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Within- and Between-Family Associations of Marital Functioning and Child Well-being

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Abstract

This study clarifies within-family and between-family links between marital functioning and child wellbeing. Expanding on existing prospective research, this study tests whether changes in parents' marital functioning are associated with corresponding changes in their children's wellbeing, independent from associations that exist when comparing different families. Participants (N = 1033) were members of married, opposite-sex couples with children who participated in five waves of a larger study of marriage in the U.S. Army. Spouses' constructive communication, verbal conflict, and marital satisfaction each showed between-family associations with parent-reported child internalizing and externalizing problems. In contrast, within-family associations were significant only for parents' communication behaviors. That is, parents who reported lower levels of marital satisfaction also reported lower child wellbeing, whereas change in parents' communication was associated with change in child wellbeing over time. Isolating within-family effects is important for understanding marital and child functioning and for identifying potential targets for effective intervention.

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The content is solely the responsibility of the authors and does not necessarily represent the official views of NICHD or the National Institutes of Health. Scott Stanley and Howard Markman own a business that develops and sells relationship education curricula, including the intervention tested in the parent project. Galena Rhoades has been involved in developing relationship education curricula and receives royalties on the sales of some relationship education materials, but not on the intervention tested in the parent project.

Keywords

behavioral health; child well-being; family processes; marital quality; methodologies

A large body of research spanning several decades links parents' marital functioning to the wellbeing of their children (e.g., Amato & Sobolewski, 2001; Cummings & Davies, 2011; Emery, 1982; Kelly, 2000). High marital conflict and low satisfaction are associated with, for example, less family cohesion (Katz & Woodin, 2002), increased emotional and behavioral problems (Fishman & Meyers, 2000; Frankel, Umemura, Jacobvitz, & Hazen, 2015), and lower academic achievement (Timmons & Margolin, 2014) among children. Similar links are found across different cultures and family structures (Leidy & Parke, 2009; Orme & Buehler, 2001; Stutzman, Miller, & Houist, 2004).

Although the association between marital quality and children's adjustment is well-documented, a more nuanced understanding of precisely how they are interrelated remains to be discovered (Fincham & Osborne, 1993; Heinrichs, Cronrath, Degen, & Snyder, 2010; Zimet & Jacob, 2002). Most commonly in the literature, prospective designs have been used to show temporal precedence from earlier marital functioning to later child adjustment. A number of studies have demonstrated links between marital conflict or quality measured at an earlier wave of data collection and children's internalizing, externalizing, school, and social difficulties measured at a later wave, and have explored explanatory variables such as parenting processes (Schoppe-Sullivan, Schermerhorn, & Cummings, 2007), children's emotional security (Cummings, Schermerhorn, Davies, Goeke-Morey, & Cummings, 2006), attachment (Brock & Kochanska, 2015), self-efficacy (Fosco & Feinberg, 2015), threat appraisals (Grych, Harold, & Miles, 2003), or cortisol reactivity (Davies, Sturge-Apple, Cicchetti, & Cummings, 2007).

These studies generally show that families whose parents who start off with worse marital functioning tend to have children with poorer adjustment later on. The strongest prospective studies also control for the autoregressive effect of children's adjustment at the time of the first data collection, and so demonstrate that lower marital functioning predicts a greater degree of decline in children's wellbeing. However, even the highest-quality prospective research essentially uses a *between-subjects* comparison (for further discussion, see Fincham, Grych, & Osborne, 1994). In other words, these designs show differential change in children's wellbeing between families with higher parent marital quality and those with lower marital quality. Prospective methods do not account for changes in marital functioning over time or demonstrate that changes in marital functioning are linked with changes in children's adjustment. Such an analysis requires isolating *within-subject* effects, which is our aim in the current study.

The distinction between within-subject and between-subjects effects is a fundamental aspect of psychological statistics (for an excellent review, see Curran & Bauer, 2011). Between-subject effects reflect differences between different individuals, often based on group membership (e.g., high-conflict or low-conflict couples; well-adjusted or poorly-adjusted children). Importantly, because these group differences can be explained by a number of external variables (commonly demographic, environmental, or selection effects), it is not

advisable to assume that between-subject differences will also correspond to within-subject changes over time. This error has been referred to as the ecological fallacy. For example, we cannot assume that differences in the adjustment of children of higher-conflict compared to lower-conflict couples (a between-subject comparison) will also predict that reducing one particular couple's conflict will improve their children's adjustment (a within-subject comparison). Instead, specific within-subject analyses are necessary in order to test hypotheses about how individuals, couples, or families change over time. When these two types of effects are not statistically separated, results from analyses show both effects pooled together (Curran & Bauer, 2011), which limits the conceptual inferences that can be made about how marital and child functioning are related and how they may change together over time.

We argue that within-subject (or, in this case, within-family) effects are the effects of most interest with regard to the potential for intervention. Researchers and public policy makers have become interested in the potential of marital interventions to also improve the wellbeing of children (Cowan & Cowan, 2014; Feinberg & Kan, 2008; Lundquist et al., 2014; Wood, Moore, Clarkwest, & Killewald, 2014; Zemp, Milek, Cummings, Cina, & Bodenmann, 2015). This broad approach to intervention targets children's problems indirectly by improving couple functioning, particularly with regard to communication and conflict management. Within-family longitudinal analyses can identify promising targets for marital interventions, because these aspects of couple functioning should show corresponding changes with children's adjustment over time within the same family.

