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Parent Discrepancies in Ratings of Child Behaviors following Wartime Deployment

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Abstract

Researchers have shown that parents often disagree in their ratings of their children's behavior, and that these discrepancies are typically related to child and family characteristics (e.g., child's age, parent psychopathology). Few studies, however, have examined discrepancies in how mothers and fathers rate child behavior during a stressful family context such as a parent's wartime deployment. The present study of 174 military families (children aged 6 to 11 years; 54.0% female) examined whether family factors (parental sense of control, marital satisfaction) and contextual risk factors related to a parent's wartime deployment (number and length of deployments, battle experiences, and posttraumatic stress disorder [PTSD] symptoms) were associated with discrepancies in how mothers and fathers rated internalizing and externalizing behaviors in their children. Using a latent congruency model, our results showed that when parents self-reported higher levels of PTSD symptoms, both mothers, $\beta = -.33$, $p = .021$ and fathers, $\beta = .41$, $p = .026$ tended to also report higher levels of internalizing symptoms in their child, relative to what their spouse reported. In comparison to mothers, fathers also tended to report higher levels of child externalizing symptoms, $\beta = .44$, $p = .019$. Our findings may help clinicians understand how parent mental health within a stressful family context relates and/or informs a parent's ratings on assessments of his or her child's internalizing and externalizing symptoms.

Between 2001 and 2009 alone, nearly two million children had at least one parent deployed during the recent, ongoing military operations in Iraq and Afghanistan of (U.S. Department of Defense, 2009). The often long and frequent deployments characteristic of these conflicts, together with exposure to combat zones, increase the likelihood that service members will develop posttraumatic stress symptoms. These symptoms, along with parental absence due to deployment, may negatively impact parents' functioning and children's adjustment (Creech, Hadley, & Borsari, 2014; Lester et al., 2010). Numerous empirical studies have examined the association between parental deployment and child adjustment (see reviews: Card et al., 2011; Creech et al., 2014). However, the direction and magnitude of this association is inconclusive; some researchers have found deployment to be associated with increased child adjustment problems (Barker & Berry, 2009; Chartrand, Frank, White, &

Shope, 2008) and others have found no differences in child adjustment problems between children with deployed and undeployed parents (Lester et al., 2010; Morris & Age, 2009).

One key factor that may contribute to these inconsistent findings are differences in ratings of child behaviors among informants. It has become recommended practice for clinicians and researchers to use multiple informants such as parents, children, and teachers to assess children's externalizing (e.g., aggression, hyperactivity) and internalizing (e.g., depression, anxiety) behaviors (De Los Reyes, & Kazdin, 2008). Because this approach provides information about the child's behavior from multiple perspectives, it is believed to be more comprehensive than a single-informant approach. Yet, researchers and clinicians who utilize multiple reports often encounter discrepancies or low levels of correspondence among informant ratings of children's behavior (De Los Reyes & Kazdin, 2005).

In a meta-analysis of 16 studies, Card et al. (2011) indicated that the source of information (i.e., the informant) moderated the magnitude of correlation between parental deployment and child adjustment, such that the association between parental deployment and child adjustment only existed when the informants were deployed parents and nondeployed, civilian parents, rather than children or teachers. The authors suggested that parental distress related to deployment may have biased their ratings of their child's behaviors. Because Card et al. (2011) included only two studies in which deployed parents (as opposed to nondeployed parents) participated, it is difficult to assess whether service members and their spouses are also discrepant in their ratings of their children's behaviors. It is important to understand what factors may contribute to these discrepancies because parents are often perceived as the most important informants, and their reports are often the only ones available to clinicians and researchers who are evaluating children's emotional and behavioral symptoms (Achenbach et al., 1987). There are several ways in which a stressful family context, such as a parent's deployment, may be related to interparental discrepancies among military families. First, deployed parents who are physically absent for extended periods of a child's life may be less aware of the child's emotional and/or behavioral problems, which may result in greater interparental discrepancies. Notably, one study examined the length of time military fathers were absent from home, and interparental discrepant ratings of child behaviors; however, no significant association between the two was found (Jensen, Xenakis, Davis, & Degroot, 1988). This study, however, did not specifically examine deployments, but rather examined any extended period longer than two weeks during which the father was absent. Overseas deployments to conflict areas (typical U.S. Army deployments are a year or more) may differentially affect parents' perceptions of their children's behavior. Second, increased posttraumatic stress symptoms and other mental health problems (e.g., depression) that result from combat-related trauma among deployed service members continue to be well documented (Thomas et al., 2010). These mental health issues often persist well after the deployed service member returns home and may influence how the service member interacts with his or her child and perceives the child's behavior. For example, in a study of 202 veterans, Sayers, Farrow, Ross, and Oslin (2009) found that when parents had symptoms of PTSD, they often reported their children acting afraid or not acting warmly toward them during reintegration. Although PTSD symptoms have not been examined in relation to informant discrepancies, it is likely that elevated PTSD symptoms in

