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Newlywed Couples' Marital Satisfaction and Patterns of Cortisol Reactivity and Recovery as a Response to Differential Marital Power

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NEWLYWED COUPLES' MARITAL SATISFACTION AND PATTERNS OF CORTISOL
REACTIVITY AND RECOVERY AS A RESPONSE TO DIFFERENTIAL MARITAL
POWER

A Dissertation Presented

by

MATTITIYAHU S. ZIMBLER

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2012

Social Psychology

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DEDICATION

To Erin, the woman who makes this work important to me.
In memory of Uncle Bill, who embodied what it is to be a partner.

&

To Grover C. Zimbler, for his unconditional love.

ACKNOWLEDGEMENTS

The idea of writing a dissertation alone is akin to being completely independent in this world. Both are impossible. Just as socializing and interdependence are woven into our culture and DNA, so is the accomplishment of this dissertation the product of both myself, and those who supported me through the process.

First and foremost, this research doesn't happen without my partner, Erin. The irony of a dissertation regarding household labor, is that I have been forced to neglect my own domestic responsibilities in order to complete the work before you. She has been understanding, supportive, motivating, and even more understanding. She believes in a world of fairness, and I love the world she strives to create. While there is no way to ever fully repay you, by marrying you, I hope to give myself the opportunity to try.

To my family and friends, you are one and the same. In times of academic isolation you all gave me your time, patience, attention, and love. These are acts of kindness which cannot be forgotten, and which will always be meaningful to me. I continue to believe that these relationships are the key to sustained happiness. So thank you, for being my sustenance.

To my academic colleagues. This work would never have been possible without you. Without your generosity of time, interest, and spirit, I would have been adrift, wandering the academic void, lost in time. Thank you for your guidance and selflessness.

And last but never least, my dogs, Grover and Falcor. There is no therapy quite like being nuzzled between your fuzzy faces. You continue to open my eyes to new worlds of connection, and you may just be the best dogs that ever were.

ABSTRACT

NEWLYWED COUPLES' MARITAL SATISFACTION AND PATTERNS OF CORTISOL REACTIVITY AND RECOVERY AS A RESPONSE TO DIFFERENTIAL MARITAL POWER

MAY 2012

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This study investigated the extent to which gender moderates, and perceptions of fairness mediate, the link between marital power and overall marital satisfaction, as well as cortisol stress trajectories in response to marital distress. Study 1 examined a sample of 213 opposite sex newlywed couples from western Massachusetts, and focused on marital satisfaction as the dependent variable. Findings from the structural equation analysis suggested that perceptions of relationship fairness concerning the division of labor completely mediated the association between marital power and marital satisfaction for wives, but not for husbands. These results also implied an association between wives' perceptions of fairness and husbands' marital satisfaction. Study 2 looked at a subsample (N = 158 couples) of newlywed couples and investigated the effect of experiencing marital power on cortisol stress reactivity and recovery in response to a marital conflict discussion. Findings from the structural equation model suggested a significant association between marital power and stress reactivity & recovery for all participants, with low power wives exhibiting a failure to recover back to baseline levels of stress post-conflict. Methodological and measurement issues pertaining to the study of marital

power are discussed, as well as potential implications of this work on future studies related to marital well-being.

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CHAPTER I

INTRODUCTION

“Where should we go for dinner?” What starts as an innocuous question to one’s spouse can transform into a very real marital conflict. Often times, marital disagreements in which both partners want different outcomes reflect the underlying power structure of the marriage. How couples perceive and respond to these marital conflict interactions can often predict later outcomes for the relationship (Gotman, Coan, Carrere, & Swanson, 1998; Heavey, Layne, & Christensen, 1993). Moreover, past research suggests that additional factors, such as gender (Sexton & Perlman, 1989; Tichenor, 1999) and perceptions of fairness (Frisco & Williams, 2003; Lavee & Katz, 2002), are also crucial in understanding how relationship conflict is experienced and negotiated. The current work aims to extend this literature by testing the extent to which gender moderates, and perceptions of fairness mediate, the relationship between marital power and overall marital satisfaction, as well as physiological indicators of marital distress.

A lack of power in romantic relationships predicts poorer relationship functioning, including less relationship satisfaction (Aida & Falbo, 1991; Bentley, Galliher, & Ferguson, 2007; Falbo & Peplau, 1980; Peplau & Campbell, 1989), increased likelihood of separation (Felmlee, 1994; Filsinger & Thoma, 1988), increased instances of domestic violence (Babcock, Waltz, Jacobson, & Gottman, 1993; Bentley, Galliher, & Ferguson, 2007; Sagrestano, Heavey, & Christensen; 1999), and greater depression and anger (Beach & Tesser, 1993; Whisman & Jacobson, 1990). Such power imbalances also contribute to marital conflict and divorce, which have been linked to a number of deleterious health outcomes (Beach, Fincham, & Katz, 1998; Ewart, Taylor, Kraemer, & Agras, 1991; Fincham

& Beach, 1999, 2010; Gottman, 1994; Kiecolt-Glaser et al., 1996; Proulx, Helms, & Buehler, 2007). What is less understood is the mechanism through which experiencing high or low marital power affects marital satisfaction and physiological markers of marital well-being.

Before outlining our research plan for exploring these mechanisms, we first discuss the methodological issues inherent to this literature, focusing considerable attention on the operationalization and measurement of marital power. Next, we critically evaluate the literature to examine the extent to which gender moderates the link between power and marital functioning. Then, in Study 1, using gender as a lens, we discuss how couples' perceptions of fairness regarding the division of labor can play a critical role in mediating marital power's effect on marital satisfaction. Finally, in Study 2, we discuss some of the more recent research in the field of relational power that examines the body's physiological responses to high and low power situations.

Methodological Issues

Previous work investigating the connection between marital power and marital satisfaction has been hampered by a number of methodological challenges. One methodological issue in this literature stems from much of the past work relying solely on self-report responses. Although self-reports can provide insight into individuals' subjective experiences, it also is important to examine other, less subjective responses that may be important for relationship outcomes (e.g., see Lee, Rogge, & Reis, 2010). For example, recent work has begun to explore the physiological outcomes that result from marital conflicts (see Gottman & Notarius, 2000). To supplement self-report measures of marital satisfaction, which are subject to social desirability bias, researchers hope that

measuring biological responses may provide new insight into how marriage impacts overall satisfaction and well-being.

Thus far, only one study has applied this emerging paradigm to look specifically at the physiological outcomes related to the experience of marital power (Loving, Heffner, Kiecolt-Glaser, Glaser, & Malarkey, 2004). Furthermore, very little is known about the extent to which established findings concerning the relationship between marital power and marital satisfaction are in agreement with the more recent work looking at the connection between marital power and bio-psychosocial indicators. The current research seeks to add to this burgeoning physiological literature by measuring cortisol reactivity during conflict in relation to marital power. Additionally, by testing parallel hypotheses that relate the experience of marital power to both self-reported marital satisfaction and physiological indicators of stress during a conflict situation, this research will examine if partner's reports of marital satisfaction are reflected in their biological responses.

Another issue inherent to the study of marital power stems from the challenge of modeling data for non-independent dyads. When studying couples, and especially when investigating gender differences, the first impulse may be to look at men and women's data separately. However, because husbands and wives' responses are related to one another, it is essential to take this non-independence into account when analyzing results statistically. In the current work, advancements in statistical modeling techniques were incorporated that allow for the use of structural equation modeling to accurately capture the non-independence innate to marital dyads. Additionally, we were able to model partner effects: wives' power and perceptions of fairness predicting husbands' satisfaction, and husbands' power and perceived fairness predicting their wives' marital satisfaction.

Defining and Measuring Marital Power

Researchers have defined and measured marital power in multiple ways throughout the years (Gray-Little and Burks, 1983). Theorists have variously defined marital power in terms of a person's potential to exert influence (e.g., in terms of the person's available resources) or their actual influence in a given situation (for a detailed discussion, see Gray-Little & Burks, 1983). The majority of work over the past two decades has relied upon the two most widely accepted definitions for marital power: the ability to influence or control another person's attitudes or behavior (Cromwell & Olson, 1975; McCormick & Jessor, 1982), and the ability to produce desired or intended effects from another person (Gray-Little & Burks, 1983; Sprecher & Felmlee, 1997; Balswick & Balswick, 1995). Inherent in these definitions is the interplay between two individuals, in this case the marital couple. Rollins & Bahr (1976) added to this understanding of power by pointing out that when measuring power one is actually measuring a "characteristic of social interaction between two or more persons."

In operationalizing marital power, past studies have utilized self-report indicators of power that measure "who does what" in terms of the division of domestic labor (Lavee & Katz, 2002). The idea behind this reasoning is that by understanding who completes the household responsibilities, one can simultaneously get a snapshot of how power is allocated in the relationship. In other words, a more equitable division of labor between relationship partners reflects a more egalitarian balance of power in the relationship itself.