Several studies are noteworthy for using longitudinal methods to directly test how marital and child functioning change together over time within families. Cui, Conger, and Lorenz (2005) used latent growth-curve models (LGCM) to show that changes in parents' marital conflict and marital distress preceded changes in their teenage children's positive affect, emotional symptoms, and conduct problems over four waves in a lagged longitudinal design. Kouros, Cummings, and Davies (2010) extended the research of Cui et al. (2005), using a parallel process LGCM to show associated changes in interparental conflict and children's externalizing problems, and also demonstrating that these early trajectories predicted children's social competency five years later. Although both these studies represent a substantial innovation over cross-sectional and prospective research, some important limitations exist. First, the studies use the average of mothers' and fathers' reports instead of using more sophisticated dyadic analyses. Second, the growth curve models used constrain estimation of the changes in marital and child functioning to be unidirectional, and are not sensitive to ups and downs in these variables over time. Most importantly for our purposes, these analyses did not statistically separate within-family from between-family effects, so the results reflect both types of effects pooled together.

Most recently, Goeke-Morey, Papp, and Cummings (2013) used multilevel modeling in the only study to our knowledge to statistically disaggregate within-family change processes from overall between-family differences. Their study showed that increases in exposure to interparental conflict were related to increases in children's self-blame and threat appraisals, and that these within-family effects held when controlling for between-family effects. Because the primary focus of this study was on sensitization of children's emotional and

cognitive reactions to their parents' conflict, the study measures were not ideal for answering the question of how marital functioning is associated with children's wellbeing more broadly. The study also aggregated across both parents' and the child's report of marital conflict rather than using multilevel or nested models to account for interdependence within a family.

Thus, the current study proposes to extend prior research by using longitudinal analyses that can accurately disaggregate within-family from between-family effects (Curran & Bauer, 2011; Raudenbush & Bryk, 2002), which we believe is an essential task for answering the central questions of family researchers. These analyses can more directly test for evidence supporting the assumption underlying intervention: that enacting changes in the parents' relationship will yield corresponding benefit for children. The current study also uses optimal dyadic analyses for data from couples, retaining individual responses for each spouse while also accounting for their interdependence (Kenny, Kashy, & Cook, 2006). We included several measures of marital functioning assessing conflict, communication, and overall satisfaction, as well as both internalizing and externalizing children's problems at five different assessments over time.

Using these five waves of data, we aimed to test whether marital and child functioning demonstrate significant within-family associations over time after controlling for between-family differences. Because we cannot predict the null hypothesis, our default hypothesis was that we would find both within-family and between-family effects for all comparisons. Significant within-family effects would indicate that child wellbeing changes over time in accordance with changes in marital functioning. This would suggest that those particular aspects of marital functioning may be promising targets for intervention research and would lend support for further investigating a causal relationship and mechanism. If, on the other hand, within-family effects were not significant, this would suggest that the associations found in prior research reflect differences between different families, and do not provide evidence for changes within families.

Method

Participants and Procedures

The current study involves a secondary analysis of data from a larger randomized controlled trial testing the impact of a relationship education intervention, PREP for Strong Bonds, delivered to couples by U.S. Army chaplains. See Stanley et al. (2014) for a detailed review of procedures, participants, and the intervention. Briefly, couples were recruited from two U.S. Army sites (Fort Campbell, Tennessee and Fort Benning, Georgia) in 2006 and 2007 using brochures, media stories, posters, and referrals from Army chaplains. Interested couples contacted the study team and were screened and assigned to a study cohort. To be eligible for the study, couples had to be married, age 18 or older, and fluent in English, with at least one spouse in active duty with the Army. Only the husband was in the Army for 91.1% of couples in the study, both spouses for 6.9%, and only the wife for 1.9%. Both partners in each participating couple completed a baseline assessment between March 2007 and September 2008, and were then randomly assigned to either the PREP intervention or control (treatment as usual, or TAU) condition within their study cohort. Following the

intervention, both PREP and TAU participants completed assessments again. Approximately every six months subsequently, each participant completed measures via an online or mailed survey. The current analyses used data collected from baseline through the third follow-up assessment, spanning a total of 19 months on average. The response rate in this study was high; participants in the current sample completed an average of 4.7 total assessments out of 5, with 95.3% completing at least 3 of 5 assessments.

The sample used in the current study included all married individuals in the larger study who reported both their children's wellbeing and their own marital functioning during at least one assessment. Participants without children between the ages of 4 and 18 were excluded. Parents could report on any children living in their home, including biological and non-biological children. Approximately 9% of the sample divorced during the study timeframe, and participants stopped providing data on the relevant variables once their marriages ended. In all, 528 couples were represented by at least one partner in these analyses, with a total of 1033 individuals (522 or 50.5% husbands). At baseline, participants were married for an average of 6.0 years (SD = 4.7), and the marriage targeted in this study was a first marriage for 74.5% of participants. The average age of the sample was 29.1 years (SD = 5.8). In terms of race, this sample was 0.9% Asian American, 10.4% Black or African American, 11.8% Hispanic or Latino, 1.5% Native American or American Indian, 1.0% Pacific Islander, and 70.2% White; 4.0% reported mixed racial/ethnic background, and less than 1% did not report race or ethnicity. Participants had completed an average of 13.5 years of education (SD = 2.1); 62.2% had received a high school diploma or equivalent, and an additional 34.9% had an associate or higher degree. The median annual household income range for couples was $40,000 to $49,999 ($IQR$ = $30,000 – $69,999).