parents will also be associated with parental reports of greater adjustment issues in their children.

Few theoretical frameworks have been developed to explain why informant and family characteristics are related to interparental discrepancies. However, the depression-distortion hypothesis may help illustrate why parental psychological symptoms are related to interparental discrepancies. Mothers with depression tend to rate their children as having more adjustment problems than do mothers without depression (Gartstein, Bridgett, Dishion, & Kaufman, 2009; Richters, 1992). Richters (1992) hypothesized that dysfunctional emotions related to depression activate a negative perceptual bias in mothers' ratings of their children's behaviors, which leads to reporting of greater difficulties in their children's behavior. This hypothesis has been supported by many empirical studies (e.g., Chi & Hinshaw, 2002; Müller, Romer, & Achtergarde, 2013).

This perceptual bias may be generalized to other types of psychopathology symptoms among parents (Richters, 1992). The depression-distortion hypothesis has been validated in fathers' depression and other paternal psychological symptoms including anxiety and stress (Briggs-Gowan, Carter, & Schwab-Stone, 1996; Langberg et al., 2010). So far, no study has applied the depression-distortion hypothesis to examine PTSD symptoms in parents. Posttraumatic stress disorder is characterized by internalizing symptoms that co-occur with depression more than with any other psychiatric disorder (Campbell et al., 2007). For example, in a study of 356 military veterans who were deployed after the September 11, 2001 terrorist attacks, 44% of the 107 individuals who were diagnosed with current PTSD were diagnosed with comorbid current major depressive disorder (Dedert et al., 2009). Therefore, we propose that the depression-distortion hypothesis may be extended to understand the association between interparental discrepancies and parental PTSD symptoms in military families.

Informant discrepancies have been most often measured by using raw or standardized difference scores (i.e., simply subtracting one informant's standardized response from another informant's standardized response). Several limitations of using difference scores have been recently noted, including low reliability, spurious findings, and other methodological problems (see Edwards, 1994 for more information). To address these limitations, an alternative approach for assessing discrepancy at the latent level, known as the Latent Congruence Model (LCM; Cheung, 2007) has been introduced. The LCM uses unobserved, latent constructs within a structural equation modeling (SEM) framework. This offers several advantages over other approaches such as difference scores and polynomial regression. The use of latent constructs can help reduce random measurement error, and allows for the assessment of measurement equivalence across components. Furthermore, this approach can also help untangle the effects of mean levels from the effects of discrepancies between reporters (see Glueck & Reschly, 2014 for more comparisons of approaches). Using LCM, the present study examined the following research question: Are mother and father PTSD symptoms, as well as contextual risk factors (e.g., number of deployments and battle experiences) significantly associated with mean level (i.e., mean of mother and father report) and interparental discrepancies in ratings of child behavior above and beyond child characteristics and other family factors? We hypothesized that a greater number of

deployments and longer deployments, as well as mother and father PTSD symptoms, would be significantly associated with mothers and fathers reporting higher levels child internalizing and externalizing symptoms.

