents' depressive symptoms are related to their children's internalizing behaviors (Kelley, 1994; Saltzman et al., 2011), but also show unique effects of both parental responsiveness and parents' mental health for children's adjustment.

Limitations and Future Directions

We recognize there are methodological limitations with our study. Our sample was limited in size and was composed of only National Guard families, which may limit the generalizability of the results to other military and civilian families. As mentioned earlier, National Guard families do have access to additional military services, but are less likely to utilize those services compared to Active Duty families (Flittner O'Grady et al., 2015). As a result, it is possible that Active Duty families may fare better than the National Guard families in our study. Future research should examine how families' adjustment during a deployment cycle may vary based on National Guard and Active Duty status and the utilization of military services.

Related to the size of the sample, we lacked sufficient statistical power to test whether the observed associations varied as a function of the children's age. Given that parenting changes from childhood through adolescence and deployments are differentially related to children's adjustment as a function of age (e.g., Card et al., 2011; Chandra, 2016), it is critical for future research explore whether interdependence between parenting and youth's adjustment during deployment vary as children age. Despite our relatively small sample size, power was increased given our longitudinal design and focus on within-person associations. As such, we were able to provide evidence for the dynamic associations between family processes and child adjustment during deployment.

In an effort to assess many different constructs efficiently, several of our measures were shortened and therefore had less than optimal psychometric properties. Our measures of internalizing and externalizing problems, for example, had a lower internal consistency than desired. These results could be an artifact of measure length. Moreover, children may express internalizing symptoms and externalizing problems differently and parents may be more or less sensitive to those behaviors when children are different ages. Therefore, the diversity in our focal children's ages may have resulted in the scale items being more applicable for one age group (e.g., young children vs. adolescents) than another.

Additionally, we examined only one aspect of parenting behavior and obtained the data from one participants' self-reports. Future research examining other parenting behaviors with multiple sources would help further illustrate the relationship between parenting and child outcomes during the deployment cycle. Furthermore, we considered the deployment cycle in isolation and did not examine how other life events (e.g., having a baby, buying a house, death in the family) may also influence the family at the same time. In fact, the effects associated with

deployment may be exacerbated when coinciding with other life stressor. Therefore, future studies would benefit from assessing the accumulation of life events and stressors throughout the deployment cycle.

Although the Predeployment interview permitted us to compare family status before and during deployment, at the point of the Predeployment interview all families were informed of the impending deployment. This knowledge may have already led to changes in family routines and processes before the first interview. The data at this time point may not be comparable to how a family acts before they are aware of a deployment.

The present study also utilized a top-down (or vertical) perspective, examining how changes in parental responsiveness and parents' mental health related to changes in children's adjustment. It is possible, however, that children's behaviors also influence their parents' behavior and mental health. Therefore, future research on military families should consider the reciprocal influence of children's behaviors on the parents' well-being and parenting. Furthermore, this study focused on the relationship between the at-home parent and child; however, there are many other relationships that may be related to child outcomes. For example, research should consider how children's behavior may be related to sibling and peer relationships. Additionally, there should be consideration for how marital relationships, other family relationships, and social supports influence the at-home parents' well-being and parenting behaviors.

Finally, this study showed that service members' return home was not necessarily tied to immediate improvements in parenting behavior. Future research should examine how family dynamics and parenting roles change over the course of reintegration (i.e., in the months and years that follow). Just as the deployment cycle is composed of smaller transitions, emerging

research suggests that reintegration may be filled with multiple transitions and adjustments (DeVoe & Ross, 2012). Therefore, while we considered what happened immediately following the service members' return in this study, future research should examine how families continue to change and adapt during this period. More specifically, how do parenting behaviors and child behaviors change over the course of reintegration? How do service members readjust to their parenting role? Is there a certain amount of time required before families return to the homeostasis of predeployment?

Conclusions and Implications

Throughout this study, we utilized life course theory to examine the trajectories of parenting and of children's adjustment across deployment. Our findings support that at each stage of the deployment cycle, there were individual changes occurring for both at-home parents and children. Results suggest that early portions of deployment were especially turbulent for families, as parents' depressive symptoms and children's externalizing behaviors rose while parental responsiveness declined. Importantly, as deployment continued and the service member returned, the increase in parents' depressive symptoms and children's externalizing behaviors showed signs of returning to predeployment levels. These findings suggest that each phase of the deployment cycle has a unique impact on the family and may require different resources and supports to help families successfully navigate the deployment cycle.

Based on life course theory, we also considered how family members' transitions are interdependent by studying dynamic associations between at-home parents' and children's behaviors. While military family research has acknowledged the impact of service members' transitions out of the home affecting the entire family (Lapp et al., 2010; Paley et al., 2013), our research shows that changes in at-home parents' feelings and responsiveness during each

transition period has implications for children's adjustment across the deployment cycle. Our results demonstrate the interdependence between children and both their parents, the parent who is deployed and the parent who remains at home.

These findings have important implications for professionals who work with military families. Interventions targeted towards children would be enhanced by including parents and working on changing parenting behaviors in addition to addressing children's problematic behaviors. Furthermore, while the return of service members may lead to relatively rapid changes in at-home parents' mental health, changes in other areas such as parenting behaviors may take longer to show improvement. Therefore, support programs for reintegration should consider that some families may need assistance beyond the immediate return of the service member.

