LONGITUDINAL EFFECTS OF SELF-REPORTED MARITAL STRENGTHS ON COUPLES' OBSERVED CONFLICTUAL INTERACTIONS ACROSS THE TRANSITION TO PARENTHOOD

Katherine G. Kusner

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Committee:

Annette Mahoney, Advisor

Alfred DeMaris
Graduate Faculty Representative

Kenneth Pargament

Anne Gordon

ABSTRACT

Annette Mahoney, Advisor

The transition to parenthood is a challenging period in the lives of couples marked by a deterioration in observed positive communication processes, and an increase in observed negative communication processes that spouses use to manage conflict (Cox, Paley, Burchinal, & Payne, 1999). In a sample of 164 married couples, this study used longitudinal data from throughout the transition to parenthood to examine the causal links between self and spouse-reports of four types of marital strengths (i.e., spiritual intimacy, collaborative communication, sanctification of marriage, and marital love) and observations of spouses' communication processes during videotaped 10-minute marital conflict interactions. In fixed effects regression analyses, spouses' joint reports of husbands' and wives' spiritually intimate behaviors predicted less negative and more positive communication processes by both husbands and wives. Surprisingly, in contrast, spouses' joint reports of each spouses' collaborative communication behaviors during disagreements in daily life did not predict better communication processes during the observed conflict interactions. Additionally, greater perceptions of sanctifying one's marriage and of marital love each predicted some, but not all, assessed aspects of observed marital communication processes. Notably, because fixed effects regressions were conducted, it can be inferred that unmeasured stable, individual attributes and traits cannot account for the significant findings between the marital strength indicators and observed communication outcomes.

Keywords: transition to parenthood, marriage, couples, marital strengths, marital quality, spirituality, religion, marital conflict, communication processes, behavioral observations

DEDICATION

To Mike, my "soulmate," for your love, patience, and support. I am blessed by, and deeply cherish the spiritual intimacy that we share.

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INTRODUCTION

Few experiences change the life of married couples in the United States like the birth of their first child, an experience that almost 90% of married couples encounter over the course of their marriage (Cowan & Cowan, 1995). A decrease in marital satisfaction (Belsky & Kelly, 1994; Doss, Rhoades, Stanley & Markman, 2008; Lawrence, Rothman, Cobb, Rothman, & Bradbury, 2008; Mitnick, Heyman, & Smith Slep, 2009) and an increase in the frequency of marital conflict often accompany this transition to parenthood (Kluwer & Johnson, 2007; Cowan & Cowan, 2000; Doss et al., 2008). Notably, married couples tend to experience a decline in positive communication processes and a modest increase in negative processes based on observations of their efforts to discuss conflicts from the time of pregnancy to the end of their baby's first year of life (Cox, Paley, Burchinal, & Payne, 1999). Given that the marital relationship plays a key role in a child's emotional, behavioral, and communicative progress (Cummings & Davies, 2002), it is important for family researchers to identify factors that help couples maintain positive marital communication processes and prevent negative communications processes from developing across the first year of a child's life. To this end, this study examines whether four specific marital strengths reported throughout the transition to parenthood predict greater adaptive communication processes and prevent maladaptive communication processes to handle conflict for new mothers and fathers. Two of the marital strengths include spouses' self-reports of their love toward their partner (i.e., marital love) and their combined reports of each spouses' use of collaborative communication strategies during disagreements (i.e., collaborative communication). The last two marital strengths parallel the

first two constructs, but incorporate spirituality as a potential added resource to facilitate effective communication. These spiritual resources include spouses' self-reports about perceiving their marriage as a sacred relationship (i.e., sanctification of marriage) and spouses' combined reports about the extent to which each partner engages in spiritually intimate behaviors involving disclosing about their spiritual identity and supporting their partner's disclosures (i.e., spiritual intimacy). Further, as the last ten years has brought about an increasing focus on fatherhood due to social science research findings, social policy, and government programs promoting fatherhood (Fincham & Beach, 2010), this study includes data from both first time mothers and fathers. Thus, the study examines the effect of husbands' and wives' self and spouse reported marital strengths on their observed marital communication processes using longitudinal data from four different time points across the transition to parenthood. Understanding how spouses' self and spouse-reported strengths of their marriage affect observed communication processes may help mental health professionals identify and discuss possible relationship mechanisms that can foster constructive communication processes over critical marital transitions.

LITERATURE REVIEW

Significance of Marital Communication Processes During Conflict

Interpersonal conflict has been broadly defined as an incompatibility between individuals and groups in their selection and pursuit of goals (Fincham & Bradbury, 1991). Applied to marriage, marital conflict occurs between spouses when they disagree about their desired goals for their marriage and lives, and/or processes to reach these outcomes. For example, couples may argue about differing social needs or financial matters because they disagree at a core level about the goal (e.g., wife doesn't want husband to go out with his drinking buddies because she believes his behavior is immoral; husband financially wants to pay for a child's education because his father paid for his education). They may also have conflict because they disagree on the process to reach the goal (e.g., wife wants husband to go to AA, but husband wants to stop drinking on his own, wife and husband disagree about whether to take out loans or work over-time to provide for child's education). For couples transitioning into parenthood, the frequency of disagreements between spouses during pregnancy negatively relates to relationship quality (e.g., relationship satisfaction, happiness) at 6 months, 15 months, and 4 years postpartum (Kluwer & Johnson, 2007). However, occasional conflict in marriage is normative, and in some circumstances, beneficial (De Dreu & Weingart, 2003), suggesting that the manner in which couples discuss their incompatibilities may be of most importance for the health and well-being of the union over the long haul. When spouses have disagreements, they may engage in adaptive or maladaptive communication strategies to cope with their differences of opinion. Adaptive marital communication processes to cope with conflict involve compromising, empathetic listening, collaborating, showing affection and positive affect, and openly expressing opinions and feelings with ones' spouse. On the other hand, maladaptive marital communication

processes to cope with conflict often include verbal aggression, domineering behaviors, non-verbal negative emotion (e.g., eye rolling, harsh tone), criticism, bickering and blaming, and withdrawal or shutting down.

It is critical to examine how couples communicate about topics of disagreement because communication processes relate to couples' health and well-being. For example, poorer observed and self-reported communication processes to cope with conflict are associated with spouses' increased depressive symptoms (Choi & Marks, 2008; see Kiecolt-Glaser & Newton, 2001 for a review), poorer health (see Kiecolt-Glaser & Newton, 2001 for a review), and greater risk of divorce and decreased marital satisfaction across the family cycle (Gottman, Coan, Carrere, & Swanson, 1998). Conversely, couples who have been observed to use adaptive communication processes to manage conflict tend to report enjoying satisfying, happy marriages (Filsinger & Thoma, 1988). In turn, self-reports of satisfying marriages predict a host of benefits to spouses related to self-reported life satisfaction, mental health, and well-being (for a review, see Proulx, Helms, & Buehler, 2007). Specific to the transition to parenthood, direct observations of more positive and less negative couple problem solving strategies prenatally predicts increased self-reported marital satisfaction and happiness after the baby arrives (Cox, et al., 1999; Crohan, 1996; Houts, Barnett-Walker, Paley, and Cox, 2008). For example, Houts and colleagues (2008) found that couples observed to have more constructive problem-solving communication prenatally tended to report greater marital satisfaction and love across the baby's first two years of life. In contrast, those couples observed to exhibit problem-solving interactions characterized by destructive communication tended to self-report less marital satisfaction and love over these two years. These findings, in combination with other findings from leading marital researchers (e.g., Gottman, Coan, Carrere, & Swanson, 1998; Christensen & Shenk,

1991) suggest that the observed communication processes that couples use to handle conflict are important factors in marital functioning.

Examining couples' observed communication strategies when discussing a topic of conflict can provide a unique picture of couples' communication processes, different from spouses' self and spouse-reports of the processes they use to cope with conflict. Specifically, self and spouse-reported conflict strategies involve assessing spouses' subjective perceptions of their own and their spouses' behaviors during conflictual interactions, while behavioral observations of conflict are more objective, assessing spouses' use of various behaviors as perceived by independent raters. Both methods of assessing conflict behaviors can be useful, depending on the research question of interest. The current study focuses on understanding whether self-reported marital strengths longitudinally predict observed, communication processes in husbands and wives. Thus, this study uses behavioral observations of couples' interactions because observed couples' interactions centered on conflict provide objective information about whether spouses choose to engage in positive or negative strategies to manage conflict when asked to sit down for ten-minutes and talk about their disagreements. On a day-to-day basis, many couples may avoid topics that trigger conflict, and therefore do not spend time using either positive or negative strategies. However, the author of this study was interested in whether perceived marital strengths across the transition to parenthood function as a resource to facilitate couples' use of observed constructive communication behaviors when they were faced with the challenge of talking about a disagreement in front of a video camera. Additionally, direct observations of couples' communication processes have been considered an extremely valuable and necessary addition in marital research in the past 30 years as a means to assess the health of a marriage (Karney & Bradbury, 1995; Bradbury, Fincham & Beach, 2000).

Surprisingly, the factors that predict observed marital communication processes over the transition to parenthood are unknown, as previous studies have primarily focused on the reverse line of causality with researchers highlighting the effects of observed communication processes on spouses' self-reported marital quality, or marital strengths. Conceptually, it is likely that there is a reciprocal relationship between self-reports of marital strengths and objective ratings of the quality of couples' communication processes to manage conflict. However, one can argue that many spouses in relatively happy marriages drawn from community samples have the behavioral skills in their repertoire to engage in positive communication processes and avoid engaging in destructive behavior when conflicts emerge. Thus, the main issue becomes predicting what factors motivate spouses to access these dormant skills and thereby overtly engage in positive rather than negative communication behaviors over the transition to parenthood. Theoretically, greater self-reports of marital love and frequency of spouses' collaborative communication strategies as well as viewing one's marriage as sacred and the frequency of spiritually intimate dialogues and behaviors may function as resources that couples draw upon throughout the transition to parenthood to maintain positive communication processes and avoid negative communication processes. The current dissertation is the first study to examine whether self and spouse-reported marital strengths longitudinally predict spouses' use of observed positive and negative marital communication tactics in 10-minute discussions about topics of disagreement throughout the transition to parenthood. Thus, this multi-method design examines whether spouses' self and spouse reported marital strengths were powerful enough to predict observed communication processes in new mothers and fathers across the transition to parenthood.

Self and Spouse-reported Marital Strengths that Affect Marital Interactions across the Transition to Parenthood

Over two decades ago, researchers highlighted the importance of understanding what factors predict whether marital functioning increases, decreases, or remains stable across the transition to parenthood (Belsky & Pensky, 1988). However, exploration of how self-reports of marital strengths influence various aspects of marital functioning, particularly direct observation of marital communication processes, across this critical period is still in its early stages. The only study located found that wives' who reported greater time spent in couple shared leisure activities prenatally also reported less conflict and negative communication when their baby was one year old (Claxton & Perry-Jenkins, 2008). Yet, because this study implemented self-report measures of conflict, we know virtually nothing empirically about the effects of self-reports of marital strengths on observed communication processes over the transition to parenthood. I now turn to the four self and spouse-reported marital strengths assessed in the current study, first discussing marital love and collaboration, and then discussing their parallel constructs that incorporate spirituality, self and spouse reported marital sanctification and spiritual intimacy.

Marital love and collaboration. Promising results have emerged from research on self-reports of marital strengths, such as marital satisfaction and cohesion, and self-reported communication processes, although this research did not focus on the transition to parenthood. Specifically, cross-sectional research has found greater self-reported marital quality to relate to self-reports of more adaptive communication processes and less maladaptive communication processes (Bodenmann, Kaiser, Hahlweg and Fehm-Wolfsdorf, 1998; Ridley, Wilhelm, & Surra, 2001). For example, Ridley and colleagues (2001) found that greater self-reports of marital quality (i.e., affection, satisfaction, cohesion) correlated with greater self-reports of adaptive

communication processes during conflict (e.g., positive, problem-solving communication processes) and less maladaptive processes (e.g., negative, withdrawing, aggressive communication processes) in married couples. Further, one longitudinal study using newlyweds found that when spouses' report greater marital satisfaction one year after marriage, they are more likely to report using greater adaptive communication processes when discussing conflictual topics two years after marriage, suggesting a causal link between marital satisfaction and adaptive communication processes (Noller, Feeney, Bonnell, & Callan, 1994). Yet Karney and Bradbury (1995) in their review of longitudinal marital research highlight that research has rarely examined the ways that self-reports of marital strengths shape observed adaptive communication processes longitudinally, and encourage researchers to investigate these associations further.

Theoretically, in community samples of relatively happily married couples having their first child, resources for protecting marriages from the general declines in marital communication processes may include heightened perceptions of marital love and the frequency that spouses use collaborative communication methods to handle disagreements in their daily life. Remarkably, however the question of whether self-reports of marital love and collaborative communication longitudinally predict direct observations of couples' communication processes across the transition to parenthood is an unanswered question. Although one study found that lower reported levels of perceived marital quality as assessed by a 5-item global measure of marital satisfaction and happiness during pregnancy related to greater self-reports of conflict frequency across the transition to parenthood up to 15 months post-partum (Kluwer & Johnson, 2007), this research implemented self-report measures of conflict frequency. Addressing limitations of previous research, this study examines nuanced, specific self and spouse-reported

marital strengths, such as marital love and collaboration, that may result in a greater understanding of the specific relationship mechanisms that potentially buffer against declines in observed marital communication across this vital transition.

Self-reported marital love as a protective relationship mechanism. Presumably, a majority of married couples in the United States do not marry primarily because they are able to have civilized discussions when they disagree with one another about a given topic. Indeed, research on mate selection indicates that mutual attraction/love is the top characteristic valued in a potential long-term mate or marriage partner by male and female college students in the 1980's and 1990's (Buss, Shackleford, Kirkpatrick, & Larsen, 2001). These findings imply that many people are seeking a partner with whom they feel a strong sense of love. Consistent with these findings, in our society that emphasizes romance and finding your "soul mate," many may search for romantic love, and marry when they perceive they have found a partner with whom they believe they have fallen in love. Yet, despite its esteem within popular American culture in selecting mates, marital researchers have tended to neglect the construct of perceived marital love in marital research aimed at uncovering factors tied to communication tactics to manage conflicts. For purposes of this study, perceived marital love is defined as spouses' self-reported feelings of connectedness, commitment, love, closeness, and attachment to their spouse. To capture perceived marital love, this study uses Braiker and Kelly's (1979) 10-item love subscale to measure each partner's subjective perceptions of the degree to which they feel and express love to their spouse. This particular measure is often used as an indicator of perceived marital strength in the transition to parenthood literature; this is likely because it has been shown to be sensitive to changes in spouses' feelings across the transition to parenthood (Belsky and Rovine, 1990).

Perceived marital love is important to assess because this construct taps into critical components of marriage such as connectedness, affection, commitment, and attachment, that couples may rely on to motivate their use of adaptive communication behaviors. Researchers have theorized that couples' perceptions about their marriage may cultivate or transform motivational processes that influence what behaviors spouses chose to engage in, for better or worse (Fincham & Stanley, in press; Fincham, Stanley & Beach, 2007). For example, in the context of marital love, spouses' perceptions of a deep, connected, and loving relationship may motivate them to choose to engage in positive rather than negative communication behaviors when faced with a disagreement. Spouses' feeling love for their spouse may motivate actions consistent with these feelings during disagreements (e.g, acting in a kind, respectful, and loving manner), as individuals are motivated to experience cognitive consistency, rather than cognitive dissonance. Further, spouses with a strong love for their partner may be motivated to protect this love by working hard not to elicit negative behaviors from their spouse that could function to threaten the love they feel by bringing out "the worst" in their spouse. The current study is the first to identify whether perceived marital love acts as a resource to facilitating couples' observed use of more positive and less negative communication processes during ten-minute videotaped conflict interactions throughout the transition to parenthood.

Self-reported marital collaboration as a protective relationship mechanism. A significant body of research suggests that the frequency of self-reported collaborative communication processes in daily marital life longitudinally predict enhanced marital quality (for reviews see Fincham & Beach, 2010; Bradbury, Fincham, & Beach, 2000). Further, pregnant couples who evidenced greater observed use of collaborative communication during problem-solving interactions report greater marital satisfaction when their baby is two years old

(Cox, et al, 1999; Houts et al., 2008). Theoretically, spouses' consistently using compromising and supportive tactics such as openly expressing their thoughts and feelings, and eliciting their partners' in the home environment to cope with disagreements may uniquely foster mutual respect, concern for, politeness, and kindness in spouses. Potentially, being well-practiced in the art of constructive communication skills in daily life would facilitate couples' ability to exhibit these skills when placed in a situation where they are asked to exhibit these skills on demand. Presumably, the more frequently and routinely spouses engage in these skills, the more they would be able to access them in an isolated episode where researchers set up a dialogue situation that requires couples to identify and discuss their major disagreements. Yet studies examining the relationship between self-reports of collaborative communication and behavioral observations of couple communication during marital conflict have evidenced mixed results. Some research indicates medium correlations between self-reports of collaborative communication and behavioral observations of constructive communication (Hahlweg, Kaiser, Christensen, Fehm-Wolfsdorf, & Groth, 2000), while other research shows self and spouse reported collaborative behaviors demonstrate inconsistent links with observed affectionate behaviors (Rhoades & Stocker, 2006). These mixed findings highlight that the motivation to use communication skills in one's repertoire may be important. In any case, it is unknown whether couples' self and spouse-reports of their tendency to use collaborative communication strategies during disagreements at home uniquely (i.e., after controlling for stable individual and couple characteristics) and longitudinally effects observed communication processes across the transition to parenthood when couples are directly challenged to confront and engage in discussions of conflicts that they may otherwise cope with via avoidance.

Self and spouse-reported collaboration refers to the degree to which husbands' and wives,' and their spouses' report they actively engage in constructive communication when conflicts occur, such as expressing thoughts and feelings openly, listening to their spouse, engaging in empathy, accepting blame and apologizing, and compromising when the couple has a disagreement. To assess spouses' collaborative communication behaviors during conflict, this study uses the 8-item "Collaboration" subscale from the "Conflict and Problem-solving Strategies" measure created by Kerig (1996) that allows for independent use of subscales. Spouses reported on their own and their spouses' collaborative behavior during disagreements, and their combined reports were averaged to obtain the husbands' and wives' collaboration scores. This study was the first to examine whether spouses' reports of the frequency they and their partners use collaborative and constructive behaviors during disagreements in their daily life protects each partner against the use of poor communication strategies and encourages positive communication strategies during observed interactions across the transition to parenthood.

Sanctification of marriage and spiritual intimacy. Examining spouses' reports of the role of spirituality in their marriage reflects a new avenue of research that expands the scope of possible resources couples may utilize to facilitate constructive communication beyond those of self-reported marital love and collaborative communication. Although married couples with children in the U.S. on average attend religious services at least once per month (Bartkowski, Xu, & Levin, 2008) and over 90% of Americans pray at least occasionally (McCullough & Larson, 1999), little research has explored how spirituality affects couples' communication processes during conflict, particularly across the transition to parenthood. Outside the context of the transition to parenthood, a few empirical studies have found inconsistent associations

between spouses' self-reported individual religious involvement (e.g., religious service attendance, prayer) and self-reported frequency of marital conflict (Bahr, 1982; Booth, Johnson, Branaman & Sica, 1995; Curtis & Ellison, 2002). Similarly, mixed results have also emerged from research using measures of "religious homogamy" (e.g., similarity in religious attendance) and self-reported conflict. For instance, using a national sample, Curtis and Ellison (2002) found that religious denominational homogamy was generally unrelated to frequency of marital conflict, but dissimilar service attendance patterns and biblical interpretations by spouses was tied to more frequent marital disagreements. Further, a review of research from the past decade on faith and family life suggests that spiritual resources such as prayer and turning to a religious community may motivate spouses to use adaptive communication processes during conflict (Mahoney, 2010). Unfortunately, a majority of these studies that examine spirituality and couple conflict are limited by relying on couples' cross-sectional self-reports of both their marital spirituality and marital conflict, leaving open the question of how spirituality effects observed marital communication.