Measures

Child internalizing and externalizing problems—Child internalizing and externalizing problems were assessed using 10 items from the Behavior Problems Index (Guttmannova, Szanyi, & Cali, 2008; Peterson & Zill, 1986), a targeted parent-report measure of child difficulties adapted from the Child Behavior Checklist (Achenbach, 1999). The questions assess parents' concerns about both internalizing and externalizing difficulties in any of their children between 4 and 18 years old. This measure aggregates across all children in a family, consistent with other research focused on parents' overall concerns about their children within a family context (Plaisier et al., 2008; Shapiro & Stewart, 2011; Sheppard, 2010). This allowed us to best capture parents' general sense of their children's wellbeing, rather than choosing a particular child to ask about based on birth order or other criteria unrelated to our research question. Parents rated each item, phrased "One or more of my children…" followed by target behaviors such as "is disobedient at home" and "seems withdrawn and moody," on a scale from 1 (Not True) to 3 (Always True). Scores were an average of items within each scale. Internal consistency was acceptable in this sample at the baseline assessment for the internalizing scale (α = .70; M = 1.20, SD = 0.36) and good for the externalizing scale (α = .83; M = 1.61, SD =0.50). Ratings of children's internalizing and externalizing problems were significantly correlated at baseline (r = .58 for fathers and .49 for mothers, ps < .01).

Constructive communication—From the larger Communication Skills Test (Saiz & Jenkins, 1995), 10 items were used to measure spouses' perceptions of how well they communicate, such as, "When discussing issues, I allow my spouse to finish talking before I respond," and "When our discussions begin to get out of hand, we agree to stop them and talk later." Items were scored from 1 (Strongly Disagree) to 7 (Strongly Agree); scores were averaged, with higher scores indicating better use of positive communication skills. Studies support the general reliability and validity of this measure (e.g., Stanley et al., 2001, 2005), and internal consistency in this sample at baseline was good (α = .81; M = 4.05, SD = 1.16).

Verbal conflict—The five-item version of the Communication Danger Signs Scale (Stanley, Markman, & Whitton, 2002) assessed verbal conflict behaviors, including escalation, invalidation, negative interpretation, and withdrawal (e.g., "Little arguments escalate into ugly fights with accusations, criticisms, name calling, or bringing up past hurts," "When we have a problem to solve, it's like we're on opposite teams"). Participants rated each item on a scale from 1 (Never or Almost Never) to 3 (Frequently). A mean score was used in these analyses, with higher values reflecting more verbal conflict. Forms of this measure have demonstrated convergence with other theoretically related constructs (e.g., Stanley et al., 2005). Internal consistency in this sample at baseline was good (α = .81; M = 1.92, SD = 0.53).

Marital satisfaction—Global marital satisfaction was measured with the Kansas Marital Satisfaction Scale (KMS; Schumm et al., 1986). Participants rated three items assessing satisfaction with the marriage, the partner as a spouse, and the relationship with the spouse on a scale of 1 (Extremely Dissatisfied) to 7 (Extremely Satisfied). Marital satisfaction scores were averaged, with higher scores indicating greater satisfaction. Other research has demonstrated strong reliability and validity for this scale (Schumm et al., 1986), and internal consistency in the current sample at baseline was excellent (α = .94; M = 5.66, SD = 1.24).

At baseline, the three marital functioning variables were all correlated significantly (mothers' $|r|$s = .54 to .67, fathers' $|r|$s = .52 to .63, all ps < .01) and in expected directions (i.e., verbal conflict correlated negatively with constructive communication and marital satisfaction).

Data Analytic Plan

To test within- and between-family effects of marital functioning on child internalizing and externalizing problems, four-level multilevel models were used, with time nested within individuals, individuals within couples, and couples within study cohorts. Time was measured in months since the baseline assessment. We tested three models with child internalizing problems as the dependent variable, one for the association with each marital functioning variable (constructive communication, verbal conflict, and marital satisfaction). We also tested three models predicting child externalizing problems from each marital variable. To further test the specificity of effects, two follow-up models including all three marital functioning variables simultaneously were also tested. This provided a more stringent test of the within-family hypotheses by allowing us to test whether each aspect of

marital functioning uniquely predicted child wellbeing after accounting for the effects of the other marital functioning variables.

To separate within-family effects from between-family effects, we used the basic structure suggested by Raudenbush and Bryk (2002). At Level 1 of the multilevel models, we included the time-varying marital functioning variable. This was centered around each individual's mean score on that variable (i.e., person-mean centered) in order to remove the effect of differences in average levels of marital functioning; accordingly, Level 1 includes within-family effects only. At Level 2, we included the person-mean of the marital functioning variable in order to model between-family effects.