While division of labor (DOL) has been used in the past as a proxy for marital power, there are two notable drawbacks to using this particular operationalization of power in this type of study. How household tasks are divided does provide insight into one aspect of how

marital power is enacted in a marriage. However, to get a more well-rounded understanding of power in a marriage, it is preferable to use multiple measures of power from across a variety of domains. Additionally, when perceptions of fairness in the division of labor are investigated as a potential mediator of power's effect on marital satisfaction, there is the possibility of a conceptual confound. If marital power is operationalized according to the division of labor, and perceptions of fairness are also measured relative to the couple's feelings about the division of labor, then findings from this research become less about marital power specifically, and more about the outcomes relevant to participation in domestic responsibilities. The current work aims to operationalize marital power independently of the division of labor, by using multiple measures relevant to control and influence across various other aspects of the marriage.

In what has become one of the seminal books on relational power, Cromwell and Olson (1975) further breakdown power in relationships into three distinct areas: power *basis*, power *process*, and power *outcomes*. These distinctions both differentiate the various forms of power that are enacted simultaneously in a marital relationship, while also emphasizing the complexity inherent to studying relational power. Power *basis* refers to the resources each individual brings to the couple. These resources include both tangible capital such as money and property, as well as less explicit assets such as education, skills, or status. Power *process* includes all interactions and discussions between the marital couple leading up to a decision. Power process is generally measured through observing couples while they are engaged in a conflict discussion or performing experimental tasks together. Cromwell and Olson (1975) suggest that individuals' attempts to be assertive in a discussion or to control

the partner are often important indicators of power process in a marriage. Lastly, power *outcome* refers to which partner gets his or her way in the end (Gray-Little & Burks, 1983).

While this tri-level power structure has been instrumental in work to understand the various domains inherent to marital power, it is limited by the unavoidable overlap among the three concepts. For example, power basis cannot be separated from the process and outcome of a marital disagreement because the resources each partner brings to the conflict are an inherent part of the marital dynamic. Likewise, it is often difficult to determine where the discussion and processing of a conflict ends, and the conclusion and outcome begins. In many real life situations, there is no distinct deadline for resolution, and thus the outcome of a conflict is merely the power process at any given moment. Despite its limitations, the tri-level divisions of relational power are still considered central in researching power in romantic relationships (Gray-Little & Burks, 1983).

While much of the early work on marital power focused on what determines who has marital power (*basis*), the current work is more interested how power is manifested, and therefore focuses predominantly on the marital power process. We attempted to address operational concerns by utilizing a variety of measures to capture multiple aspects of the marital power *process*. By asking participants to complete questionnaires related to how power was enacted in a recent conflict discussion, we hope to get a snapshot of the how the couples experience marital power during conflict. Similarly, by requesting that participants indicate who has power in a variety of specific relationship domains, we hope to gain insight into when each spouse would have the most influence on relational outcomes.

Gender and Power

Almost all of the research examining marital power shows different outcomes for wives and husbands, suggesting that gender shapes how power is perceived, interpreted, and incorporated into marriage. Thus, to systematically understand how couples handle power, it is essential to simultaneously investigate how gender contributes to this process. When looking at opposite sex couples, it is impossible to separate biological sex from power, but couples' interactions must be viewed within the context of longstanding gender norms and gender role stereotypes. By most accounts, the balance of power in couples still favors men (Diekmann, Goodfriend, & Goodwin, 2004; Komter, 1989; Sprecher & Felmlee, 1997; Wanic & Kulik, 2011). While the shift towards egalitarianism has created more equitable relationships in general, when there is a power differential, men typically are perceived to have more influence and to be more dominant in decision-making (Felmlee, 1994; Szinovacz, 1987). This section examines the extent to which gender plays a central role in understanding marital power.

One of the predominant theories for why wives have held a less prominent role in relationships in the past comes from both resource theory (Blood & Wolfe, 1960) and social exchange theory (Thibaut & Kelley, 1959). The idea was that, because husbands were the breadwinners in most relationships, they therefore commanded more power and influence in the relationship due to their resource advantage. Social role theory (Eagly, 1987), however, provided an alternate interpretation that posited that, because husbands are expected to fulfill the culturally high-status role of economic provider in marriage while the relatively devalued and low-status domestic responsibilities are relegated to wives, men thereby assume a societal power advantage in heterosexual relationships.

Although women have increasingly transitioned or have been forced out of financial necessity into the paid work force, social role theory (Eagly, 1987) explains how a gender hierarchy is still maintained by such practices as women being paid less relative to their male counterparts (Tomaskovic-Devey, 1994). However, the transition toward two-income couples has also enabled researchers to begin testing the boundaries of social exchange theory. By looking directly at “counter-normative” couples, where the wife earned more money than her husband, researchers have investigated whether these women experienced a similar decrease in household responsibilities and increase in relationship power, in the same way that husbands who out-earned their wives did. One qualitative study (Tichenor, 1999) suggests that, although wives did report an increased influence in decision-making in couples where both partners worked, the wives were still responsible for the majority of the housework. The fact that many of these sentiments were expressed by women who already provided the majority of the family’s income speaks to how ingrained these socialized gender roles remain. Additionally, these findings suggest that even when women do succeed in economically supporting their families, culturally ascribed gender roles still exert enough influence that the expectations that women will assume primary domestic responsibility do not diminish (Shelton & John, 1996).

Related research by Sexton & Perlman (1989) compared the marital power structure of couples where only the husband worked full-time (and the wives were primarily homemakers) to dual-career couples. While no differences were found in self-reported perceived power and influence strategies, when couples were observed in a conflict discussion, dual-career wives made significantly more attempts to influence their husband’s opinion than their homemaker counterparts. These findings highlight the importance of the

power *process* in the study of marital power. On the surface, couples reported similar patterns of marital influence, but when actually engaging in interactions relevant to power, wives who directly shared the economic load of the family were more likely to express their opinions during the decision making process (Sexton & Perlman, 1989).

As we have mentioned, the perception of power in a relationship is often as important as how a couple actually processes conflict. With this in mind, research shows that female partners are more likely to be perceived as more deeply invested in their romantic relationship than their male partner (Felmlee, 1994). The “principle of least interest” (Waller, 1938) suggests that the partner with the least amount of commitment to the relationship, or whoever is less in love, has more power because s/he has less to lose. Research investigating this hypothesized connection in opposite sex relationships found that both men and women do tend to view the male partner in a romantic couple as relatively less invested (Sprecher & Felmlee, 1997). Additionally, less involved partners endorsed the belief that they held more power in their relationship (Sprecher & Felmlee, 1997). This line of reasoning suggests that a portion of the power imbalance in romantic relationships may be due to the perception of male partners as less invested and therefore less dependent on their relationships. These perceptions of imbalance, independent of partners’ *actual* investment, can then negatively impact a couple’s experience of marital power.

The goal of this research is to extend our knowledge base concerning the consequences of experiencing high or low power in a marriage, and learn the extent to which gender and perceptions of fairness concerning the division of labor play a role in that process. Additionally we hope that by including partner effects in our model we will depict a more realistic framework for our analyses. Using gender as a moderator, Study 1 focuses on the

association between the experience of marital power and marital satisfaction, as well as the formally testing the importance of perceived fairness regarding household tasks when exploring marital power outcomes. Study 2 follows by testing the extent to which these marital satisfaction outcomes coincide with cortisol stress patterns in response to a marital conflict discussion.

CHAPTER II

STUDY 1

Marital Power, Gender, and the Centrality of Perceptions of Fairness

The previous section presented evidence in favor of including gender as an important moderator of the effects of marital power. The subsequent section suggests that couples' perceptions of fairness with regard to the division of household labor are *also* fundamental in understanding the relationship between power and marital satisfaction. In many cases, husbands who do not necessarily contribute equally to the household chores still manage to contribute enough for their partners to perceive the relationship as fair, and therefore to reap the positive benefits. It appears that husbands simply need to show their wives that they are making an effort. Women who perceive their husbands as attempting to share housework and childcare duties report greater perceived fairness in the relationship (Clark & Grote, 1998). Furthermore, the mere perception that husbands are competent and able to perform family responsibilities well, is enough to predict perceived fairness in the relationship (Grote, Naylor, & Clark, 2002). In turn, research suggests that couples who perceive the division of labor in their relationship to be fair also report greater levels of marital happiness (Frisco & Williams, 2003). While, taken together, these findings may hint that men are still “getting off easy” when it comes to household tasks, the more critical point is that the negotiation of marital power is deeply imbedded in partners' perceptions that are additionally informed by gender norms.

