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Fathers' Contributions to Housework and Childcare and
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Abstract

This study investigated the associations between fathers' contributions to housework and childcare and both spouses' parenting aggravation. It was hypothesized that greater father contributions to domestic labor would be associated with more paternal aggravation but less maternal aggravation. Data are from a four-wave study of 178 married couples undergoing the transition to first parenthood. Dyadic growth-curve models revealed gender differences in aggravation trajectories over the first year of the child's life. Fathers were higher in initial aggravation but mothers' aggravation grew at a faster rate over time. The primary hypothesis was only partially supported. Fathers' contributions to childcare were associated with significantly lower maternal aggravation levels, but only among more religious mothers. Child fussiness and unpredictability were consistently significant predictors of higher aggravation for both parents. Depressive symptomatology was positively related to aggravation for fathers, whereas love for the spouse was associated with lower aggravation for mothers, controlling for other factors.

Key words: parental aggravation, newborns, religion, child temperament, growth-curve modeling.

Fathers' Contributions to Housework and Childcare and Parental Aggravation Among First-Time Parents

The transition to first-time parenthood is a joyous occasion for many couples (Mahoney, Pargament, & DeMaris, 2009). However, it can also entail considerable stress. Couples often report feeling overwhelmed by the demands of a new infant. Having to get up at night to feed, change, or soothe the infant, both parents may suffer from lack of sleep and irritability. Sexual relations between the partners may suffer due to lack of energy or interest, especially on the part of mothers. Conflicts may arise over each partners' different styles of parenting. Mothers, in particular, may limit fathers' involvement with newborns, fearing that fathers are not knowledgeable enough to be trusted caring for the infant unsupervised (Allen & Hawkins, 1999; Cannon, Schoppe-Sullivan, Mangelsdorf, Brown, & Sokolowski, 2008). Such tensions may easily spill over to the parent-child relationship in the form of parental aggravation and stress. Bronte-Tinkew, Horowitz, and Carrano (2010, p. 526) define aggravation and stress in parenting as "the frustration and annoyance that parents experience arising from their perception of their child or children, the demands the child makes of them, and the demands of being a parent." Accordingly, we refer to aggravation and stress in parenting simply as "parental aggravation," and make it the focus of the current study. Because parental aggravation may be associated with child abuse, as well as children's behavioral problems (Lesnik-Oberstein, Koers, & Cohen, 1995; Low & Stocker, 2005), its etiology is important to understand.

However, only a handful of studies have explored this topic, and some questions remain unanswered. For example, do mothers experience less aggravation when fathers contribute more to childcare? Studies of equity dynamics in marriage show that wives' marital satisfaction and their sense of the fairness of the household division of labor are both positively affected by

husbands' greater contributions to the marital relationship (DeMaris, 2010; DeMaris & Longmore, 1996). Nevertheless, others argue that many women prefer to monopolize infant and child care, as these are gratifying domains that provide a sense of empowerment and validation (Allen & Hawkins, 1999; Hakim, 1996, 2003). It is therefore unclear whether greater father participation, particularly in the care of newborns, has a beneficial, as opposed to a deleterious, effect on mothers' parenting attitudes. Additionally, little work has focused on fathers' aggravation. Is it affected by the same factors that influence mothers' aggravation? Because fathers are generally less knowledgeable about infants and toddlers, and therefore less comfortable with them, compared to mothers (Roggman, Benson, & Boyce, 1999), one might expect factors such as the child's temperament to exert more influence on fathers' than on mothers' aggravation. Also, fathers have been found more susceptible than mothers to tension spillover from the marital- to the parent-child dyad (Almeida, Wethington, & Chandler, 1999). It is therefore of interest to examine whether paternal aggravation is more strongly affected by marital problems than is maternal aggravation.

The current study is an attempt to address these issues. In particular, we examine the trajectory in parental aggravation across four waves of a study of the transition to parenthood among first-time parents. Because our study is longitudinal, we are better positioned than other studies to examine how parental aggravation changes over time in response to covariates, as well as gender of parent. Unlike studies that have only considered maternal or paternal aggravation, we investigate the factors that affect each parent's aggravation level. We also consider a number of different variables as predictors of aggravation, including child temperament, fathers' contributions to housework and childcare, whether the pregnancy was intended, the quality of the marriage and the coparenting relationship, and the experience of various difficulties during the

pregnancy. Rather than rely only on a given spouse's report of his or her aggravation, we employ both spouses' reports of each parent's aggravation in order to improve the accuracy of measurement. In the following sections we review the theory and relevant literature in this area, and then present our methods and findings.

Theoretical Background

We draw on three interrelated theoretical perspectives for an understanding of the determinants of fathers' and mothers' aggravation in parenting. The first is Belsky's (1984) parenting process model, which was motivated by a need to understand the etiology of child maltreatment. Although child abuse and neglect represent dysfunctional parenting, Belsky argues that factors in their etiology are also useful for understanding parental functioning more broadly conceived. He outlines three general sources of influence on parental functioning. These are parental psychological resources, children's characteristics, and contextual sources of stress and support.

Parental psychological resources include maturity and psychological well-being, characteristics with their origins in parents' own upbringing. Maturity entails not only a sense of responsibility for children, but also some knowledge of how infants are to be cared for. Parents with greater knowledge of infant development would be expected to have more developmentally appropriate expectations for their children's behavior, compared to others. They should be correspondingly less inclined to experienced frustration and stress in response to children's behavior. Regarding psychological resources, Belsky notes, in particular, that depressed affect in mothers has been found to be associated with a disruptive, hostile, rejecting home environment that is inimical to healthy child development (Belsky; Lesnik-Oberstein, et al., 1995). Comparable effects of depressive symptomatology on fathers' aggravation have also been

documented (Eiden & Leonard, 2000). With these considerations in mind we hypothesize that (H₁) *a greater knowledge of infant development will be associated with reduced aggravation for both mothers and fathers*, and (H₂) *parental depression will be associated with elevated levels of aggravation for both mothers and fathers*.