We adjusted these models if the time-varying covariates (i.e., the marital functioning variables) drifted over time, in accordance with methods suggested by Curran and Bauer (2011). Constructive communication significantly increased and verbal conflict significantly decreased over time (ps < .05). Accordingly, we "detrended" the scores for these variables by regressing them onto time (grand-mean centered) separately for each participant and retaining each participant's residual scores, which removes the effect of linear change over time in the marital communication variables. When it is not accounted for, this linear change over time can produce biased estimates of the within-person effects (Curran & Bauer, 2011). Thus, for constructive communication and verbal conflict, we used residualized scores instead of centered raw scores at Level 1, and the person-specific intercepts for these variables instead of person-means at Level 2. Marital satisfaction did not show a significant linear trend over time, indicating that detrending is not necessary, so we used original scores in models testing marital satisfaction.

Because child internalizing problems significantly increased over time, models predicting the outcome of child internalizing problems included a variable coding time at Level 1. The first equation at each level was modeled as random, which allowed intercepts to vary between participants. The models predicting child internalizing problems were defined as follows:

$$\begin{aligned}
&\text{Level 1:} && (CHILD)_{tijk} = \pi_{0ijk} + \pi_{1ijk}(MARITALw)_{tijk} + \pi_{2ijk}(TIME)_{tijk} + e_{tijk} \\
&\text{Level 2:} && \pi_{0ijk} = \beta_{00jk} + \beta_{01jk}(MARITALb)_{ijk} + r_{0ijk} \\
& && \pi_{1ij} = \beta_{10jk} \\
& && \pi_{2ij} = \beta_{20jk} \\
&\text{Level 3:} && \beta_{00jk} = \gamma_{000k} + u_{00jk} \\
& && \beta_{01jk} = \gamma_{010k} \\
& && \beta_{10jk} = \gamma_{100k} \\
& && \beta_{20jk} = \gamma_{200k} \\
&\text{Level 4:} && \gamma_{000k} = \delta_{0000} + v_{000k} \\
& && \gamma_{010k} = \delta_{0100} \\
& && \gamma_{100k} = \delta_{1000} \\
& && \gamma_{200k} = \delta_{2000}
\end{aligned}$$

In these models, $(CHILD)_{tijk}$ is child internalizing problems reported by each parent at each time point; $(TIME)_{tijk}$ is time measured in months since the baseline assessment, grand-mean centered; $(MARITALw)_{tijk}$ is the within-family component of the relevant marital

functioning variable(s) for each person at each time point; and $(MARITALb)_{ijk}$ is the between-family component of the marital functioning variable(s) for each person. There are four fixed effects modeled: δ_{0000} represents the overall level of child problems at baseline; δ_{2000} represents the overall average rate of change in child problems over time; δ_{0100} represents the between-family association between parents' average marital functioning and reported child problems; and δ_{1000} represents the within-family association between changes in parents' marital functioning and changes in child problems over time. The latter two fixed effects, δ_{0100} and δ_{1000}, represent tests of our hypotheses about between-family and within-family associations, respectively.

Preliminary analyses indicated that child externalizing problems did not significantly increase or decrease over time. Therefore, accounting for the effect of time on child externalizing problems is not necessary, and the models for child externalizing problems do not include a variable coding time at Level 1. Otherwise, the models and fixed effects for child externalizing problems are the same as those for child internalizing problems.

Results

Results from analyses predicting children's internalizing problems are shown in the top of Table 1. All three measures of marital functioning demonstrated significant between-family effects with children's internalizing symptoms, such that parents reporting less constructive communication, more verbal conflict, and lower marital satisfaction on average reported higher overall internalizing symptoms among their children. Within-family effects were significant for constructive communication, indicating that when parents reported increasing constructive communication, they also reported decreasing children's internalizing problems. There were no within-family effects of either marital satisfaction or verbal conflict with internalizing problems.

When all three marital functioning variables were included in a single model, only marital satisfaction remained significant at the between-family level ($b = -0.037$, $SE = 0.010$, $p < .001$). None of the within-family associations remained significant at $p < .05$, although the within-family effect for constructive communication was marginally significant ($b = -0.015$, $SE = .009$, $p = .080$), mirroring the pattern of findings from the individual models.

Results for child externalizing problems are shown in the bottom of Table 1. All three measures of marital functioning demonstrated significant between-family effects on children's externalizing symptoms in expected directions. In terms of within-family effects, parents' declining constructive communication and increasing verbal conflict were significantly associated with corresponding increases in reported child externalizing symptoms over time. Marital satisfaction showed no within-family effects on child externalizing problems.

In the larger model including all three marital functioning variables, marital satisfaction ($b = -0.050$, $SE = 0.013$, $p < .001$) and verbal conflict ($b = -0.070$, $SE = 0.023$, $p = .002$) were significant at the between-family level. For within-family effects, both verbal conflict ($b = 0.043$, $SE = 0.023$, $p = .057$) and constructive communication ($b = -0.019$, $SE = 0.010$, $p = .$

054) remained marginally significant, reflecting the same pattern of results as the individual models.

In follow-up analyses, we tested for moderation by parent gender, length of marriage, and the study intervention group, but none of these post-hoc tests were significant after Bonferroni correction.

Discussion

The current study demonstrates that statistically separating within-family changes from between-family differences can provide important knowledge about the link between marital and child functioning – our findings showed that these two types of effects do not necessarily tell the same story. Our results indicated that there were significant between-family associations between all three aspects of parents' marital functioning and their ratings of internalizing and externalizing problems in their children. However, not all of these aspects of marital functioning showed significant within-family links with children's wellbeing over time, which suggests that interpretations about the nature of the association differ depending on the type of effect found.