Wives who feel valued and empowered by their spouses are likely to perceive the division of labor in their marriage as more fair, regardless of the actual division of labor. Empirical evidence has been found that backs the idea that perceptions of fairness mediate

the relationship between who does the household labor and the couples' marital satisfaction (Claffey & Mickelson, 2009). Other work provides additional support for this hypothesis: wives who reported feeling respected and concerned about by their spouse rated the division of labor as being fair, regardless of time availability, relative resources, gender-role attitudes, and the actual division of tasks (Hawkins, Marshall, & Meiners, 1995; Kawamura & Brown, 2010). Related work in the field has concluded that, for husbands, having an appreciation for women's labor and internal motivation to perform housework (as opposed to being asked/coerced) are both important predictors of wives' perceptions of fairness in the marriage (Blair & Johnson, 1992; DeMaris & Longmore, 1996; Hawkins, Marshall, & Meiners, 1995). In terms of husbands' more tangible labor contributions, it appears that not only is the amount of housework completed a factor in perceived fairness, but also which particular tasks are preformed. Specifically, research suggests that by completing tasks that are considered stereotypically female, husbands can most effectively counteract wives' perceptions of unfairness (Blair & Johnson, 1992; Sanchez, 1994, Sanchez & Kane, 1996; Wilkie, Ferree, & Ratcliff, 1998).

In a related review, Mikula (1998) found support for the idea that gender norms may moderate perceptions of fairness. Mikula consistently found negative outcomes, particularly for women, when the division of labor in one's marriage was perceived as unfair, including lower marital satisfaction (Greenstein, 1996; Grote & Clark, 1998, 2001; Perry-Jenkins & Folk, 1994; Saginak & Saginak, 2005), less relationship stability (Blair, 1993, 1998), less happiness (Frisco & Williams, 2003), and more marital conflict and distress (Blair, 1993, 1998; Claffey & Mickelson, 2009; Perry-Jenkins & Folk, 1994). He concluded that, "The symbolic meaning of men's and women's contributions to family work is much more

relevant than the mere amount of time and effort (Mikula, 1998).” In an attempt to formalize this symbolic meaning, Lennon & Rosenfield (1994) asked married couples detailed questions regarding the type, amount, and relative fairness of the housework in their marriage. Their goal was to find the “equality point,” which represents the percentage of total work they, or their spouse, must complete in order for both partners to perceive the division of labor as fair. Results indicated that the equality points are vastly different for women and men, but also complementary. Men needed to complete 36% of the total housework for perceived equity, compared to 66% for women (Lennon & Rosenfield, 1994). These results indicate that both wives and husbands seem to independently assume that women should be completing approximately two-thirds of the domestic labor. These findings support the idea that not only is marital power mediated by the couple’s perception of fairness, but that those perceptions are additionally moderated by the gender of the perceiver.

The first study tested three specific hypotheses that follow from the theoretical framework provided. Study 1 focused on marital satisfaction as a dependent variable and tested the specific hypotheses:

Hypothesis 1: Marital Power will predict marital satisfaction, mediated by perceptions of fairness. We predicted that high power partners would report greater overall marital satisfaction, while low power couple members would report less overall marital satisfaction. However, we expected that this relationship would be mediated by the perception of relationship fairness, whereby the more fair the division of labor is perceived, the greater the marital satisfaction.

Hypothesis 2: We predict that gender will moderate the previous hypothesis. Concurrent

with earlier research findings, we predicted a differential pattern of responses for men and women. Specifically, we expected the relationship between marital power and satisfaction to be stronger for wives than husbands. Additionally, considering that wives generally complete the majority of the housework in opposite sex relationships, we predicted that the perception of fairness in the completion of domestic responsibilities would be a stronger mediator of women's marital satisfaction.

Hypothesis 3: We predict that one spouse's marital power and perceptions of fairness will be related to the other partner's marital satisfaction but that these associations are more likely to emerge for wives. Specifically, we predict that wives' perceptions of power and fairness will predict their husband's marital satisfaction because women traditionally perform more household labor and therefore their perceptions of fairness are apt to drive both spouses' satisfaction in the marriage.

Method

Participants

Our sample consisted of 213 opposite sex newlywed couples that had been married no more than seven months. Couples were eligible for this study if this was both partners' first marriage, they planned to live in the western Massachusetts area for at least 3 years, and neither partner had children. In addition, participants were required to be between the ages of 18 and 50, (see Table 1 for husband and wives' means) and fluent in English. Participants were predominantly white (95%) and well-educated: 99.5% completed high school or their GED, 72.1% were college graduates, and 25.4% completed some form of advanced degree. Also, participants with health issues or medications that could affect their cortisol levels were excluded from this study. Participants were recruited through mailings and by phone from

addresses and telephone numbers on marriage licenses filed in the western Massachusetts area. Some participants were also recruited from fliers posted around western Massachusetts and on the website craigslist.com.

Measures

Marital Power. Power was assessed via three indicator measures. The first measure was a scale of *Domain Specific Marital Influence*. This questionnaire included 6-items. Partners rated the extent to which they or their spouse influenced a variety of domain specific decisions. Items included questions regarding money, vacations, children, socializing, conflict, and activity planning (e.g. “When making decisions related to having children, who has more influence?” and “When making decisions about money, who has more influence?”). Participants responded on a 1-7 Likert scale (1 = Mostly always my spouse to 7 = Mostly always me). The midpoint of this scale, or a response of “4,” reflected an approximately equal contribution. The 6-items were averaged to compute an individuals score, responses and the alpha reliability for this measure was low (wives' $\alpha = .47$, husbands' $\alpha = .49$), which can be explained considering the items were constructed to capture influence in a variety of marital domains. (See Table 2 for the correlation matrix of the indicator variables.)

A second indicator of relationship power was a single item measure of *General Relationship Influence*. The single item measure came directly after the questions regarding domain specific influence, and asked participants, "In general, in your relationship, who do you feel has more influence?" Participants responded on a 1-7 Likert scale (1 = Mostly always my spouse to 7 = Mostly always me). The midpoint of this scale, or a response of “4,” reflected an approximately equal contribution.

The third measure of power, the *Post-Conflict Discussion Power Measure*, included

3-items regarding the extent to which each partner felt they or their partner had more control, influence, and power specifically during the preceding conflict discussion (wives' $\alpha = .80$, husbands' $\alpha = .77$). Participants answered these items immediately after the couple completed a 15-minute discussion regarding an unresolved issue in their relationship.

Measures of Marital Satisfaction. *The Perceived Relationship Quality Components (PRQC)* measured spouses' marital satisfaction with an 18-item scale (Fletcher, Simpson, & Thomas, 2000; wives' $\alpha = .92$, husbands' $\alpha = .92$). Participants rated their relationship on a 0-6 scale (0 = not at all to 6 = extremely), dealing with six components of relationship quality: marital satisfaction ("How content are you with your relationship"), commitment ("How devoted are you to your relationship"), intimacy (How connected are you to your partner"), trust ("How dependable is your partner"), passion ("How lustful is your relationship"), and love ("How much do you cherish your partner"). We used the satisfaction subscale in our model, which takes the average of 3 items related specifically to marital satisfaction (e.g. "How content are you with your relationship?")

Our second indicator of marital satisfaction was the *Dyadic Adjustment Scale (DAS)*, which measured married couples' relationship quality and satisfaction using 32 self-report items (Spanier, 1976; wives' $\alpha = .88$, husbands' $\alpha = .88$). The DAS contains four subscales of marital adjustment: dyadic satisfaction with 10 items ("Do you ever regret that you were married"), dyadic cohesion with 5 items ("How often do you and your spouse laugh together"), dyadic consensus with 13 items ("To what extent do you and your partner agree on aims, goals and things believed important"), and affectional expression with 4 items ("To what extent do you and your partner agree on sexual relations"), to measure marital

satisfaction. We used the satisfaction subscale in our model, which takes the average of 10 items related specifically to marital satisfaction (e.g. "Do you confide in your mate?")

Our final measure of relationship satisfaction was taken from the *Division of Labor (DOL) Scale* (Cowen & Cowen, 1990). The one-item indicator of satisfaction concerning the division of household labor asked participants, "How satisfied are you with the current division of household tasks?" Participants responded on a 1-5 Likert scale (1 = Very dissatisfied to 5 = Very satisfied). The midpoint of this scale, or a response of "3," reflected that they were neither satisfied nor dissatisfied. This measure was used as an additional indicator of a couple's satisfaction with their marriage.

Measuring Perceptions of Fairness. Our first measure of the perception of relationship fairness concerning the division of household labor was taken from the *Division of Labor (DOL) Scale*. The DOL measured spouses' perceptions of the division of responsibility toward domestic and household tasks (Cowen & Cowen, 1990). The DOL consists of 13 items rated on a Likert scale of 1-5 (1 = Mostly or always my spouse to 5 = Mostly or always me), with an "NA" option available for tasks that are not applicable to the relationship (e.g. "care for a pet"). The midpoint of this scale, or a response of "3," indicates that a particular task is "shared about equally" between the marriage partners. Participants rated the degree to which certain household chores ("laundry", "taking out the garbage") and activities ("buy presents", "pay bills") are completed by themselves or their spouses. As the research suggests that completing stereotypically female domestic labor can have a direct effect on partners' perceptions of fairness (Blair & Johnson, 1992; Sanchez & Kane, 1996; Wilkie, Ferree, & Ratcliff, 1998), we formed a composite score averaging the 6 items from the original measure (wives' $\alpha = .55$, husbands' $\alpha = .50$), identifying those tasks regarded as

stereotypically female: making the bed, cleaning, food preparation, laundry, grocery shopping, and preparing for events and activities.