In the only empirical study to examine spirituality and observed communication processes during conflict, results indicated that individual religiousness (i.e., a 4-item scale that assessed both religious behavior and self-identification as a religious person) was unrelated to observed positive (e.g., shared humor, interest in partner) and negative (e.g., anger, whining) communication processes during conflict for husbands and wives (Sullivan, 2001). However, limited by the use of individual, basic indictors of marital spirituality, it is unclear whether perceptions about the spiritual nature of the marriage or degree of spiritually intimate behaviors may relate to better communication processes.

Only three studies to date have examined whether spouses' self-reports of their general level of spirituality/religiousness predicts marital functioning (e.g., marital satisfaction, observed communication processes) over the transition to parenthood, with mixed results emerging (Nock, Sanchez & Wright, 2008; Doss et al., 2009; Dew & Wilcox, 2011). Nock, Sanchez, and Wright (2008) found that greater religiousness (four-item measure of private prayer, importance of religion, and individual and joint religious attendance) related to greater marital satisfaction over the transition to parenthood for wives. Similarly, other research suggests that new mothers who attended religious services regularly while pregnant, as compared to new mothers who attended infrequently or not at all, were less likely to experience declines in their marital satisfaction across the transition to parenthood (Wilcox & Dew, 2011; Dew & Wilcox, 2011). Conversely, Doss, Rhoades, Stanley, and Markman (2009) found that self-rated religiosity (one-item) before the birth of their first child did not predict changes in couples' relationship quality (e.g., marital dedication, marital satisfaction) after their child's birth. However, these studies were limited by their reliance on individual measures of religiousness and spirituality; such measures are problematic because they tend to yield mixed or weak effects sizes, cannot pinpoint conceptually meaningful aspects of spirituality that may influence marital communication, and obscure malleable spiritual beliefs or behaviors that could be targeted in marital education programs. Nevertheless, available studies on religion/spirituality and the transition to parenthood indicate that spouses' self-reports about the sanctity of their marriage and spiritually focused dialogue may buffer declines in marital communication processes across this transitional period.

The current study explicitly addresses the two major limitations of the previous research outlined above. The first limitation involves the use of individual, global indicators of spirituality (often only one partner's) to assess for marital spirituality. Due to the prevalent use

of individual, global indicators of spirituality to assess spouses' spirituality, it is unclear whether self-reported cognitions about the sanctification of one's marriage and frequency of spiritually intimate behaviors (i.e., disclosing about spiritual matters and supporting spouses' spiritual disclosures) may facilitate spouses' use of constructive communication processes and defend against destructive processes during observed marital interactions centered on a topic of conflict. The second limitation of research on the relationship between spirituality and couples' communication strategies involves the use of self-reports to measure both spirituality and conflict communication strategies. Specifically, results may emerge between self-reported spirituality and self-reported adaptive communication processes due to bias in reporting, such as overall positivity in reporting. Particularly since spiritual constructs, such as the sanctity of one's marriage, inherently involves perceptions and beliefs that would be challenging to observe, it is important that researchers link self-reports about spiritual resources to direct observations of couples' interactions. To address these limitations, the current study is multi-method, using spouses' self reports of their perceptions about the sacred nature of their marriage and their joint reports about the degree to which each spouse openly discusses their spiritual identities and supports their spouses' spiritual disclosures to predict observed positive and negative communication processes. Prior to the current study, no empirical research has identified the specific marital spiritual mechanisms that may enhance positive or dampen negative communication processes based on direct observation of couples discussing conflicts. This study examines self-reports of marital sanctification and self and spouse-reports of spiritually intimate behaviors, which I turn to next.

Self-reported sanctification of marriage as a protective relationship mechanism.

Qualitative research exploring the role of religion in Latter Day Saint's family life found that

religion is involved in how one perceives family, and the importance and purpose given to family (Loser, Klein, Hill & Dollahite, 2008). While for centuries religious traditions have emphasized the interlaced nature of family and faith, only recently has a specific construct incorporating the spiritual dimension to relationships, sanctification, emerged within psychological research. Sanctification is defined as perceiving an aspect of life as having divine character and significance (Pargament & Mahoney, 2009; Mahoney, Pargament & Hernandez, in press). Many aspects of life, such as marriage, may take on a sacred or spiritual dimension, which may or may not explicitly incorporate God (Higher Power, Allah, the divine). Specifically, spouses may perceive God as involved and influential in their marriage (i.e., theistic sanctification) and/or they may attribute sacred qualities, such as transcendence, ultimate value, and purpose to the relationship, that do not directly incorporate God (i.e., non-theistic sanctification) (Mahoney et al., 1999). Potentially, sanctification may be "one major construct to account for previously found links between global indexes of religiousness and family functioning" (Mahoney et al., 2003, p. 221). Within marital relationships of newlyweds, those who reported greater perceptions of the sanctity of the marital sexual relationship also tended to report greater marital satisfaction, sexual satisfaction, and sexual intimacy (Hernandez, Mahoney, & Pargament, 2011). Additionally, recent empirical work focused on married couples suggests that perceiving ones' marriage as sanctified relates to marital benefits such as greater marital satisfaction and commitment (Lichter & Carmalt, 2009), and a lesser tendency for perceived unfairness between spouses to induce marital dissatisfaction and marital conflict (DeMaris, Mahoney & Pargament, 2010). A cross-sectional study of married couples found that when spouses' reported greater perceptions of sanctifying their marriage they reported greater use of adaptive, and less use of maladaptive communication during conflict (Mahoney et al., 1999). Similarly, research results

indicate that low-income spouses' perceptions of the sanctity of marriage relate to self-reported use of more positive communication processes during conflict (Lichter & Carmalt, 2009). The current study built on these findings by using spouses' perceptions of the sanctity of marriage to predict observed communication processes in husbands and wives longitudinally.

Self-reported spiritual intimacy as a protective relationship mechanism. Cordova and Scott (2001) suggest that intimate events, such as marital communication about potentially sensitive topics (e.g., spirituality), contain two components. The first is exhibiting vulnerable behavior, such as self-disclosure about a sensitive topic, and the second is giving and receiving supportive or validating responses to reinforce such disclosures. Thus, for this study, spiritual intimacy refers to each spouses' respective spiritually intimate behaviors including 1) candidly sharing one's view about spirituality with their partner and 2) listening to their spouses' spiritual disclosures in an accepting and non-judgmental fashion. This study uses a spiritual intimacy scale that is consistent with Cordova's conceptual framework of intimacy and extends a prior initial measure of spiritual disclosure (Brelsford & Mahoney, 2008). The items tap into spiritual self-disclosure (vulnerable behavior) and providing support, safety, and validation when a partner engages in self-disclosure (reinforcing response). Dorian and Cordova (2004) proposed, "that the quality of a couple's interaction around emotionally vulnerable topics has important implications for the overall quality of their relationship" (p. 246). Although the current study is the first to examine the relationship between spiritual intimacy and marital conflict, results from prior related research are promising. Specifically, Hernandez, Mahoney and Pargament (2011) found that greater spiritual intimacy relates to enhanced marital satisfaction and sexual intimacy in newlyweds, and Brelsford and Mahoney (2008) found that greater reports of spiritual

disclosures between college students and their mothers correlates with greater reported use of constructive communication processes for both parties.

Present Study

The aim of the current study is to extend previous work focused on identifying factors that buffer against negative communication strategies, and promote positive communication strategies over the transition to parenthood by examining the effects of four self and spouse-reported marital strengths on observed communication processes. Specifically, this research addresses how husbands' and wives' self-reports of marital love for their spouse and sanctification of marriage, and joint reports of using collaborative strategies to manage spousal disagreements and engaging in spiritually intimate behaviors longitudinally effect both spouses' observed use of positive and negative communication skills when discussing topics of disagreement across the transition to parenthood. Understanding the self and spouse-reported marital strengths that predict more adaptive and less maladaptive communication strategies to cope with marital conflict over the transition to parenthood may help to inform psychological and psycho-spiritual interventions for couples. Indeed, incorporating spiritual activities such as prayer into couples therapeutic interventions, when culturally appropriate can foster increased couple functioning (Beach, Fincham, Hurt, McNair, & Stanley, 2008). It was hypothesized that greater self and spouse-reported marital strengths (i.e., marital love, collaborative communication, sanctification of marriage, and spiritual intimacy) for husbands and wives would predict greater observed positive communication and less observed negative communication processes in both spouses during 10-minute marital interactions centered on topics of conflict across the transition to parenthood.

METHOD

Data and Participants

To explore the links between self and spouse-reported marital strengths and observed communication processes, this study examined data from the New Arrivals Passage to Parenthood Study (NAPPS). NAPPS is a longitudinal study that examines the transition to parenthood for married couples having their first biological child. Information was gathered from families between 2005 and 2008 at four different time points throughout the transition to parenthood (i.e. the third trimester of pregnancy, and at 3, 6, and 12 months post-partum). The participants included 164 mothers and fathers, with mean ages of 27.1 and 28.7, respectively, at pregnancy. Over 50% of the sample had a college, graduate or professional degree and household income was broadly distributed. In 81.2% of the couples, both identified as Caucasian and in 18.8% at least one partner identified as non-Caucasian. At pregnancy, couples in the sample were married an average of 2.7 years, in a relationship for about 5.9 years and had lived together for about 3.5 years. The self-reported religious affiliation for wives was 34.7% non-denominational Christian, 30.6% Protestant, 27.1% Catholic, 4.1% None, 2.9% Other, and .6% Jewish. Self-rated religious affiliation for husbands was 30.0% Protestant, 28.8% non-denominational Christian, 27.6% Catholic, 7.1% None, 5.9% Other, and .6% Jewish. Couples were no more religious than other married U.S. couples with biological offspring based on national norms (National Survey of Family Growth) of wives' church attendance (Mahoney, Pargament, & DeMaris, 2009). This is important to note, as it suggests that the level of religiousness in this sample is typical for married couples in the U.S., and therefore the results are not due to the sample being largely more religious than typical families.

Procedure

Couples included in NAPPS were obtained from a socioeconomically diverse, midsized, Midwestern city and surrounding suburban and rural communities. Eligible families were recruited through childbirth classes (64%), announcements posted in medical offices, retail locations, and newspapers (14%), word of mouth referrals (15%), and direct mail (8%). Inclusion criteria required that spouses 1) were married, 2) that this was their first biological child, and 3) that both spoke English. Additionally, given that one focus of the NAPPS project centered on the spiritual dimension to the transition to parenthood, at least one spouse had to report that himself or herself was least "slightly religious" or "slightly spiritual." However, all interested participants met this criteria, and thus no couple was eliminated based on the requirement. Data was collected from 178 married couples at the first time point when the couples were around nine months pregnant. Over the course of the following 3 time points, 14 couples were eliminated from the study for various reasons (e.g., stillborn birth, family moves), leaving 164 couples with self-reported data from both spouses.

To gather data, two research assistants (upper-level undergraduate students and graduate students) made 1.5 to 3.5-hour home visits to collect data from couples when they were around nine months pregnant, and then three, six, and twelve months post-partum. During the home visits, the couples completed two packets of questionnaires. The first packet of questionnaires focused on measures related to marital and family functioning and included the marital love and collaboration measures. The second packet included measures related to marital and family spirituality and included the sanctification of marriage and spiritual intimacy measures. A questionnaire about demographics was placed last in the packet during the first data collection visit. Research assistants were present throughout to answer questions from participants and

ensure participants completed questionnaires independently. After completing the first questionnaire, the couples were videotaped engaging in a ten-minute conflict interaction (details about the set-up for this interaction are provided in a later section). All couples received gift cards to a local retailer of their choice at the end of each visit. The project from which data for this study was drawn was approved by the university's Intuitional Review Board and each spouse read and signed the informed consent documents.

Instrumentation

Demographic and relational information

Spouses reported on their age, gender, ethnicity (Caucasian, Asian American, Multi-racial/ethnic, African American, Hispanic or Latino, or other), educational background (ranging from "less that 7 years" (1) to "graduate/professional degree" (7)), annual household income (ranging from "less than $25,000" (1) to "more than $130,000" (6)), religious affiliation, frequency of prayer, and frequency of religious service attendance. The demographic information items are provided in Appendix A. Participants also reported on the length of their relationship, length of their marriage, and the length of cohabitation. The relational background information items are included in Appendix B.

Predictor Variables

Self-reported marital love. Spouses' self-reports of marital love were assessed by having each spouse complete Braiker and Kelley's (1979) love subscale. This scale contains ten items that assess the degree to which spouses report having subjective feelings of connectedness, commitment, love, closeness, and attachment to their spouse; sample items include "to what extent do you love your spouse at this stage?" and "How close do you feel toward your spouse?" Each spouse rated items on 9-point scale ranging from "not at all" (1) to "very much" (9). Items

were summed to create a total score for each spouse, with higher scores indicative of greater marital love for one's spouse. Alpha coefficients ranged from .70 to .88 for wives at the various time points and from .75 to .86 for husbands. Please see Table 1 for alphas, means, and standard deviations of marital love for all time points. This measure is provided in Appendix C.

Self-reported collaboration to manage conflict. Spouses' reports of the frequency that both partners engaged in collaborative communication skills during disagreements was assessed by using the collaborative problem solving subscale from the "Conflict and Problem-solving Strategies" measure created by Kerig (1996). This eight-item subscale measured the degree to which spouses' reported that each partner engages in the following eight behavioral strategies when they have disagreements with each other: "Talk it out with the other one," "express thoughts and feelings openly," "Listen to the other's point of view," "Try to understand what the other is feeling," "Try to reason with the other," Try to find a solution that meets both of our needs," "Accept the blame, apologize," and "Compromise, meet the other half-way, split the difference." Each spouse rated themselves and their spouse on 4-point scale ranging from "never" (0) to "often" (3). Items on the subscale were summed for each spouse separately to create scores for both themselves and their spouse, with higher scores indicative of greater collaboration. Husbands and wives' scores for husband's collaborative behaviors were averaged to create the husband's collaboration score used in this study. Likewise, husbands' and wives' scores for wives' collaborative behaviors were averaged to create the wives' collaboration score used in this study. Alpha coefficients ranged from .75 to .82 for wives and .73 to .80 for husbands using the created total scores for each spouse. Previous research on this subscale also indicates good internal consistency (alpha coefficient of .86 for both wives and husbands), and evidence of convergent and divergent validity (Kerig, 1996). Please see Table 1 for alphas,

means, and standard deviations of husbands' and wives' collaboration for all time points. This measure is provided in Appendix D.

Self-reported sanctification of marriage. Sanctification of marriage was assessed by having each spouse complete two revised sanctification subscales from Mahoney et al. (1999). The 10-item Manifestation of God subscale assessed the extent to which one perceives God as being experienced in the marriage (i.e., theistic sanctification); sample items include "I feel God at work in my marriage" and "God played a role in how I ended up being married to my spouse." The 10-item Sacred Qualities subscale assessed the degree to which one attributes sacred qualities to their marriage without direct reference to a deity (i.e., non-theistic sanctification); sample items include "My marriage is holy" and "My marriage is sacred to me." Respondents rated items from "strongly disagree" (1) to "strongly agree" (7) and scores on all items on each subscale were summed for each spouse. Both husbands' scores and wives' scores on the two subscales (Manifestation of God and Sacred Qualities) were highly correlated (ranging from r = .76 to r = .84 for husbands, and from r = .75 to r = .82 for wives across the time points). Therefore, the subscales were summed for each spouse to provide a total sanctification of marriage score for husbands and a total sanctification of marriage score for wives. Alpha coefficients ranged from .97 to .98 for both husbands and wives total sanctification scores across the four time points. Research on the original scales also indicated high internal consistency for items on both subscales (alpha coefficients ranged from .87-.97) and correlations with other variables that provide support for convergent and construct validity (Mahoney et al., 1999). Please see Table 1 for alphas, means, and standard deviations of husbands' and wives' sanctification for all time points. This measure is provided in Appendix E.

Self-reported spiritual intimacy. Spouses' reports of the frequency that both partners engage in spiritually intimate behaviors was assessed by using a modified version of a four-item measure on spiritual disclosure (Brelsford & Mahoney, 2008). The original measure assessed the degree to which partners disclosed their spiritual needs, questions, and struggles and included the following four items, modified for use with married couples: "I feel safe being completely open and honest with my spouse about my faith," "I tend to keep my spiritual side private and separate from my marriage" (reverse scored), "My spouse doesn't disclose her/his thoughts or feelings about spirituality with me," (reverse scored) and "My spouse shares his/her spiritual questions or struggles with me." The following four items were added to assess perceived support and validation of these disclosures: "My spouse really knows how to listen when I talk about my spiritual needs, thoughts, and feelings," "My spouse is supportive when I reveal my spiritual questions or struggles to her/him," "I try not to be judgmental or critical when my spouse shares his/her ideas about spirituality," and "I try to be supportive when my spouse discloses spiritual questions or struggles"). Respondents rated the eight items from "not at all" (0) to "a great deal" (3). Items on the scale assessing each spouses' self-disclosure and supportive behaviors were summed separately for husbands and wives, with higher scores indicative of greater spiritually intimate behaviors. In order to create the husbands' spiritual intimacy score, husbands' and wives' scores for husbands' spiritually intimate behaviors were averaged (i.e., his reports of his disclosive and supportive behaviors and her reports of his disclosive and supportive behaviors). Likewise, husbands' and wives' scores for wives' spiritually intimate behaviors were averaged to create her spiritual intimacy score. Thus, husbands' and wives' spiritual intimacy scores reflect the extent to which both spouses report that a given spouse shares and discloses spiritual matters and provides support for their spouses'

spiritual disclosures. Alpha coefficients ranged from .66 to .72 for wives and .68 to .76 for husbands across the four time points using the created scores for each spouse's spiritual intimacy. Please see Table 1 for alphas, means, and standard deviations of husbands' and wives' spiritual intimacy for all time points. This measure is provided in Appendix F.

Criterion variables: Positive and negative communication processes

Communications processes during conflict interactions: The behavioral observation set-up. In order to select a topic for the conflict interaction, at each time point both spouses completed the 20-item Marital Topics Questionnaire which assesses the likelihood a topic will cause a disagreement across a wide range of topics (e.g., differing social needs, division of household chores, financial issues, in-laws and family, infidelity or jealousy, sex or physical affection, and time management) (Mahoney, Boggio, & Jouriles, 1996). For each given topic participants responded to the question "how likely is it that you and your spouse will have an argument when you discuss the topic?" on a scale ranging from "not at all" (1) to "extremely" (5). Additionally, participants responded to the question, "How heated or tense does an argument usually get on this?" on a scale ranging from "none to a little or not applicable" (1) to "very to extremely" (3). This measure is included in Appendix E.

Both spouses' reports on the Marital Topics Questionnaire were used to determine what three topics the couple likely disagrees about the most. Specifically, for each topic, the couples' ratings of the likelihood of conflict were summed, and the three topics with the highest ratings were chosen. If there was a tie between topics, the topic with the highest combined rating of how heated the argument gets was chosen. The couples were asked to talk about the first topic and if they "ran out of things to say," to move on to topics two and three. More specifically, couples were asked to talk about the topic as they normally do with each other at home.

Graduate research assistants briefly probed about the first topic to help the couple begin their conversation. Priming included asking couples about the last time they had a disagreement about the topic and how each one sees the issue. If the couple appeared engaged in the conversation before the priming questions were complete, the researchers ended the priming early and allowed the couple to carry on in conversation. After priming, the couple was left alone for about ten minutes to discuss the topic, while the research assistants cared for the baby in a different room (during the pregnancy time point, the researchers waited outside or in their vehicle).

Communications processes during conflict interactions: Coding the behavioral observations and determining the positive and negative communication criterion variables. Teams of three undergraduate and graduate psychology students were trained to code the marital interactions using a modified version of the System for Coding Interactions in Dyads (SCID) created by Malik and Lindahl (2000). The modified coding system involved macro, or global coding of the following constructs for each spouse: domineering/coercive control, verbal aggression and negativity, complaining or bickering, non-verbal negative emotion, invalidation, withdrawal, collaborative communication problem solving, and affection. The degree to which each spouse exhibited each of these characteristics was rated by coders on a 5-point scale ranging from "very low" (1) to "high" (5). Each construct coded is described in more depth below. The modified coding system used in this research is included in Appendix G.