Children's characteristics are particularly influential for parent-child bonding and are related to parental responsiveness to infants (Belsky, 1984). Östberg and Hagekull (2000) consider child fussiness and "irregularity" as two of the prime temperament factors that can provoke parental stress. Child irregularity refers to the infant's "rhythmicity" in biologically determined needs (Östberg & Hagekull, p. 619). It encompasses child unpredictability with respect to feeding, sleeping, waking, and other biologically governed behaviors. These authors found that mothers who described their children as more irregular and more fussy-difficult reported more stress. Martorell and Bugental (2006) found that mothers' perceived powerlessness was associated with harsher parenting with children characterized by difficult temperaments. Their analysis suggested a sequence in which a child's difficult temperament triggers a feeling of powerlessness in the mother, elevating her stress reaction, which effect in turn precipitates harsher parenting. Fathers' parenting stress has also been found to be reactive to child temperament. For example, McBride, Shoppe, and Rane (2002)'s study of preschoolers found children perceived as less emotionally intense were less stressful for both parents. Moreover, although child sociability had no effect on parenting stress for mothers, fathers perceived sociable children as less stressful. The authors suggest that temperament may be more strongly related to parenting involvement for fathers than for mothers. In contrast, other studies have found no effect of child temperament on father-child interaction quality for first-grade children (Holmes & Huston, 2010). Nevertheless, we anticipate that (H₃) *a baby's difficult*

temperament will be associated with greater parental aggravation, and more so for fathers than mothers.

Belsky's (1984) third major influence on parental functioning implicates the wider context of parenting and its sources of stress and support. This consideration ties Belsky's formulation to our two other perspectives, namely family systems (Doherty, Kouneski, & Erickson, 1998; Holmes & Huston, 2010; Papero, 1990) and stress-spillover (Almeida, et al., 1999) theories. The context of parenting includes the family's financial resources, obligations imposed by work, additional stresses impinging on the family—such as a pregnancy being unintended, and sources of parenting support (Belsky). A major source of emotional support for a parent is the other parent. The quality of the marital relationship is a key factor in such support (Doherty et al., 1998). To the extent that the marital relationship is harmonious and the parents are able to forge a strong coparenting partnership, parental aggravation should be minimized. Family systems theory emphasizes the interlocking nature of the relationships among father, mother, and child. Not only does each contribute to the complex of interactions making up the system, but within the family are nestled the interdependent subsystems of father-child, mother-child, and father-mother dyads (Holmes & Huston). Each subsystem also influences the other. For example, Holmes and Huston found that the quality of mother-child interaction when a child was 54 months old was positively associated with the quality of father-child interaction when the same child was in first grade. According to the stress-spillover principle, the converse also obtains. Almeida and his colleagues found that parents were more likely to have tense interactions with their children on a given day if they had marital tension on the previous day. Moreover, fathers appeared to be more affected than mothers in this regard. Fathers were more likely than mothers to report tension spillover from the marriage to their relations with their

children. And fathers experienced tension spillover from the parent-child to the marital dyad, a finding that did not characterize mothers. These authors suggest that fathers are more vulnerable to tension spillover than mothers, for three reasons. First, their role in the family is less scripted by social norms and is therefore more susceptible to outside influences. Second, they are less adept than mothers at compartmentalizing their family roles, enabling more emotional permeation across these boundaries. Third, men show higher physiological arousal to family tensions, and recover more slowly than mothers (Almeida et al., 1999). Because of the importance of the marital bond we hypothesize that (H₄) *marital discord will be associated with elevated levels of aggravation for both mothers and fathers*. Similarly, we anticipate that (H₅) *a positive coparenting relationship will be associated with reduced aggravation for both mothers and fathers*.

Because of the systemic nature of family relations, to the extent that mothers experience parental aggravation, fathers' interactions with their children will be impacted. Among factors related to mothers' parenting aggravation, a father's equal participation in childcare may be paramount. Father's contributions to housework and childcare during the transition to parenthood should serve to reduce the amount of parenting stress experienced by mothers. Women's sense of the fairness of the household division of labor has been found to be elevated when fathers both take responsibility for, and do, a larger share of the childcare tasks (DeMaris & Longmore, 1996; Hochschild, 1989). His participation relieves her of some of the burden of childcare. But, perhaps equally important, his contribution signals the intention to be an equal partner in the task of childrearing, promoting women's sense of relationship equity. Several studies attest to the beneficial effects of women's perceptions of relationship equity in romantic partnerships (Buunk & Mutsaers, 1999; Buunk & Van Yperen, 1991; DeMaris, 2007; DeMaris, Mahoney, &

Pargament, 2010; Frisco & Williams, 2003; Joyner, 2009; Van Yperen & Buunk, 1990). On the other hand, fathers' stress levels should increase the more they are engaged in household and paid labor in addition to childcare. Thus, their greater contributions in these areas may well elevate their own aggravation. Given these considerations, we hypothesize that (H₆) *fathers' contributions to paid work, housework, and childcare will be associated with greater father aggravation, but lower aggravation among mothers*, and that (H₇) *mothers' and fathers' perceptions that they are doing more than their fair share of childcare will be associated with greater aggravation on the part of both parents*. At the same time, Hakim (1996, 2003) argues that a significant minority of women, anywhere from 10 – 30%, depending on the nation surveyed, derive their primary satisfaction from family life. Such women prefer either not to work outside the home or to be only minimally invested in market work, reserving time and energy for home, husband, and children. For them, taking primary responsibility for childcare, particularly with infants and toddlers, can be both empowering and validating of their womanhood. They are also more likely to be gatekeepers of their husbands' access to their children and prefer to monopolize childcare, especially for newborns (Allen & Hawkins, 1999; Cannon, et al., 2008). These women may view their husbands' participation in childcare with mixed feelings, with the result that husbands' elevated contributions in this domain could actually increase their aggravation (see also Doherty et al., 1998).