In terms of the between-family associations, parents who reported less constructive communication, more negative communication, and lower marital satisfaction in general also reported a higher level of internalizing and externalizing problems among their children. These findings are consistent with existing cross-sectional and prospective research: poor marital functioning seems to be a risk factor for children's concurrent or subsequent adjustment (e.g., Cummings & Davies, 2002; Fishman & Meyers, 2000). When testing for unique variance with all predictors in a single model, between-family links between marital functioning and reports of children's emotional problems were driven by perceptions of marital satisfaction rather than by how parents communicate or fight, whereas links with reports of children's behavioral problems were uniquely explained by both lower satisfaction and higher conflict.

Evidence of within-family effects was more limited. For internalizing problems, only increasing constructive marital communication was related to decreasing emotional problems among children within a family. Decreases in child externalizing problems, however, were significantly related within families to both increasing constructive communication and decreasing verbal conflict among parents. Although results from the two models testing the unique within-family contributions of each marital functioning variable all dropped to nonsignificance, suggesting that our data lack sufficient power to detect these unique effects, the pattern of findings for within-family effects was the same as in the individual models.

Because prior research on the association between marital functioning and children's adjustment has not differentiated between within-family and between-family effects, it is difficult to compare these findings to other similar studies. The between-family findings seem broadly consistent with prior research that shows the strongest links with internalizing problems for domains of marital functioning that relate to covert, rather than overt,

dysfunction (Kelly, 2000), and which demonstrates that conflict and hostility tend to predict externalizing problems most strongly (Katz & Woodin, 2002). Our within-family results are not consistent with implications drawn from prior studies that children's internalizing symptoms are worsened specifically by interparental conflict and hostility (Ablow, Measelle, Cowan, & Cowan, 2009; Brock & Kochanska, 2015; Cummings et al., 2006; Grych et al., 2003) or that both internalizing and externalizing symptoms are exacerbated by declining marital quality or satisfaction (Benzies, Harrison, & Magill-Evans, 2004; Feldman, Wentzel, Weinberger, & Munson, 1990; Fishman & Meyers, 2000; Leidy & Parke, 2009).

Because these prior studies have used cross-sectional or prospective designs rather than longitudinal within-family designs, results from the current study suggest that some of the significant associations observed in prior studies may be due to between-family effects only; that is, they demonstrate differential risk of children's emotional and behavioral problems based on the quality of a couple's marital functioning, but not that changes in their marital functioning will predict corresponding changes in their children's wellbeing. Thus, the current study highlights the value of separating within-family effects from between-family differences: doing so is important in order to avoid mistakenly drawing conclusions about how changes in dimensions of marital functioning within families might impact child behavior in those families over time, when the findings may truly reflect only differences between families and perhaps do not contain information about the potential for change within a family.

Separating within-family from between-family effects can also inform empirical targets for family-based intervention strategies. Cowan and Cowan (2014) point out that to date, almost all research linking relationship functioning to children's wellbeing is cross-sectional, and the few couples' intervention studies that have also measured child outcomes show mixed results (Cowan & Cowan, 2000; Cummings, Faircloth, Mitchell, Cummings, & Schermerhorn, 2008; Feinberg, Kan, & Goslin, 2009; Lundquist et al., 2014; Shapiro, Nahm, Gottman, & Content, 2011; Wood, Moore, Clarkwest, & Killewald, 2014). Although intervention studies using a true experimental design are necessary to definitively demonstrate a causal link between marital and child functioning, the longitudinal approach used here may help to explain the existing mixed findings as well as to highlight the most useful targets for future intervention studies.

Our findings offer some limited support to arguments advanced by other researchers that marital communication, both constructive and destructive, may have the most direct links with children's wellbeing within families. In separate models, we found significant within-family effects only for parents' communication, and not for general perceptions of marital satisfaction. It may be the case that communication skills are especially promising targets for interventions aimed at ameliorating the impact of marital discord on children. However, analyses including all domains of marital functioning were unable to detect the unique effects of each domain, so we cannot draw firm conclusions about the relative contributions of each facet of marital functioning toward changes in the wellbeing of children in a family. Further research should continue to explore within-family links between domains of marital functioning and children's adjustment in order to inform best practices for interventions.

Throughout the research linking marital functioning and children's adjustment, explicit or implicit claims about a causal relationship between these two facets of family functioning abound (Heinrichs et al., 2010). Indeed, in order to hypothesize that intervening in one domain will impact functioning in another domain, it is necessary to assume that the two domains are causally related to one another. However, despite the appeal of speculating about causation when correlated changes are found, observational studies – including the current study – do not provide evidence that changes in marital functioning cause changes in children's wellbeing. Other researchers have proposed that the effect may run from child problems to marital difficulties (e.g., Goldstein et al., 2007), or that both domains influence each other bidirectionally (e.g., Jenkins, Simpson, Dunn, & Rashbash, 2005). Our findings cannot rule out these possibilities. Rather, we propose that the within-family methods in the current study can be used to identify potential sources of the association between marital and child functioning, which can be further explored and tested by studies with experimental designs.

Limitations

Although we believe this study represents a substantial contribution to the methods used to study marital functioning and children's wellbeing, some limitations exist. Because the raters of both couple and child behavior are the same (the parents), it is plausible that shared method variance, respondent bias, or another shared variable could influence parents' reports of both their own relationships and their children's behavior, inflating the effects found here. In addition, although there are benefits to the general child wellbeing measure used in the current study, measures of the same individual child over time that are collected from multiple raters in addition to the child's parents could provide a more comprehensive measure of a particular child's functioning.