Coders attended several training sessions to learn the coding system, and trained until good reliability between coders was established (final reliabilities for each code are given below). Weekly two-hour coding meetings were held to ensure that coders continued to display good reliability with one another (ratings were checked for reliability throughout the coding process). All three coders on the team individually rated all of the marital interactions at different

times, immediately turning in their rating forms after completion. Coders were instructed to watch the videotapes at least three times. Coders were instructed not to discuss the marital interactions if they were to talk with a fellow coder prior to the weekly coding meeting, as to not compromise the independent ratings or confidentiality of the couple. Previous research on the SCID indicates adequate reliability for the individual codes of interest in the current study (Pearson correlation coefficients between raters ranged from $r = .70$ to $r = .91$ in one study and from $r = .71$ to $r = .87$ in another) and evidence of construct validity (Malik & Lindahl, 2004). Good inter-rater reliability was demonstrated for all individual codes used in the current study, with Interclass co-efficient correlations (ICC) as follows for the four time-points: domineering/coercive control (T1= .85, T2= .84, T3= .87, T4= .89), verbal aggression and negativity (T1= .85, T2= .84, T3= .84, T4= .85), complaining or bickering (T1= .85, T2= .86, T3= .92, T4= .89), non-verbal negative emotion (T1= .85, T2= .86, T3= .85, T4= .84), invalidation (T1= .77, T2= .79, T3= .75 , T4= .77), withdrawal (T1= .79, T2= .81 T3= .80, T4= .86), affection (T1= .81, T2= .80, T3= .85, T4= .88) and collaborative communication problem solving (T1= .83, T2= .82, T3= .87, T4= .88). The three coders' ratings were averaged to yield a measure of spouses' behavior on each individual code.

For data reduction purposes, factor analyses were conducted to consolidate the eight individual codes that best capture various positive and negative communication processes. Specifically, principle component factor analyses were conducted using two alternative forms of oblique rotation methods, the Direct Oblimin rotation and Promax rotation oblique methods. Oblique rotation methods are implemented when theory dictates that the underlying factors in the model are likely to correlate; in the current study, it was likely that the underlying factors, such as aspects of positive and negative communication, would correlate. The factor analyses results

consistently suggested the presence one unified factor. Specifically, the results clearly indicated for husbands and wives at all four time points that the following five negative codes loaded on one factor, representing different aspects of one underlying construct of overt negative communication behaviors: 1) domineering/coercive control (i.e., taking a one-up stance toward the partner, attempting to control or change the partner, acting in a coercive or bossy manner); 2) verbal aggression and negativity (i.e., name calling, critical or insulting comments, hurtful humor, blaming, mocking comments); 3) complaining or bickering (i.e., complaining, bickering, whining); 4) non-verbal negative emotion (i.e., expressions of frustration, anger, contempt, or emotional defensiveness; tense, tight, and/or angry body postures and facial expressions; tone of voice that is angry, cold, and/or annoyed); and 5) invalidation (i.e., invalidating and acting insensitive to spouses' feelings, views, and thoughts, minimizing or dismissing a partner's concerns, making "yes but" statements without taking other person seriously).

Although a second factor emerged in all factor analyses for husbands and wives across the four time points, the same set of individual codes did not clearly loaded onto this second factor. While the individual code of withdrawal consistently and strongly loaded onto the second factor the positive codes of collaborative communication problem solving and affection failed to distinctly or consistently load onto either the first or second factor. Based on the mixed results for the second factor yielded by the oblique rotation analyses, the following three codes were used as individual criterion variables in this study: 1) withdrawal/disengagement (i.e., actively disengaging from, or ignoring partner, poor eye contact, sulking, turning one's body away from other, changing body position to create more distance, staring at the wall or ceiling, crossing arms, acting indifferent, nonchalant, disinterested, or unresponsive); 2) collaborative communication problem solving (i.e., explaining own viewpoint in a non-blaming and clear

fashion, elicits partner's perspective on issue, non-judgmental and non-defensive when listening to partner's viewpoint, willingness to generate solutions and compromise, emotionally sensitive to partner), and affection (i.e., verbal affirmations, praises, and compliments of partner, shared positive humor that appears to bring the couple closer, non-verbal signs of affection such as touching, caring looks, smiles, shared laughter, and holding hands). The decision to analyze these three factors separately mirrors prior research, theory, and clinical practice, and capitalizes on time and energy invested in using a coding system with multiple, distinctive factors. In sum, four scales, two positive and two negative, were used as dependent variables in the statistical analyses; namely, overt negative communication behaviors, withdrawal, collaborative communication problem solving, and affection.

Analytic Strategy

Fixed effects ordinary least squares regression models for longitudinal data (Allison, 2005) were used examine the direct effects of each spouses' marital strengths on each spouses' observed marital communication outcomes. This method statistically controls for all measured and unmeasured characteristics of individuals that do not change over time, thereby eliminating possible biases. Fixed effects regression is a conservative statistical method used to model causal relationships with longitudinal data when researchers present a viable theoretical argument for causal directionality. In experimental research, randomization of participants allows researchers to draw causal inferences about the relationship between variables. However, in non-experimental research, when randomization of participants can not occur, researchers often attempt to approximate causal relationships by statistically including control variables in the model using a variety of techniques (e.g., linear regression, logistical regression, propensity scores (Allison, 2005).

There are two major limitations of such techniques to assess the nature of the relationship between a predictor and criterion variable that the fixed effects approach to modeling overcomes. The first limitation is the impossibility of including all measured variables as controls in statistical models that could conceivably contribute to the relationship between two variables (i.e., a critique could easily be made that an important stable, time-invariant control variable, such as a demographic or personality factor actually accounts for the found link). The second limitation is that, some time-invariant third variables that are likely to affect the link between two variables can be extremely difficult to measure, and thus would be difficult to include in a model. For example, in the current study, it was particularly important to use fixed effects modeling because numerous unmeasured stable characteristics of the reporter and the reporter's marriage could potentially influence the relationship between self-reported marital strengths and observed communication (Allison, 2005). Such stable, unmeasured variables include the individual's or couple's degree of conventionality (i.e., individuals or couples who are typical and conventional in their interactions and lifestyles versus individuals and couples more eccentric and unique in these areas) and the degree of the individual's or couple's contrived positivity (i.e., spouses' viewing their marriage through rose-colored glasses or covertly agreeing to ignore marital difficulties). These stable individual and couple characteristics could affect the relationship between marital strengths and observed communication, but it is difficult to measure these constructs. Examples of stable measured and unmeasured individual characteristics may include spouses' personality characteristics (e.g., openness, extroversion, agreeableness, consciousness, neuroticism), aspects of their family upbringing (e.g, parental divorce, family SES growing up), or general characteristics of a spouse (e.g., age, race, education).

To illustrate, if a stable individual or couple characteristic unaccounted for in the statistical model (e.g., degree of individual or couple conventionality) correlates with the independent variable (e.g., sanctification of marriage) and criterion variable (e.g., observed problem-solving communication during conflict), then standard regression models would result in biased estimators. By using fixed effects methods, it is possible to control for all possible stable characteristics of the individuals and couples in the study, without measuring them and explicitly including them in the statistical model. Fixed-effects models are particularly useful in this study that examines husbands' and wives, as these models rule out the possibility that the potential links between marital strengths and observed communication behaviors are due a stable, unmeasured characteristic of the couple that affects a given spouses' predictor or criterion variable consistently over time. This is because fixed effects models control for any stable characteristic or attribute (individual, couple, environmental, etc.) that affects a given spouses' predictor or criterion variable in a stable way across time.

Given the strong claim that fixed effects modeling is capable of controlling for all stable individual, couple or environmental characteristics that affect the individual in a consistent way across time, it is important to provide a basic mathematic explanation that helps one understand how such powerful inferences can be drawn. Essentially, in fixed effects regression, "each individual serves as his or her own control" (Allison, 2005, p. 3). In basic terms, this is carried out by mathematically making comparisons *within* husbands' and wives' separately (using each spouses' scores across the different time points), and then averaging husbands' and wives' difference scores (separately for husbands and wives) across all the husbands' and wives' in the sample. That is, in fixed effects models individuals' scores are being compared to their own score at the different time points, and therefore any stable variable (whether a characteristic of

the individual, couple or environment) that may affect their predictor or criterion variable score in a consistent manner across time, is differenced out. It is helpful to consider the following equation:

$y_{it} = u_t + \beta x_{it} + yz_i + \alpha_i + \varepsilon_{it}$ where…

y_{it} is the value of a criterion variable for individual i at time t
u_t is an intercept that is allowed to vary with time
β is a coefficient
x_{it} is a variable that varies both over individual and over time for each individual, and is assumed to be strictly exogenous (this means that x_{it} is assumed at any time $_t$ to be statistically independent of the random disturbance at all points in time)
yz_i is the value of a variable that describes the person, but does not vary over time
α_i represents all differences between persons that are stable over time and is assumed to be a set of fixed parameters (this implies that x_{it} may correlate with α_i)
ε_{it} is a random disturbance error term and is assumed to satisfy the assumptions of standard linear modeling

In fixed effects modeling, when only two waves are data are used, meaning there are two observations per person, difference scores can be used for all the time-varying variables (predictor and criterion variables) when OLS is conducted. Consider the equations below for the two time points, and the equation for the difference score:

Time 1: $y_{i1} = u_1 + \beta x_{i1} + yz_i + \alpha_i + \varepsilon_{i1}$
Time 2: $y_{i2} = u_2 + \beta x_{i2} + yz_i + \alpha_i + \varepsilon_{i2}$
Difference: $y_{i2} - y_{i1} = (u_2 - u_1) + \beta(x_{i2} - x_{i1}) + (\varepsilon_{i2} - \varepsilon_{i1})$

The difference equation demonstrates that yz_i and α_i have been "differenced" out of, or "canceled out" of the equation, thereby completely controlling for the effects of these variables (i.e., the time-invariant variables). Therefore, when difference scores are use in OLS regression, the results are said to give unbiased and efficient estimates of β (i.e., the time-varying predictors), as only measures of individual characteristics that change over time are included in the model. However, when more than 2 waves of data are available, meaning that each

individual has more than 2 observations, understanding how the fixed effects method mathematically functions is less intuitive. In the case of the current study with four waves of data, the statistical analyses control for the unmeasured time-invariant variables through ""conditioning out" the α_i terms and performing OLS on deviation scores" (Allison, 2005, p. 20). These analyses can be completed in SAS estimating the model using the PROC GLM, ABSORB, and CLASS commands (Allison, 2005). The ABSORB command allows GLM to convert all variables to deviation scores and estimates the regression. More specifically, the ABSORB command first computes the means over time for each person for each time-varying variable (both predictor and criterion variables). The person-specific means are then subtracted from the observed values of each variable:

$$y_{it}^* = y_{it} - \bar{y}_i$$

$$x_{it}^* = x_{it} - \bar{x}_i$$

Then, y^* is regressed on x^*, including variables to represent the effect of time (using the CLASS command). It is important to note that because the fixed effects method uses a form of difference scores to control for time-invariant variables, the estimates of the coefficients given in the output can be difficult to interpret meaningfully. Specifically, coefficients are interpreted as the change in one unit in the criterion variable that would result from a unit increase in the predictor variable. As units in this context do not have meaningful anchors, little attention is paid to the coefficients. Instead, to interpret the results, one must examine the *p*-values for significance, with significant *p*-values indicating that after controlling for time-invariant characteristics, the predictor variable still significantly predicts the criterion variable (Allison, 2005).

Several sets of analyses were conducted that examined whether each indicator of marital strength for husbands' and wives' (i.e., marital love, collaborative problem solving, sanctification of marriage, and spiritual intimacy) predicted unique variance in each indicator of husband's and wives' observed marital conflict (i.e., negative communication, withdrawal, problem solving, and affection). Each fixed effects regression model included only one predictor variable, so the effects of each criterion variable deviation score were regressed individually on each predictor variable deviation score for husbands and wives separately. These analyses were conducted to examine the effect of each of the husbands' and wives' marital strengths on each of their own criterion variables. Further, using fixed effects regression, the effects of husband's criterion variable deviation score were regressed individually on wives' predictor variable deviation scores, and vice versa for wives.' These analyses were conducted to examine the effects of each of the husbands' and wives' predictor variables on each of their spouses' criterion variables. No controls were added to the models, as fixed effects regression inherently controls for all time-invariant variables, and there was no theoretical reason to include any time-variant measures. Previous research involving dyads has used similar approaches in order to eliminate the effects of stable, unmeasured family characteristics (Leopold & Raab, 2011; Pudrovska, 2008).

RESULTS

Tables 1 displays descriptive statistics for the predictor and criterion variables included in the study across the four time points, while Table 2 displays descriptive statistics for the demographic and relational variables reported prenatally. On average, husbands and wives engaged in low to moderate levels of observed problem solving and affection and low levels of observed negative communication and withdrawal with one another during the ten-minute conflict interactions. Husbands and wives reports of sanctifying their marriage and the frequency with which spouses reported spiritually intimate behaviors within the marriage suggests that this is a moderately religious sample. On average, husbands and wives attended religious services once a month and prayed one to a few times a week.

Tables 3 and 4 show the bivariate intercorrelations between all marital strength predictor variables and between all criterion variables, respectively, at each time point. Table 3 shows that positive and statistically significant moderate to moderately high correlations emerged between a majority of the marital strength predictors. Statistically significant Pearson's *r*'s ranged from .16 to .45 for wives' intercorrelations and from .17 to .50 for husbands' intercorrelations, suggesting some redundancy but not complete overlap between the marital strength indicators. Thus, it appeared that each indicator described a unique marital strength construct and therefore all the indicators of marital strengths were used this study, each independently entered into their own fixed effects regression model. Table 4 displays the positive and statistically significant intercorrelations that emerged between the criterion variables. Similar to the predictor variables, the correlations were moderate to moderately high (Pearson's *r*'s ranged from .18 to .74 for wives and from .26 to .75 for husbands), indicating some overlap, but overall suggesting that each marital communication outcome represents a unique construct.

Tables 5, 6, 7, and 8 present the cross-sectional results of the bivariate correlational analyses between spouses' indices of spiritual intimacy, collaborative problem solving, sanctification of marriage, and marital love, and each observed marital communication outcome at each time point. Notably, the bivariate correlations between husbands' and wives' self-reports of collaborative problem-solving have significant medium correlations with their observed problem solving. This provides some evidence that the observed measures of communication are valid, as they overlap to a degree with spouses' self reports' of their collaborative behaviors during conflict.

In addition to the correlation analyses, Tables 5 and 7 also present the results from the fixed effects OLS regression analyses, individually regressing each observed communication variable deviation score for husbands' on each marital strength variable deviation score for husbands,' and doing likewise for wives. Similarly, in addition to the correlation analyses, Tables 6 and 8 also show the fixed effects OLS regression results that emerge when husbands' observed communication variable deviation scores are regressed on the wives' predictor variable difference scores, and vice versa for wives.

Recall that each spouses' indicator of collaborative communication combined both their own and their spouses' reports of their collaborative communication behaviors during conflict. Interestingly, while husband's collaborative communication significantly predicted less observed negative communication in wives and wives' greater observed problem solving, husband's collaborative behaviors did not significantly predict any of his own outcomes. However, there was a trend result for husband's collaboration predicting his own observed affection and problem solving outcomes. Also interesting is that wives' collaborative communication behavior did not

significantly predict any of the outcomes for husbands and wives, although there was a trend for her observed problem solving.

Likewise, recall that each spouses' indicator of spiritually intimacy combines both their own and their spouses' reports of their supportive behaviors and verbal disclosure during conversations centered on spouses' spiritual identities. Husbands' and wives' indicators of spiritually intimacy (entered alone in statistical models), each significantly predicted less observed negative communication for husbands and wives, less observed husband withdrawal, and greater observed husband affection. Further, husbands' spiritually intimate behaviors significantly predicted less observed wife withdrawal and greater observed wife affection, while wives' spiritually intimate behaviors significantly predicted greater husband and wife observed problem solving, and at a trend level, her own affection.

Unlike the spiritually intimate and collaborative communication behavioral indicators of marital strengths that included husbands' and wives' combined reports, marital love and sanctification of marriage were assessed using each spouse's individual self-reports. Husbands' and wives' self-reports of marital love each significantly predicted less observed negative communication in wives. Further, husbands' reports of marital love also significantly predicted less withdrawal behavior in wives, greater observed affection in husbands and wives, greater problem solving in husbands, and at a trend level, greater problem solving in wives. Additionally, wives' marital love significantly predicted less observed negative communication in husbands and greater observed problem solving in wives.

Husbands' and wives' self-reports of sanctifying their marriage each significantly predicted husbands' observed affection. Husband's greater sanctification of marriage also significantly predicted less observed withdrawing behaviors in wives, both husbands' and wives'

greater observed problem solving behaviors, and at a trend level less observed negative communication in husbands. Wives' sanctification of marriage significantly predicted greater observed affection in wives.

DISCUSSION

This foundational study on the influence of self and spouse-reported marital strengths on observed positive and negative communication behaviors in spouses' discussing a conflictual topic has expanded empirical research in the domains of marriage, family life, and spirituality in several ways. This study addressed methodological limitations in previous marital research by examining how *both husbands' and wives'* reports of *specific* marital strengths predict *observed couple communication strategies* during ten-minute conflict interactions using *fixed effects regression models with four waves of longitudinal data across the transition to parenthood*.

As the importance of fatherhood has arrived at the forefront of empirical social science due to increasing research and social programs in this area, first time fathers were included in this study. As a result, we have a greater understanding of the marital strengths that fathers may possess that influence their ability or choice to kindly engage in collaborative conversations characterized by perspective taking, compromise, and affection and refrain from controlling, name-calling, withdrawing, and other negative behaviors around the period that couples become new parents. In this study, specific in-depth measures of marital strengths were utilized, thereby moving beyond global, single-item measures (e.g., one-item measures of marital satisfaction, religious service attendance, or self-rated religiosity) to identify specific marital strengths (e.g., marital love, collaborative communication) and their spiritual parallels (e.g., spiritual intimacy, sanctification of marriage) that predict enhanced observed couples' communication. For example, by assessing specific aspects of marital love such as connectedness, attachment, felt love, and commitment, a more nuanced picture of how marital love may function to influence couples' communication strategies has been uncovered. Similarly, measuring spouses' spiritual cognitions about the sacred qualities and manifestation of God in their marriage, and the degree

to which they share their spiritual identities and support their spouses' helps tap into mechanisms that may affect observed marital communication. Additionally, the language used to describe and assess the specific marital strengths in this study may provide mental health professions with a concrete way to discuss couples' spirituality, love, and communication patterns within the context of psychotherapy.

Additionally, unlike previous research, this study used self and spouse reports of marital strengths to predict behavioral observations of conflict communication strategies, a less-often used, but highly valued approach in marital research (Karney & Bradbury, 1995; Bradbury, Fincham, & Beach, 2000). It was assumed that many couples in relatively stable, healthy marriages (like the current sample) would report having decent communication skills to discuss conflict. Indeed, according to ratings that both spouses provided about themselves and each other, both husbands and wives rarely engaged in open verbal hostility (e.g., name-calling, insulting, raise voice, yell, and shout, insist on own point of view) when conflicts occurred at home and said that both fairly often used collaborative strategies (e.g., talk it out with the other, express thoughts and feeling openly, compromise). Thus, the key issue becomes the question of what may motivate spouses to use communication skills when challenged by researchers to discuss their conflicts with each other while being videotaped. It was theorized that self and spouse-reported marital strengths may influence when spouses choose to draw on these strategies. Therefore, while previous research has tended to examine observed communication as a predictor variable (Cox, et al., 1999; Crohan, 1996; Houts, Barnett-Walker, Paley, and Cox, 2008), this study predicted observed positive and negative communication in husbands and wives by using four self and spouse-reported marital strengths.

Lastly, fixed effects regression models utilizing four waves of longitudinal data were used to examine whether spouses' marital strengths predicted aspects of observed marital communication during conflict interactions, after accounting for all time-invariant characteristics of the individual, couple, and environment that affect the spouse in a consistent way across time. Given the importance of addressing third variables that could potentially account for found links between predictor and criterion variables, the conservative fixed effects regression approach used in this study addressed limitations of previous research. Thus, the use of fixed effects regression with longitudinal data allows one to draw powerful, causal inferences about the relationship between reported marital strengths and spouses' observed positive and negative communication about a conflict-provoking topic.