Our second measure of the perception of fairness was also taken from the *Division of Labor (DOL) Scale* (Cowen & Cowen, 1990). This measure utilized a single item that asked participants, "How do you feel about the fairness of your relationship when it comes to the division of household tasks?" Participants responded on a 5-point scale that ranged from "Very unfair to you" to "Very unfair to your spouse." The midpoint of this scale reflected the division of labor was considered fair to both the partner and his or her spouse. This single-item indicator was highly correlated with our measure of stereotypically feminine housework for both wives ($R = .60, p < .01$) and husbands ($R = .53, p < .01$).

Of note, this type of fairness indicator has been criticized in the past for measuring different things dependent on gender. Specifically, this measure may be measuring perceptions of fairness toward themselves, for women, and perceptions of fairness toward their wives, for men. If this is the case, the distribution of responses for this variable should show very little overlap between men and women. For our sample, this was not the case. Over half of both men and women responded that the distribution of labor was fair (51% of wives, 62% of husbands) and the means for both partners were similar (husbands' $M = 3.2$, wives' $M = 2.8$). There are a number of reasons why this measure may be particularly appropriate for our sample. First, how housework is divided is particularly important for newlywed couples with no children. Prior to the additional stress brought on by balance of childcare and work life, the division of labor is one of the first real power negotiations a couple goes through. Additionally, how labor is divided may be less associated with marital satisfaction for more traditionally minded or lower SES couples, but the majority of our

sample was college-educated and participants lived in a geographic area known for more liberal views.

Procedure

When the couples arrived at the lab, a senior experimenter explained the purpose of the study and the procedure for the upcoming lab session. Informed consent was obtained for both the lab procedure as well as for the video recordings that were explained to happen later in the study. Each participant was then given a brief health screening and temperature reading to assure that participants were not experiencing acute illness symptoms at the time of the study. If a participant was experiencing illness or had an elevated temperature, efforts were made to reschedule the couple for another date.

The experimenter explained that the couple would be separated for the completion of a variety of online questionnaires. Participants were instructed not to communicate regarding the questionnaires and it was explained that the reasoning for this was to get each partner's independent responses to each topic.

The participant then filled out the first block of questionnaires, which included the DAS satisfaction scale. Following these online surveys, couples were given a paper questionnaire which asked them each to identify the three most important topics of disagreement in their relationship that had not been resolved at that time. We also asked participants to rate both the intensity of past discussions on each topic, as well as how many times the couple had discussed each particular topic in the past. After completing this form, the couples were instructed to begin filling out the second block of questionnaires, which included the PRQC satisfaction measure. A research assistant remained in the room while the couple continued working on questionnaires, and the senior experimenter left briefly to

choose a conflict topic following the *Conflict Topic Guidelines*, which can be found in the appendix.

Upon completion of the second block of questions, the experimenter gave a detailed description of the conflict task, and alerted the couple that we would like them to fully understand that we are asking them to discuss a topic of unresolved conflict and therefore the discussion may take the form of an argument, and could get heated. They were then asked to fill out a third block of questionnaires. This block included the measures of general and domain specific relationship influence, as well as the division of labor scale. Fifteen minutes later, the couple was escorted across the hall to the discussion room where they were seated on a couch together and explained the discussion procedure. Couples were instructed to discuss their identified topic for 15 minutes, with the goal of resolving the issue. Couples were asked to try and approach the discussion as if they were in the privacy of their home and they were informed that, while the conversation was being recorded, no one would be actively listening to their discussion while in the lab.

After the conflict discussion, the couple returned to their separate cubicles and began work on the fourth block of questionnaires. One of the first measures the couples' filled out was the *Post-Conflict Discussion Power Measure*. Participants continued filling out additional questionnaires separately, while recovering from their conversation. In order to prevent potential negative feelings from carrying over from the conflict discussion, at the end of the session the couples were once again asked to move to the discussion room to have a 6 minute conversation about what they liked about their partner and their relationship. At the conclusion of this interaction, the participants were debriefed and the senior researcher answered any questions the couple had regarding the study.

Results

Analytic Plan

Our analyses focused on marital satisfaction as the dependent variable and utilized a structural equation model in order to test (a) whether perceived fairness in the division of household labor functions as a mediator between partners' perceived marital power and their reported marital satisfaction; (b) whether this relationship was the same for husbands and wives; (c) whether participants' marital power and perceptions of fairness were associated with their partners' marital satisfaction.

Marital Power As A Predictor of Marital Satisfaction

We analyzed a structural equation model, in order to test whether perceptions of fairness mediated the relationship between marital power and marital satisfaction. In this model, *marital power* was a latent variable specified by our three indicator variables: *Domain Specific Marital Influence*, *General Relationship Influence*, and the *Post-Conflict Discussion Power Measure* (See Figure 1 & 2 for measurement models). *Perception of fairness* was also a latent variable indicated by two measures: perceptions of fairness in the division of household labor, and the amount of female stereotypic domestic labor each partner reported completing. The dependent variable *marital satisfaction* was a latent variable specified by three indicators: the dyadic adjustment scale (DAS), the perceived relationship quality component (PRQC), and a measure of self-reported satisfaction with the current division of labor. The measurement models (see Figures 1 & 2) illustrate the relationships between each latent variable and its indicators.

Multiple measurement indicators for latent psychological concepts (e.g. marital power) are often used in structural equation modeling, as the more operationalizations of a

construct that contribute to its measurement, the more predictive power it will generate. Additionally, multiple indicators reduce the amount of measurement error incurred during analysis. For a conceptual example, consider a study that is interested in how intelligence affects college graduation rates. To assess intelligence, researchers could simply use students' SAT scores as the measure of their independent variable. However, if the researchers used a combination of SAT scores, grade point average, and an IQ test to assess intelligence, this would increase confidence that the measurement of the independent variable was indeed assessing intelligence. Furthermore, the independent variable composed of measures including standardized testing, college performance, and a psychometric test will reduce measurement error and allow for more accuracy in predicting graduation rates. In the same way, by utilizing multiple indicators for marital power, perceptions of fairness, and marital satisfaction, we aimed to maximize both our accuracy in measuring these constructs, as well as our predictive power during analysis.

To investigate gender's effect on the relationship between marital power and marital satisfaction, we utilized a moderated mediation model (See Figures 3 & 4) where the husbands' and wives' data were modeled simultaneously, but the associations, as captured by the regression coefficients, could take on different values for men and women. In building our structural equation model, we reviewed past work that dealt with modeling and reporting dyadic non-independent data (Cook, 1994; Lavee & Katz, 2002; Raykov, Tomer, & Nesselroade, 1991). While SEM allows us to test for mediation in non-independent dyads, the process of modeling the husbands and wives data simultaneously makes it difficult to directly test for gender moderation. We did compare our model, which allowed for pathways to differ for men and women, against a model that constrained all pathways to be the same

for men and women, and found that the constrained model did not fit the data better. This is not the most appropriate test of moderation, however, in that when the model is constrained to be equal for men and women, the SEM program takes the average of the men's and women's regression coefficients, instead of modeling each group separately (e.g. multi-group SEM). Overall, the improved fit of the model when husbands' and wives' paths were allowed to differ, as well as the dissimilar patterns of responses for men and women, left us confident in the observed gender differences and that the moderated mediation model was most appropriate for our data.

In modeling non-independent data, it is additionally imperative to account for the non-independence of the marital dyad. Because marital partners' responses are not independent from one another, the error variances of the men's and women's indicator variables were left free to correlate with their partners' corresponding indicators (see measurement model, Figures 1 & 2). In other words, by modeling the correlations between the couples' indicator error variances, we accounted for the non-independent nature of the marital dyad. A covariance matrix was produced using the raw data from an SPSS file and imported to LISREL 8.8.

We initially tested a model without perception of fairness included as a mediator, to establish the initial link between marital power and marital satisfaction. We estimated this model to check if there was, in fact, a significant main effect, before testing a mediation model. In estimating the unmediated model, the effect of marital power on marital satisfaction was positive and significant for both husbands, ($\gamma = 1.00, t = 2.24, p < .05$) and wives ($\gamma = .82, t = 2.17, p < .05$). For both men and women, these findings indicated that greater marital power was associated with higher levels of marital satisfaction.