This study's generalizability may be limited by the couples in the study sample, who are predominantly white, married, opposite-sex couples with at least one partner serving in the U.S. Army. In particular, compared to the general population, the Army families in the current study tend to be more likely to marry and have children, to do so at younger ages, and to have at least a high-school degree. Army families tend to have a larger support system built into the structure of Army life, and at the same time, tend to experience some stressors that are unique to military service members (e.g., deployment, combat stress). Thus Army families seem to have both distinct risks and specific protective factors with regard to family functioning that may or may not impact the link between parents' marital functioning and children's wellbeing.

Couples who divorced are not included in these analyses. Because the rate of divorce was below ten percent over the study timeframe, we do not expect missing data due to divorce to substantially impact our findings. However, because couples who ended up divorcing also tended to have poorer marital quality at baseline, couples who divorced may have influenced the size of the effects we found. Last, although the relationship education intervention used in the larger study from which this sample was drawn did not moderate the findings in these analyses, a sample drawn from the general population who did not receive a study intervention would provide a more general representation of couples in the United States.

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References

Ablow JC, Measelle JR, Cowan PA, Cowan CP. Linking marital conflict and children's adjustment: The role of young children's perceptions. Journal of Family Psychology. 2009; 23(4):485–99. DOI: 10.1037/a0015894 [PubMed: 19685984]

Achenbach, TM. The Child Behavior Checklist and related instruments. In: Maruish, ME., editor. The use of Psychological Testing for Treatment Planning and Outcomes Assessment. 2. Mahwah, NJ: Lawrence Erlbaum Associates Publishers; 1999. p. 429-66.

Amato P, Sobolewski J. The effects of divorce and marital discord on adult children's psychological well-being. American Sociological Review. 2001; 66(6):900–21.

Benzies KM, Harrison MJ, Magill-Evans J. Parenting stress, marital quality, and child behavior problems at age 7 years. Public Health Nursing. 2004; 21(2):111–21. DOI: 10.1111/j.0737-1209.2004.021204.x [PubMed: 14987210]

Brock RL, Kochanska G. Interparental conflict, children's security with parents, and long-term risk of internalizing problems: A longitudinal study from ages 2 to 10. Development and Psychopathology. 2015; 28:1–10. DOI: 10.1017/S0954579415000279 [PubMed: 25723055]

Cowan, CP., Cowan, PA. When Partners Become Parents: The Big Life Change for Couples. Lawrence Erlbaum Associates Publishers; 2000.

Cowan PA, Cowan CP. Controversies in Couple Relationship Education (CRE): Overlooked evidence and implications for research and policy. Psychology, Public Policy, and Law. 2014; 20(4):361–83. DOI: 10.1037/law0000025

Cui M, Conger RD, Lorenz FO. Predicting change in adolescent adjustment from change in marital problems. Developmental Psychology. 2005; 41(5):812–23. DOI: 10.1037/0012-1649.41.5.812 [PubMed: 16173877]

Cummings EM, Davies PT. Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. Journal of Child Psychology and Psychiatry. 2002; 43(1):31–63. DOI: 10.1111/1469-7610.00003 [PubMed: 11848336]

Cummings, EM., Davies, PT. Marital Conflict and Children: An Emotional Security Perspective. Guilford Press; 2011.

Cummings EM, Faircloth WB, Mitchell PM, Cummings JS, Schermerhorn AC. Evaluating a brief prevention program for improving marital conflict in community families. Journal of Family Psychology. 2008; 22(2):193–202. DOI: 10.1037/0893-3200.22.2.193 [PubMed: 18410206]

Cummings EM, Schermerhorn AC, Davies PT, Goeke-Morey MC, Cummings JS. Interparental discord and child adjustment: Prospective investigations of emotional security as an explanatory mechanism. Child Development. 2006; 77(1):132–52. DOI: 10.1111/j.1467-8624.2006.00861.x [PubMed: 16460530]

Curran PJ, Bauer DJ. The disaggregation of within-person and between-person effects in longitudinal models of change. Annual Review of Psychology. 2011; 62:583–619. DOI: 10.1146/annurev.psych.093008.100356

Davies PT, Sturge-Apple ML, Cicchetti D, Cummings EM. The role of child adrenocortical functioning in pathways between interparental conflict and child maladjustment. Developmental Psychology. 2007; 43(4):918–30. DOI: 10.1037/0012-1649.43.4.918 [PubMed: 17605525]

Emery RE. Interparental conflict and the children of discord and divorce. Psychological Bulletin. 1982; 92(2):310–33. DOI: 10.1037/0033-2909.92.2.310 [PubMed: 7146231]

Feinberg ME, Kan ML. Establishing family foundations: Intervention effects on coparenting, parent/infant well-being, and parent-child relations. Journal of Family Psychology. 2008; 22(2):253–63. DOI: 10.1037/0893-3200.22.2.253 [PubMed: 18410212]

Feinberg ME, Kan ML, Goslin MC. Enhancing coparenting, parenting, and child self-regulation: Effects of family foundations 1 year after birth. Prevention Science. 2009; 10(3):276–85. DOI: 10.1007/s11121-009-0130-4 [PubMed: 19381809]