Interestingly, I received little support for my hypothesis that spouses reporting greater collaborative communication during disagreements at home would predict better observed marital communication when confronted with the task of engaging in a ten-minute discussion where they were required to discuss the one to three topics that were most likely to trigger tense or heated disagreements between them. However, I received significant support for my hypothesis that spouses who report greater spiritually intimate behaviors would exhibit less observed negative, and more observed positive communication during the observed conflictual marital interactions than those who report less of these spiritually intimate behaviors. Lastly, I received partial support for my hypothesis that spouses reporting greater perceptions of marital love and greater perceptions of the sanctity of marriage would be observed engaging in greater positive and less negative communication strategies. Before turning to discussions about the relationships between the joint reported behavioral indicators of marital strengths and the self-reported perceptual indicators of marital strengths and the observed conflict communication

outcomes, I briefly remind the reader of the context for the marital interaction and the specific criterion variables.

Marital Interaction Context and Observed Marital Communication During Conflict

For pregnant spouses and new parents, addressing potentially long-stemming areas of conflict may not be at the top of their "relationship to-do list." These likely stressed and overwhelmed parents busy with the time-consuming and demanding tasks of taking care of a new baby, may have little time for, or not be particularly concerned about addressing their marital difficulties. Indeed, in their everyday lives, many of these couples may choose to overlook, ignore, or minimally address their areas of disagreement, potentially because they are too busy and tired and choose to expend their time and energy elsewhere. In this sample of new parents, at any of the given four time points, about 65-70% of spouses reported having mild conflicts (e.g., "spats," getting on each other's nerves) once or twice a month or less, and about half reported having major disagreements (e.g., big fights, "blow-ups") once a year or less. Notably, it was within this context that researchers asked spouses to sit down with each other and discuss topics likely to cause a disagreement while their baby was cared for in a room out of earshot. Recall that topics were chosen based on both spouses' responses on the marital topics questionnaire, on which spouses' indicated the topics most likely to spur a disagreement. The most frequent topics that both husbands and wives reported were somewhat or very likely to cause an argument during pregnancy included financial issues, parents, in-laws or other relatives, division of household chores and duties, and time management. When their babies were a year old, for both wives and husbands, these topics remained the same, except differing social needs replaced the topic of parents, in-laws, or other relatives in the top four.

Remember that three different independent raters at each time point coded the videotaped marital interactions on eight different dimensions, with their three scores averaged to create one score for each spouse on each dimension. Based on the factor analyses, four criterion variables were used in the current study as indicators of observed communication strategies in couples; these included negative communication (the five codes of domineering, verbal aggression, negative emotion, complaining/bickering, and invalidation were combined), withdrawal, affection, and problem solving. I now remind the reader of the framework used to rate each aspect of observed communication assessed in this study.

For the negative communication variable, observers rated the extent to which spouses' engaged in overt negative communication behaviors such as trying to control and take a "one-up stance" toward a partner, making insulting and hurtful remarks, and whining, complaining, and bickering in an unproductive manner. Additionally, non-verbal expressions of negative emotion such as having a frustrated, harsh, or angry tone of voice, facial expression, or body posture and invalidating and insensitive remarks were aspects of the negative communication criterion variable. Essentially, observers' ratings on aspects of negative communication functioned to depict the overall level of observed overt verbal and non-verbal negativity on the part of each spouse.

Withdrawal is a different negative strategy that couples may use to handle their disagreements that involves disengaging from their partner in the conversation. For the withdrawal criterion variable used in this study, observers rated spouses on the degree to which he/she actively ignored or withdrew/disengaged from their partner by either evading the issue or pulling him/herself out of the discussion. Often this was evidenced by body language (e.g., avoiding eye contact, turning their body away to create more distance, staring at the wall), tone

of voice (e.g., person sounding flat, bored, disinterested, defeated, or distracted when speaking), and attitude (e.g., partner overtly saying they are done with the conversation, or acting indifferent, nonchalant, disinterested, or unresponsive). It may be noted that prior research offers mixed findings on whether withdrawal operates in a positive or negative manner for couples. In some circumstances for husbands, withdrawal may reflect an adaptive strategy that deflects and de-escalates conflict, resulting in less emotional arousal after conflict (Verhofstadt, Buysse, De Clercq, & Goodwin, 2004). Yet, withdrawal has been found to sometimes escalate conflict between partners, particularly for highly marital distressed couples who are locked in a chronic pattern of "pursuer-withdrawal" where one partner consistently initiates discussion of unresolved conflict and the other partner attempts to evade discussion (Christensen & Shenk, 1991).

Engaging in affectionate behavior is one positive communication tactic that spouses may implement to effectively communicate about disagreements with one another. Observers rated each spouse on their level of verbal and non-verbal affectionate behaviors. Verbal affection behaviors included comments and praises directed at their partner's abilities, character, or personality, and creating moments in which the couple shared humor or other experiences of warmth that functioned to bring them closer. Non-verbal affection included behaviors such as touching, shared laughter, gazing lovingly, warmth in one's voice, smiling, and leaning toward the other.

A second form of positive communication examined in spouses in this study was collaborative problem solving during communication. Observers rated spouses on their problem-solving abilities based on four criteria. Specifically, raters considered the degree to which spouses expressed their thoughts, opinions, and emotions about the topic of conflict in a non-blaming and clear fashion, and how much they elicited their partners' perspective and actively

listened non-judgmentally to their partner. Additionally, observers attended to the degree to which spouses made efforts to move toward solutions, negotiate, and compromise and the extent to which they approached the topic and their spouse in a soft and emotionally sensitive manner.

Joint Reports of Spouses' Collaborative Problem Solving and Spiritual Intimacy

Two of the marital strengths assessed in this study incorporated both husbands' and wives' reports of each spouses' communication and intimacy behaviors in the home environment. Specifically, this study used his and her reports of each spouses' perceived communication and intimacy behaviors 1) during disagreements and 2) during conversations focused on spiritual matters. In theory, how couples perceive they and their spouses' communicate about important matters such as marital disagreements and sharing their spiritual selves in the home may uniquely predict how they communicate with one another as new parents when challenged with the task of directly discussing topics of disagreement with each other under observation, a circumstance when the couple would presumably be motivated to enact their optimal marital skills. It was hypothesized that spouses' joint reports of each spouses' collaborative problem solving tactics and spiritually intimate behaviors would predict less observed negative communication and withdrawal, and greater observed affection and problem solving during videotaped conversations where new parents were faced with the task of discussing an area of marital discord for ten minutes.

Joint self and spouse-reported collaborative problem solving. The majority of the cross-sectional bivariate correlations at each time point evidenced significant results in the predicted direction between joint reports of each spouses collaborative problem solving and each observed aspect of marital communication, with the exception of observed withdrawal behaviors that did not evidence many significant correlations. These cross-sectional findings provide

evidence of convergent validity for the marital interaction task used in this study and the coding system used to assess marital interactions. In short, what the coders observed was moderately associated with what couples reported about their self-observations of communication skills. However, surprisingly, spouses' joint reports about husbands' and wives' use of collaborative, compromising, and open communication during disagreements, did not consistently predict better observed communication strategies in spouses' discussing topics of disagreement, after accounting for stable characteristics of the spouses. These null findings suggest that other factors may account for whether and when couples use adaptive communication skills to address conflicts. I now elaborate on the pattern of findings between spouses' joint reports of both partners' use of collaborative communication at home and observed communication during videotaped conflictual interactions.

Observed Negative Communication. Although the cross sectional bivariate relationships were statistically significant, both husbands' and wives' joint reports of collaborative problem solving abilities were unable to predict husbands' observed negative communication strategies after accounting for stable characteristics of the spouse. Likewise, in the fixed effects model, wives' collaboration was unable to predict her own use of negative communication. However, husbands' rated highly on their ability to collaboratively and openly discuss disagreements while trying to understand and listen to their wives,' were more often observed by raters to have wives' who displayed less negative communication behaviors, after controlling for stable attributes of the spouse. To reiterate, this pattern of findings indicates that the more spouses view husbands as generally engaging in high relative to low collaborative communication skills, the more wives avoided negative communication strategies when challenged to discuss the couples' conflicts

when being videotaped. Ironically, however, these more skilled husbands were not more likely to inhibit negative comments under these circumstances.

Observed Withdrawal. Although a few significant bivariate correlations emerged between husbands' and wives' reported collaboration in the home and their own observed withdrawal behaviors, after accounting for stable characteristics, their reported collaborative behaviors were unable to predict their own observed withdrawal behaviors. Further, no significant results emerged from either the correlation or fixed effects analyses between spouses' reported collaborative behaviors at home and their spouses' observed withdrawing behaviors during the 10-minute videotaped interactions.

Observed Affection. While cross-sectional links emerged between husbands' and wives' reported collaborative behaviors at home and both spouses' observed affection, the fixed effects results indicated that only one trend remained after accounting for stable characteristics of the individual that could be acting as potential third variables. Namely, joint reports of husbands' collaborative behaviors during disagreements in the home marginally predicted his own observable affectionate behaviors during brief videotaped marital interactions centered on a topic of disagreement.

Observed Problem Solving. Similarly, although significant correlations emerged, husbands' and wives' collaborative behaviors only marginally predicted their own observed problem solving behaviors, and wives' collaborative behaviors were unable to predict husbands' observed problem solving behaviors in the fixed effects models. However, when husbands were reported to engage in more collaborative behaviors by both spouses in the home environment, their wives exhibited greater problem solving skills during the brief videotaped conflict-centered marital interactions after accounting for any stable characteristics of the individual.

Take-home Points. Overall, it is surprising that how couples report that they and their spouse communicate during disagreements does not consistently uniquely contribute to observed aspects of how they and their spouses handle conflict when asked to discuss a disagreement for ten minutes. Taken together, these findings suggest that core and stable characteristics of the spouses account for the relationship between spouses' reported use of positive and collaborative strategies implemented during conflict in the home and the strategies they were observed to use during the short, videotaped discussions about topics of disagreement. Potentially, spouses' stable levels of education, verbal skills, intelligence and personality factors (e.g., openness, conscientiousness, extraversion, agreeableness, and neuroticism) may relate to spouses' collaborative communication skills, and drive the correlations between husbands' and wives' reported collaborative behaviors and raters observations of their communication tactics during brief interactions. That is, better-educated, verbal, intelligent and emotionally stable spouses more likely possess clear communication that involves expression of thoughts and feelings, reasoning, and compromise that spouses' identify as collaborative. However, the skills themselves do not uniquely account for better observable communication behaviors in spouses after controlling for greater education, intelligence and personality factors. In sum, stable characteristics of the spouse may account for the relationship between reported collaborative behaviors and their actual observed behaviors during conflict.

Given the two significant results that emerged for husbands, these findings also hint at the possibility that spouses' perceiving husbands to consistently exhibit positive collaborative communication behaviors at home and over time matters more than spouses' perceiving these behaviors in wives, at least in terms of their effect on observable communication strategies used to cope with marital disagreements. Potentially, in marriages where husbands are perceived by

both spouses to frequently work hard to collaborate, discuss their thoughts and feelings openly, and understand their wives' perspective, wives may feel more motivated to reciprocate their husband's efforts. Particularly, these reciprocated efforts occur in wives when couples are placed under the equivalent of a relationship "stress test" where the couple is challenged to discuss the one to three topics that are most likely to trigger tense or heated disagreements. Thus, wives married to husbands who have a stable track record of working hard to be collaborative may choose to engage in less overt negative communication and greater observed problem solving tactics when the couple is given the opportunity to take time out of their busy lives as new parents to focus on their marital disagreements.

Perhaps proscribed social and family roles for women and men help explain why spouses joint reports of wives' collaborative approaches did not predict either partners' behavior whereas men's collaborative tendencies did matter. Historically, women, as compared to men, have experienced greater pressure to engage in pro-social behaviors in the family such as collaboration, compromising, expressing oneself, empathic listening, and apologizing. Potentially, when husbands are perceived to engage consistently over time in these positive behaviors at home, their efforts may be more highly valued by their wives, as evidenced by shaping wives' efforts to engage in adaptive communication strategies when given a clear opportunity to address areas of conflict that may tend to be minimized or ignored in the hustle and bustle of adjusting to the transition to parenthood. This may be why wives' in relationships with reportedly collaborative husbands' tended to engage in greater observed problem solving and less observed negative communication during brief videotaped conflict interactions. On the other hand, husbands may naturally expect these behaviors in their wives, and therefore may be

less impressed by, or less motivated to act differently based on their wives' positive communication efforts.

Joint self and spouse-reported spiritual intimacy. Recognizing that marital strengths centered on spouses' spirituality may add a unique set of resources to help couples manage conflict, this study utilized a measure that parallels the collaborative communication measure, but incorporates a spiritual dimension. Specifically, recall that to assess spiritual intimacy, this study used husbands and wives joint reports for both spouses' degree of disclosive and supportive behaviors during conversations focused on spiritual matters. Of note, the mean scores for spiritually intimate behaviors for wives and husbands slightly fluctuated around 18 and 17, respectively, across the time points; these total scores across 8 items correspond to an average rating per item between the anchor points of "quite a bit" ("2" on 0 to 3 point scale) and "a great deal" ("3" on a 0 to 3 point scale). Yet, while the couples as a group tended to report high levels of spiritual intimacy, the sample also displayed considerable variability in spiritual intimacy.

The cross-sectional correlation analyses revealed that both husbands' and wives' spiritually intimate behaviors at most time points positively related to observations of less negative communication and withdrawal and more affection and problem solving behaviors. Further, the construct of spiritual intimacy yielded the most compelling and consistent findings using fixed effects regression models with joint self and spouse-reports of each partner's spiritually intimate behaviors as predictors. Specifically, consistent with my hypotheses, husbands' and wives' spiritually intimate behaviors predicted almost all of their own and their spouses' observable communication behaviors after accounting for stable individual characteristics that could act as third variables in the relationship. Before discussing the distinctive theoretical reasons for each specific finding that emerged between each spouses'

reported spiritual intimacy and each observed aspect of marital communication, I provide some general conceptual principles about how spiritually intimate behaviors may function to positively influence observable communication strategies.

Theory. The transition to parenthood is a particularly stressful and busy period in which being spiritually intimate with one's spouse may potentially act as a buffer against resorting to the use of name-calling, domineering, bickering, or withdrawing, and as an encouragement to collaborate and listen when couples are challenged to sit down and discuss core conflicts. Through a habit of sharing spiritual issues and obtaining support for these kinds of intimate disclosures, spouses may obtain a deeper understanding and respect for each other that motivates spouses to engage in less negative communication and more positive communication strategies when they are confronted with addressing their conflicts. In theory, couples who have a strong foundation of sharing their spiritual beliefs, practices, and questions with the other, while listening to their partner's disclosures in a non-judgmental and supportive manner may approach discussions of specific conflicts differently than couples who less often connect with each other around the topic of spirituality.

First, during spiritually intimate conversations, spouses share with one another spiritual beliefs and experiences that may be difficult to defend as valid or "true," and offer a stance of receptive, non-judgmental openness to their spouses' disclosures. During such dialogues, spouses may share their most deeply held or controversial views about the nature of God and sacred matters. Such revelations typically carry the risk of rejection or ridicule as many spiritual beliefs or practices are impossible to prove with scientific evidence as philosophically defensible and reflect an individual's values about morality and ethics (Brelsford & Mahoney, 2008). Mutual vulnerability, coupled with perceived support and acceptance during dialogues about

each spouses' spiritual identities, may build a strong sense of relational trust and connectedness as well as facilitate reciprocal understanding, respect and acceptance. Such powerful relational experiences may foster couple bonding, spousal appreciation, and investment in the marriage that in turn promote positive behavior, and thwart negative communication strategies, during conflicts throughout potentially stressful periods in family life where couples have little energy or time to try to resolve conflicts, such as the transition to parenthood.

Second, in couples where spouses perceive their partner to accept or share their spiritual beliefs, practices, and values, spiritually intimate behaviors may act as a pathway to deepen and reinforce spouses' personal spiritual beliefs. Such dialogue may contribute to spouses' felt spiritual connection to God and to each other, and the spiritual intimacy within the marriage may be perceived as sacred, or of great worth. In theory, spouses who experience high levels of spiritual intimacy in their marriage, may be more motivated to discuss their conflicts in adaptive ways in the service of preserving and protecting their sacred spiritually intimate relationship (Mahoney, 2005).

Observed Negative Communication. When husbands and wives reported greater sharing of spiritual highs and lows and responding to their spouse's spiritual disclosures in an empathic and non-judgmental manner in the home, husbands and wives were observed to have less overt negative communication such as domineering, name-calling, negative emotion, bickering, and invalidation during observed marital conflict interactions throughout the transition to parenthood. Further, these results emerged when controlling for all stable characteristics of the individual. As abstaining from negative behaviors does not require a specific set of skills per se, but rather more of a motivation to refrain from obviously destructive behaviors, in theory, spiritual intimacy may provide this motivation. When spouses experience a relationship as spiritually

intimate, in the service of preserving and protecting this sacred connection, they may be motivated to refrain from engaging in controlling, insulting, and whining behaviors when asked to focus on and discuss the three issues in the marriage that tend to trigger heated arguments. Additionally, spouses who were reported to frequently share their deepest spiritual selves with each other while non-judgmentally and supportively responding to their spouses' spiritual disclosures may possess a mutual deep sense of respect and vulnerability. This reciprocal sensitivity may reflect a resource within the relationship that couples draw upon as a source of motivation to refrain from overtly negative communication behaviors that may threaten their closeness during disagreements. In turn, their spouses may reciprocate the kindness in the same manner.

Observed Withdrawal. In general, when couples reported that spouses more often engaged in spiritually intimate behaviors in their marriage, both they and their spouses were observed to exhibit less withdrawing and disengaging behaviors during videotaped marital interactions. Thus, higher levels of spiritual intimacy facilitated their willingness to explicitly engage in discussion about their top one to three core conflicts, after controlling for all stable attributes of the spouse (one exception is mentioned below). These results suggest that spouses reported to display greater spiritually intimate behaviors within the marriage are better equipped to face their differences directly, rather than pulling away or disengaging from such conversations, when challenged to spend 10 minutes focused on marital problems.

Potentially, spouses' experiences of connecting around spirituality may provide them with a sense of safety and security that gives them confidence to remain engaged when they are asked to discuss their conflicts. Similarly, spouses' who very often listen to their spouses' spiritual joys, struggles, and ideas in an open and interested manner may feel a sense of joy and

connectedness from knowing their spouse at a deep level. Thus, with a foundation of being positively reinforced for disclosive and supportive behaviors around potentially sensitive and personal spiritual topics, these spouses may be more willing and pleased to engage with their partner in conversations, even those focused on confronting their disagreements. Likewise, spiritually intimate behaviors may foster mutual respect and acceptance and a safe and open environment that facilitates and promotes open and direct discussions about conflict. Lastly, spouses with greater spiritually intimate behaviors who seek to safeguard their precious spiritual "soul mate" connection may choose to engage in potentially difficult discussions, rather than withdraw from them, for the benefit of addressing any potential areas of conflict that left unaddressed could damage their special relationship.

As noted previously, there was one exception to this pattern of results. Namely, wives' spiritually intimate behaviors did not predict her own observed withdrawal behaviors during the videotaped conflict interaction. However, given that no significant correlation relationship transpired between wives' spiritually intimate behaviors and her observed withdrawal tactics, it is not surprising significant results did not emerge from the fixed effects regression analyses. Potentially, wives' spiritually intimate behaviors may affect her own withdrawal behaviors in two different ways, and these two processes may cancel each other out, resulting in no obvious relationship between the variables. For some wives, greater spiritual intimacy may have given them confidence to address conflicts head on for the reasons mentioned above. However, for other wives greater spiritual intimacy may motivate them to disengage from conversations that they perceive may harm their intimate, sacred connection or hurt their partner. For example, these wives' may choose to inhibit statements to avoid hurting their partner or damaging the relationship.

Observed Affection. When spouses indicated greater frequencies of husbands' and wives' displaying spiritually intimate behaviors at home, both they and their spouses' were observed exhibiting greater affection and warmth during the ten-minute videotaped conflict interactions after controlling for stable characteristics of the individual. Of note, the strength of this link only reached the level of a trend for wives' spiritually intimate behaviors predicting her own observable affection. Potentially, when spouses participate in spiritual discussions at home characterized by disclosure and support, this felt connection may foster a sense of couple bonding and closeness, which in turn, promotes the expression of affectionate behaviors, such as verbal warmth, humor, and positive touch, when couples are asked to discuss their most heated disagreements. Perhaps higher levels of marital spiritual intimacy helps couples feel safe and secure in their relationship because they feel they have revealed the deepest parts of their identities to their mate who responded in a sensitive and supportive manner. The resulting sense of closeness and intimacy appears to manifest itself by both partners displaying more open affection, mutual humor, and warmth when asked to discuss even the most difficult issues in their marriage in front of a camera.