Another contextual source of great support for many families lies in the domain of religion and spirituality. Mahoney and her colleagues argue that the key psychospiritual construct embedded in religiousness is sanctification (see Mahoney, Pargament, & Hernandez, 2013, for a recent review of this construct and its influence in the family domain). Sanctification is defined as “a process through which aspects of life are perceived as having divine character

and significance” (Pargament & Mahoney, 2005, p. 183). Sanctification sets the stage for people to invest more of themselves in the pursuit and care of sanctified objects, compared to other elements in their lives. They are also likely to work harder to preserve and protect sanctified aspects of life than other aspects that are threatened in some way. Recent studies suggest that, with regard to both marital and parenting outcomes, religious couples react differently from others to relationship stressors. For example, religious couples appear to be less concerned than others with the reciprocity of exchange in marriage, and are more accepting of one-sided giving and receiving. DeMaris and his colleagues found that more-religious couples’ marital satisfaction was less affected by inequitable relationship exchanges than was the case for less-religious couples (DeMaris, 2010; DeMaris, et al., 2010). Several other studies have found positive effects of sanctification on childrearing, in general. For example, mothers evincing a higher level of sanctification of parenting were found to use less verbal aggression with their preschool-aged children. Additionally, greater sanctification of parenting was associated with a decreased use of corporal punishment among parents with more liberal views of the Bible. And among those with more conservative Biblical views, greater sanctification was associated with more positive parent-child interactions (Murray-Swank, Mahoney, & Pargament, 2006). Among fathers and mothers high in parental sanctification, the use of explanation and reasoning and other positive socialization techniques with children was associated with children’s greater conscience development. But these techniques had no such effects for low sanctifiers (Volling, Mahoney, & Rauer, 2009). Moreover, greater sanctification of parenting has been found to be associated with greater parental investment in children (Dumas & Nissley-Tsiopinis, 2006). We therefore posit that (H₈) *sanctification of, and spiritual investment in, parenting will be associated with lower aggravation for both parents.*

Finally, consistent with the interactive nature of family processes suggested by family systems theory (Holmes & Huston, 2010), we consider that several forces may interact in their effects on parental aggravation. For example, Richmond and Stocker (2008) found an interaction between marital discord and mother's hostility, such that the within-family association of mother's hostility with change in child's externalizing behavior was stronger in families characterized by more marital discord. Kotch and colleagues (Kotch, Browne, Dufort, & Winsor, 1999) found an interaction of social well-being, measured by social contacts and resources, and mother's depression on the risk of child abuse and neglect. Social well-being had a stronger effect on reducing the risk of child maltreatment among mothers low, vs high, in depression. As found in the aforementioned studies concerning sanctification, high-sanctifying or high spiritual-investment mothers may not be as adversely impacted by fathers' actions (or the lack of them) or by other stressors, compared to less religious mothers. We therefore tender the last three hypotheses: (H₉) *sanctification/spiritual investment will dampen the effects on mothers' aggravation of father's contributions, child temperament, marital discord, and depression*; (H₁₀) *marital conflict will exacerbate the effect of child's ill temperament on parental aggravation for both parents*; and (H₁₁) *depressive symptomatology will exacerbate the effect of child's ill temperament on parental aggravation for both parents*.

Methods

The Data

The sample consisted of 178 married couples experiencing the third trimester of pregnancy of both spouse's first biological child. They were drawn from a mid-sized, Midwestern city and surrounding suburban and rural communities. Couples were recruited via

childbirth classes; announcements posted in medical offices, retail locations or newspapers; word of mouth referrals; or direct mail. Inclusionary criteria were that spouses: 1) were married, 2) pregnant with each individual's first biological child; and 3) spoke English. Data were collected in couples' homes. Each spouse independently completed surveys that assessed the constructs used in the study. A research assistant was present throughout, both to answer any questions and to ensure that spouses completed the surveys independently. Couples were re-assessed in the same manner three more times over the course of the next year: at four, seven, and thirteen months after the first visit. These constitute waves 2 – 4 of the study and encompass approximately the first full year of the life of the newborn. Couples were paid \$75.00, \$100.00, \$100.00, and \$125.00 for their participation in waves 1 – 4, respectively.

Relatively little attrition was experienced in the study. This was most likely due to the financial remuneration offered as well as the research team's attempt to minimize the inconvenience associated with participation. Thus, the researchers visited families in their homes on the family's schedule, and provided infant care as necessary so that each spouse could complete his or her questionnaire in privacy. Of 178 couples at the start, 169 completed the first three waves of the study, and 164, or 92%, completed all four waves. Due to diligent attention on the part of research assistants and other study staff, there were also very few missing responses to survey items on the part of study participants. None of the childcare information, which includes the daily frequency of childcare and parental aggravation scales, was missing among those completing at least 3 waves of data. And only a handful of explanatory variables exhibited any missing data. The greatest number of missing values was for husband's time in child preparation, a factor not used in the current study. But this only amounted to 2% of all cases. Therefore we replaced the few missing predictor values in the study using variable means,

specific to survey wave and gender of spouse. With so little missing data, using a more sophisticated imputation strategy for this dataset, such as multiple imputation (Allison, 2002), has been shown to make no appreciable difference in the results (see, for example DeMaris, et al., 2010, DeMaris, Mahoney, & Pargament, 2011). Our final sample consists of 169 couples, although data on the response were missing for 5 couples for wave 4 of the survey.

Measure of Outcome Variable

The response variable for the study was a measure of parenting aggravation in waves 2 – 4 (reproduced in entirety in the Appendix). The *parental aggravation* scale consisted of seven items asked of each spouse about the frequency with which each spouse has exhibited various negative behaviors with the child. Sample items are “I have been angry with my baby when he/she was particularly fussy,” and “I have raised my voice or shouted at my baby when he/she was particularly fussy.” Hence there were two scales for each spouse for each of the last three survey waves—one based on self-report and one based on the spouse’s report. Reliabilities for the scales across waves 2 – 4 of the study ranged from .69 – .80.