Feldman SS, Wentzel KR, Weinberger DA, Munson JA. Marital satisfaction of parents of preadolescent boys and its relationship to family and child functioning. Journal of Family Psychology. 1990; 4(2):213–34. DOI: 10.1037//0893-3200.4.2.213

Fincham FD, Grych JH, Osborne LN. Does marital conflict cause child maladjustment? Directions and challenges for longitudinal research. Journal of Family Psychology. 1994; 8(2):128–40. DOI: 10.1037/0893-3200.8.2.128

Fincham FD, Osborne LN. Marital conflict and children: Retrospect and prospect. Clinical Psychology Review. 1993; 13(1):75–88. DOI: 10.1016/0272-7358(93)90009-B

Fishman E, Meyers S. Marital satisfaction and child adjustment: Direct and mediated pathways. Contemporary Family Therapy. 2000; 22:437–51. DOI: 10.1023/A:1007848901640

Fosco GM, Feinberg ME. Cascading effects of interparental conflict in adolescence: Linking threat appraisals, self-efficacy, and adjustment. Developmental Psychopathology. 2015; 27(1):239–52. DOI: 10.1017/S0954579414000704

Frankel LA, Umemura T, Jacobvitz D, Hazen N. Marital conflict and parental responses to infant negative emotions: Relations with toddler emotional regulation. Infant Behavior and Development. 2015; 40:73–83. DOI: 10.1016/j.infbeh.2015.03.004 [PubMed: 26047678]

Goeke-Morey MC, Papp LM, Cummings EM. Changes in marital conflict and youths' responses across childhood and adolescence: A test of sensitization. Development and Psychopathology. 2013; 25(1):241–51. DOI: 10.1017/S0954579412000995 [PubMed: 23398762]

Goldstein LH, Harvey EA, Friedman-Weieneth JL, Pierce C, Tellert A, Sippel JC. Examining subtypes of behavior problems among 3-year-old children, Part II: Investigating differences in parent psychopathology, couple conflict, and other family stressors. Journal of Abnormal Child Psychology. 2007; 35(1):111–23. DOI: 10.1007/s10802-006-9088-x [PubMed: 17226095]

Grych JH, Harold GT, Miles CJ. A prospective investigation of appraisals as mediators of the link between interparental conflict and child adjustment. Child Development. 2003; 74(4):1176–93. DOI: 10.1111/1467-8624.00600 [PubMed: 12938712]

Guttmannova K, Szanyi JM, Cali PW. Internalizing and externalizing behavior problem scores: Cross-ethnic and longitudinal measurement invariance of the Behavior Problem Index. Educational and Psychological Measurement. 2008; 68(4):676–94. DOI: 10.1177/0013164407310127

Heinrichs N, Cronrath AL, Degen M, Snyder DK. The link between child emotional and behavioral problems and couple functioning. Family Science. 2010; 1(3–4):152–72. DOI: 10.1080/19424620.2010.569366

Jenkins J, Simpson A, Dunn J, Rashbash J. Mutual influence of marital conflict and children's behavior problems: Shared and nonshared family risks. Child Development. 2005; 76(1):24–39. DOI: 10.1111/j.1467-8624.2005.00827.x [PubMed: 15693755]

Katz LF, Woodin EM. Hostility, hostile detachment, and conflict engagement in marriages: Effects on child and family functioning. Child Development. 2002; 73(2):636–52. DOI: 10.1111/1467-8624.00428 [PubMed: 11949913]

Kelly JB. Children's adjustment in conflicted marriage and divorce: A decade review of research. Journal of the American Academy of Child and Adolescent Psychiatry. 2000; 39(8):963–73. DOI: 10.1097/00004583-200008000-00007 [PubMed: 10939225]

Kenny, DA., Kashy, DA., Cook, WL. Dyadic Data Analysis. Guilford Press; 2006.

Kouros CD, Cummings EM, Davies PT. Early trajectories of interparental conflict and externalizing problems as predictors of social competence in preadolescence. Development and Psychopathology. 2010; 22(3):527–37. DOI: 10.1017/S0954579410000258 [PubMed: 20576176]

Leidy M, Parke R. Positive marital quality, acculturative stress, and child outcomes among Mexican Americans. Journal of Marriage and Family. 2009; 71:833–47. DOI: 10.1111/j.1741-3737.2009.00638.x

Lundquist, E., Hsueh, J., Lowenstein, AE., Faucetta, K., Gubits, D., Michalopoulos, C., Knox, V. A Family Strengthening Program for Low-income Families: Final Impacts from the Supporting

Healthy Marriage Evaluation. Washington, D.C: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services; 2014.

Orme J, Buehler C. Foster family characteristics and behavioral and emotional problems of foster children: A narrative review. Family Relations. 2001; 50(1):3–51. DOI: 10.1111/j.1741-3729.2001.00003.x

Peterson JL, Zill N. Marital disruption, parent-child relationships, and behavior problems in children. Journal of Marriage and Family. 1986; 48(2):295–307. DOI: 10.2307/352397

Plaisier I, Beekman ATF, de Bruijn JGM, de Graaf R, ten Have M, Smit JH, … Penninx BWJH. The effect of social roles on mental health: A matter of quantity or quality? Journal of Affective Disorders. 2008; 111:261–70. DOI: 10.1016/j.jad.2008.03.007 [PubMed: 18448169]

Raudenbush, SW., Bryk, AS. Hierarchical Linear Models: Applications and Data Analysis Methods. Vol. 1. Sage; 2002.