When couples consistently engage in spiritually intimate behaviors at home, they may develop a mutually trusting relationship where both spouses learn to gently handle each other's vulnerabilities and emotions. This foundation of positive experiences of vulnerability around spiritual matters may facilitate the use of affectionate behaviors, a different type of potentially vulnerable behavior, during discussions centered on disagreements. One aspect of affection that coders considered in their ratings was verbal affirmation of the partner's qualities, abilities and characteristics, and affectionate statements such as "I love you." Initiating such comments has the potential to result in increased feelings of vulnerability, and decreased feelings of power and

control, especially if the affectionate gestures are unreciprocated. Through generating a relational atmosphere of love, acceptance, and vulnerability around discussions centered on possibly the deepest part of the self on a consistent basis at home, spiritually intimate behaviors may promote the use of vulnerable, affectionate gestures when couples discuss their marital problems in a videotaped research setting. Additionally, the shared closeness that may build up over time from repeated spiritual dialogues may provide a deep sense of spiritual connection and happiness in couples. Feasibly, spouses may feel genuinely happy and fulfilled in their relationship because they can discuss the deepest parts of themselves and understand their spouses. In turn, these positive feelings resulting from their spiritually intimate marital relationship may facilitate positive, affectionate behaviors in couples asked to address an area of conflict for a brief time.

Observed Problem Solving. When wives were reported by both spouses to be open and forthcoming about their spiritual beliefs, practices, and questions, and supportive and understanding of their partners,' both husbands and wives were observed to have better problem solving skills characterized by compromise, perspective-taking, listening, and respectfully sharing their points of view when observed discussing their core marital disagreements. These results emerged after accounting for all possible stable individual characteristics that may have influenced the relationship. However, although the cross-sectional bivariate correlations at all time points indicated a significant positive relationship between husbands' spiritually intimate behaviors and husbands' and wives' observed problem solving behaviors, both of these links disappeared in the fixed effects regression models. That is, husbands' spiritually intimate behaviors were unable to predict his or her observed problem solving during the 10-minute conflict interactions after accounting for stable characteristics of the individual. Thus, these

results suggest a gender difference for how spiritually intimate behaviors operate in married women and men in terms of the problem solving skills they exhibit during short interactions centered on conflict.

One explanation for why spouses' reports of spiritually intimate behaviors at home produce a different pattern of observable problem solving strategies for husbands and wives first requires highlighting how problem-solving tactics represent a unique aspect of observed communication. Unlike the other observed aspects of communication (negative communication, withdrawal, affection), problem solving behaviors likely require both: a) a particular set of communication abilities that tap into a skill set and b) energy and effort to implement these skills. These skills include the ability to express oneself non-defensively, actively listen to another's perspective in a non-judgmental manner, generate solutions, compromise, and approach someone in a calm manner. In contrast, merely refraining from using poor communication strategies such as controlling the other, name-calling, whining about problems, making invalidating remarks and withdrawing from the conversation involve few, if any sophisticated "learned" "problem-solving" skills that are emphasized in premarital education programs and marital therapy interventions, as well as interpersonal communication skills emphasized in higher educational and business settings. It is possible that these more sophisticated communication skills assessed by ratings of problem solving may be a byproduct of intelligence or learned in certain places (e.g., marriage prep classes, college classes, business interactions).

Potentially, wives reported to engage in more spiritually intimate behaviors on a consistent basis in the marriage may be more motivated to preserve and protect their soul mate relationship. One approach to this objective may be engaging in collaborative behaviors that

require thoughtfulness and energy to process, address, and solve their marital problems, which can be observed in videotaped marital conflict interactions. For these wives, their experience of spiritually intimate behaviors may give them an inner spiritual strength, in the midst of a potentially stressful life period, to muster the energy and effort to intentionally address, and possibly solve, areas of marital disagreement. Their experience of marital spiritual intimacy with their husbands may motivate them to focus on the long-term goal of keeping intact their valuable relationship and consequently enact their good communication skills, rather than focus on the short-term goal of winning an argument. These wives may be more inclined to draw upon, and tap into their skills of expressing themselves, actively eliciting their partner's point of view, creating solutions, and using a soft approach, because they deeply value the spiritual connection in their relationship and therefore are more willing to put forth increased effort to address marital problems in a productive manner. In turn, perhaps husbands' in relationships with women reported to consistently engage in more spiritually intimate behaviors at home, are more inclined to reciprocate their wives' effort by drawing on positive communication strategies when asked to address their marital problems for ten minutes.

Although bivariate correlations showed a significant relationship between husband's spiritually intimate behaviors at home and husbands' and wives' observed collaborative problem solving skills, these links disappeared in the fixed effects regression models. These results suggest that while spiritually intimate behaviors in husbands may uniquely help both spouses calmly stay engaged during brief conflict interactions, withhold negative forms of communication, and even demonstrate affectionate behaviors, they do not uniquely help spouses engage in collaborative problem solving communication. Thus, husbands' spiritually intimate behaviors at home are not a unique causal factor for him or his wife engaging in greater

collaborative problem solving tactics. Instead, stable individual traits likely account for these links.

Potentially, husband's level of education, verbal skills, and intelligence may directly relate to his problem solving skill set, and his ability and motivation to draw on this resource. More highly educated, articulate, and intelligent men may be better at communicating effectively, collaborating, and compromising due to their life experiences and greater ability to learn such skills. Additionally, these men may be more likely to understand the relationship benefits of enacting such skills, and therefore be more motivated to do so when faced with the opportunity to discuss a marital disagreement. Thus, potentially the communication skills and motivation for a well-functioning relationship that husbands may receive as a byproduct from greater education, verbal skills, and intelligence may account for the found links between husbands' spiritual intimacy and his and her observed collaborative communication. For husbands, these stable characteristics of education, verbal skills, and intelligence may function in the same manner as spiritual intimate behaviors, leaving nothing unique for spiritually intimate behaviors to predict with regard to observed problem solving strategies. Consequently, once stable traits are controlled for in the fixed model, the effects of spiritual intimacy dissipate. Perhaps this pattern for husbands was only observed for problem solving because the other aspects of observable communication do not require a particular skill set, a skill set that educated, articulate, intelligent men may be more likely to posses.

Take home points. In summary, these longitudinal results suggest a causal relationship between spouses' spiritual intimacy and observed positive and negative marital communication behaviors, after accounting for any stable, positive, third variables that might relate to the predictor or criterion variables. That is, spiritually intimate behaviors in husbands and wives

predict several aspects of better observed communication during 10-minute conflict discussions that can not be explained away by unmeasured, stable characteristics of the spouses, such as personality traits, age, race, education, the effect of individual couple conventionality, or the effect of spouses or couples trying to "fake good" for the camera. Thus, these results indicate that spiritual intimacy may be a resource that drives positive communication and love and inhibits negative communication regardless of level of education, income, or other resources at couples' disposal.

Of the four indicators of marital strengths, the results that emerged from husbands' and wives' reports of spiritually intimate behaviors were most consistent with hypotheses predicting that marital strengths would relate to more observed positive, and less observed negative communication strategies. Perhaps self and spouse-reported spiritual intimacy related to observed communication centered on a marital conflict more than the other measures because weaving spirituality into marriage by disclosing thoughts and feelings about spiritual and religious matters on a consistent basis may reflect a unique way that couples foster a strong marital relationship. The deepest of experiences with one's spouse may involve sharing one's joys, questions, struggles, and uplifting moments related to spirituality with their partner, and providing support and understanding when their spouse shares.

Self Reports of Spouses' Marital Love and Sanctification of Marriage

The second two marital strengths assessed in this study included husbands' and wives' self-reports of their thoughts and feelings about the marital relationship. Specifically, this study examined each spouses' reports of their perceived marital love, and a parallel measure incorporating spirituality that assessed spouses' self-reports of their positive spiritual perceptions about their marriage. Theoretically, couples innermost thoughts and feelings about their

marriage may uniquely predict the positive and negative ways spouses communicate during ten-minute conflict interactions. It was hypothesized that spouses' self-reports of their marital love and the sanctity of their marriage would predict less observed negative communication and withdrawal, and greater observed affection and problem solving during brief videotaped conversations where new parents were faced with the task of discussing an area of marital conflict.

Self-reported marital love. The fixed effects regression models showed that husbands' and wives' perceptions of their marital love each predicted a handful of the observed marital communication outcomes for spouses during the videotaped discussions centered on marital conflict. However, only two patterns of consistent finding emerged from the data, and therefore this discussion will primarily focus on these two themes rather than provide detailed discussions on each aspect of observed marital communication. The first theme centers on the results that suggest the most pronounced pattern of findings occurred between self-reported feelings of marital love and observed negative communication during brief marital conflict interactions. The second theme focuses on gender differences in the findings, as the majority of the significant results for marital love predicted wives,' and not husbands,' observed communication outcomes and husbands' reports of marital love effected more observable aspects of his spouses' communication than wives' reports of marital love.

Self-reported marital love and observed negative communication. When husbands' and wives' report a greater sense of love for their spouse, both they and their spouse were observed by raters to exhibit less negative communication strategies during 10-minute interactions centered on a conflictual topic, after accounting for stable characteristics of the spouse. One exception to this pattern was that husbands' self-reported love did not predict his own observed

negative communication. Overall, these results suggest that the general degree of felt love in the marital relationship works in a unique way to encourage both husbands and wives to avoid using hurtful verbal and non-verbal communication tactics. Perhaps when spouses perceive a greater marital climate of closeness, attachment, commitment and felt love, these positive feelings toward their spouse create a desire to cherish their spouse and treat them well. These feelings, in turn, appear to be manifested in spouses' behaviors of abstaining from using negative communication behaviors to express themselves and their viewpoint when asked to address their one to three most heated marital disagreements. Perhaps the most consistent findings emerged in the domain of negative communication because an easy, natural way to demonstrate distain and dislike, the opposite of feelings of love, would be to engage in overt forms of negative communication. Thus, spouses with lower marital love may be more likely to express signs discontent with their spouse through their overt negative communication behaviors.

Self-reported marital love and gender differences. One interesting gender difference in the findings for marital love was that the majority of the significant results occurred for wives' observed communication outcomes during the ten-minute videotaped conflict discussions. In addition to both husbands' and wives' reports of marital love predicting less observed negative communication in wives, both of their reports also predicted greater problem solving in wives, although the strength of this link only reached the level of a trend for husbands. Further, husbands reporting an overall greater sense of love, connectedness, commitment, and attachment toward their spouse predicted less observed withdrawing behavior and greater affectionate behavior for wives during their brief discussion on a topic of disagreement.

A second interesting gender difference is that husbands' reports of marital love predicted six out of the eight possible observed marital outcomes (i.e., wives' negative communication and

withdrawal, and husband and wives' affection and problem solving (trend result for wives' problem solving)), while wives' marital love only predicted three observed behaviors (i.e., husbands' and wives' negative communication and her own withdrawal). Based on these findings, husbands' reports of love for his wife appear to have a greater effect on observed adaptive communication strategies than wives' reports of marital love for her husband. Perhaps husbands' felt emotional experiences more strongly influence the emotional climate of the marital relationship because they are counter-cultural to societal prescriptions for men to be tough, independent, powerful, and minimally emotional. That is, when husbands subjectively feel a strong sense of love, attachment, connectedness, and dependence in their relationship, they may more openly express counter-cultural feelings to their wives. In turn, marriages marked by stronger feelings of love on the part of husbands' helps both spouses behave in more adaptive ways when challenged to discuss conflicts over the transition to parenthood.

Additionally, husbands' and wives' identifying a strong sense of love, connectedness, commitment and attachment to their spouse appears to be particularly beneficial to wives. Potentially, husbands' and wives' experiences of love may allow for greater appreciation and acceptance of, and overall positive feelings toward one another that motivate wives to use adaptive rather than maladaptive forms of communication to manage a ten-minute videotaped conversation centered on issues of conflict. Wives' may be particularly influenced by levels of love in the relationship across the transition to parenthood, as women may be more socialized to care about and attend to such matters when a new family is being formed during the first year of an infant's life. Thus, when wives or husbands perceive a great deal of love in the marriage, wives may emotionally sense the positivity in the relationship, and in return feel positive and happy and act in ways uniform with their feelings. Consistent with previously theory (Fincham

& Stanley, in press; Fincham, Stanley & Beach, 2007), her positive feelings resulting from his and her marital love may motivate her to refrain from using overtly negative communication tactics or withdrawing from the conversation, and encourage her to choose to engage in adaptive problem solving strategies and affectionate behaviors during 10-minute interactions centered on a topic of disagreement.

Self-reported sanctification of marriage. As marital strengths that incorporate spirituality may offer different resources to help husbands and wives address areas of conflict during the transition to parenthood, this study implemented a measure that parallels the marital love measure, but incorporates a spiritual dimension. Specifically, recall that to assess sanctification of marriage, this study used spouses' self-reports about the extent to which they perceive their marriage as imbued with sacred qualities and view God as involved in their marriage. Overall, two main themes emerged from examining the effects of the degree to which spouses' perceive their marriage as sacred or experience God in their marriage on the communication strategies they use during brief videotaped marital conflict interactions. First, husbands' and wives' greater self-reports of sanctifying their marriage uniquely predicts their own and their spouses' observed level of affection in a consistent manner, but not other aspects of spouses' observed communication. Second, there appears to be a gender difference in how husbands' and wives' perceptions of sanctifying their marriage effect couples' use of positive and negative communication strategies during short interactions focused on addressing a marital problem. Similar to the previous section discussing the marital love results, this discussion on the sanctification of marriage results focuses on the two major identified themes, rather than detailed explanations about each observed outcome variable.

Self-reported sanctification of marriage and observed affection. As was expected, the fixed effects regression models showed that the more husbands' and wives' reported perceiving their marriage as sanctified, the more the brief observed marital interactions were characterized by both spouses displaying affectionate, warm, and loving behaviors. One exception was that the degree to which husbands' sanctified their marriage did not predict wives' observed affection, after accounting for stable attributes. Potentially, spouses' viewing their marriage through a sacred lens may motivate them to preserve and protect their marriage through the use of shared affection, laughter, humor, light-heartedness, and general warmth when trying to settle disputes, that can be directly observed by raters when spouses are asked to talk about topics of disagreement for a short time.

Interestingly, when wives report greater perceptions of sanctifying their marriage this affects the degree to which both her and her husband display signs of affection, but not any other aspects of observed communication assessed in this study. Potentially, women in our society may perceive men to value, appreciate, and respond particularly well to women's efforts to bring a sense of humor, warmth, and positive emotion to subjects difficult to discuss. Thus, women who perceive their marriage as sacred and worth protecting because of its spiritual significance, may intentionally engage in these affectionate behaviors that they perceive their husbands will appreciate and therefore in turn, reciprocate their efforts.

The lack of significant bivariate correlations between wives' sanctification of marriage and the other observed communication outcomes for husbands and wives suggests the possibility that for wives, perceiving their marriage as involving a sacred dimension or God, may affect observable communication tactics in two different ways. Some high sanctifying wives may feel more empowered and safer to be negative and critical toward their husbands as a means to

attempt to change their behavior. These wives may feel confident that their marriage is permanent, giving them a perceived freedom to use whatever verbal and nonverbal means necessary to get their husbands to listen and attend to important marital issues. Conversely, other women who highly sanctify their marriage may feel called to abstain from negative forms of communication and engage in collaborative problem solving, in order to treat the partner they perceive that God gave them with respect and kindness, or their sacred relationship with thoughtfulness. However, both sets of women appeared motivated to act affectionate and positive toward their spouses during the short marital interactions.

Self-reported sanctification of marriage and gender differences. It is interesting that more results emerged from husbands' reports of his beliefs about the sanctity of his marriage than from wives' reports about her perceptions of the sacred nature of her marital relationship. Specifically, husbands' greater perceptions of viewing his marriage as involving God and as having spiritual qualities predicted less observed withdrawing behaviors in wives, greater observed problem solving skills in husbands and wives, and greater observed affection in husbands. Additionally, reaching the level of a trend, husbands' sanctification of marriage predicted less of his own observed negative communication. Potentially, when husbands more highly sanctify their marriage, they may put more time and energy into exhibiting positive communication tactics such as affection and problem solving that consequently elicit more adaptive communication behaviors in their wives when asked to have a brief discussion about the couples' core disagreements. That is, when husbands choose to address potentially difficult conversations in a positive manner, using their problem solving skills and making affectionate gestures in the service of protecting and preserving his sacred marital relationship, the wife may reciprocate his involvement by choosing to address their conflicts as well, and not withdraw

from her partner or evade the conversation. Further, husbands who imbued the marriage with sacred significance may have acted in ways that more often elicited collaborative, compromising behaviors by wives when the couple was faced with the challenge to discuss their disagreements in a controlled situation. Perhaps husbands who perceive a spiritual dimension to their marriage have a set of beliefs that govern how the divine or God wants husbands especially to treat a wife (because of God's close involvement in the marital relationship), that consequently result in less observed withdrawal behaviors by wives, greater observed affection in husbands and greater observed problem solving efforts by both spouses.

Limitations and Future Research

There are a number of limitations to this study. First, the spouses in this study are from relatively conventional families who increasingly make up less of the population of new parents, as they are married, middle class families. Thus, the findings may not generalize to all who experience the transition to parenthood in the U.S. Second, due to the small number of couples with at least one minority participant, these findings are not necessarily generalizable to couples of diverse ethnic backgrounds. It would be beneficial for future investigators to examine how marital strengths effect couples' communication during conflict in samples with greater racial diversity, varying family structures (e.g., not married, same-sex, adopted children) and different socio-economic backgrounds. Third, although it was most appropriate to use fixed effects regression models for the current study, there are limitations to this approach. Using fixed effects regression in this study helped identify the direct relationships between indicators of marital strengths and adaptive communication strategies, controlling for all possible stable variables. However, another interesting research question involves understanding the nuanced ways marital strengths may operate differently within various groups or couples to effect the way

couples communication. For example, future research may focus on understanding whether marital strengths such as felt love, spiritual cognitions about the marriage, and spiritually intimate behaviors differentially affect couple communication depending on varying levels of other couple characteristics (i.e., interactive or moderator effects). Additionally, future research may examine how marital strengths affect patterns of change in marital communication in unique ways for different types of couples over the transition to parenthood using growth curve analyses.

Despite these limitations, this study has made a powerful, unique contribution to the literature by examining the effects of self and spouse-reported marital strengths on behavioral observations of positive and negative communication strategies in spouses throughout the transition to parenthood. Addressing methodological limitations of previous research, this study used longitudinal data from four time points across the transition to parenthood to examine how husbands' and wives' self and spouse reports on specific indicators of marital strengths directly effect observed positive and negative communication tactics used by spouses during brief interactions focuses on topic of conflict. Theorizing that perceived marital strengths motivate and encourage spouses to implement their adaptive communication skills during periods of potential stress in a marriage, such as during the transition to parenthood, this study uniquely examined self and spouse-reported marital strengths as predictor variables, and aspects of observed marital communication as criterion variables.

Also unique, this study used four indicators of self and spouse-reported marital strengths, marital love and collaborative communication, and two parallel measures that overtly incorporate spirituality, spiritual intimacy and sanctifying one's marriage. Including marital strengths with and without an overtly spiritual dimension in fixed effects regression models allowed for both

the spiritual and not overtly spiritual variables to be put to the same stringent statistical test. This is noteworthy because often variables that incorporate an overt spiritual dimension are scrutinized and critiqued intensely, in a reductionistic effort to explain away psycho-spiritual variables and processes. To be fair, this study used the conservative fixed effects regression statistical approach for all four perceived marital strengths. This resulted in the non-overtly spiritual marital strength of collaborative communication being relatively unable to predict aspects of observed marital communication after accounting for stable characteristics of the individual, while the spiritual intimacy measure continued to predict these outcomes.