Measures of Explanatory Variables

Measures of explanatory variables are of two kinds: between-couples variables and within-couples variables. Between-couples measures do not vary over time and were taken from the first wave of the survey. Within-couples factors, in contrast, vary over time and, for some characteristics, also over spouse’s gender. They were either taken from waves 1 – 3 (i.e., they were lagged by one wave) or from waves 2 – 4, as indicated below. To the extent possible and provided that it made conceptual sense, lagging factors by one wave was employed to avoid problems due to reverse causation.

Between-couples factors. *Minority couple* was a dummy variable coded 1 if either spouse indicated that they were other than Caucasian/Euro-American, and 0 otherwise. *Average spousal age* was the average of each spouse's age, in years. *Family income* was the average, in thousands of dollars, of husband and wife reports of the couple's annual earnings. Husband's and wife's *education* were each coded from 1 (*less than 7 years*) to 7 (*graduate/professional degree*). *Male child* was coded 1 for boy babies and 0 for girl babies. *Number of years married* was the number of years the couple had been married as of the initial survey. The pregnancy was classified as intended if both parents indicated a desire for the wife to become pregnant no later than when she did, and both parents reported that each spouse wanted to start a family "now" (i.e., in the initial survey). Otherwise, the pregnancy was considered unintended, and identified by a dummy variable, *unintended pregnancy*. Couples were classified as biblically conservative or not based on two statements from wave 1: "The Bible is God's word and everything will happen exactly as it says"; and "The Bible is the answer to all important human problems." Each item was coded 1 (*strongly disagree*) to 5 (*strongly agree*). The average response to these items across spouses was computed, and couples were classified as biblically conservative if it was greater than 3.

Biblically conservative couple was a dummy variable identifying these couples. The *pregnancy stressor scale* was a count of the number of stressful events experienced by wives during the pregnancy, out of 29 possible difficulties. An example was "recurrent urinary tract infections."

Husband's and wife's perceived *relative advantage* were scales based on five items assessing spouses' perceptions of the fairness of giving and taking in their relationship, generally. A sample item is: "How do you feel about the fairness in your relationship in each of the following areas...household chores?" As the items were in different metrics, they were standardized first and then summed, with positive scores indicating that the respondent was overbenefiting in the

relationship, and negative scores indicating that the respondent was underbenefiting. Scale reliabilities were .54 for wives and .62 for husbands.

Lagged within-couples factors. The following variables were all lagged by one wave. *Marital satisfaction* for each spouse was a scale consisting of items from the Kansas Marital Satisfaction Index (Schumm et al., 1986). The items assessed the degree of satisfaction with (a) the marriage, (b) the spouse, and (c) the relationship with the spouse. Responses to each item ranged from 1 (*extremely dissatisfied*) to 7 (*extremely satisfied*). Reliabilities ranged from .90 – .94 across waves. *Love for spouse* was the love subscale from Braiker and Kelley (1979). This is a ten-item scale for each spouse with representative item “to what extent do you love your spouse at this stage?” Responses to each item ranged from 1 (*not at all*) to 9 (*very much*). Reliabilities ranged from .77 – .90 across waves. Marital conflict frequency for each spouse was a measure assessed with the two-item subscale from Kerig’s (1996) Conflicts and Problem-Solving Scales. It queries the frequency of (a) minor and (b) major disagreements in the marriage. Responses ranged from 1 (*once a year or less*) to 6 (*just about every day*). Reliabilities ranged from .74 – .81 across waves. Depressive symptomatology was a scale for each spouse based on 10 items assessing feelings in the past week, taken from the Center for Epidemiological Studies Depression Inventory. A representative item is “I was bothered by things that usually don’t bother me.” Response categories ranged from 0 (*rarely or none of the time*) to 3 (*all of the time*). Reliabilities ranged from .71 – .77 across waves. The primary measures of religiousness were within-couples measures of sanctification of, and spiritual investment in, pregnancy/parenting for each spouse. The wording of these items varied slightly (as indicated below), depending upon whether they were asked before, vs. after, the birth. *Theistic sanctification* was a 10-item scale with representative item “God played a role in (our getting

pregnant / our baby coming into my life)." Response choices were 1 (*strongly disagree*) to 7 (*strongly agree*). Reliabilities ranged from .97 – .98 across waves. *Nontheistic sanctification* was also a 10-item scale with representative item "(This pregnancy / My baby) seems like a miracle to me." Response choices were 1 (*strongly disagree*) to 7 (*strongly agree*). Reliabilities ranged from .91 – .94 across waves. *Spiritual investment* was a five-item scale with representative item "(I have prayed / I pray) for my (unborn child / baby)." Response choices were 1 (*never*) to 7 (*very often*). Reliabilities ranged from .75 – .83 across waves.

Contemporaneous within-couples predictors. The following factors were taken from waves 2 – 4, that is, they were assessed contemporaneously with parental aggravation. Three of these factors tapped husbands' relative contributions, vis a vis the wife, to both paid and unpaid labor. They are all expressed as the natural logarithm (log) of the ratio of husband's to wife's contribution in the given domain. As ratios tend to be right-skewed, logging renders the distributions more symmetric. If necessary, one-half was added to the numerator and denominator when creating the ratio to prevent undefined logs. This approach has been used in previous work to measure husband's relative contributions in marriage (see, e.g., DeMaris, 2007; DeMaris & Longmore, 1996). The log of the ratio of husband's to wife's weekly hours spent in paid labor was the *paid labor ratio*. The daily frequency of childcare was assessed with husband and wife reports of the daily frequency of each spouse's performance of nine tasks: changing "poopy" diapers, putting the baby to sleep in the evening, changing wet diapers, getting the baby dressed in the morning, bathing the baby, getting up at night to care for the baby, feeding the baby, soothing the distressed baby, and playing with the baby. Hence, as with the response variable, there were two scales for each spouse—one based on self-report and one based on the spouse's report. We first averaged the two reports concerning a given spouse's childcare effort to