The Mediating Effect of Perceived Fairness

Before deciding on a final model, we compared a mediated model with only actor effects (wives' power and perception of fairness predicting only wives' marital satisfaction, and vice versa) against a mediated model that included both actor and partner effects (wives' power and perception of fairness predicting both wives' and husbands' marital satisfaction, and vice versa). Using the $\Delta\chi^2$ model comparison test, we found that both models fit the data equally well ($\Delta\chi^2 = 9.02$, $df = 4$, $p = .06$). Usually, in such cases, one would fail to reject the null hypothesis that the simpler model fits the data better, and select the more parsimonious model. But, when considering both how close the more complex model came to fitting the data significantly better ($p = .06$), and that theoretically, a model which accounts for partner influence makes more sense when exploring data relevant to cohabitating marital dyads (Fincham & Beach, 2010), we decided it was more appropriate to chose the actor and partner effects model as our final model.

Lastly, we compared our mediation model against a two-predictor model that eliminated the pathway between marital power and perceptions of fairness, while still allowing both indicators to predict marital satisfaction. This test was run to compare our original model where perception of fairness mediates the relationship between marital powers and marital satisfaction, to a model where both perception of fairness and marital power predict marital satisfaction, with no relationship between power and fairness. Once again, in comparing the two-predictor model against the mediation model, the mediation model fit the data better, thus providing further evidence for the moderated mediation model.

Actor Effects

The final mediated actor-partner model with standardized path estimates and model

fit indices can be seen in Figures 3 and 4 (see Figures 5 and 6 for the complete structural equation model). As the fit indices show, the model fits the data well, especially considering the model's complexity and dyadic nature. In assessing the overall fit of the model, the fit indices suggest the possibility that there may be a better model for our data. According to the modification indices, much of the lack of fit in our model could be improved by correlating the husbands' and wives' latent fairness variables. However, by explicitly correlating these latent factors, instead of correlating their indicators, much of the variance that was previously being modeled is now soaked up by the correlated factors, reducing the model's predictive power. Therefore, we moved forward with confidence that our final model successfully captured the non-independent nature of the marital dyad and simultaneously fit the data quite well.

For women, our analyses confirmed our hypothesis that perceptions of fairness completely mediate the relationship between marital power and marital satisfaction (*Hypothesis 1*). These results indicated that wives who reported more marital power also perceived greater fairness in the division of domestic labor ($\gamma = .082, t = 2.10, p < .05$). Furthermore, wives' perceptions of fairness regarding the division of labor also predicted their marital satisfaction ($\gamma = 1.078, t = 2.01, p < .05$). Notably, when the mediator is added to the structural equation model, the direct effect of marital power on marital satisfaction is no longer significant ($\gamma = .009, t = .09, p = n.s.$), indicating that this association is completely mediated by the fairness variable.

For men, the fairness variable did not mediate the relationship between marital power and marital satisfaction (*Hypothesis 1*), although husband's who reported more marital power also perceived greater fairness in the division of domestic labor ($\gamma = .120, t = 2.34, p < .05$).

Actor Plus Partner Effects

In the final structural model, paths were included that allowed us to estimate the effect of wives' perceptions of marital power and fairness on their husbands' satisfaction, and vice versa. By including partner effects in our final model, we allowed our analyses to estimate any additional correlation between the factors due to the non-independent nature of our dyadic data. For women, we found a significant positive association between wives' perceptions of fairness and husbands' marital satisfaction. ($\gamma = 1.155, t = 2.00, p < .05$). In other words, women's perceptions of greater fairness in the division of household labor were associated with *higher* ratings of marital satisfaction for husbands. No link was found between women's marital power and men's marital satisfaction. For men, we found no significant effect of husbands' marital power or perceived fairness ratings on wives' marital satisfaction.

Discussion

We found, in accordance with past research (Aida & Falbo, 1991; Bentley, Galliher, & Ferguson, 2007; Falbo & Peplau, 1980; Peplau & Campbell, 1989), that both men and women who experienced more marital power in their relationship reported greater overall satisfaction with their marriage. For women, however, this association was completely mediated by how fair the wives perceived the division of household labor to be (*Hypothesis 1*). High power wives perceived the division of labor in their marriages as more fair than low power wives, and in turn reported greater overall satisfaction in their marriage. Conversely, wives who reported having less power in their marriages perceived the balance of domestic responsibilities as less fair, which in turn predicted less marital satisfaction.

For husbands, marital power predicted greater perceptions of fairness in the completion of household tasks, but those perceptions did not, in turn, predict their marital satisfaction (*Hypothesis 1*). So, while high power husbands also perceived the division of labor as more fair, those perceptions had no effect on their satisfaction with their marriage in general. It is important to emphasize that, for wives, perceptions of fairness concerning division of household labor completely mediated the link between marital power and marital satisfaction. This finding implies that having marital power does not directly lead women to feel more satisfied with their marriage, but rather it may be that the experience of marital power allows women to negotiate a more fair division of domestic responsibilities, which in turn then leads to greater relationship satisfaction. Finally, when analyzing the effect of partner influences, we found that wives' perceptions of fairness concerning domestic responsibilities predicted greater marital satisfaction for husbands. This finding implies that when wives feel the household responsibilities are divided up fairly, not only are they more satisfied with their relationship, but their husbands are as well.

These findings provide a number of important new insights in the marital relationship literature. Previous research has found that perceptions of fairness around the division of household labor mediate the effect of inequality surrounding household responsibilities on marital satisfaction (Lavee & Katz, 2002). While Lavee and Katz's (2002) work formalized how perceptions related to the completion of household labor can affect marital outcomes, it fell short in connecting this process to marital power. The present work expanded on this paradigm by showing that perceptions of fairness concerning division of labor additionally mediate the relationship between the experience of marital power and marital satisfaction. This is an important distinction in that the independent variables in the Lavee and Katz

(2002) experiment, self-reported division of labor and the perception of fairness concerning the division of labor, are implicitly connected, in that they focus on interpretations surrounding the same aspect of marriage. In our research, while there was strong theoretical evidence to predict a relationship between marital power and division of labor fairness, there was no inherent relationship between our predictors. Therefore, our findings suggest that not only are perceptions of fairness concerning the division of labor central to the interpretation of how household responsibilities are completed, but also in how marital power is experienced and manifested.

The present study also improves upon previous work by utilizing two latent factors in the assessment of perceived fairness. While previous work employed a single-item single-indicator in operationalizing perceptions of division of labor fairness (Lavee & Katz, 2002), the current research incorporated insights from past work (Blair & Johnson, 1992; Sanchez, 1994, Sanchez & Kane, 1996; Wilkie, Ferree, & Ratcliff, 1998), which suggests that by completing stereotypically female tasks one can more effectively counteract perceptions of unfairness. By utilizing an additional factor in predicting the latent construct of *perceived fairness*, we decreased potential measurement error while increasing our predictive power.

Once again, this study emphasizes that in opposite sex relationships, marital power is experienced differently, and has different outcomes, dependent on gender (*Hypothesis 2*). For husbands, who are traditionally over-benefited in terms of both power and domestic responsibilities, the experience of marital power may affect opinions regarding how fairly household tasks are divided, but that process is independent from husband's marital satisfaction. Put another way, while having relational power still increased men's marital

satisfaction, our research implies that this process is unassociated with how husbands' perceive the division of labor in their marriage.

The women in our study showed a different pattern of responses. For wives, one key way marital power may be manifesting is in their ability to negotiate a division of labor they perceive as more fair to themselves. With research by Lennon and Rosenfield (1994) concluding that men need only complete approximately one-third of the domestic work, to their wives two-thirds, in order for *both* partners to perceive the division of labor as fair, the ability to negotiate a "better deal" concerning housework may be instrumental in creating a more satisfying marital experience for women. Furthermore, there is evidence that both suggests wives are usually afforded a lower status, relative to their husbands, in marriage, and that the experience of feeling subordinate in one's marriage can negatively impact overall health (Wanic & Kulik, 2011).

Interestingly, wives' perceptions of fairness concerning the division of labor are not only predictive of their own marital satisfaction, but also that of their spouses. This finding implies that it may be wives' perceptions of relationship fairness, more so than their husbands' perceptions, that acts as a barometer of the marriage's overall well-being. Our results suggest that when wives perceive the balance of responsibility for domestic chores as unfair to them, the marital satisfaction of both partners in the relationship suffers. Our research suggests that it is the *wives'* perceptions of fairness that are of central importance when predicting both partners' marital satisfaction. Additionally, wives' perceptions of the effort put forth by both partners in opposite sex relationships may be an essential ingredient in understanding how and when couples transition between pro-social communal norms, and less constructive exchange norms.

CHAPTER III

STUDY 2

As a review of the marital power literature pointed out (Gray-Little and Burks, 1983), a major limitation of much of the research on marital satisfaction is the use of self-reports to assess marital satisfaction. In particular, it is difficult to determine how much participants' responses are driven by a social desirability bias (Gray-Little & Burks, 1983; Margolin, 1978). This issue has motivated researchers to find other methods for assessing relationship functioning. One recent line of research has investigated couples' physiological responses to marital conflict. This biopsychosocial method of capturing aspects of a couple's marital experience provides an additional perspective to complement both self-report and observational measures. For this reason, there is a solid theoretical argument for examining physiological responses as the "next step" in research on marital power. The importance of this recent work has led us to examine a less conscious, more implicit aspect of the marital relationship: physiological responses.