Method

Participants

The study sample included 174 families, drawn from a larger sample of 336 families who were recruited for a randomized controlled trial of a parenting intervention designed for military families known as After Deployment: Adaptive Parenting Tools (ADAPT; Gewirtz, Pinna, Hanson, & Brockberg, 2014). Families were eligible for participation in the study if they had at least one child living with them who was between the ages of 4 and 12 years, and at least one parent who was deployed to the military conflicts in Iraq or Afghanistan. Some families may have had more than one child between the ages of 4 and 12 years; however, only one child was selected and assessed from each family. Although the included families agreed to participate in a parenting intervention, the sample is not necessarily composed of only those interested in seeking help. In fact, many families were motivated to join in the study because they hoped to “give back” and “share knowledge” with other military families, and not because they wished to seek help for parenting issues (or any behavioral or health issues). Because we hypothesize that deployments may affect mothers differently than fathers, the current sample was limited to parent dyads in which the father experienced at least one deployment and the mother experienced no deployments. The sample was further limited to include only parents who had a child between the ages of 6 and 11 years, as we were interested in examining mother-father discrepancies by utilizing a single broadband measure of psychopathology, the Behavior Assessment System for Children, Second Edition (BASC-2). The BASC-2 includes separate surveys for children and adolescents in which responses and number of items differ for children aged 6 to 11 years, versus children aged 4 to 5, or 12 years and greater. Including the BASC-2 scores for children of all ages would have created a problem in the validity of the measurement; moreover, the psychopathology may have been displayed very differently across a large range of children’s ages. Thus, we analyzed baseline data for a total of 174 families.

Of the 174 children in the current study, 54.0% were female and an average of 8.8 years of age ($SD = 1.69$). The mean parental age was 36.4 years ($SD = 5.58$) for mothers and 38.5 years ($SD = 6.45$) for fathers. Mothers predominantly self-identified as European American (94.1%) and non-Hispanic/Non-Latino (94.8%). Fathers also predominantly self-identified as European American (83.5%) and non-Hispanic/Non-Latino (89.0%). Most parents were married (93.7%), and had been married, on average, for 10.08 years ($SD = 5.29$). Household income ranged from approximately \$10,000 to above \$150,000 per year. The median income for the total sample was about \$70,000. The sample was composed exclusively of Reserve component service members, including those from the Army National Guard (66.7%), the Air National Guard (8.3%), the Army Reserves (16.7%), and the Navy Reserves (8.3%).

Procedure

Potential participants were recruited in numerous ways, including via outreach to military organizations, media outlets, and word-of-mouth by fellow military parents and stakeholders. Interested families entered the study by completing informed consent through an online portal. The University of Minnesota Institutional Review Board approved these procedures. Participant data were then collected both online and in families' homes. Parents were each paid \$25 for the completion of the online assessment (up to 2 parents/caregivers per family) and each family received \$50 for the completion of the in-home assessment. Children were also given a small gift (approximately \$1 to \$5 in value). The current study reports on a subset of measures reported by parents, which were gathered at baseline online and in families' homes.

Measures

Child characteristics—Child age and sex were assessed in the context of a structured interview that was administered to children during baseline data collection. Child age was measured in years since birth and child sex was scored as 1 (*male*) and 2 (*female*).

Parent marital satisfaction—The 7-item version of the dyadic adjustment scale (Spanier, 1976) was used to assess self-reported relationship satisfaction. The scale consists of 6 items that measure perceived agreement about major life domains using a 6-point Likert scale ranging from 0 (*always disagree*) to 5 (*always agree*). The scale also includes an overall relationship satisfaction item, which is rated on a 7-point scale ranging from 0 (*extremely unhappy*) to 6 (*perfect*). Internal reliability was adequate for both mothers (Cronbach's $\alpha = .89$) and fathers (Cronbach's $\alpha = .88$).

Parental sense of control—Parental sense of control was assessed using the Parental Locus of Control Scale (PLOC; Campis, Lyman, & Prentice-Dunn, 1986). The PLOC includes 22-items which assess parenting control orientation across four dimensions, including parental efficacy (e.g., "My child usually ends up getting his way or her way, so why try"), parental responsibility (e.g., "My child's behavior problems are no one's fault but my own"), children's control of parents' life (e.g., "My child influences the number of friends I have"), and parental control of children's behavior (e.g., "My child's behavior is sometimes more than I can handle"). The original PLOC includes 47 items, but was shortened to 22 items by selecting items from each subscale that had the highest factor loadings in the original study (Hassall, Rose, & McDonald, 2005). Parents rated items on a 5-point Likert scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). A total mean score was obtained, with higher scores indicating high sense of parental control in participants' ability to parent his or her child. The PLOC has established good construct and discriminant validity among both parents of children with behavior problems and community samples (Lovjoy, Verda, & Hays, 1997; Roberts, Joe, & Rowe-Hallbert, 1992). Internal reliability was adequate for both mothers (Cronbach's $\alpha = .71$) and fathers (Cronbach's $\alpha = .73$) respectively.