create husband's childcare frequency and wife's childcare frequency. We then formed the logged ratio of husband's to wife's daily childcare labor as the logged ratio of these variables. This factor is called *childcare ratio*. Each spouse also rated the fairness to him- or herself of the allocation of effort on each childcare task on a scale of 1 (*I am doing less than my fair share*) to 5 (*I am doing more than my fair share*). These items were summed into a scale for each spouse of *perceived fairness of childcare*, with high scores corresponding to being most underbenefited. Reliabilities for these scales ranged from .64 – .85 across waves. Finally, each spouse was asked to indicate the approximate number of hours per week they spent doing each of nine household tasks, such as “preparing meals,” or “outdoor and other household maintenance tasks.” The logged ratio of husband's to wife's weekly hours in these tasks is the *housework ratio*.

Coparenting was tapped via measures developed by Van Egeren and Hawkins (2004). Each parent responded to three separate scales assessing solidarity (e.g., “Parenting has brought my spouse and me closer together”), supportiveness (e.g., “My spouse appreciates how hard I work at being a good parent”), and undermining (e.g., “My spouse thinks I am a bad influence on our child”). Responses were coded 1 (*strongly disagree*) to 5 (*strongly agree*). The scales are referred to as *coparenting solidarity*, *coparenting support*, and *coparenting undermining*. Reliabilities for all scales ranged from .73 – .82 across waves. Each spouse's knowledge of infants was tapped with a set of 19 items from the Knowledge of Infant Development Inventory (KIDI; MacPhee, 1981). A representative item is “Most babies can sit on the floor without falling over by 7 months.” Respondents are asked to indicate whether they agree with the statement, it pertains to a younger or older child, or they are not sure. The proportion of correct responses out of 19 is the scale score for *knowledge of infant development*. Reliabilities across waves ranged from .43 – .78. The baby's temperament was measured by each spouse's responses

on four separate scales from Bates, Freeland, and Lounsbury (1979) tapping, respectively, fussiness (e.g., “How much does your baby cry and fuss in general?”), unpredictability (e.g., “How easy or difficult is it for you to predict when your baby will go to sleep and wake up?”), unadaptability (e.g., “How does your baby typically respond to a new person?”), and dullness (e.g., “How active is your baby in general?”). All responses were coded 1 (*none of the characteristic*) to 7 (*maximum level of the characteristic*). Reliabilities of the scales ranged from .62 – .84 across waves. As with the other measure in which we had both spouses’ reports for the same phenomenon (daily childcare), we averaged husband and wife values on each scale. The resulting variables are *child fussiness*, *child unpredictability*, *child unadaptability*, and *child dullness*. Following the advice of Singer and Willett (2003), all continuous predictors were deviated from their means in the analyses.

Statistical Analysis

We employ the multivariate dyadic growth-curve model for the current analysis (Lyons & Sayer, 2005). This is essentially a regression model for a pair of response variables (e.g., husband’s and wife’s parental aggravation) arising from repeated measurements from the same “case” (e.g., a couple) over time. The responses are modeled as a function of time and other explanatory factors. Normally, it is customary in growth-curve analysis to specify one fewer random growth parameters than there are waves of data. This facilitates robust estimation of both the parameters and the measurement error around the true growth trajectory (Fitzmaurice, Laird, & Ware, 2004). However, fitting a model with a more complex specification is accommodated by including in the dataset two parallel measures of the underlying construct per spouse (Lyons & Sayer). This approach was followed for the current analysis. Each couple contributed 12 records to the couple-period data file used for analysis, four records for each of three time

periods (i.e., waves 2 – 4). For each time period, two parallel measures of the response were employed for each spouse. As parallel measures of a given spouse's aggravation, we used both the self report of aggravation and the other spouse's report of the given spouse's aggravation. Records corresponding to wives' aggravation employ her characteristics or couple characteristics (e.g. baby's sex) as predictors, and vice-versa for husbands. The model then allows separate estimation of each spouse's trajectory in parental aggravation across the waves of the study. The data are characterized by an interdependence of spouse's responses, as well as a correlation between repeated measures taken over time from the same case. Both sources of interdependence lead to a block-diagonal error covariance matrix characterized by both heteroscedasticity and serial correlation (Singer & Willett, 2003). This is modeled by allowing one or more of the model parameters to be random, i.e., to vary across couples. In the current analysis, we allowed the model intercepts, reflecting each parent's baseline mean aggravation level in wave 2, to be random. This implies that the covariance matrix of model errors across time periods is characterized by compound symmetry, the same pattern that is typically assumed for repeated measures ANOVA (Kutner, Nachtsheim, Neter, & Li, 2005). The model for parental aggravation consists of both within- and between-couples factors, along with the time of measurement. Time is coded 0, 3, and 9, and represents the number of months since the second wave of the survey. Our sample size for all analyses is based on $(169 \times 8) + (164 \times 4) = 2,008$ couple-periods.

Results

Descriptive statistics for all study variables are shown in Table 1. A few characteristics are worthy of comment. Parental aggravation is generally low, with a mean of 15.9 on a scale that ranges from 7 to 51. The distribution (not shown) is right-skewed (skewness coefficient = 1.32), suggesting that the scores tend to cluster at the low end of the scale. Nevertheless, the

standard deviation of 8.6 indicates a degree of variability that is roughly comparable to a normally distributed variable. Couples are predominantly young (mean spousal age is 28), Caucasian (81%), and middle class (mean income is \$63,151). Almost half of the babies are male, and fully 45% of the pregnancies are classified as unintended. Marital satisfaction and love tend to be high in this sample, with means on both indices close to a standard deviation away from their maximum values. With respect to spouses' relative contributions to various types of labor, husbands' contributions exceed wives' in paid labor, but the reverse is true of both childcare and housework. Knowledge of infant development is such that, on average, about 70% of the items are answered correctly. However, wives are somewhat more accurate than husbands (not shown): wives' mean percent correct is 74, compared to 66 for husbands.