Saiz, CC., Jenkins, N. Unpublished measure. University of Denver; 1995. The communication skills test.

Schoppe-Sullivan SJ, Schermerhorn AC, Cummings EM. Marital conflict and children's adjustment: Evaluation of the parenting process model. Journal of Marriage and Family. 2007; 69:1118–34. DOI: 10.1111/j.1741-3737.2007.00436.x

Schumm WR, Paff-Bergen LA, Hatch RC, Obiorah FC, Copeland JM, Meens LD, Bugaighis MA. Concurrent and discriminant validity of the Kansas Marital Satisfaction Scale. Journal of Marriage and Family. 1986; 48(2):381–7. DOI: 10.2307/352405

Shapiro AF, Nahm EY, Gottman JM, Content K. Bringing baby home together: Examining the impact of a couple-focused intervention on the dynamics within family play. American Journal of Orthopsychiatry. 2011; 81(3):337–50. DOI: 10.1111/j.1939-0025.2011.01102.x [PubMed: 21729014]

Shapiro DN, Stewart AJ. Parenting stress, perceived child regard, and depressive symptoms among stepmothers and biological mothers. Family Relations. 2011; 60(5):533–44. DOI: 10.1111/j.1741-3729.2011.00665.x

Sheppard M. The parent concerns questionnaire: A reliable and valid common assessment framework for child and family social care. British Journal of Social Work. 2010; 40(2):371–90. DOI: 10.1093/bjsw/bcn163

Stanley SM, Allen ES, Markman HJ, Saiz CC, Bloomstrom G, Thomas R, … Bailey AE. Dissemination and evaluation of marriage education in the Army. Family Process. 2005; 44(2):187–201. DOI: 10.1111/j.1545-5300.2005.00053.x [PubMed: 16013745]

Stanley SM, Markman HJ, Prado LM, Olmos-Gallo PA, Tonelli L, St Peters M, … Whitton SW. Community-based premarital prevention: Clergy and lay leaders on the front lines. Family Relations. 2001; 50(1):67–76. DOI: 10.1111/j.1741-3729.2001.00067.x

Stanley SM, Markman HJ, Whitton SW. Communication, conflict, and commitment: Insights on the foundations of relationship success from a national survey. Family Process. 2002; 41(4):659–75. DOI: 10.1111/j.1545-5300.2002.00659.x [PubMed: 12613123]

Stanley SM, Rhoades GK, Loew BA, Allen ES, Carter S, Osborne LJ, … Markman HJ. A randomized controlled trial of relationship education in the U.S. Army: 2-year outcomes. Family Relations. 2014; 63(4):484–95. DOI: 10.1111/fare.12083 [PubMed: 25419027]

Stutzman SV, Miller RB, Houist CS. Effects of marital quality on children in Brazilian families. Journal of Comparative Family Studies. 2004; 40(3):475–92.

Timmons AC, Margolin G. Family conflict, mood, and adolescents' daily school problems: Moderating roles of internalizing and externalizing symptoms. Child Development. 2014; :1–18. DOI: 10.1111/cdev.12300

Wood RG, Moore Q, Clarkwest A, Killewald A. The long-term effects of building strong families: A program for unmarried parents. Journal of Marriage and Family. 2014; 76(2):446–63. DOI: 10.1111/jomf.12094

Zemp M, Milek A, Cummings EM, Cina A, Bodenmann G. How couple- and parenting-focused programs affect child behavioral problems: A randomized controlled trial. Journal of Child and Family Studies. 2015; 25(3):798–810. doi:http://dx.doi.org/10.1007/s10826-015-0260-1.

Zimet DM, Jacob T. Influences of marital conflict on child adjustment: Review of theory and research. Clinical Child and Family Psychology Review. 2002; 4(4):319–35. DOI: 10.1023/A:1013595304718

Table 1

Fixed Effects Estimated for Multislevel Models Predicting Child Internalizing and Externalizing Problems from Marital Functioning Variables

	Constructive Comm.			Verbal Conflict			Marital Satisfaction		
	Unstandardized Coefficient	*SE*	*df*	*Unstandardized Coefficient*	*SE*	*df*	*Unstandardized Coefficient*	*SE*	*df*
Child Internalizing Problems									
Intercept (δ_{0000})	1.224***	0.012	52	1.224***	0.012	52	1.224***	0.012	52
Between-Family (δ_{0100})	−0.019***	0.005	437	0.058***	0.014	437	−0.047***	0.009	437
Within-Family (δ_{1000})	−0.017*	0.008	2578	0.010	0.019	2578	−0.010	0.006	2578
Time (δ_{2000})	0.004***	0.001	2578	0.004***	0.001	2578	0.004***	0.001	2578
Child Externalizing Problems									
Intercept (δ_{0000})	1.557***	0.017	52	1.558***	0.017	52	1.557***	0.017	52
Between-Family (δ_{0100})	−0.024***	0.007	437	0.101***	0.018	437	−0.069***	0.012	437
Within-Family (δ_{1000})	−0.024**	0.009	2579	0.057**	0.021	2579	−0.007	0.006	2579

*p = < .05.

**p = < .01.

***p = < .001.