Deployment—Fathers self-reported the number and length of deployment by answering the questions: "What is the total number of times you have been deployed in the current

conflict (since 2001)?" and, "For the number of deployments that you indicated, what is the total number of months that you were deployed?" Responses were scored on a scale ranging from 1 (*6 months or less*) to 7 (*37 months or more*).

Battle experiences—The Deployment Risk and Resilience Inventory (DRRI; King, King, Vogt, Knight, & Samper, 2006) was used to assess father's battle experiences. The scale includes 30 items that assess both experiences during combat as well as the aftermath of battle (e.g., observing or handling human remains, dealing with POWs). All items were dichotomously coded 0 (*no*) and 1 (*yes*). Items were summed such that higher scores indicate greater exposure to combat experiences and aftermath of battle.

Parent depression symptoms—Parents self-reported depression symptoms using the 15-item depression subscale of the Hopkins Symptom Checklist (HSCL-25; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). Items were rated on a 4-point scale 1 (*not at all*) to 4 (*extremely*). The depression items were averaged; with higher scores indicating greater depression symptoms. Reliability was adequate for both mothers (Cronbach's $\alpha = .89$) and fathers (Cronbach's $\alpha = .91$) respectively.

Parent PTSD symptoms—Parents self-reported PTSD symptoms using the 17-item PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL defines PTSD symptoms using the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association [APA], 1994) and includes a military and civilian version. The military version of the PCL (PCL-M) asks about symptoms in response to stressful military experiences and the civilian version of the PCL (PCL-C) asks about symptoms in response to stressful life experiences. In the current sample, fathers completed the PCL-M and mothers completed the PCL-C. Items on both scales were rated on a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*). The items were summed to create a total symptom severity score such that higher scores indicate greater PTSD symptoms. Internal reliability was adequate for both mothers (Cronbach's $\alpha = .94$) and fathers (Cronbach's $\alpha = .89$). Using this measure, 17.1% of fathers and 5.3% of mothers met clinical cutoff criteria for PTSD. Clinical cutoff criteria were determined using a symptom clustering method consistent with *DSM-IV* (APA, 1994) criteria. Participants met clinical criteria if they endorsed one or more intrusion items, three or more avoidance items, and two or more hyperarousal items that were categorized at the moderate level (Hoge et al., 2004).

Child internalizing and externalizing symptoms—Parent reports of child internalizing symptoms were assessed using the depression (14 items), anxiety (14 items), and somatization (12 items) subscales from the parent rating scales on the widely administered BASC-2-PRS (Reynolds & Kamphaus, 2004). Parent reports of child externalizing symptoms were assessed using three subscales from the BASC-2-PRS including conduct problems (9 items), hyperactivity (10 items) and aggression (11 items). Items were scored on a Likert-scale ranging from 1 (*never*) to 4 (*almost always*). Mean raw scores for each subscale were obtained, with higher scores indicating greater symptoms. *t* scores, range, and the percentage of children meeting cutoff criteria to be considered at-risk (*t* score > 60) for each of the internalizing and externalizing domains is presented are Table

1. The cutoff scores for each of the three internalizing and externalizing subscales were then each used to create a latent construct of mother- and father-reported child internalizing and externalizing behaviors.

Data Analysis

We employed structural equation modeling (SEM) using Mplus 7.31 (Muthen & Muthen, 2015) to assess the association between family factors and contextual risk factors, and interparent discrepancies in ratings of child internalizing and externalizing behaviors. Two initial confirmatory factor analysis (CFA) measurement models were created. One CFA had two latent constructs with mother- and father-reported child externalizing symptoms, and the other CFA had two latent constructs with mother- and father-reported child internalizing symptoms. Measurement invariance was tested for each model to see whether there was significant difference by parent sex.

Using LCM, discrepancy is estimated by regressing informants' ratings on two higher-order latent terms. One term refers to the mean rating of mothers' and fathers' report of child internalizing or externalizing symptoms, and the second term refers to the discrepancy between reporters. The mean factor is estimated by regressing the first-order latent constructs on a second-order term and setting the loadings for both raters to one. The discrepancy factor is estimated by regressing the first-order latent constructs on a second-order term and setting the loadings for one rater to .5 and the other rater to -.5. The two second-order terms (i.e., mean and discrepancy) covary and the residuals of the first-order factors are fixed to zero (see Figure 1).