Table 1 about here

Results of estimating models of parenting aggravation for wives and husbands are shown in Tables 2 and 3, respectively. Model 1 in each table is an unconditional linear growth model; it describes the trajectory of parental aggravation over time for each spouse. Wives experience a linear increase in parental aggravation over time, with a significant slope of .31. This suggests that wives' average parental aggravation increases at a rate of about a third of a unit per month over the course of the study. Husbands' trajectories in aggravation are flat over time; the slope for the effect of time is statistically indistinguishable from zero. However, average initial aggravation level for husbands, at 16.351 is higher than for wives (at 14.08). These differences in spouses' trajectories are statistically significant. In sum, husbands start out significantly more aggravated by their infants than wives, but wives' aggravation increases at a faster rate than husbands'. By the end of the study, the gender difference in average parental aggravation level is

no longer significant (test not shown).

Tables 2 and 3 about here

Model 2 in Table 2 presents the end result of a sequence of models in which wives' parental aggravation was regressed on the various explanatory factors in the study. Following the model-building strategy advocated by Singer and Willett (2003), we preserved model parsimony by removing factors from the model if they were not significant when added. Surprisingly, a number of factors expected to be important proved to be very insignificant. These include husbands' relative contributions to housework and paid work, the quality of the coparenting relationship, and the perceived fairness of childcare. Husbands' contribution to childcare (*childcare ratio*) was significant and negative when first entered (with a coefficient of -1.485; not shown), suggesting that wives of husbands contributing more to childcare exhibited less parental aggravation. However, it is no longer significant in Model 2, controlling for other factors in the model. Adding the four child temperament factors, in particular, raised the *p*-value for *childcare ratio* to above the conventional level. Prior analyses of these data found that fathers contribute relatively less to childcare the more unpredictable the baby is (DeMaris, et al., 2011). And child unpredictability precipitates maternal aggravation in Model 2. Hence, child temperament accounts for part of the impact of the childcare ratio on mothers' aggravation. As is also evident in Model 2, a handful of variables remain significant controlling for all other factors. Wives in older couples, and those who express more love for their husbands exhibit less parental aggravation, compared to others. On the other hand, those with fussier or more unpredictable infants express more aggravation. About eighteen percent of the variation in the response is accounted for by the model.

With all main effects examined, we next tested the interaction effects hypothesized above. In particular, we tested for interactions between child temperament and both marital discord and depression. We also tested whether sanctification and spiritual investment, our spirituality factors, moderated the effects of child temperament, father's contributions to paid and unpaid labor, marital discord, and depression. Of all these effects, the only significant interactions were between spirituality factors and fathers' contributions to childcare. All three spirituality factors moderated the effect of father contributions in exactly the same manner; hence, we show the strongest such effect, that for *theistic sanctification*, in Model 3 in Table 2. The effect of *childcare ratio* in Model 3 is $-0.292 - 0.122 \times \textit{theistic sanctification}$. This suggests that father's contributions to childcare reduce mothers' aggravation, but even more so the greater mothers' theistic sanctification of parenting. For example, at average *theistic sanctification*, the effect of *childcare ratio* is $-0.292 - 0.122 \times (0) = -0.292$ and is nonsignificant. But at a half of a standard deviation above mean *theistic sanctification*, the coefficient is $-0.292 - 0.122 \times (8.0005) = -1.268$, a significant effect ($p < .05$; test not shown). In sum, among higher-sanctifying mothers, the more their husbands contribute to daily infant care, the lower their parental aggravation. In this full model for maternal aggravation, the positive effect on maternal aggravation of an unintended pregnancy is now also significant.

Comparable results for fathers are shown in Models 2 and 3 in Table 3. Model 2, the main-effects model, shows that, as for mothers, fathers in older couples exhibit less parenting aggravation. On the other hand, more educated and more depressed fathers, as well as those whose infants are perceived as fussier and more unpredictable, show greater aggravation. Controlling for covariates, fathers are also seen to increase in aggravation with passing time. We had hypothesized that child temperament would have stronger effects on parental aggravation for

fathers than for mothers (H_3 , above). Findings appear mixed, with fussiness having a stronger effect for mothers than for fathers (.318 vs. .271), and unpredictability having the stronger effect for fathers (.400 vs. .437 for mothers and fathers, respectively). However, subsequent tests (not shown) reveal these gender differences in temperament effects to be nonsignificant. Model 3 is the interaction model for fathers that is the counterpart to Model 3 for mothers in Table 2. As is evident, *theistic sanctification* does not moderate the effect of *childcare ratio* for fathers.

Discussion

One of our main interests in this study was to examine whether fathers' contributions to childcare alleviated, vs. exacerbated mothers' parental aggravation. This would be consistent with the admonitions of some family scholars who argue that fathers' involvement in childcare is necessary, among other things, for mothers' sense of fairness in the household division of labor (e.g., Hochschild, 1989). We were also intent on examining the nature of the trajectory of both parents' aggravation over time, and how this was further affected by child temperament and other factors. A number of findings emerged, as well as some surprising nonfindings.

First, on average, fathers' contributions to either paid or unpaid labor in the household—including childcare—had little effect on either parent's aggravation. This is in contrast to their pronounced effect on partners' sense of fairness in the household division of labor, as reported in other studies (DeMaris & Longmore, 1996). However, among mothers who engaged in greater sanctification of pregnancy/parenting, a larger participatory role of fathers in infant care lowered their parental aggravation level. This was contrary to expectation: we expected fathers' relative contribution to childcare to matter *less* among higher-sanctifying couples than lower-sanctifying ones. As this effect has not previously been investigated, we were guided in our hypothesis by the influence of sanctification in studies of marital satisfaction and psychological well-being.