These findings also may have applicable value in the larger field of study regarding families experiencing parental separation. Other types of parental separation, such as business travel or incarceration, tend to be unexpected and irregular in timing, which are prohibitive factors to recruitment and study. Lacking research on other separations, the many aspects in common with military deployments means these research-based conclusions may be transferrable. For instance, each phase of the parental separation (before, during, and after) has effects on all family members. At-home parents adjust to the absence of their partners and the burden of their additional roles, which changes how they interact with their children. For children, there are direct effects of a parent leaving, but also concurring modifications to the quality of relationship they have with the parent who remains home. Professionals working with these families should consider adjusting their services based on the stage of the transition.

During these separation periods, services should work on strengthening the family relationships as well as addressing the individuals' adjustment difficulties.

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Table 1

Means and Standard Deviations for all Independent and Dependent Variables across Time

Variable	Predeployment			Deployment 1			Deployment 2			Reunion		
	<i>M (SD)</i>	<i>Skew</i>	<i>n</i>									
Time in Weeks	0.00 (0.00)		114	23.96 (6.22)		89	44.14 (6.19)		61	59.30 (10.47)		73
At-home Parents' Responsiveness	4.30 (0.45)	-1.43	107	4.23 (0.41)	-0.02	84	4.18 (0.48)	-0.03	56	4.10 (0.45)	-0.69	70
At-home Parents' Depressive Symptoms	8.78 (5.54)	0.73	114	11.05 (5.13)	0.38	89	10.58 (5.60)	0.39	61	7.11 (4.99)	0.91	70
Children's Externalizing Behaviors	0.72 (0.46)	0.28	114	0.80 (0.48)	0.37	85	0.82 (0.54)	0.53	56	0.71 (0.37)	0.30	71
Children's Internalizing Symptoms	0.72 (0.48)	0.26	114	0.76 (0.46)	0.30	85	0.66 (0.49)	0.56	56	0.69 (0.44)	0.24	71

Table 2

*Multi-level Model Results Estimating Changes in Parents' Responsiveness and Depressive**Symptoms as a Function of Time Across the Deployment Cycle (N = 112)*

Fixed Effect	Responsiveness		Depressive Symptoms	
	γ	<i>SE</i>	γ	<i>SE</i>
Intercept	4.020***	.178	7.445***	1.858
Number of Deployments	-.033	.039	.107	.425
At-home Parents' Gender	.317	.174	1.420	1.841
At-home Parents' Education	-.038	.025	.066	.266
Depl. Parents' Paygrade	.001	.001	-.015	.015
Child Age	-.028**	.009	-.032	.100
Child Gender	-.009	.077	1.285	.849
At-home Parents' Race	-.099	.138	-.241	1.468
Linear Time	-.002**	.001	.161***	.029
Quadratic Time	--	--	-.003***	.001

Note: Convergence criterion = .001. At-home parents' education, deployed parents' military grade, and child age were centered at their means, respectively

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

Multi-level Model Results Estimating Changes in Children's Externalizing Behaviors and Internalizing Symptoms as a Function of Time Across the Deployment Cycle (N = 112)

Fixed Effect	Externalizing		Internalizing	
	γ	<i>SE</i>	γ	<i>SE</i>
Intercept	.665***	.167	.664***	.171
Number of Deployments	.011	.039	.002	.039
At-home Parents' Gender	.073	.165	.049	.169
At-home Parents' Education	.012	.024	-.001	.025
Depl. Parents' Paygrade	-.001	.001	-.001	.001
Child Age	-.002	.009	.007	.009
Child Gender	-.033	.078	.101	.080
At-home Parents' Race	-.125	.136	-.132	.137
Linear Time	.006*	.002	-.000	.001
Quadratic Time	-.001*	.000	--	--

Note: Convergence criterion = .001. At-home parents' education, deployed parents' military grade, and child age were centered at their means, respectively.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Multi-level Model Results Predicting Changes in Children's Externalizing Behaviors and Internalizing Symptoms as a Function of Time and Changes in Parents' Responsiveness and Depressive Symptoms Across the Deployment Cycle (N = 111)

Fixed Effect	Externalizing		Internalizing	
	γ	<i>SE</i>	γ	<i>SE</i>
Intercept	.537**	.173	.769***	.183
Number of Deployments	.006	.037	.000	.039
At-home Parents' Gender	.223	.170	-.018	.180
At-home Parents' Education	.008	.024	-.001	.025
Depl. Parents' Paygrade	-.001	.001	-.001	.001
Child Age	-.007	.009	.009	.010
Child Gender	-.052	.075	.045	.079
At-home Parents' Race	-.093	.131	-.122	.134
Linear Time	.005	.003	-.001	.001
Quadratic Time	-.000	.000	--	--
BP At-home Parents' Responsiveness	-.224*	.094	-.054	.099
WP At-home Parents' Responsiveness	-.299***	.083	-.278**	.084
BP At-home Parents' Depressive Symptoms	.020*	.009	.026**	.009
WP At-home parents' Depressive Symptoms	.006	.005	-.004	.005

Note: Convergence criterion = .001. At-home parents' education, deployed parents' military grade, and child age were centered at their means, respectively. BP parental warmth and BP parents' depressive symptoms denotes Level 2 ("between-person;" grand mean centered). WP At-home parents' warmth and WP At-home parents' depressive symptoms denotes Level 1 ("within-person;" person mean centered).

* $p < .05$. ** $p < .01$. *** $p < .001$.