The LCM model was then extended to a full structural model to assess whether family factors were associated with discrepancies between mother-reported and father-reported ratings of child internalizing and externalizing behaviors. Predictor variables were regressed on the discrepancy and mean second-order terms. We evaluated fit indices aligned with recommendations by Hu and Bentler (1999), who suggested that a comparative fit index (CFI) greater than .95, a standardized root mean-square residual (SRMR) below .08 and a root mean square error of approximation (RMSEA) below .06 indicate acceptable model fit.

The amount of missing data on study variables ranged from 0% to 14.1%. An analysis of missing values was conducted on the means, variances, and covariances for all study variables. Little's chi-square MCAR tests indicated the data were missing completely at random, Little's $\chi^2(301) = 292.64, p = .381$. Missing data for all models were handled using full information maximum likelihood in Mplus, which uses all available information from the observed data.

Results

Means, standard deviations, and intercorrelations for measures of internalizing symptoms, externalizing symptoms, and predictor variables are presented in Tables 1 and 2. Mother- and father-reported ratings of child internalizing and externalizing cutoff scores were consistently significantly correlated ($r_s = .18$ to $.47$), with a few exceptions. Mother-reported conduct problems were not significantly correlated with father-reported aggression. Father-

reported somatization was not significantly correlated with mother-reported depression or mother-reported anxiety.

We first estimated two CFA models. The first CFA model assessed the fit of the second-order latent factors for child externalizing symptom cutoff scores. The model was found to be invariant across parent sex, $\chi^2(5) = 2.803$, $p = .730$. Father-reported and mother-reported indicators (i.e., aggression, hyperarousal, conduct problems) of child externalizing symptom cutoff scores were all significantly related to the latent construct to which they were assigned with r s ranging from .56 to .80, $p < .001$. The model adequately fit the data, $\chi^2(57) = 56.74$, $p = \text{ns}$; RMSEA = .000; CFI = 1.000; SRMR = .027. The second CFA model assessed the fit of the second-order latent factors for child internalizing symptom cutoff scores. This model was also found to be invariant across parent sex, $\chi^2(5) = 1.31$, $p = .934$. Father-reported and mother-reported indicators (i.e., anxiety, depression, and somatization) of child internalizing symptom cutoff scores were all significantly related to the latent construct to which they were assigned, with r s ranging from .37 to .72, $p < .001$. The model adequately fit the data, $\chi^2(57) = 58.42$, $p = \text{ns}$; RMSEA = .012; CFI = .998; SRMR = .035.

The models that examined mother-father discrepancies in ratings of child internalizing and externalizing behaviors are presented in Table 3. In the model that examined child internalizing symptoms, child female sex, $\beta = .25$, $p = .004$ father battle experiences, $\beta = .24$, $p = .019$ and mother depression, $\beta = .33$, $p = .003$ were associated with greater child internalizing symptoms, as reported by both mothers and fathers (i.e., mean of mother and father report). Mothers and fathers who had higher levels of PTSD symptoms tended to report greater child internalizing symptoms relative to what their spouse reported, $\beta = -.33$, $p = .021$ and $\beta = .41$, $p = .026$, respectively. The model was an acceptable fit for the data, $\chi^2(57) = 58.42$, $p = \text{ns}$, CFI = .993, SRMR = .035, RMSEA = .012.

In the first model that examined interparental discrepancies in ratings of child externalizing symptoms, child sex, $\beta = -.23$, $p = .004$, father marital satisfaction, $\beta = -.20$, $p = .045$, and mother parental locus of control, $\beta = -.35$, $p < .001$, were associated with fewer child externalizing symptoms. Only fathers with higher levels of PTSD symptoms tended to report greater child externalizing symptoms relative to what mothers reported, $\beta = .44$, $p = .019$. The model was an acceptable fit for the data, $\chi^2(57) = 56.74$, $p = \text{ns}$, CFI = 1.000, SRMR = .027, RMSEA = .000.