DeMaris et al. (2010) have found that relationship inequity, although associated with poorer marital quality and psychological well-being for less religious couples, was relatively unrelated to these outcomes among those exhibiting high sanctification of their marriages. That the opposite is true with respect to parenting aggravation suggests that religiousness may exert a different influence in matters of parenting than it does in marital outcomes. Rather than rendering one less sensitive to the give and take of each spouse's contributions, it appears to enhance the value of spousal efforts, at least for mothers. Future work should explore this effect at greater length to see whether it can be replicated in other samples.

Second, the effects of several factors found to be important for predicting parental aggravation or stress in other studies were not supported by our analyses. For example, we did not find the extent of spillover from the marital to the parent-child relationship that has been documented in other work (Almeida et al., 1999; Eiden & Leonard, 2000; Low & Stocker, 2005; Stocker, Richmond, Low, Alexander, & Elias, 2003). No association obtained between marital satisfaction or marital conflict and parental aggravation. The exception was that mothers expressed less parental aggravation the greater their love for their husbands; no such effect emerged for fathers, however. Perhaps more surprising, factors more closely associated with cooperation in parenting, such as coparenting quality and each spouse's perception of the fairness of allocation of childcare tasks, evinced no significant associations with parental aggravation. Consistent with Low and Stocker, however, we found a significant link from depressed mood to fathers', but not mothers' aggravation. Others have remarked that mothers may be more skilled than fathers at compartmentalizing their family roles and preventing emotional permeation across boundaries (Almeida et al., 1999). In contrast to the work of Richmond and Stocker (2008) and Kotch et al. (1999), we failed to find either marital conflict or

depression to moderate the effects of child temperament or other factors on parental aggravation.

On the other hand, child temperament was a significant predictor of aggravation for both parents. Fussy and unpredictable infants elicited significantly greater aggravation from mothers and fathers than their calmer and more predictable counterparts. Separate cross-lagged regression analyses (not shown) further suggest that the effect is strictly from child temperament to parental aggravation, rather than vice-versa. In contrast to the work of McBride et al. (2002), however, child temperament was not found in this study to have a stronger effect for fathers than mothers. The general influence of child temperament on aggravation and parental stress is well-documented in prior work (Martorell & Bugental, 2006; Östberg & Hagekull, 2000) and is not surprising. Although we had hypothesized that child temperament would have weaker effects on aggravation for those displaying greater sanctification and spiritual investment in parenting, this effect did not materialize. Regarding the pattern of change in aggravation over time, we found that fathers' mean level of aggravation was initially higher than mothers' but this difference disappeared over time, with mothers catching up to fathers by the last wave of the survey. Controlling for fathers' contributions to childcare, it may be that mothers nevertheless experience an accretion of frustration over time that exacerbates their aggravation. As Hochschild's (1989) in-depth study of household work revealed, regardless of whether spouses' time on task is equivalent, mothers still retain the primary responsibility for ensuring children's well-being.

Our study has a number of limitations. Ours is a convenience sample of relatively short-duration, financially solvent, well-adjusted, mostly White couples. Results are not generalizable to all couples and may not be representative of higher-risk populations in which parental aggravation is manifested as outright hostility and poses a greater threat to child well-being.

Moreover, our study was limited to married couples, which in recent years represent a declining portion of all childbearing liaisons (Cherlin, 2010). To the extent that marriage represents a considerable material and emotional investment in the relationship, parental aggravation among marrieds may be less reactive to relationship quality than would be the case for cohabitators. This might explain our failure to replicate some of the findings from other studies, particularly with respect to the influence of relationship quality on parental aggravation. Our sample is also considerably smaller than that used in other work (e.g., Bronte-Tinkew et al, 2010), limiting the power to detect effects. Future work in this area should be undertaken to see if the findings can be replicated using larger and more diverse samples. As suggested by an anonymous reviewer, our focus on a couple's first child together further limits the generalizability of the findings. In all likelihood, parental reactions to the first child are different from their responses to subsequent offspring.

Fathering and mothering are complex tasks. In the contemporary cultural climate in which fathers are expected to be equal coparents (Doherty et al., 1998), much is expected of them. The primary responsibility for a family's financial health and standard of living still largely rests with men. Thus fathers must forge a precarious balance between the demands of work and those of marriage and parenthood. Our results suggest that there may be a few elements under fathers' control that minimize the stresses associated with new parenthood. Two, in particular, are from the results for mothers. In that the family is an interlocking system, minimizing his wife's parenting aggravation also alleviates his own stress. We find that wives' love for their husbands reduces the degree of aggravation they experience from a new baby. Clearly, cultivating the marital relationship should be an important priority for new fathers. We also find that an unintended pregnancy elevates mothers' stress. Careful attention to family

planning is warranted so that the baby arrives only when the time is propitious. Additionally, we find that older fathers and mothers appear to experience less parenting aggravation than their younger counterparts. This suggests, again, that postponing childbirth until a certain level of maturity has been achieved may eventuate in a more positive parenting experience for fathers as well as mothers. Future work with more diverse samples of parents is needed to fully understand the myriad of factors that promote a positive parenting experience for men.

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Appendix

Parental Aggravation Scale (Mothers' Self-Report Version)

Interviewer instructions: Generally speaking, the behaviors and attitudes demonstrated by mothers toward their children vary considerably from one mother to another and from one child to another. We would like to get an overview of your interactions with your child. Please indicate to what extent each statement accurately describes your actions, your thoughts or your feelings toward your child.

1. I have been angry with my baby when he/she was particularly fussy.
2. When my baby cries, he/she gets on my nerves.
3. I have raised my voice with or shouted at my baby when he/she was particularly fussy.
4. I have spanked my baby when he/she was particularly fussy.
5. I have lost my temper when my baby was particularly fussy.
6. I have left my baby alone in his/her bedroom when he/she was particularly fussy.
7. I have shaken my baby when he/she was particularly fussy.