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APPENDIX A

DEMOGRAPHIC ITEMS

Age

Your age: ____ years

Gender

Your gender: ____ Male ____Female

Ethnicity

How would you describe your ethnicity?

____Caucasian/Euro-American ____Asian American ____Multi-racial/ethnic
____African American ____Hispanic or Latino ____Other:

Educational background

What is your highest educational background?

_1___Less than 7 years
_2___Junior high school
_3___Partial high school (10^{th}-11^{th} grade)
_4___High school graduation
_5___Partial college/post high school training (1 year or more)
_6___Standard college graduation
_7___Graduate/professional degree

Annual household income

What is your approximate, combined annual, gross household income?

____less than $25,000 ____$50,001-75,000 ____$100,001-130,000
____$25,001-50,000 ____$75,001-100,000 ____more than $130,000

Religious affiliation

What is your religious preference?

_____ Christian/Protestant _____ Muslim
_____ Christian/Catholic _____ Jewish
_____ Non-denominational Christian _____ None
_____ Other (specify): _____

APPENDIX B

RELATIONAL BACKGROUND ITEMS

Length of their relationship

How long have you and your spouse been in a relationship? ____Years ____Months

Length of their marriage

How long have you and your spouse been married? ____Years ____Months

Length of cohabitation before marriage

How long have you and your spouse lived together? ____Years ____Months

Current working status

Are you ***currently*** working outside the home for pay in any job? ____Yes ____No
If yes, how many hours a week do you usually work? ____

APPENDIX C

MARITAL LOVE ITEMS

The following are questions or statements about certain aspects of your relationship with your spouse. Please answer these questions by circling the number that best describes your relations with your spouse.

		Not at all								Very Much
1.	To what extent do you have a sense of "belonging" or "connectedness" to your spouse?	1	2	3	4	5	6	7	8	9
2.	How much do you feel you give to this relationship?	1	2	3	4	5	6	7	8	9
3.	To what extent do you love your spouse at this stage?	1	2	3	4	5	6	7	8	9
4.	To what extent do you feel that the things that happen to your spouse also affect or are important to you?	1	2	3	4	5	6	7	8	9
5.	To what extent do you feel that your relationship is special compared with others you have been in?	1	2	3	4	5	6	7	8	9
6.	How committed do you feel toward your spouse?	1	2	3	4	5	6	7	8	9
7.	How close do you feel toward your spouse?	1	2	3	4	5	6	7	8	9
8.	How much do you need your spouse at this stage?	1	2	3	4	5	6	7	8	9
9.	How sexually intimate are you with your spouse?	1	2	3	4	5	6	7	8	9
10.	How attached do you feel to your spouse?	1	2	3	4	5	6	7	8	9

APPENDIX D

COLLABORATION ITEMS

What strategies do you and your spouse use when you have disagreements with each other? Using the four point scale below, show how often YOU use each strategy on the left side and how often YOUR SPOUSE uses each strategy on the right side. Remember the first response that comes to mind is probably the best one.

Never	Rarely	Sometimes	Often
0	1	2	3

Me		Spouse
	Talk it out with the other one	
	Express thoughts and feelings openly	
	Listen to the other's point of view	
	Try to understand what the other is really feeling	
	Try to reason with the other	
	Try to find a solution that meets both of our needs equally	
	Accept the blame, apologize	
	Compromise, meet the other half way, "split the difference"	

APPENDIX E

SANCTIFICATION OF MARRIAGE ITEMS

	Please indicate the degree to which you agree or disagree with each of the following statements:	Strongly Disagree			Neutral			Strongly Agree
1.	My marriage seems like a miracle to me.	1	2	3	4	5	6	7
2.	Being with my spouse feels like a deeply spiritual experience.	1	2	3	4	5	6	7
3.	This marriage is part of a larger spiritual plan.	1	2	3	4	5	6	7
4.	My marriage is holy.	1	2	3	4	5	6	7
5.	My marriage is sacred to me.	1	2	3	4	5	6	7
6.	My marriage puts me in touch with the deepest mysteries of life.	1	2	3	4	5	6	7
7.	My marriage reveals the deepest truths of life to me.	1	2	3	4	5	6	7
8.	My marriage connects my spouse and me to something greater than ourselves.	1	2	3	4	5	6	7
9.	When I am with my spouse, there are moments when time stands still and I feel I am part of something eternal.	1	2	3	4	5	6	7
10.	At moments, my marriage makes me very aware of a creative power beyond us.	1	2	3	4	5	6	7
11.	God played a role in how I ended up being married to my spouse.	1	2	3	4	5	6	7
12.	I sense God's presence in my relationship with my spouse.	1	2	3	4	5	6	7
13.	I experience God through my marriage.	1	2	3	4	5	6	7
14.	God lives through my marriage.	1	2	3	4	5	6	7
15.	My marriage is a reflection of God's will.	1	2	3	4	5	6	7
16.	God has been a guiding force in my marriage.	1	2	3	4	5	6	7
17.	In mysterious ways, God touches my marriage.	1	2	3	4	5	6	7
18.	I feel God at work in my marriage.	1	2	3	4	5	6	7
19.	There are moments when I feel a strong connection with God in my marriage.	1	2	3	4	5	6	7
20.	I see God's handiwork in my marriage.	1	2	3	4	5	6	7

APPENDIX F

SPIRITUAL INTIMACY ITEMS

Please indicate how true the following statements are for you.	Not at all	Some-what	Quite a bit	A great deal
1. I feel safe being completely open and honest with my spouse about my faith.	0	1	2	3
2. I tend to keep my spiritual side private and separate from my marriage.	0	1	2	3
3. My spouse really knows how to listen when I talk about my spiritual needs, thoughts, and feelings.	0	1	2	3
4. My spouse is supportive when I reveal my spiritual questions or struggles to him.	0	1	2	3
5. My spouse doesn't disclose his thoughts or feelings about spirituality with me.	0	1	2	3
6. My spouse shares his spiritual questions or struggles with me.	0	1	2	3
7. I try not to be judgmental or critical when my spouse shares his ideas about spirituality.	0	1	2	3
8. I try to be supportive when my spouse discloses spiritual questions or struggles.	0	1	2	3

APPENDIX G

MARITAL TOPICS QUESTIONNAIRE

All couples have areas of disagreement and conflict, but couples differ in what these areas are. For each topic below, please indicate: how likely is it that you and your spouse will have an argument when you discuss the topic & how emotionally negative these arguments get?

		How likely is it that you & your spouse will have an argument when you discuss this topic?					How heated or tense does an argument usually get on this?		
	Topic	Not at all	A little bit	Some-what	Very	Extremely	None to a little OR not applicable	Some-What	Very to extremely
1.	Differences in values, philosophy of life, religion or spirituality	1	2	3	4	5	1/ NA	2	3
2.	Differing social needs	1	2	3	4	5	1/ NA	2	3
3.	Division of household chores & duties	1	2	3	4	5	1/ NA	2	3
4.	Drug or alcohol use by you or spouse	1	2	3	4	5	1/ NA	2	3
5.	Financial issues (e.g., savings, use of credit cards)	1	2	3	4	5	1/ NA	2	3
6.	Friends	1	2	3	4	5	1/ NA	2	3
7.	Child care and responsibilities	1	2	3	4	5	1/ NA	2	3
8.	Getting, changing, or quitting jobs	1	2	3	4	5	1/ NA	2	3
9.	Hard time talking to each other (e.g., too much arguing, feeling blamed or attacked, avoiding talking)	1	2	3	4	5	1/ NA	2	3
10.	Housing/moving/ living environment	1	2	3	4	5	1/ NA	2	3
11.	Infidelity or jealousy	1	2	3	4	5	1/ NA	2	3
12.	Making a major purchase (e.g., car, house, new appliances)	1	2	3	4	5	1/ NA	2	3
13.	Parents, in-laws or other relatives	1	2	3	4	5	1/ NA	2	3
14.	Sex or physical affection	1	2	3	4	5	1/ NA	2	3
15.	Time management (e.g., spending too little/much together, being late)	1	2	3	4	5	1/ NA	2	3
16.	Vacations, recreational activities or hobbies	1	2	3	4	5	1/ NA	2	3
17	You &/or spouse being too clingy or dependent	1	2	3	4	5	1/ NA	2	3

18.	You &/or spouse being too sloppy or too neat	1	2	3	4	5	1/ NA	2	3
19.	You &/or spouse being too stubborn or rigid	1	2	3	4	5	1/ NA	2	3
20.	You &/or spouse feeling unloved	1	2	3	4	5	1/ NA	2	3

APPENDIX H

SYSTEM FOR CODING INTERACTIONS IN DYADS (SCID)
(adapted by Mahoney, 2007)

New Arrivals: Passage to Parenthood (NAPPS)
Coding Manual for Marital Disagreement/Conflict Interactions as of March 13, 2008

NOTE: This coding manual is based largely on a coding system created by Nancy Darling and colleagues at Oberlin University. See list below for codes that we modified significantly or added for purposes of NAPPS.

Table of Contents

Individual Codes

Negative codes

5) Domineering/coercive control of partner
   Modified Darling to focus on coercive control & overlaps w/ SCID coerciveness & attempts to control

2. Verbal Aggression toward partner
   Unchanged from Darling (SCID)
3. Complaining/whining about partner – modified to focus on complaining/whining (new)
4. Negative emotion to partner – unchanged though relabeled slightly (non-verbal part of negativity/conflict – SCID)

Positive codes

5. Self Disclosure by self – unchanged
6. Collaborative Problem Solving with partner – modified to fit with self-report items, deleted "attunement"
7. Affection toward partner – unchanged

Avoidance

8. Withdrawal/disengaged from partner – unchanged

Coder Instructions

- Become very familiar with coding manual.
- Participate in training. It is important to be reliable and show up for meetings on time.

Process to Code Tapes

Generally, try to avoid listening to the interview portion that immediately precedes the couples talking alone. Scan through interview in chunks to locate the time that the research assistant exits. The first coder of a pair will identify the specific "start time." Write the start time at the top of the page & then write the start of each of the four 2.5 min. segments.

Watch entire tape one time. Go back and watch tape again. Stop every 2.5 minutes and jot down notes about each code to help you arrive at final ratings. Re-watch given segment as

many times as needed to feel confident that you know what happened that is relevant to each code for both spouses. At end of 10 minute segment, write down total rating.

If tapes ends prior to full 10 minutes, note this at the top of the form. Still give an overall rating for each code based on what you did observe.
If parent leaves the screen but you can still hear his/her voice, continue to code interaction.

We are coding people regardless of gender or generalized personality traits. Do not apply separate standards for men and women, or to a given individual who may "naturally" (or in a traitlike fashion) seem especially high or low. For example, don't think of a woman as being pretty high "for a woman," but being pretty high as a person.

Statements made toward the camera can be coded if the statements appear to be communicating message to or about the partner.

5) **Domineering/Coercive control (relabeled/modified)**

(Note: We modified Darling's "Attempts to Influence and Control" code here. We removed the coding of non-pathological attempts to persuade without coercion or blame; also tried to better distinguish code from complaining/whining and effective problem solving. We incorporated both the coerciveness code from the SCID (our moderate to high ratings) and pathological attempts to control from the SCID Attempts to Control (our low to moderate range ranging)

NAPPS Core defn: This code assesses the degree the individual dominants the partner and tries to change the partner's thoughts, feelings, or behavior in a coercive, bossy manner. This is primarily a frequency code, but just a few very intense statements within the context of the interaction can be sufficient to drive the code up to higher levels. Only the attempt is important, not the success or failure of the attempt. At lower levels, coercive control attempts involve trying to pressure the partner to change his/her thoughts, feelings, actions, or emotions because the partner is viewed as being/doing something wrong. The controlling statements include explicit or implicit "you should be different." Examples include "I just wish you'd make an effort to get along with my father." At higher levels, controlling statements are those that indicate that the person is basically saying, "I am in charge. I decide." The higher the rating, the more domineering and bossy that the individual is. A seeming inability or reluctance to "share the floor" or negotiate, lecturing, and speech-making in order to be in power would result in higher ratings. Higher ratings indicate the person seems to be taking an authoritarian "one-up" stance toward partner. The person may also seem to be badgering the partner, trying to change the partner via guilt induction. Threatening the partner explicitly or implicitly if they don't comply with what the speaker wants.

Non-verbal cues: Non-verbal domineering behavior involves not letting partner talk, repeatedly interrupting partner, abruptly changing the topic or closing off discussion against partner's wishes or without input or consent from partner.

Related NAPPS self-report items are: Insist on own point of view; Try to convince the other of own way of thinking; Interrupt/don't listen to the other.

Other SCID information about coerciveness:

This code is based on the **frequency** with which a partner makes threatening or manipulative statements to the other or uses a threatening tone or body language with the other. Coerciveness represents aversive, unpleasant, or shaming methods that a partner uses to gain the upper hand in the interaction or change the other's behavior. This code assesses the degree to which the a partner uses threatening statements, gestures, and tone of voice. Threatening statements can be overt or veiled and may include statements such as, "If you don't stop acting that way, I can't change," "If you're not willing to work on this, I won't, either," "I'm not going to change my mind until you stop nagging me," "I hate so much when you do that, I feel like leaving you," "With the way things are now, I don't see any hope for us," "You get so overbearing that I have to shut you out," "I cannot or will not tolerate (certain behaviors)," or, "Don't push me – You know what will happen."

In conjunction with threatening statements, threats can also take the form of a menacing, frightening tone, or a body posture that indicates intimidation, such as getting overly or uncomfortably close to the other (e.g., "invading their space"), making threatening gestures, such as pointing into someone's face, poking them in a threatening way, or gesturing such that it appears that the other partner might actually be struck, whether on purpose or not, by the movement.

Manipulation in this code is when one partner attempts to influence the other by using underhanded, insensitive, unfair, shrewd, devious, or calculating tactics. One of the hallmarks of manipulation is that the statement has the effect of putting the other partner in his or her place, so to speak, or making them feel stupid or small for doing something. However, these statements are not direct attacks or overtly aggressive and cruel insults, which is what makes them coercive rather than verbally aggressive. Examples include, "You know how sensitive I am, so don't you think it would be smart on your part to not say things like that," "If you're that concerned about money, then you go get another job!" "If I'm pouting, don't you think that has something to do with you?" "Because you nag me, that's why I do things to annoy you," or, "You have no right to complain about me, because I do the best I can, and you're never around to help."

Other SCID information about attempts to control:
SCID description of this code is not included because we already incorporated the relevant material from the code into NAPPS defn.

Other comments:
- Coercive statements can often take the form of using "you statements" that appear to be an attempt to control the partner. Examples include "I know you were sad about that, but let me tell you why it was a good thing," "You should just get over it," "The fact is that your mother is too involved in our lives and you should realize that," "If you saw the stuff about this in the paper, you wouldn't say that,"and "If you look at the whole picture, you'll see it's a little more complicated than that."

-Domineering/coercive statements can be implicit or explicit. An implicit example is "If you spent more time at home, our child would not act out at school so much." An explicit example is "You never play with our child and you should" (explicit demand for change).

-Domineering statements can also involve direct assertions of power and control over the partner in the interaction or outside in general life. For example, "We are doing it my way this time," "I really think I should decide this one," "I won't allow our children to do that," "You can't say that/do that," or "You can't be hurt/sad/angry by that."

- In some couples, one partner may take a clear leadership role whereas the other partner takes a more passive role in the dyad. In these cases, the partner who is taking a leadership role would not obtain ratings over a 1 if his/her leadership appears to facilitate the course of discussion in a constructive manner wherein both partners clearly appear to have equal respect for each other's views and desires, and neither partner is taking a superior "one-up" stance
Overlaps with other codes:

-Verbal aggression involves direct statements of disapproval rather than couching disapproval within a directive for change.
-Invalidation and domineering/coercive ratings can overlap but either code can occur alone.

Summary Guidelines (make sure to read all of the text above)

5) Very Low: Never attempts to change the partner's behavior, thoughts or emotions in a coercive manner, and does not appear to try to take over or control the flow of the interaction to be in

power.

2) Low: Makes 1-2 mild or implicit domineering or coercive statements and/or makes a few attempts to control dialogue to be in power.

3) Moderate: Makes 1-2 explicit domineering or coercive statements and/or interrupts or talks over partner repeatedly. If an individual is only domineering but not coercive then this would be highest rating.

4) Moderately High: Makes several attempts to dominate or coercively change partner's behavior and/or abruptly changes course of discussion at least once.

5) High: Exhibits high level of domination or coercive control of partner and/or the interaction itself.

2. Verbal Aggression & Negativity (unchanged)

(Note: Essentially unchanged from Darling's although we differentiated between mild and intense forms to help sensitize coders. We combined Verbal Aggression from SCID (our higher ratings) with the verbal aspect of Negativity/Conflict (our lower ratings)

NAPPS Core defn: This code assesses the degree individuals exhibit verbally aggressive behavior directed toward their partner. Verbally aggressive statements are those that appear to be hostile, critical, antagonistic or hurtful of the partner. This is a content code, although verbal content must be interpreted in the emotional context of the interaction.

Verbal aggression ranges from mild to intense. Mild forms of aggression can include critical comments directed person's behavior, mild insults, sarcasm, hurtful humor, disgust, and blaming. More intense forms of verbal aggression include negative statements about a person's traits or personality, global put-downs, condescension, mockery, spiteful or hurtful comments, name-calling, critique or attacks of partner's character or competence, and swearing (directed at the other partner). Verbal aggression is primarily determined by what the person says. Some verbally aggressive comments can come across as moderately attacking, disgusted, mocking, spiteful, and/or hostile, but no overt change in tone of voice.

This is primarily a frequency code, but just a few very intense statements within the context of the interaction can be sufficient to drive the code up to higher levels.

Non-verbal cues: As noted above, an individual may make verbally aggressive statements in a non-emotional manner. However, ratings of verbal aggression would typically increase if the tone of voice is hostile, condescending or derisive tone.
Related NAPPS self-report items are: Raise voice, yell, shout; Become sarcastic; Make accusations; Name-calling, cursing, insulting; Say or do something to hurt the other's feelings.

Other SCID information about verbal aggression (we didn't change it much; = 3 to 5):

This code assesses the degree to which partners exhibit hostile and aggressive remarks toward each other. Verbal aggression includes insults, put-downs, patronizing or blaming statements, and critical comments directed at the partner stated with tones of disgust, condescension, mockery, spite, cruelty, or significant, hurtful hostility.

Examples of verbally aggressive statements include, "I don't care about your feelings," "Your problem is with your ego," "Your family cannot mind their own business," "My biggest concern is that you have no idea about how to spend money responsibly," "You act like an idiot half the time," "You are so overbearing," "If you'd been listening, you would have known," "I hear you yelling at the kids, ineffectively, for the 100th time, I go ballistic," "You wouldn't know a feeling if it slapped you in the face," "I can't stand your whining all the time," or, "Talking to you is a waste of breath."

The aggressive and demeaning nature of these comments is of utmost importance – those blaming or critical statements that are simply expressive of anger without almost seeming like a slap in the face will be coded under Negativity and Conflict. In other words, at high levels, verbally aggressive statements should have a jarring, forceful tone, rather than simply an angry tone. For example, if a partner says to the other, "You don't know how to listen," that can be stated in a frustrated and angry manner, without being aggressive. If the tone of this statement conveys the message that not being able to listen indicates that the person is defective or stupid, however, then it should be coded under Verbal Aggression. Name calling and swearing are indicative of verbal aggression. Threatening or controlling statements are NOT coded here, but should be included under the Coerciveness and Attempts to Influence and Control codes.

Other SCID information about verbal negativity & conflict (we use only the verbal part of this SCID code – 2 to 3 range)

This code assesses incorporates conflictual, sarcastic, or defensive statements that are not aggressive or controlling. Some statements may be critical or blaming without being verbally aggressive (e.g., "You never get home when you say you will!" "You never talk about your feelings," "You don't listen to me," "You make me feel like my work isn't important," or "You don't consider my feelings," "Oh, sure, now it's all my fault").

Other comments for NAPPS:
- Verbally aggressive statements can take the form of "you statements" that appear to be a criticism or attack of the partner. For example "You can't just lock the baby up" could be an attack on the mother's ability to be a good mother.
- Disagreements can be verbally aggressive if they stated in a disrespectful, hostile manner. Be on the look out for lots of disrespectful disagreement.