Post hoc analyses were used to examine the models used, with the exclusion of mother and father PTSD symptoms. Although a variance inflation test indicated no issues of multicollinearity between depression and PTSD symptoms, these symptoms often co-occur. The findings that indicated that parent depression symptoms were not related to interparental discrepancies were surprising, given that prior literature has contrasted this. The post hoc model that examined mother-father discrepancies in ratings of child internalizing behavior showed that father depression symptoms were associated with fathers reporting greater child internalizing symptoms relative to what mothers reported, $\beta = .26$, $p = .040$. There were no significant changes in results in the post hoc model that examined mother-father discrepancies in ratings of child externalizing symptoms, such that depression symptoms in

neither mothers nor fathers were significantly associated with interparental discrepancies in ratings.

Discussion

To our knowledge, the current study was the first empirical study that examined correlates of interparental discrepancies in ratings of children's adjustment problems within a postdeployment family context. We examined the contribution of family characteristics and wartime deployment factors (e.g., battle experiences) to explain mean level and interparental discrepancies in ratings of children's internalizing and externalizing behaviors.

Consistent with what has been reported in previous literature, parents rated female children as exhibiting more internalizing symptoms relative to male children, and male children as exhibiting more externalizing symptoms relative to female children (Schroeder, Hood, & Hughes, 2010). Father battle experiences and mother depression were associated with a greater mean level of mother- and father-reported child internalizing symptoms. Researchers have consistently demonstrated higher rates of psychosocial problems in children of parents with mental health difficulties including depression (Gartstein, et al., 2009; Mulvaney, Mebert, & Flint, 2007). The impact of combat trauma may also affect children's internalizing symptoms through secondary traumatization (Dinshtein, Dekel, & Polliack, 2011; McCormack & Sly, 2013). A previous study conducted by Suozzi & Motta (2004) examined 40 Vietnam veterans who were divided into two groups: those whose fathers scored higher on the combat exposure scale and those whose fathers scored lower. Offspring of the veterans who had high combat exposure scored significantly higher on the PTSD scale, which suggests that children were affected by their fathers' combat exposure. In another study, Hisle-Gorman, Harrington, Nylund, Tercyak, and Anthony (2015) found that among children of deployed parents, those whose parent had been injured (mentally or physically) due to combat had higher rates of clinician visits for child mental health problems than did children of noninjured deployed parents.

Father marital satisfaction and mother parental locus of control were associated with fewer mean level mother- and father-reported child externalizing symptoms. These factors may serve as protective factors for child well-being following a father's deployment. Parents who feel more satisfied in their marital relationship and have more confidence in their parenting abilities, may perceive their child to exhibit fewer behavioral problems. Indeed, Piehler, Ausherbauer, Gewirtz, and Gliske (2016) found a positive association between mothers' parental locus and improvements in peer adjustment programs among military children, following a parenting intervention. In our study, parental locus of control was not associated with parents' reports of child internalizing symptoms. Because internalizing symptoms are less overt than externalizing behaviors, parents may feel they have limited control over their child's emotions.

Father PTSD symptoms were significantly associated with fathers reporting higher levels of child internalizing and externalizing symptoms relative to what mothers of the same children reported. The significant associations between a father's PTSD symptoms and discrepancies in what his spouse reported in terms of their child's behavior suggest that parent

psychopathology may distort fathers' perceptions of children's symptoms. This distortion may be due to a more negative mood and lower tolerance for child problem behaviors, which could result in higher parental ratings on these behaviors. Mother PTSD was only significantly associated with mothers reporting greater child internalizing symptoms relative to what fathers reported. It is unclear why mothers' PTSD was not also associated with mothers' reporting of higher levels of child externalizing symptoms. Mothers experienced fewer and less severe PTSD symptoms than fathers (only 5.3% of mothers versus 17.1% of fathers met clinical cutoff criteria for PTSD). Perhaps mothers' less severe PTSD symptoms enabled them to better compartmentalize their PTSD symptoms, allowing them to observe their child's externalizing problems without being influenced by their own symptoms. Because internalizing symptoms are covert and often difficult for an observer to assess, a mother's own internalizing symptoms may have had a greater influence on how she rated these behaviors in her child, but not on how she rated externalizing symptoms.

Parents' depression symptoms were not associated with interparental discrepancies in child behavior ratings. Post hoc analyses, however, revealed that when parent PTSD symptoms were not included in the model, higher levels of father depression symptoms were associated with fathers reporting greater child internalizing symptoms relative to what mothers reported. Because PTSD is the primary mental health diagnosis among deployed service members, it may be more predictive of parent ratings of child behavior, especially among service members who were exposed to combat. There may also be symptoms unique to PTSD (i.e., hyperarousal) that make parents more sensitive to their children's internalizing and externalizing behaviors.