Answer choices are: 1 (*not at all what I did/think*) to 10 (*exactly what I did/think*)

Table 1

Descriptive Statistics for Study Variables

Variable	Range	<i>M</i>	<i>SD</i>
<i>Outcome^a</i>			
Parental Aggravation	7 – 51	15.947	8.577
<i>Between-Subjects Predictors^b</i>			
Minority Couple	0 – 1	0.189	0.393
Average Spousal Age	20.5 – 38.5	28.000	3.796
Family Income	12.5 – 150	63.151	30.224
Husband's Education	3 – 7	5.663	0.944
Wife's Education	4 – 7	5.935	0.860
Male Child	0 – 1	0.485	0.501
Number of Years Married	0.08 – 10.17	2.660	2.042
Unintended Pregnancy	0 – 1	0.450	0.499
Biblically Conservative Couple	0 – 1	0.503	0.501
Pregnancy Stressor Scale	1 – 16	5.882	2.841
Husband's Relative Advantage	-7.47 – 13.40	0.000	3.001
Wife's Relative Advantage	-15.81 – 8.69	0.000	3.147
<i>Within-Subjects Predictors^c</i>			
Marital Satisfaction	3 – 21	18.970	2.325
Love for Spouse	27 – 90	80.978	7.248

Marital Conflict Frequency	2 – 11	5.774	2.091
Depressive Symptomatology	0 – 24	6.202	3.949
Theistic Sanctification	10 – 70	54.755	16.001
Nontheistic Sanctification	10 – 70	54.190	12.053
Spiritual Investment	5 – 35	20.518	7.490
Paid Labor Ratio	-4.62– 5.08	1.335	2.166
Childcare Ratio	-2.69 – 0.52	-0.648	0.501
Housework Ratio	-3.76 – 2.18	-0.289	0.798
Coparenting Solidarity	21 – 50	40.573	4.311
Coparenting Support	7 – 25	21.182	2.615
Coparenting Undermining	6 – 21	7.922	2.624
Knowledge of Infant Development	0.11 – 1.00	0.699	0.148
Perceived Fairness of Childcare	9 – 45	26.340	4.103
Child Fussiness	7 – 32.5	18.126	4.433
Child Unpredictability	3 – 15.5	8.210	2.346
Child Unadaptability	4 – 19.5	9.291	2.832
Child Dullness	3 – 13	6.271	2.008

^a Based on $N = 2,008$ couple-periods.

^b Based on $N = 169$ couples.

^c Based on $N = 2,008$ or $2,028$ couple-periods.

Table 2

Restricted Maximum Likelihood Estimates (Standard Errors) of Fixed Effects for Longitudinal Dyadic Growth Models for Wives' Parental Aggravation

Explanatory Variable	Model 1	Model 2	Model 3
<i>Between-Subjects Factors</i>			
Intercept	14.080*** (0.514)	13.320*** (0.669)	13.247*** (0.662)
Minority Couple		-1.201 (1.068)	-1.322 (1.055)
Average Spousal Age		-0.359** (0.119)	-0.372** (0.118)
Husband's Education		0.596 (0.461)	0.638 (0.456)
Unintended Pregnancy		1.584 (0.881)	1.703* (0.870)
<i>Within-Subjects Factors</i>			
Time	0.310*** (0.051)	0.423*** (0.061)	0.408*** (0.061)
Depressive Symptomatology		0.081 (0.070)	0.077 (0.069)
Love for Spouse		-0.132** (0.046)	-0.133** (0.046)
Childcare Ratio		-0.834 (0.595)	-0.292 (0.610)

Child Fussiness		0.271*** (0.078)	0.290*** (0.078)
Child Unpredictability		0.437** (0.136)	0.396** (0.135)
Child Unadaptability		-0.044 (0.102)	-0.026 (0.101)
Child Dullness		0.121 (0.156)	0.073 (0.155)
Knowledge of Infant Development		1.169 (1.956)	1.436 (1.936)
Theistic Sanctification			0.016 (0.021)
Theistic Sanctification x Childcare Ratio			-0.122** (0.037)
$R^2_{y,\hat{y}}$	0.015	0.178	0.186
BIC	13474.500	13377.500	13384.200

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

Table 3

Restricted Maximum Likelihood Estimates (Standard Errors) of Fixed Effects for Longitudinal Dyadic Growth Models for Husbands' Parental Aggravation

Explanatory Variable	Model 1	Model 2	Model 3
<i>Between-Subjects Factors</i>			
Intercept	16.351*** (0.569)	16.285*** (0.730)	16.284*** (0.730)
Minority Couple		-0.679 (1.209)	-0.595 (1.209)
Average Spousal Age		-0.465*** (0.135)	-0.477*** (0.136)
Husband's Education		1.430** (0.533)	1.400** (0.533)
Unintended Pregnancy		-0.391 (0.988)	-0.481 (0.988)
<i>Within-Subjects Factors</i>			
Time	0.055 (0.051)	0.160** (0.056)	0.167** (0.057)
Depressive Symptomatology		0.216** (0.081)	0.210** (0.081)
Love for Spouse		-0.071 (0.042)	-0.066 (0.042)
Childcare Ratio		-0.553 (0.628)	-0.540 (0.628)

Child Fussiness		0.318*** (0.082)	0.319*** (0.082)
Child Unpredictability		0.400** (0.142)	0.406** (0.141)
Child Unadaptability		-0.174 (0.106)	-0.180 (0.106)
Child Dullness		0.114 (0.163)	0.105 (0.162)
Knowledge of Infant Development		3.509 (1.829)	3.351 (1.818)
Theistic Sanctification			-0.027 (0.021)
Theistic Sanctification x Childcare Ratio			0.044 (0.032)
$R^2_{y,\hat{y}}$	0.015	0.178	0.186
BIC	13474.500	13377.500	13384.200

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