Overlaps with other codes: Controlling (bossy) statements should not be coded here, but under Domineering/Coercive control. Verbal aggression may overlap with complaining/whining or invalidation but verbal aggression involves more direct, hostile attacks.

Summary Guidelines (make sure to read all of the text above)

5) Very Low: The individual does not exhibit any verbal aggression throughout the interaction.

2) Low: There are 1 or 2 times in the interaction when a partner makes verbally aggressive statements. These statements appear to be mild in intensity and about the other person's behavior (and a relatively minor behavior such as not putting clothes away, not completing chores, etc.) rather than his or her personality. With regard to tone of voice, a rating of 2 should be given if the tone has a bit of a "bite" or "edge" to it, but is not overtly attacking.

3) Moderate: There are several instances when the partner makes verbally aggressive statements. These statements are mild in intensity, and about the other person's behavior rather than his or her personality. The difference between a rating of 2 and 3 is one of frequency.

4) Moderately High: The partner's verbally aggressive behavior at times reaches moderate intensity 1 to 2 times. Moderately intense verbal aggression includes insults, put-downs, blaming statements, and/or critical comments about the other partner's character or underlying ability, rather than specific behavior. Alternatively, a high number of criticisms just about behavior can also reach a rating of 4.

5) High: There are 3 or more instances in the interaction when the partner's verbally aggressive behavior is of moderate to high intensity, or a combination of a high number of verbally aggressive statements about character and behavior.

3. Complaining or bickering (relabeled/modified)

(Note: We modified Darling's pursue/demand code here. We put emphasis on bickering and complaining rather than placing pressure on partner for change as that seems to overlap with domineering/coercive control).

Core defn: This code assesses the degree to which the individual complains, bickers, or vents in an unproductive manner. This is a behavioral code, although behavior must be interpreted in the emotional context of the interaction.

This code captures the degree to a partner complains, vents and bickers with their partner in an ineffective, aversive manner, rather aiming to resolve an issue. The individual repetitiously voices the same compliant, or tends to raise one complaint after another, and displays a whining or one-sided blaming attitude. Such individuals may react to efforts of partner to constructively discuss problems, compromise or make amends by raising yet another complaint. This can make the listener feel like he/she is in a "no-win" situation and elicit defensiveness or withdrawal. If both partners engage in this behavior, the couple will appear to be stuck in a cyclical pattern of arguing and bickering without getting anywhere. Complaints include statements of unhappiness, discontent, and dissatisfaction without an associated effort to engage in constructive discussion about the issue (e.g., "We never do anything fun."). Tone of voice helps distinguish this code from verbal aggression.

Initially an individual (or couple) may appear to be voicing complaints as a means to engage in problem-solving, but these efforts end functioning only as complaints. In these cases, negative emotion may seem to be low. That is, a couple may initially begin by problem solving but then can degenerate into a complaints/bickering if the discussion does not go anywhere productive.
- Complaining/bickering statements can take the form of using "you statements" that appear to be an attempt to voice unhappiness and discontent about the partner in a passive, indirect way.

Related self-report items: Complain, bicker without really getting anywhere.

Overlap with other codes:
- The main distinction between complaining/bickering and verbal aggression is that the verbally aggressive statements directly criticize, attack or seem to hurt the other person in a hostile manner. Complaining/bickering can have a more passive, "I am victim" tone rather than a direct statement of antagonistic hostility toward the partner.

- The main distinction between domineering/coercive control and complaining/bickering is that the speaker does not necessarily seem driven to, or appeased by, gaining compliance from partner. The struggle is not about gaining control of, but rather gaining attention from, partner. Domineering/coercive control can co-occur with complaining/bickering, but some individuals will complain/bicker without being overtly demanding or coercive with their complaints.

- Higher ratings on complaining/whining can co-occur with other negative codes.
In constructive problem solving, the individual will articulate a specific problem using "I statements" and without blaming or engaging in a high level of repetition about the other person.

Summary Guidelines (make sure to read all of the text above)

5) Very Low: The individual does not make statements that come across as complaining pointlessly or bickering.

2) Low: The individual complains or bickers pointlessly, but this is at low level.

3) Moderate: The individual complains or bickers somewhat and seems unwilling or uninterested in resolving the issue. There appears to be some underlying tension in the interaction.

4) Moderately High: The individual complains or bickers often. She/he may stop but then returns to complaining. The individual seems to be unable to "let go" of a complaining stance.

5) High: The individuals voices complaints or bickers very often and is a major way the individual expresses him/herself.

4. Non-verbal negative emotion toward partner (unchanged)

(Note: Few minor changes made to Darling code: altered name of construct, added comments about non-verbal contempt; includes SCID dysphoric affect)

This code assesses the level of negative emotion displayed by one partner towards the other. Negative emotion includes frustration, irritation, anger, contempt for partner, and emotional defensiveness. It rates the emotional tone of the interaction, not its content, and is thus different from the code for verbal aggression. One can be annoyed or angry (cold or contemptuous) without being insulting or cruel in the content of statements.

Non-verbal cues: Behavioral cues for negativity include tense, tight, and/or angry body postures and facial expressions (e.g., sitting up rigidly, tightly folding arms, rapidly bouncing legs, tapping fingers, frowning, grimacing, glaring, etc.); tone of voice that is angry, cold, and/or annoyed, or speaking through clenched teeth or in a clipped manner, as if controlling impatience and frustration. Shaking heads, clucking tongues, and rolling eyes are all signs of negativity. Also includes non-verbal cues of tone of voice or facial expression that conveys contempt and disrespect of partner. Averting eyes and refusing to make eye contact can express negative emotion if it appears that behavior represents emotional defensiveness or anger.

NOTE: Insults, put-downs, and critical or blaming comments, however, should be coded under Verbal Aggression, not Negativity. A highly negative person may not be high at all on Verbal Aggression. It is likely, however, that an individual who is high on Verbal Aggression will also be high on this code. Statements with defensive content should be coded under Collaborative Problem Solving. Emotional defensiveness (which reflects negative emotions) should be coded here.

Summary Guidelines (make sure to read all of the text above)

5) Very Low: The partner is observed to express negative emotion to partner no more than once,

and the negativity is mild in intensity.

2) Low: The partner is observed to express negative emotion a few times, and the negativity is mild in intensity. These behaviors are relatively short-lived and fleeting.

3) Moderate: The partner is observed express negative emotion on several occasions, most of which are mild in intensity, though one or more times appears to be moderate in intensity; it may appear somewhat difficult for the partner to “shake off” the negativity.

4) Moderately High: The partner is observed to express negative emotion in behavior on several to many occasions. Typically the negative emotion is of moderate to moderately high intensity

5) High: The partner’s negative emotion is largely characteristic of his/her communication with the other partner. Behaviors are of moderate to high intensity (the partner has a clearly angry look on his/her face or expresses clear contempt for partner); the individual may appear to be annoyed and emotionally defensive or on-guard most of the time.

5. Invalidation (new)

(Note: Code created for NAPPS)

This code assesses degree to which the individual invalidates and is insensitive to his/her partner's point of view, feelings or thoughts. This is a behavioral code, although behavior must be interpreted in the emotional context of the interaction. Thus, while invalidation will primarily occur via verbal statements, non-verbal cues may be relevant (tone of voice, eye rolling, sighing in exasperated manner, shaking head and smiling in a patronizing manner). Examples of invalidation include minimizing or dismissing a partner's concerns, telling a partner that something he/she is concerned about is really not a big deal or important, making "yes but" statements without taking other person seriously, offering the partner simplistic advice or "pat answers," displaying a condescending "know it all" attitude rather than taking the partner's concerns seriously, and ignoring or being unresponsive when partner discloses opinions, vulnerabilities and anxieties.

Invalidation can take the form of directly contradicting the other person in a disrespectful manner. E.g., If one partner says, "I think it's going to rain today" and the partner responds, "I can't believe you would think that, it's not going to rain" that would be invalidation. The difference between a straight-forward, respectful disagreement versus invalidation is when the statement calls into question the validity of the other person's personality, worldview, beliefs or attitudes. Such statements can elicit feelings from the listener that it is not safe to reveal information. E.g., If person says "I can't believe you think/said that," it would an invalidating (and possibly a verbally aggressive comment). However, invalidation can also occur when an individual seems to unwittingly miss, ignore, or override what the partner is saying. This could take form of giving pat advice, minimizing, dismissing or "blowing off" the person without a harsh contradiction.

Overlap with other codes:
-One aspect of collaborative problem solving is to ask questions of partner to understand his/her point of view and to ask for clarification about his/her thoughts and feelings. It is possible that an individual could display low levels of effective communication or constructive problem solving, but not engage in direct invalidation of the partner's views.
-Invalidation is distinct from verbal aggression or negative emotion in that anger, open annoyance, irritation or intense negative emotion may often be absent, and the partner may seem to be unaware or unintentional in his/her dismissals the partner's concerns.

Summary Guidelines (make sure to read all of the text above)

5) Very Low: The partner is observed to be invalidating no more than once.

2) Low: The partner is observed to be invalidating a few times. These behaviors are relatively short-lived and fleeting.

3) Moderate: The partner is observed to be invalidating on several occasions, but these comments do not occur at critical points in the dialogue that could easily "shut-down" the partner or escalate the negativity of the dialogue.

4) Moderately High: The partner is observed to be invalidating in behavior often, OR the partner makes one salient invalidating comment at a critical point in the interaction where it is clear the other person is attempting to pursue a topic and share important information from their point of view.

5) High: The individual's invalidation is largely characteristic of his/her attitude and communication with the other partner, OR the individual makes two more invalidating statements at critical points when partner is attempting to disclose their point of view

6. Collaborative Communication Problem Solving (modified)

(Note: We modified Darling's description to fit better with our self-report items & removed material about emotional attunement. We created "a.", "b," and "c" to do this. We also added "d" from Cordova's system. The SCID code is incorporated at end. SCID content overlaps essentially with what we have been used, with some parts of SCID support incorporated into "d.")

NAPPS Core defn: This code assesses the degree to which partners exhibit skills in collaboratively attempting to discuss and resolve the topics that they identified as mostly to create tension, disagreement or conflict. (Note: Some couples' ratings of the likelihood of conflict is low – e.g., "a little bit."). The focus of this code is to assess constructive communication skills. Such skills include:

5) (Explaining self) The individual explains his/her own point of view in a non-blaming and clear fashion, even when discussing being unhappy about something partner does. The individual lays out key dimensions of an issue as one sees it. One is able to clearly state one's own beliefs or feelings, and is able analyze them objectively. The individual accepts responsibility for one's part in the problem and is non-defensive.

b) (Learning about partner) The individual elicits and is open to the partner's perspective on the problem. The individuals remains non-judgmental, non-defensive and open to the other person's point of view. The individual asks questions and probes for information. The individual may paraphrase or summarize the partner's point of view to show seek further understanding. Perspective taking is a constructive problem solving skill.

c) (Moving to solutions) The individual explains what things he/she agrees with partner about (not just disagreeing). Individual validates or confirms the legitimacy of partner's point of view. Displays a willingness to generate different potential solutions. Engages or displaying an attitude of being willingness to negotiate and compromise.

d) (Being emotionally sensitive when talking about conflict) Using a soft approach when outlining conflict issue or when communicating frustration to one's partner. This involves being careful with his/her partner's feelings, taking the partner's feelings into account as he/she delivers
the message, and trying to soften the impact of what he/she is saying out of concern and care. Such soft behaviors may involve expressing support and validation, sharing humor, showing caring and understanding, showing trust and acceptance of the partner and offering reassurance. The speaker may also offer positive feedback to partner before outlining conflict / frustration. Note: The difference between benign delivery of "softened" negative comments about conflict versus anxious placating is that the former is done out of care for the partner, whereas the latter is done out fear of the partner. Also in the former, the speaker does not back down from asserting own view.

Other comments:

Whereas higher ratings will involve both "a" and "b," the "c" and "d" components are not essential for a higher rating but will always be helpful.

At times, individuals may exhibit collaborative problem solving skills when discussing topics other than the "top three" conflictual topics that were not assigned to be discussed. This is especially likely to happen for couples who have endorsed very low or "not at all" ratings to most, if not all, of the topics on the list used to identify conflictual topics. If it appears that the topic being discussed is not clearly conflictual but does involve problem-solving, then individuals can earn low to moderately high scores on collaborative problem solving. But reserve very high scores for individuals who are attempting to discuss conflictual topics.

(added) Related NAPPS self report items are: Talk it out with the other one; Express thoughts or feelings openly; Listen to the other's point of view; Try to understand what the other is really feeling; Try to reason with the other; Try to find a solution that meets both parties needs equally; Accept the blame, apologize; Compromise, meet the other half way, "split the difference"

Other SCID information about problem-solving communication:

This code assesses the degree to which partners are able to discuss their own feelings and opinions (e.g., self-disclose) in a constructive manner, and the extent to which partner behaviors facilitate or promote the problem solving discussion. Higher scores will be obtained by partners who are not just actively and constructively engaged in the problem solving discussion, but also whose communication enhances depth in the conversation. In rating this code, it is necessary to focus on the partner's behavior only when he/she is speaking.

Problem solving communication is characterized by the partner openly expressing feelings and thoughts about the other partner, self, or issues being discussed in a constructive manner. That is, the partner's statements remain respectful, non-threatening, and nonjudgmental, even when discussing negative feelings or expressing disagreement. For example, though blaming statements are most likely to be coded under Verbal Hostility/Aggression, it is possible that a partner could discuss another partner's role in situations without being aggressive, demeaning, or angry. In these cases, where for example one partner might say to another, "You know, I think we both have responsibility here. I don't talk to you enough about our plans, but you don't seem interested in making plans with me, either," partners are presenting their perspectives without judgment or blame (and hence are communicating appropriately).

Additional characteristics of good communication include the following: expressing feelings, opinions, and thoughts in a clear, direct, and understandable manner; summarizing mutual opinions or decisions; and taking the perspective of the other partner by paraphrasing the other's opinion or asking the other for more information. Disagreements can be coded here as positive communication if they are said without negative affect and further the discussion in some way or explain the partner's perspective. Elements of good communication that facilitate problem solving include identifying the problem and/or different parts of the problem to focus the discussion, generating solutions to resolve the problem in a nonjudgmental way, and discussing and agreeing to compromises. Questions that are of a problem-solving nature would also be relevant (e.g., What can I do?).

Some elements of poor problem solving communication include denial of the problem or personal responsibility for the problem, blocking progress in the discussion by repeatedly making a point, changing the subject, refusing to entertain partner's suggestions for solutions, and avoiding stating preferences, ideas, or personal feelings about the matter. Other behaviors, such as defensiveness or condescension are to be coded under Negativity and Conflict and Verbal Aggression.

Behavioral examples of communication include good eye contact, body posture oriented toward the other partner (e.g., the partner's head, shoulders, and hips are facing the other partner), and expressive tone of voice (e.g., varies rhythm and intonation of voice, is not monotone).

5) Very Low: The partner displays very little, if any, of the above.

2) Low: The partner exhibits some signs of collaborative problem solving skills, but these are of low quality (e.g., trying to explain self or solicit information but has great difficulty communicating clearly, non-defensively and with depth).

3) Moderate: The partner exhibits good collaborative problem solving skills some of the time. Partner may be inconsistent and get side-tracked, but still exhibit a good quality of skills.

4) Moderately High: The partner exhibits collaborative problem solving skills much of the time.

5) High: The partner consistently uses collaborative problem solving skills and this is generally characteristic of the entire interaction.

7. Affection (unchanged)

(Note: Modified Darling's to emphasize non-verbal cues beyond overt physical affection (e.g., sharing laughter, warmth and affectionate tone of voice) and expanded verbal statements of affection. We have also changed the rating system so that there is more variability & greater chance of giving 4 & 5's on occasion)

Core defn: This code assesses the extent to which a partner directs verbal affection (determined by the content and tone of each partner's statements to each other), and non-verbal signs of affection and positive emotion toward the partner (affectionate touching, gazing lovingly, affection and warmth in voice, shared positive humor). It is a behavioral and emotional code.

Verbal affection: Affirmations, praises, compliments, talking about the other person's positive qualities or actions, endearments, and pet names are considered verbal affection (e.g., "Sweetheart," "Oh sweetie," "You're really smart.") Also, unconditional or direct statements of affection, such as "I love you," or, "I hope we never break up," are considered higher level affection. In order for any statement to be considered verbal affection, the tone must be clearly positive, without sarcasm or silly joking. Humorous statements that brings partners together in a positive manner and clearly creates a sense of positive bonding can be part of verbal affection. (Humor that is disruptive, sarcastic or hurtful in any way is not a form of verbal affection. And merely laughing or joking may not be an expression of affection toward the partner).

Physical affection: Physical affection includes actions such as caressing, holding hands as well as less obvious touching (e.g., leaning toward other fondly, touching with feet, sitting close together, resting arm or hand on other's shoulder.) Other non-verbal of affection include caring looks, smiles that are warm and validating, a consistently warm and affectionate tone of voice, gazing at other with approval, laughing happily with spouse and sharing mutual humor in a kind way.

5) Very Low: No verbal or physical affection extended to partner.

2) Low: At least one instance where verbal or physical affection is expressed.

3) Moderate: Two to three instances involving affectionate statements and/or direct physical

affection but level of intensity can be mild.

4) Moderately high: More than three instances of affection with at least one instance being of noticeable positive emotional intensity.

5) High: Interaction is marked by several instances of highly intense affection, or very frequent expressions of more mild verbal or physical affection.

8. Withdrawal/disengagement (unchanged)

(Note: Essentially unchanged from Darling's & SCID.)

NAPPS Core defn: This code assesses the degree to which individuals are actively engaged in discussion with the partner (low score) vs. actively avoiding interacting with the partner (high score). This is a behavioral code, although behavior must be interpreted in the emotional context of the interaction. It refers to how the partners relate to each other (i.e., withdrawing from partner or disengaging from him/her).

Engagement refers to actively attending to what is said, as indicated by eye contact, body language, and tone of voice. Withdrawal refers to actively disengaging or ignoring the partner. This will most often take the form of poor eye contact. Other behavioral indicators include sulking, turning one's body away from other, slouching, changing body position to create more distance, staring at the wall or ceiling, crossing arms, fidgeting with hair clothing, glasses, or nails, or by becoming indifferent, nonchalant, disinterested, or unresponsive. Withdrawal is also indicated by voice and content (ex: "I don't care, do whatever you want," "Fine, let's just get this over with," "I'm tired of talking about this," or "I'm finished; I have nothing else to say.") or by sounding conspicuously bored or disinterested. Withdrawal can also take the form of more proactive strategies to withdraw from the partner, such as turning one's attention to something else in the room (e.g., dog, window, pillows), or abruptly refusing to continue a line of conversation and changing the subject.

Other SCID information about withdrawal:

This code assesses the degree to which each member of the couple removes him/herself from the interaction or avoids the interaction or discussion, through three types of actions: body language, tone of voice, and attitude. A partner may evade the issue, or may seem to pull him/herself out of the discussion. A partner may seem to retreat into a shell, become detached, back off, or shut down, physically or emotionally (in other words, through body language, tone of voice, and/or attitude). In this code, tone of voice refers to when a person sounds flat, bored, disinterested, defeated, tired, or distracted when speaking. A withdrawn attitude is displayed more by what the partner says, for example, saying "I don't care, do whatever you want;" "Fine, let's just get this over with;" "I'm tired of talking about this," or "I'm finished, I have nothing else
to say." A partner may also withdraw by avoiding eye contact, turning their body away, slouching in his/her chair, changing body position to create more distance, staring at the wall or the ceiling, crossing arms, fidgeting with hair, clothing, glasses, or nails, or by becoming indifferent, nonchalant, disinterested, or unresponsive. Note that denial that the problem exists or denial of personal responsibility are not included as part of withdrawal.

Related NAPPS self-report items: Sulk, refuse to talk, give the "silent treatment," withdraw love or affection

5) Very Low: The partner remains actively engaged, genuinely interested, and involved with the
partner (by speaking, listening or leaning toward the other partner).

2) Low: The partner is minimally withdrawn from the partner. The partner is usually engaged,

but there are moments when he/she briefly disengages or shuts down during the discussion (loses eye contact for a little while, looks away for a bit). This rating can be given if the partner is generally involved, but somewhat distracted or indifferent.