We cannot conclude that parents' ratings were indeed "biased" or inaccurate because there was no adequate comparison group, nor can we make any causal conclusions regarding associations between parents' symptoms and interparental discrepancies in their ratings of child behaviors, given the cross-sectional nature of the data. In fact, parents' ratings may accurately reflect child behavioral problems. Perhaps, a child of a parent with higher-level PTSD symptoms exhibits more internalizing and/or externalizing behaviors with that parent, than does a child of a parent with fewer PTSD symptoms. For example, mothers' and fathers' mental health symptoms may impair parenting and in turn result in greater child adjustment problems. In future studies, the incorporation of an observational assessment may be helpful to understand whether the interparental discrepancies truly reflect parents' negative biases due to their PTSD symptoms or observed increases in child adjustment problems.

Several study limitations should be noted. We only included deployed fathers and not deployed mothers; mothers' deployment may have different implications for interparental discrepancies. Participants were primarily middle class, European American, Reserve Component families. Thus, our findings may not be generalized to all military families, families with deployed mothers, clinical populations, and economically and ethnically diverse families. We assessed mothers' PTSD symptoms with the PCL-Civilian version without an anchor to a specific traumatic event (e.g., history of child maltreatment). It is possible that mothers' PTSD symptoms are overestimated, as the PCL_C correlates highly with measures of depression and may detect negative emotionality rather than PTSD. Future

research should include multiple methods (e.g., observation and physiological assessment) to increase the robustness of the current findings. The use of observational methods, for example, may reveal that parents' reports are consistent with children's actual behavioral problems. It is also important to acknowledge that some transient problematic behaviors may be normative or adaptive for coping with the many challenges military children with deployed parents experience (Barker & Berry, 2009).

Findings from the current study may be useful in helping clinicians evaluating military children to understand how parent mental health functioning within a stressful family context may relate to parents' ratings of child adjustment. It may be helpful for clinicians to discuss and coach parents on how to be aware of their own mental health concerns and how such concerns may influence their perceptions of or interactions with their children. Encouraging fathers to become involved in seeking help for their children's adjustment problems may support parents to discuss and come to consensus regarding their children's behavior, and, where necessary, treatment options. More in-depth analyses (e.g., qualitative study) of parents' attributions of children's adjustment problems may also contribute knowledge regarding additional sources of discrepant ratings.

The current study addressed several gaps within the extant literature. We examined the applicability of the depression-distortion hypothesis by examining both mothers' and fathers' depression and PTSD symptoms. Previous discrepancy research has focused primarily on maternal mental health, although results from several studies have suggested that a father's mental health may also be associated with interparental discrepancies in child behavior ratings (Mascendaro, Herman, Webster-Stratton, 2012; Moreno, Silverman, Saavedra, & Phares, 2008). This is particularly important in a military sample in which a parent has been deployed, as both parents may exhibit greater mental health (and particularly PTSD) symptoms upon the service member's return home from combat (Milliken, Auchterlonie, & Hoge, 2007). Because of the unique experiences military families face (i.e. deployment and reintegration, exposure to combat stressors), this population provides important insight into how family contextual factors may be associated with discrepant reports of child adjustment among parents in military families.

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Figure 1.

The latent congruence model (LCM), as used in this study for modeling discrepancies between mother-reported and father-reported child externalizing behaviors. The same model was used to study discrepancies between mother- and father-reported child internalizing behavior cutoff scores

Table 1
Descriptive Statistics and Intercorrelations Among Mother and Father Ratings of Child Internalizing and Externalizing Behaviors