Gender, Marital Functioning, and Physiological Responses to Power

In this section, we evaluate research relevant to marital functioning. We use the term *marital functioning* in reference to studies that measured both the subjective reports of couples' marital happiness and satisfaction, as well as biological measures relevant to the couples' overall health and well-being. Consistent with the previous literature in this field, once again gender differences emerge as centrally important in understanding the link between marital power and marital functioning.

Many studies have shown that negative marital interactions predict deleterious health outcomes. This research shows that poor marital relationships can lead to cardiovascular

risks (Brown & Smith, 1992; Brown, Smith, & Benjamin, 1998; Kiecolt-Glaser & Newton, 2001), immunological deficiency (Kiecolt-Glaser et al., 1997; Kiecolt-Glaser, Glaser, Cacioppo, & Malarkey, 1998; Kiecolt-Glaser, Malarkey, Cacioppo, & Glaser, 1994; Kiecolt-Glaser, et al., 1993; Repetti, Robles, & Reynolds, 2011), and endocrine dysregulation (Kiecolt-Glaser, Bane, Glaser, & Malarkey, 2003; Kiecolt-Glaser et al., 1998; Kiecolt-Glaser et al., 1994; ; Kiecolt-Glaser et al., 1996; Malarkey, Kiecolt-Glaser, Pearl, & Glaser, 1994). Additional research has focused on physiological changes that occur during a conflict situation (Dopp, Miller, Myers, & Fahey, 2000; Miller, Dopp, Myers, Felten, & Fahey, 1999). Examples from this work find that wives show increased stress reactivity when their husbands disengage from conflict discussions (Kiecolt-Glaser et al., 1996) as well as an increase in blood pressure for wives during hostile interactions (Ewart, Taylor, Kraemer, & Agras, 1991). While this literature provides a convincing basis for the possibility that power imbalances in relationships may contribute to health problems, it is important to point out that these studies focus on marital conflict and not the power dynamic of those interactions. It may be tempting to automatically associate these two areas of research, however, “negative marital interactions” may result from any number of different interpersonal factors of which unhealthy power relations is only one.

Decidedly less research exists on how power dynamics might affect physiological responses in humans. In one set of studies, couples’ blood pressure was monitored as they engaged in opposing sides of an imaginary debate item (Brown & Smith, 1992; Brown, Smith, & Benjamin, 1998). Those partners who were rated as less dominant, assessed by both self and partner report, showed an increase in blood pressure during the discussion. Only one study has directly examined the physiological outcomes of marital power dynamics

(Loving et al., 2004). After assessing heterosexual married couples' relative relationship power using self-reports of dependent love, partners attempted to resolve an open conflict in their relationship in a 15-minute discussion. Throughout the experiment, blood samples were collected from participants in order to detect changes in the relative levels of adrenocorticotrophic hormone (ACTH) and cortisol, both indicators of increased stress reactions. Results indicated that the less powerful partner evidenced higher stress levels during and post-conflict. Furthermore, gender also appeared to be an important variable when a more detailed analysis was conducted which included whether the couple was "wife-dominant," "shared power," or "husband-dominant." Wives who were dominant or shared power in their relationships showed decreased ACTH and cortisol levels post-conflict, while wives in husband-dominant marriages showed an increase in ACTH and no decline in cortisol levels post-conflict. For husbands, ACTH and cortisol levels both declined post-conflict only when the husband was dominant in the relationship. In both shared power and wife-dominant marriages, husbands' ACTH levels remained elevated post-conflict. Husbands' cortisol levels declined when either the husband or wife was dominant, but remained constant when power was shared.

Once again, when investigating the biological consequences of relationship relevant conflicts, gender differences become apparent. Wives tend to exhibit greater physiological reactivity than husbands, particularly during negative marital interactions (Kiecolt-Glaser & Newton, 2001). This important finding suggesting greater negative consequences from marital conflict for women over men (see Wanic & Kulik, 2011, for a review) can be found in studies measuring blood pressure (Ewart, Taylor, Kraemer, & Agras, 1991; Morell & Apple, 1990), depression (Mayne, O'Leary, McCrady, Contradad, & Labouvie, 1997),

cardiovascular arousal (Jacobson et al., 1994), hostility (Mayne et al., 1997), endocrine function (Kiecolt-Glaser, et al., 1996), cortisol reactivity (Kiecolt-Glaser et al., 1996), norepinephrine (Kiecolt-Glaser et al., 1996), and ACTH (Kiecolt-Glaser et al., 1997). Additionally, in instances where husbands do express negative physiological reactions to conflict, women's responses have generally been both stronger in magnitude and longer lasting (Kiecolt-Glaser & Newton, 2001). While one might predict that these findings are the result of women reacting more strongly to stressors in general, research finds the exact opposite to be true. In studies in which couples were exposed to non-relational stressors (e.g. public speaking or harassment), men were found to have higher cortisol stress reactivity than women (Earle, Linden, & Weinberg, 1999; Kirschbaum, Wüst, & Hellhammer, 1992). Taken together, as studies begin to explore the relationship between all aspects of marital relationships and physiological health, gender continues to prove relevant as a moderator in understanding close relationships.

Although relatively few studies have been conducted in this area, the findings suggest that both power hierarchy and gender are important factors in determining one's health inside a marriage. There is a clear indication that power dynamics might have important consequences for physiological indicators of spouses' health. One challenge that still remains, however, is in understanding how these new physiological methodologies and the previous self-report techniques relate to one another. Are these biological measures reinforcing previously held beliefs about how power affects relationships, or alternatively, do they instead provide additional insight into a previously unexplored aspects of marital power? These open questions are addressed in the current research, which looks at both self-reported marital satisfaction and biological markers of marital functioning.

Study 2 focused on cortisol reactivity and recovery from a conflict discussion as the dependent variable and tested two specific hypotheses:

Hypothesis 1: Marital Power will predict cortisol stress reactivity during a marital conflict situation, but this relationship will be mediated by perceptions of fairness.

We predicted that low power partners would experience a more dramatic pattern of elevated stress reactivity in response to a marital conflict discussion. We expected that this elevation in stress would be followed by a slower recovery back to baseline levels, relative to high power partners. Conversely, we expected that high power partners would experience less stress reactivity in reaction to the conflict discussion, and we predicted that they would recover back to baseline levels of stress more quickly. Once again, we predicted that this relationship would be mediated by the perception of fairness whereby the more the division of labor is perceived as fair, the less cortisol stress reactivity was expected, and vice versa.

Hypothesis 2: We predict that gender will moderate the previous hypothesis. Concurrent with earlier research findings, we predicted a differential pattern of responses for men and women. We expected that husbands, being traditionally over-benefited in marriage, would experience less cortisol reactivity in response to marital conflict than wives, and that the men would also recover to baseline levels of stress more quickly post-conflict. We predicted that wives, being traditionally under-benefited in marriage, would experience more cortisol reactivity in response to the marital conflict discussion than their husbands. Post-conflict, we expected that wives would recover more slowly than husbands, in returning back to baseline levels of stress.

Method

Measures

Marital Power and Perception of Fairness. As described in Study 1, we used the same three indicators of marital power and the same two indicators of perceptions of fairness regarding the division of labor

Cortisol/HPA reactivity to and recovery from interpersonal stress. To measure the participants' HPA reactivity before, during, and after the interpersonally stressful conflict negotiation task, six salivary cortisol samples were collected over the course of the study. After secretion from the adrenal gland, cortisol takes between 15 to 20 minutes to enter into saliva, therefore each salivary sample actually measured participants' cortisol reactions from 15–20 minutes earlier (Stansbury & Gunnar, 1994; See Table 3 for summary). Participants provided home baseline saliva samples (Sample 1) at the same time of the day that they provided their initial lab sample, but on a different day approximately one week following the session. Participants were asked to provide the sample on a day that was similar to the day of their lab visit (e.g., if the visit occurred on a work day, they were to provide the sample on a work day) and at exactly the same time they provided their first lab sample (e.g., if the first lab sample was provided at 6:00pm, they provided their home sample at 6:00pm). The initial lab sample (Sample 2) was collected approximately 30-45 minutes into the session and assessed participants' cortisol levels soon after entering the lab. Shortly after the first sample was taken, researchers presented participants with a detailed description of the upcoming conflict negotiation task. This description noted that the discussion “might take the form of an argument.” Researchers then waited 15 minutes to allow for cortisol to be released and reach the saliva, and then obtained Sample 3, which assessed cortisol levels in response

to the anticipation of the conflict task. Participants then engaged in the conflict negotiation task. Three post-conflict samples (Samples 4 – 6) were collected 10, 30, and 60 minutes after the interaction task. These samples assessed cortisol levels during the conflict, about 15 minutes post-conflict, and about 45 minutes post-conflict, respectively. Because of the multiple time points sampled, we were able to assess the trajectories of participants' cortisol stress responses beginning at their home baseline levels, during their entry into laboratory, through their anticipation of having a conflict discussion with their partner, during the conflict discussion, and throughout a recovery period of 45 minutes following the conflict discussion.