3) Moderate: There are definite parts of the discussion that the partner is disengaged from the partner, although this is less than half the interaction. It may be unclear whether or not he/she is listening, but he/she is not obviously ignoring what the other partner is saying. This rating can also be given if the person uses a flat tone of voice that does not encourage the partner to continue the topic.

4) Moderately High: The partner is withdrawn from the partner for about half the discussion. It may be difficult to determine how closely the partner is following what the partner is communicating. This rating should also be assigned if the partner is actively ignoring the partner or purposely disengaged from the partner at least part of the discussion.

5) High: The partner is actively withdrawn from the partner for more than half the discussion. At this level, the withdrawal is clearly related to some tension between the partners.

APPENDIX I

09/09/2005 16:06 4193726916 RESEARCH COMPLIANCE PAGE 01

BGSU
Bowling Green State University

Office of Research Compliance
201 South Hall
Bowling Green, OH 43403-0183
Phone: (419) 372-7716
Fax: (419) 372-6916
E-mail: hsrb@bgnet.bgsu.edu

September 9, 2005

Post-it® Fax Note 7671	Date 9/9/05	# of pages ▸ 3
To Dr. Annette Mahoney	From Rich Rowlands
Co./Dept. Psychology	Co. ORC
Phone #	Phone # 2-7716
Fax # 2-6013	Fax # 2-6916

TO: Dr. Annette Mahoney
Psychology

FROM: Richard Rowlands
HSRB Administrator

RE: Human Subjects Review Board Project No.: H06E040FFB

TITLE: *New Arrivals - Passage to Parenthood Study (NAPPS)*

REVIEW DATE: September 7, 2005

RESEARCH CATEGORY: Full Board Review

The BGSU Human Subjects Review Board (HSRB) has completed its review of your project involving research with human subjects.

Your project has been **approved as submitted.** This approval expires on September 6, 2006. You may begin subject recruitment and data collection.

The final approved version of the consent document(s) is attached. Consistent with federal OHRP guidance to IRBs, **the consent document(s) bearing the HSRB approval/expiration date stamp is the only valid version and copies of the dated document(s) must be used in obtaining consent from research subjects.**

You are authorized to use human subjects for 12 months, but only in the manner described in your proposal. If you seek to make any changes in your project activities or procedures (including increases in the number of participants), those changes must be approved by the HSRB prior to their implementation. If any anticipated adverse reactions develop during the course of your project, you must temporarily suspend your research and notify the Chair of the HSRB.

Please notify the Board in writing (fax: 372-6916 or e-mail: hsrb@bgnet.bgsu.edu) when you have completed your project. If you have any questions, please contact the Chair of the HSRB or me at 372-7716. Good luck with your research project.

COMMENTS:
1. Very thorough, well-organized application. Well done!
2. On the screening form for use with childbirth classes:
- The last "Yes/No" question at the top has an extra "child" (same for phone screening)
- Suggestion - add "- Stop Here -" between "…..questions," and "you can turn in…"
3. Stamped original hard copy of consent form is coming to you via campus mail.

C:

RECEIVED TIME SEP. 9. 5:05PM PRINT TIME SEP. 9. 5:10PM

TABLES

Table 1

Summary of Descriptive Information for Sample: Criterion and Predictor Variables (N = 164)

Variable		Wives				Husbands				
		pre-natal	3 months	6 months	12 months	pre-natal	3 months	6 months	12 months	
Criterion Variables										**Range**
Observed Negative Communication	***M***	1.62	1.72	1.93	1.71	1.74	1.69	1.76	1.63	1-5
	SD	0.61	0.67	0.74	0.63	0.78	0.70	0.65	0.62	
Observed Withdrawal	***M***	1.18	1.24	1.14	1.17	1.44	1.30	1.42	1.30	1-5
	SD	0.36	0.48	0.33	0.40	0.62	0.51	0.65	0.58	
Observed Problem Solving	***M***	3.12	2.95	2.78	3.22	2.87	2.85	2.66	3.05	1-5
	SD	0.75	0.73	0.78	0.87	0.95	0.83	0.90	0.95	
Observed Affection	***M***	2.75	2.25	2.51	2.55	2.72	2.20	2.48	2.40	1-5
	SD	0.82	0.77	0.78	0.84	0.91	0.81	0.82	0.87	
Predictor Variables										
Spiritual Intimacy (Joint reports)	***M***	18.63	18.22	18.22	18.05	17.96	17.08	17.09	17.15	0-24
	SD	3.39	3.70	3.55	3.88	3.75	3.99	4.14	3.84	
	α	0.67	0.72	0.67	0.72	0.73	0.73	0.76	0.70	
Collaborative Communication (Joint reports)	***M***	19.76	19.65	18.80	18.98	19.54	19.31	18.80	18.78	0-24
	SD	2.41	2.27	2.81	2.64	2.30	2.55	2.75	2.66	
	α	0.79	0.75	0.83	0.82	0.73	0.79	0.81	0.81	
Sanctification of Marriage (Self-report)	***M***	109.00	107.33	106.44	102.95	104.38	102.66	101.80	100.12	
	SD	25.86	26.04	24.65	28.74	26.70	28.82	29.43	27.86	20-140
	α	0.97	0.97	0.97	0.98	0.97	0.98	0.98	0.97	
Marital Love (Self-report)	***M***	83.47	82.38	81.61	80.26	80.41	79.19	78.83	77.67	9-90
	SD	5.30	6.60	6.43	8.77	6.22	7.62	7.88	8.97	
	α	0.77	0.84	0.82	0.90	0.79	0.84	0.88	0.88	

Table 2

Summary of Descriptive Information for Sample: Demographic and Relational Variables (N = 164)

Variable		Wives		Husbands	
		Time 1 (prenatal)	Actual Range	Time 1 (prenatal)	Actual Range
Descriptive Variables					
Age	***M***	27.12	20-40	28.73	20-42
	SD	3.81		4.41	
Frequency of prayer	***M***	5.78	1-8	5.34	1-8
	SD	2.23		2.47	
Frequency of church attendance	***M***	5.24	1-8	5.09	1-8
	SD	2.09		2.16	
Length of Marriage (months)	***M***	32.01	1-121		
	SD	24.46			
Length of Relationship (months)	***M***	70.91	12-216		
	SD	38.39			
Length of Cohabitation (months)	***M***	42.59	2-168		
	SD	28.51			
Education					
Partial high school (10th-11th grade)		0.0%		1.8%	
High school graduation		6.5%		9.4%	
Partial college/post hs training		20.6%		27.6%	
Standard college graduation		45.9%		42.4%	
Graduate/ professional degree		27.1%		18.8%	

Table 3

Intercorrelations of Wives' (top right triangle), Husbands' (bottom left triangle), and Husbands' and Wives' (bolded along the diagonal) Marital Strength ***Predictor Variables*** *at all Four Time Points (time points are vertical, with time 1 at the top)*

		Collaborative Communication (Joint Reports)	Spiritual Intimacy (Joint Reports)	Marital Love (Self-report)	Sanctification Of Marriage (Self-report)
Collaborative Communication (Joint Reports)	**T1**	***0.60*****	0.16*	0.28**	0
	T2	***0.64*****	0.37**	0.45**	0.03
	T3	***0.74*****	0.34**	0.40**	0
	T4	***0.65*****	0.35**	0.39**	0.02
Spiritual Intimacy (Joint Reports)	**T1**	0.34**	***0.70*****	0.31**	0.34**
	T2	0.50**	***0.69*****	0.23**	0.18*
	T3	0.41**	***0.67*****	0.24**	0.19*
	T4	0.34**	***0.65*****	0.31**	0.28**
Marital Love (Self-report)	**T1**	0.26**	0.41**	***0.35*****	0.20**
	T2	0.29**	0.34**	***0.24*****	0.19*
	T3	0.34**	0.36**	***0.32*****	0.23*
	T4	0.36**	0.46**	***0.42*****	0.34**
Sanctification Of Marriage (Self-report)	**T1**	0.17*	0.42**	0.35**	***0.59*****
	T2	0.18*	0.39**	0.35**	***0.61*****
	T3	0.17*	0.39**	0.34**	***0.65*****
	T4	0.23**	0.44**	0.34**	***0.64*****

Note. T1= time 1, prenatal, T2= time 2, 3 months, T3 = time 3, 6 months, T4 = time 4, 1 year. Intercorrelations between wives' predictor variables for all four time points are located in upper right hand triangle and intercorrelations between husband predictor variables for all four time points are located in lower left hand triangle. Intercorrelations between husbands and wives predictor variables for all four time points are in italics, bolded, and located on the diagonal.
* $p < .05$. ** $p < .01$ (1-tailed) All correlations represent a sample of N = 164. Pearson product-moment correlation coefficients.

Table 4

Intercorrelations of Wives' (top right triangle), Husbands' (bottom left triangle), and Husbands' and Wives' (bolded along the diagonal) Observed Marital Communication ***Criterion Variables*** *at all Four Time Points (time points are vertical, with time 1 at the top)*

		Observed Negative Communication	**Observed Withdrawal**	**Observed Affection**	**Observed Problem Solving**
Observed Negative Communication	T1	***0.56*****	0.12	-0.36**	-0.65**
	T2	***0.55*****	0.18*	-0.43**	-0.74**
	T3	***0.65*****	0.04	-0.58**	-0.81**
	T4	***0.55*****	0.09	-0.42**	-0.73**
Observed Withdrawal	T1	0.26**	***-0.01***	-0.27**	-0.28**
	T2	0.29**	***0.11***	-0.30**	-0.40**
	T3	0.08	***0.13***	-0.23**	-0.22**
	T4	0.23**	***0.45*****	-0.42**	-0.41**
Observed Affection	T1	-0.38**	-0.47**	***0.89*****	0.37**
	T2	-0.43**	-0.42**	***0.85*****	0.53**
	T3	-0.55**	-0.34**	***0.78*****	0.67**
	T4	-0.42**	-0.33**	***0.77*****	0.57**
Observed Problem Solving	T1	-0.66**	-0.56**	0.52**	***0.65*****
	T2	-0.71**	-0.52**	0.53**	***0.69*****
	T3	-0.75**	-0.48**	0.66**	***0.67*****
	T4	-0.67**	-0.54**	0.56**	***0.72*****

Note. T1= time 1, prenatal, T2= time 2, 3 months, T3 = time 3, 6 months, T4 = time 4, 1 year. Intercorrelations between wives' criterion variables for all four time points are located in upper right hand triangle and intercorrelations between husband criterion variables for all four time points are located in lower left hand triangle. Intercorrelations between husbands and wives criterion variables for all four time points are in italics, bolded, and located on the diagonal.
* $p < .05$. ** $p < .01$ (1-tailed) All correlations represent a sample of N = 164. Pearson product-moment correlation coefficients.

Table 5

Bivariate Correlations and Fixed Effects Ordinary Least Squares Regression Analyses Examining Effects of Joint Reports of Collaborative Communication and Spiritual Intimacy on their Own Observed Marital Communication Criterion Variables

	Wife Collaborative Communication (Joint reports)				**Husband Collaborative Communication (Joint reports)**				**Wife Spiritual Intimacy (Joint reports)**				**Husband Spiritual Intimacy (Joint reports)**			
Own Observed Negative Communication	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	-0.18 *	-0.31 **	-0.23 **	-0.33 **	-0.21 **	-0.32 **	-0.29 **	-0.34 **	-0.29 **	-0.22 **	-0.15 †	-0.17 *	-0.30 **	-0.29 **	-0.20 **	-0.19 *
Fixed Effects OLS estimate (co-efficient)	-0.02				-0.03				-0.12 *				-0.09*			
p value	0.689				0.410				0.012				0.044			
Own Observed Withdrawal	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	-0.11	-0.16 *	-0.04	-0.15 †	-0.30 **	-0.26 **	-0.10	-0.27 **	-0.08	-0.09	-0.05	-0.15 †	-0.10	-0.19 *	-0.10	-0.29 **
Fixed Effects OLS estimate (co-efficient)	-0.01				-0.01				-0.01				-0.02*			
p value	0.242				0.270				0.440				0.031			
Own Observed Affection	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	0.18 *	0.24 **	0.21 **	0.37 **	0.28 **	0.15 †	0.29 **	0.37 **	0.23 **	0.22 **	0.26 **	0.30 **	0.30 **	0.09	0.30 **	0.27 **
Fixed Effects OLS estimate (co-efficient)	0.01				0.02†				0.02 †				0.03*			
p value	0.558				0.072				0.075				0.041			
Own Observed Problem Solving	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	0.16 *	0.34 **	0.35 **	0.32 **	0.30 **	0.36 **	0.41 **	0.48 **	0.32 **	0.26 **	0.23 **	0.28 **	0.31 **	0.28 **	0.28 **	0.26 **
Fixed Effects OLS estimate (co-efficient)	0.02 †				0.02 †				0.03*				0.02			
p value	0.085				0.085				0.027				0.121			

Note. OLS = Ordinary Least Squares Regression; T1= time 1, prenatal, T2= time 2, 3 months, T3 = time 3, 6 months, T4 = time 4, 1 year

[1] Pearson product-moment correlation coefficients; † p < .09. * *p* < .05. ** *p* < .01. * p < .05. ** p < .01 (1-tailed). All analyses represent a sample of N = 164.

Table 6

Bivariate Correlations and Fixed Effects Ordinary Least Squares Regression Analyses Examining Effects of Joint Reports of Collaborative Communication and Spiritual Intimacy on Spouses' Observed Marital Communication Criterion Variables

	Wife Collaborative Communication (Joint reports)				**Husband Collaborative Communication (Joint reports)**				**Wife Spiritual Intimacy (Joint reports)**				**Husband Spiritual Intimacy (Joint reports)**			
Spouses' Observed Negative Communication	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	-0.14 †	-0.25 **	-0.22 **	-0.28 **	-0.26 **	-0.31 **	-0.30 **	-0.40 **	-0.26 **	-0.27 **	-0.22 **	-0.24 **	-0.28 **	-0.31 **	-0.20 *	-0.19 *
Fixed Effects OLS estimate (co-efficient)	-0.02				-0.07*				-0.11*				-0.10*			
p value	0.654				0.045				0.022				0.033			
Spouses' Observed Withdrawal	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	-0.11	-0.08	0.00	-0.07	-0.09	-0.10	-0.15 †	-0.07	-0.17 *	-0.21 **	-0.12	-0.08	-0.18 *	-0.06	-0.03	-0.20 *
Fixed Effects OLS estimate (co-efficient)	0.00				0.00				-0.03*				-0.02**			
p value	0.910				0.385				0.010				0.006			
Spouses' Observed Affection	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	0.16 *	0.16 *	0.21 **	0.32 **	0.24 **	0.11	0.27 **	0.28 **	0.25 **	0.20 *	0.28 **	0.34 **	0.31 **	0.12	0.33 **	0.25 **
Fixed Effects OLS estimate (co-efficient)	0.01				0.01				0.04**				0.03*			
p value	0.211				0.407				0.006				0.011			
Spouses' Observed Problem Solving	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	0.14 †	0.23 **	0.30 **	0.28 **	0.15 †	0.34 **	0.40 **	0.33 **	0.36 **	0.22 **	0.31 **	0.21 **	0.20 *	0.25 **	0.23 **	0.23 **
Fixed Effects OLS estimate (co-efficient)	0.01				0.02*				0.03*				0.02			
p value	0.315				0.015				0.014				0.134			

Note. OLS = Ordinary Least Squares Regression; T1= time 1, prenatal, T2= time 2, 3 months, T3 = time 3, 6 months, T4 = time 4, 1 year

[1] Pearson product-moment correlation coefficients; † p < .09. * *p* < .05. ** *p* < .01. * p < .05. ** p < .01 (1-tailed). All analyses represent a sample of N = 164.

Table 7

Bivariate Correlations and Fixed Effects Ordinary Least Squares Regression Analyses Examining Effects of Self-Reports of Marital Love and Sanctification of Marriage on their Own Observed Marital Communication Criterion Variables

	Wife Love (Self report)				Husband Love (Self report)				Wife Sanctification (Self report)				Husband Sanctification (Self report)			
Own Observed Negative Communication	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	-0.32 **	-0.19 *	-0.19 *	-0.20 *	-0.22 **	-0.35 **	-0.15 †	-0.11	-0.07	-0.11	-0.04	-0.07	-0.15 †	-0.26 **	-0.09	-0.10
Fixed Effects OLS estimate (co-efficient)	-0.06**				-0.03				0.00				-0.02†			
p value	0.005				0.110				0.737				0.068			
Own Observed Withdrawal	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	-0.08	-0.06	-0.01	-0.10	-0.01	-0.26 **	0.00	-0.19 *	-0.05	-0.04	-0.02	-0.02	0.00	-0.14 †	0.01	-0.17 *
Fixed Effects OLS estimate (co-efficient)	0.00				0.00				0.00				0.00			
p value	0.514				0.420				0.132				0.537			
Own Observed Affection	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	0.25 **	0.20 *	0.24 **	0.17 *	0.21 **	0.30 **	0.28 **	0.28 **	0.08	0.10	0.13	0.13	0.17 *	0.17 *	0.17 *	0.26 **
Fixed Effects OLS estimate (co-efficient)	0.01				0.01*				0.01*				0.01*			
p value	0.154				0.027				0.029				0.026			
Own Observed Problem Solving	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	0.21 **	0.19 *	0.25 **	0.16 *	0.20 *	0.22 **	0.15 †	0.20 *	0.08	0.03	0.04	0.08	0.18 *	0.16 *	0.15 *	0.22 **
Fixed Effects OLS estimate (co-efficient)	0.01*				0.00*				0.00				0.01*			
p value	0.015				0.015				0.418				0.040			

Note. OLS = Ordinary Least Squares Regression; T1= time 1, prenatal, T2= time 2, 3 months, T3 = time 3, 6 months, T4 = time 4, 1 year

[1] Pearson product-moment correlation coefficients; † $p < .09$. * $p < .05$. ** $p < .01$. * $p < .05$. ** $p < .01$ (1-tailed). All analyses represent a sample of N = 164.

Table 8

Bivariate Correlations and Fixed Effects Ordinary Least Squares Regression Analyses Examining Effects of Self Reports of Marital Love and Sanctification of Marriage on Spouses' Observed Marital Communication Criterion Variables

	Wife Love (Self report)				Husband Love (Self report)				Wife Sanctification (Self report)				Husband Sanctification (Self report)			
Spouses' Observed Negative Communication	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	-0.26 **	-0.10	-0.11	-0.10	-0.13 †	-0.33 **	-0.17 *	-0.22 **	-0.03	-0.15 †	-0.08	-0.03	-0.03	-0.18 *	-0.02	-0.12
Fixed Effects OLS estimate (co-efficient)	-0.04*				-0.05*				0.00				-0.01			
p value	0.050				0.027				0.952				0.192			
Spouses' Observed Withdrawal	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	-0.03	0.10	0.06	-0.04	-0.22 **	-0.20 **	-0.08	-0.11	-0.02	0.01	-0.02	-0.06	-0.10	-0.12	-0.02	-0.06
Fixed Effects OLS estimate (co-efficient)	0.00				-0.01**				0.00				-0.00*			
p value	0.530				0.001				0.465				0.023			
Spouses' Observed Affection	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	0.20 **	0.04	0.14 †	0.04	0.19 *	0.33 **	0.38 **	0.29 **	0.08	0.11	0.11	0.16 *	0.16 *	0.13	0.15 *	0.19 *
Fixed Effects OLS estimate (co-efficient)	0.00				0.02**				0.01*				0.00			
p value	0.735				0.001				0.022				0.103			
Spouses' Observed Problem Solving	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**	**T1**	**T2**	**T3**	**T4**
Cross-sectional bivariate correlations [1]	0.20 **	-0.02	0.09	0.05	0.09	0.25 **	0.25 **	0.25 **	0.11	0.07	0.08	0.11	0.07	0.14 †	0.05	0.17 *
Fixed Effects OLS estimate (co-efficient)	0.00				0.01†				0.00				0.01**			
p value	0.612				0.078				0.413				0.000			

Note. OLS = Ordinary Least Squares Regression; T1= time 1, prenatal, T2= time 2, 3 months, T3 = time 3, 6 months, T4 = time 4, 1 year

[1] Pearson product-moment correlation coefficients; † $p < .09$. * $p < .05$. ** $p < .01$. * $p < .05$. ** $p < .01$ (1-tailed). All analyses represent a sample of N = 164.