Variable	Raw score		T score		Range		Cutoff	1	2	3	4	5
Externalizing	M	SD	M	SD			n	%				
1. MR aggression	6.18	3.92	50.84	8.80	37.4 – 90.6	24	14.5	--				
2. FR aggression	6.59	4.51	51.75	10.12	36.1 – 90.6	25	16.3	.40***				
3. MR hyperactivity	9.29	5.11	53.76	11.19	35.7 – 95.8	36	21.7	.41***	.18*			
4. FR hyperactivity	9.97	4.66	55.31	11.13	34.3 – 99.8	41	26.8	.30***	.29***	.42***		
5. MR conduct	5.23	3.14	51.16	8.88	37.3 – 94.5	21	12.7	.46***	.06***	.33***	.27**	
6. FR conduct	5.06	3.35	50.68	9.44	34.2 – 86.3	18	11.8	.39***	.50***	.23**	.47***	.25**
Internalizing												
1. MR depression	8.22	4.89	53.27	9.57	37.4 – 85.4	37	22.3					
2. FR depression	7.98	4.88	52.83	9.57	37.4 – 91.5	29	19.0	.40***				
3. MR somatization	4.41	4.24	48.54	11.97	36.0 – 99.8	28	16.8	.34***	.28**			
4. FR somatization	4.57	4.10	49.99	11.57	36.0 – 89.6	23	15.0	.03	.31***	.41***		
5. MR anxiety	14.42	6.17	53.24	10.41	34.5 – 83.8	39	23.5	.39***	.24**	.28***	.13	
6. FR anxiety	15.02	5.98	54.21	10.23	32.7 – 82.1	42	27.5	.26**	.49***	.35***	.28***	.30***

Note. MR = mother-report; FR = father-report.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 2

Intercorrelations Among Predictor Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Female child	–	-.12	.12	.08	-.12	.03	-.04	-.03	.04	-.07	.06	.01	-.03
2. Child age		–	-.05	.12	.15*	.07	-.03	.04	.03	-.07	.10	-.05	.02
3. MR PLOC			–	.18*	.04	-.02	.05	-.08	-.04	-.23**	-.08	-.25**	-.08
4. FR PLOC				.24**	.18	.11	.11	.15†	-.02	-.21*	-.29**	-.11	-.31***
5. MR marital sat.				–	.53***	-.01	.004	.004	-.13	-.27***	-.27**	-.17*	-.22**
6. FR marital sat.					–	-.12	-.03	-.03	-.09	-.14†	-.28***	-.05	-.19*
7. Months deployed						–	.33**	.40***	.06	-.02	-.01	-.01	.12
8. Times deployed							–	.11	-.01	-.01	-.16*	.05	-.14†
9. Battle experience								–	.08	.20*	.09	.43***	
10. MR depression									.25**	.62***	.19*		
11. FR depression									–	.20*	.75***		
12. MR PTSS										–	.14†		
13. FR PTSS												–	
<i>M</i>	1.54	8.84	3.60	3.63	3.49	3.53	3.93	2.06	9.80	1.52	1.54	27.06	30.06
<i>SD</i>	0.50	1.69	0.44	0.43	0.65	0.55	1.82	1.28	7.85	0.48	0.53	8.74	12.53

Note. MR = mother-report; FR = father-report; PLOC = parent locus of control; sat. = satisfaction; PTSS = posttraumatic stress symptoms.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3
Predictors of Discrepancies between Mother- and Father-Report of Child Internalizing and Externalizing Behaviors

Variables	Child Internalizing				Child Externalizing			
	Mean Level		Discrepancy		Mean Level		Discrepancy	
	β	SE	β	SE	β	SE	β	SE
Child age	.04	.09	-.05	.12	-.02	.08	.11	.11
Child sex (female)	.25**	.09	.21	.11	-.23**	.08	.15	.12
MR Marital Sat.	-.01	.12	.18	.15	.04	.10	.06	.14
FR Marital Sat.	.07	.11	-.05	.14	-.20*	.10	-.02	.14
MR PLOC	-.002	.10	-.04	.12	-.35***	.08	.23	.13
FR PLOC	-.07	.10	.04	.12	-.16	.09	-.12	.12
Times deployed	-.10	.10	.05	.12	-.03	.09	-.14	.11
Months deployed	.03	.11	-.20	.13	-.06	.09	-.19	.12
Battle experiences	.24*	.10	.21	.13	.12	.09	.12	.13
MR depression	.33***	.11	.02	.16	.06	.10	-.14	.13
FR depression	.07	.14	-.01	.18	-.12	.14	-.31	.19
MR PTSS	-.01	.12	-.33*	.14	.07	.10	-.12	.13
FR PTSS	-.12	.15	.41*	.18	.14	.14	.44*	.18

Note. MR = mother-report; FR = father-report; Sat. = satisfaction; PLOC = Parental locus of control; PTSS = PTSD symptoms.

* $p < .05$.

** $p < .01$.

*** $p < .001$.