Saliva samples were collected according to procedures suggested by Salimetrics, LLC (State College, Pennsylvania). Participants were instructed to “passively drool down a straw and into a small plastic vial” with their heads tilted forward until the required amount of saliva was collected. The vial was then sealed and immediately placed in frozen storage (-80 °F) until shipped on dry ice for analysis of cortisol levels.

Procedure

When the couples arrived at the lab, a senior experimenter explained the purpose of the study and the procedure for the upcoming lab session. Informed consent was obtained for both the lab procedure as well as for the video recordings that were explained would happen later in the study. Each participant was then given a brief health screening and temperature reading to assure that participants were not experiencing acute illness symptoms at the time of the study. If a participant was experiencing illness or had an elevated temperature, efforts were made to reschedule the couple for another date.

The couple was then asked to clean their mouths out by swishing and drinking a small

bottle of water in order to rid their mouths of any food particles or contaminants that could affect their salivary cortisol samples. Concurrently, the experimenter explained that the couple would be separated for the completion of a variety of online questionnaires. Participants were instructed not to communicate regarding the questionnaires and it was explained that the reasoning for this was to get each partner's independent responses to each topic.

The participants then filled out the first block of questionnaires. When the couple finished the first block, approximately 15 minutes long, a research assistant explained the instructions for the passive drool procedure used for collecting our saliva samples. The couple was informed that the first saliva sample is the largest of the 6 samples provided during the lab procedure, and it consisted of filling two small vials. The research assistant then supervised the dispensing and collection of the couple's saliva, recording the exact times that the couple began and finished providing the sample.

At the conclusion of the first lab sample (Sample 2), couples were given a paper questionnaire that asked them each to identify the three most important topics of disagreement in their relationship, which had not been resolved at that time. We also asked participants to rate both the intensity of past discussions on each topic, as well as how many times the couple had discussed each particular topic in the past. After completing this form, the couples were instructed to begin filling out the second block of questionnaires. A research assistant remained in the room while the couple continued working on questionnaires, and the senior experimenter left the room briefly to choose a conflict topic following the *Conflict Topic Guidelines*, which can be found in the appendix.

Upon completion of the second block of questions, the experimenter gave a detailed

description of the conflict task, and alerted the couple that we would like them to fully understand that we are asking them to discuss a topic of unresolved conflict and therefore the discussion may take the form of an argument, and could get heated. They were then asked to fill out a third block of questionnaires. This block included the measures of general and domain specific relationship influence, as well as the DOL scale. Exactly 15 minutes later, the next saliva sample (Sample 3) was collected. Subsequently, the couple was escorted across the hall to the discussion room where they were seated on a couch together and explained the discussion procedure. Couples were instructed to discuss their identified topic for 15 minutes, with the goal of resolving the issue. Couples were asked to try and approach the discussion as if they were in the privacy of their home and they were informed that, while the conversation was being recorded, no one would be actively listening to their discussion while in the lab.

Immediately following the discussion, the couple returned to their separate cubicles and began work on the fourth block of questionnaires. One of the first measures the couples' filled out was the *Post-Conflict Discussion Power Measure*. Participants continued filling out additional questionnaires separately while recovering from their conversation. Participants were interrupted briefly at 10 minutes (Sample 4), 30 minutes (Sample 5), and 60 minutes (Sample 6) post-interaction, to provide additional saliva samples.

In order to prevent potential negative feelings from carrying over from the conflict discussion, at the end of the session the couples were once again asked to move to the discussion room to have a 6 minute conversation about what they liked about their partner and their relationship. At the conclusion of this interaction, the participants were debriefed and the senior researcher answered any questions the couple had regarding the study.

Results

Analytic Plan

Study 2's analyses focused on changes in salivary cortisol levels over the course of the lab session as the dependent variable. Only couples with complete data from all six salivary samples (N = 158 couples) were included in these analyses. Couples were excluded from cortisol analyses if there was an insufficient amount of saliva for assaying at any time point, or if there was concern that a sample may be contaminated for any reason (see Table 4 for husbands and wives' mean cortisol levels). We analyzed this second structural equation model, Figure 7 (see Figures 8 & 9 for full structural equation model), in order to test whether (a) marital power was predictive of cortisol reactivity during and post-conflict; (b) whether this relationship was different for husbands and wives; (c) whether this relationship was mediated by perceptions of fairness.

Couples' six cortisol samples were used as predictors of three latent variables representing the intercept value, linear slope, and overall quadratic growth of cortisol at each sampled time-point across the experiment. The intercept value represents the absolute value of cortisol at each time-point. The linear slope reflects the rate of acceleration or deceleration of cortisol at each time-point. The quadratic function predicts overall rate of recovery, and the result remains constant, independent of which time-point is being modeled. Of note, all of our results indicated conceptually different patterns of results for men and women, and thus all reported analyses are organized separately by gender (*Hypothesis 2*).

Cortisol Reactivity and Recovery: Wives

For women, our analyses found that marital power was significantly negatively related to cortisol levels collected at 30-minutes post-conflict ($\gamma = -.045$, $t = -8.30$, $p < .001$)

and 60-minutes post-conflict ($\gamma = -.071$, $t = -13.02$, $p < .001$), indicating that wives with more power were experiencing lower levels of cortisol than low power wives, in the moments after the conflict discussion (*Hypothesis 1*). No significant relationship was found between wives' marital power and cortisol reactivity collected in anticipation of ($\gamma = .008$, $t = 1.48$, $p = ns.$), and 10 minutes after ($\gamma = -.004$, $t = -0.63$, $p = ns.$), the conflict conversation. These findings pertain specifically to differences in the relative amount of cortisol in the saliva at each sampled time point, dependent on the extent to which the wife reported higher or lower marital power. Next we examine the rate of change in cortisol reactivity and recovery for women at each time point and overall.

Marital Power Predicting Cortisol Reactivity and Recovery: Wives

In analyzing the results of cortisol's rate of change, interpreted from the latent variable representing the linear slope of wives' cortisol trajectories, we found that wives' marital power was significantly negatively related to the speed of reactivity and recovery in anticipation of conflict ($\gamma = -.013$, $t = -5.40$, $p < .001$), 10 minutes post- conflict ($\gamma = -.048$, $t = -19.76$, $p < .001$), 30-minutes post-conflict ($\gamma = -.107$, $t = -15.44$, $p < .001$), and 60-minutes post-conflict ($\gamma = -.097$, $t = -18.17$, $p < .001$). These results suggest that women high in marital power experienced a quicker recovery back to baseline levels of cortisol post conflict (*Hypothesis 1*). Figure 10 plots the predicted cortisol trajectories, across the experiment, for women who reported the highest and the lowest levels of power in their relationship. As Figure 10 illustrates, low power wives' cortisol levels continued to remain elevated even 60 minutes after the conflict discussion had ended. Additionally, the final latent variable modeled the speed of overall cortisol recovery for women across all time points. Once again, wives' marital power significantly negatively predicted the speed of the overall

recovery across the experiment ($\gamma = -.032, t = -14.36, p < .001$). These results supported our earlier findings that, post-conflict, high power wives quickly recovered toward baseline levels of cortisol, while low power wives sustained elevated cortisol levels even during recovery. See Table 5 for a summary of the path coefficients estimated by structural equation models for each sampled time point.

Cortisol Reactivity and Recovery: Husbands

For men, our analyses found that marital power was significantly negatively related to cortisol levels collected in anticipation of the conflict discussion ($\gamma = -.026, t = -4.10, p < .001$), 10 minutes post-conflict ($\gamma = -.018, t = -2.96, p < .01$), 30 minutes post-conflict ($\gamma = -.030, t = -4.93, p < .001$), and 60 minutes post-conflict ($\gamma = -.043, t = -6.79, p < .001$). These results indicate that husbands with more power were experiencing lower cortisol levels than low power husbands before, during, and after the marital conflict (*Hypothesis 3*). These findings, once again, pertain specifically to differences in the relative amount of cortisol in the saliva at each sampled time point, dependent on the extent to which the husband reported higher or lower marital power. Next we examine the rate of change in cortisol reactivity and recovery for men at each time point and overall.

Marital Power Predicting Cortisol Reactivity and Recovery: Husbands

In analyzing the results of cortisol's rate of change, interpreted from the latent variable representing the linear slope of high and low power husbands' cortisol trajectories, we found that husbands' marital power was significantly negatively related to the speed of reactivity and recovery 10 minutes post-conflict ($\gamma = -.009, t = -3.02, p < .01$), and 60 minutes post-conflict ($\gamma = -.020, t = -2.77, p < .01$). Figure 10 plots the predicted cortisol trajectories, across the experiment, for men who reported the highest and the lowest levels of

power in their relationship. These results suggest that men high in marital power experienced a faster descent in salivary cortisol during the conflict situation, as well as a quicker descent back toward baseline levels of cortisol, post-conflict (*Hypothesis 1*; Figure 11).

Additionally, the final latent variable modeled the speed of overall cortisol recovery for husbands across all time points. Once again, men's marital power significantly negatively predicted the speed of the overall recovery across the experiment ($\gamma = -.008$, $t = -3.03$, $p < .01$). These results support our earlier findings that, post-conflict, high power husbands recover to baseline cortisol levels more quickly than husbands with less marital power (*Hypothesis 1*).

The Mediating Effect of Perceptions of Fairness on Salivary Cortisol

Dyadic models were fit with the perception of fairness variable included as a mediator between self-reported marital power and the three cortisol reactivity variables. In all cases, for both men and women, perceptions of fairness did not significantly mediate the relationship between marital power and cortisol reactivity (*Hypothesis 1*). It should be noted that the lack of significant results surrounding our perceptions of fairness variable may be due to the lack of predictive power stemming from the inherent complexity of including a mediator in a dyadic model predicting cortisol trajectories across time.

Discussion

Our findings showed that marital power significantly predicted cortisol reactivity and recovery for both men and women (*Hypothesis 1*). However, the way in which power affected cortisol trajectories was different for husbands and wives. Throughout the experiment, including the Home Baseline sample, high power husbands consistently had

lower levels of cortisol than low power husbands (See Figure 5). Furthermore, low power husbands' cortisol levels returned toward baseline more slowly, post-conflict, than high power husbands. Regardless of power, husbands' cortisol trajectories were the same basic shape; with relative levels of cortisol decelerating toward baseline once the conflict discussion was completed.

While marital power also had a significant effect on wives' cortisol trajectories, the relationships were different. High power women's cortisol trajectories resembled that of the high and low power men (see Figures 10 & 11). High power women had a slow acceleration in cortisol in anticipation of the conflict discussion, and then post-conflict, wives' cortisol levels quickly recovered back toward baseline. There was no such recovery for low power wives (Figure 10). High and low power wives had similar absolute levels of cortisol leading up to and throughout the discussion, but low power wives' cortisol was accelerating during this time period, whereas high power women's cortisol had already begun to decline. The largest differences were found post-conflict, however, where low power wives' cortisol levels continued to accelerate, or at least remain stable, throughout the recovery period. This failure to recover toward baseline is particularly important to note when thinking about how lack of power in one's relationship could have the potential health consequences.

Our results suggest that, for husbands, having lower power in your relationship is related to higher levels of cortisol, a stress indicator. While high power husbands recovered more quickly than low power husbands post-conflict, all men expressed a similar parabolic trajectory toward baseline levels of cortisol. High power wives also demonstrated a remarkably similar cortisol trajectory, compared to the husbands. Low power wives,

however, never began the process of recovery from cortisol reactivity, and remained at elevated levels of cortisol throughout the duration of recovery.

The implications of these results provide insight into how marital power may influence health and well-being. First, it appears that the stakes of having marital power are potentially different for husbands and wives. While a lack of power may change the levels of cortisol expressed by men, all husbands, regardless of power, appeared to eventually recover from the conflict discussion. There was no such stress recovery, however, for wives who reported a lack of marital power. In fact, low power women continued to accelerate or maintain elevated cortisol levels even after the conflict was over. This implies that having marital power may be more important for wives than husbands, in that the potential consequences of experiencing a lack of marital power seem far greater for women. It may be that during conflict low power wives do not feel they are able to be heard in a way that could alter the outcome of the conflict discussion, thus leaving them frustrated and feeling unheard post-conflict. Alternatively, it may be the experience of low power during the conflict that is stressful for low power wives. Without the ability to assert themselves during the discussion, low power wives are put in a position where they must defer or acquiesce to their partners' prerogative. It is reasonable to suggest that the experience of suppressing one's feelings of dissent during conflict could cause a person to maintain those negative emotions even after the conversation is over.

These findings also provide a window into how the experience of marital power may influence important long-term health outcomes. While the human body is generally accustomed to cortisol fluctuation, in the past, constant exposure to elevated levels of stress hormones has been connected to immunological deficiency (Kiecolt-Glaser et al., 1997;

Kiecolt-Glaser et al., 1998; Kiecolt-Glaser et al., 1993), and endocrine dysregulation (Kiecolt-Glaser, Bane, Glaser, & Malarkey, 2003; Kiecolt-Glaser et al., 1994; Kiecolt-Glaser et al., 1996; Malarkey et al., 1994). Our findings suggest that low power wives are left at the highest risk for experiencing negative health consequences as a function of maintaining elevated levels of cortisol even after the stressful situation has past. In a worst case scenario, low power wives could begin to experience all marital interactions as stressful, reinterpreting the source of the stress from being a particular conflict topic, to being the marital partner himself. If this were to happen, the potential end result of prolonged cortisol reactivity as a consequence of repeated contact with one's spouse, could potentially have drastic long-term effects.

When comparing our physiological findings with other work concerning the relationship between marital power and stress, we suffer from a lack of established literature. To date, there is only one study by Loving et al. (2004), which has explored a similar domain. However, Loving et al. (2004) operationalized power using the mania sub-scale of the Love Attitudes Scale (Hendrick & Hendrick, 1986) pertaining to love characterized as "possessive and dependent (Loving et al., 2004)." Couples were then separated into three groups characterized as: wife more powerful, husband more powerful, and equal in power. Our work, in contrast, attempted to define and measure power using more direct assessments related to the marital power process. In order to increase our confidence in the validity of our power measure, we employed a multi-measure design focused on the couple's perception of marital power and influence during a conflict discussion, in various relational domains, and in their marriage overall. Also, in moving away from the categorical definition of couple types based on one partner's power relative to his/her spouse (e.g. egalitarian, wife-dominant,

and husband dominant), the current work employed continuous measures of each partner's perception of marital power, untethered from their spouse's responses.

Additionally, Loving and his colleagues tested cortisol levels from a series of blood draws taken throughout the experiment. While blood assays reflect changes in cortisol levels in the body more quickly than salivary cortisol sampling, the invasiveness of the procedure requires that participants be heavily screened for any health risks in advance. One consequence of this procedure is reflected in the loss of a significant portion of their original sample (18 of the 72 couples) as a result of insufficient blood samples for hormonal assessment (Loving et al., 2004). Loving and colleagues urged future researchers to increase sample sizes to account this type of eventuality. Thankfully, in following this recommendation, while we did lose a portion of our original sample due to missing salivary data (55 of 213 couples), we were left with a large enough sample to provide sufficient analytic power.

Even giving consideration to the many measurement differences, overall Loving et al.'s results and our findings have more similarities than differences. In both studies, husband's cortisol declined toward baseline post-conflict. In Loving et al.'s study this decline happened post-conflict for husbands who were dominant or in wife dominant relationships, but happened later if power was shared. Our research did not deal with power as a couple-level variable, but all husbands in our study also recovered toward baseline post-conflict, with power predicting the rate of that decline. Most notably, in Loving's study, the wives in relationships where the husband was dominant expressed similar patterns of cortisol response to the low power wives in our research. In particular, neither group of low power women expressed cortisol decline in recovering from the conflict situation. This consistent pattern of

sustained cortisol reactivity in low power wives heavily implies that this is an area for further empirical research in regard health outcomes specifically.

CHAPTER IV

GENERAL DISCUSSION

Overall, our research lends consistent support to the idea that power must be studied and interpreted through a gendered lens. With the inclusion of gender into marital power theory, there are additional challenges to be met. Central among these challenges is understanding of how fundamental processes that predict marital satisfaction, specifically marital power and the perception of relationship fairness, are influenced by gender relevant constructs. Our current findings suggest that wives' perceptions of fairness surrounding household labor, and perhaps relational effort more generally, are paramount in predicting a couples' marital satisfaction. Furthermore, to our knowledge, the current study is the first of to examine physiological stress responses, as well as self-reported marital satisfaction in the same sample. While the role of perceived fairness surrounding the division of household labor only mediated power's effect on marital satisfaction, we did find that the relationship between marital power and self-report measures of marital satisfaction mirrored that of couples' physiological stress responses in response to conflict. This research provides support for the continued use of biological indicators in an attempt to reinforce established findings that previously could only be measured through self-report.

In the remainder of this discussion we address the extent to which our self-report indicators of marital satisfaction converge with our physiological findings, the theoretical contributions that this work adds to the existing literature on marital power and relationship processes and outcomes, and the limitations and future directions for continued in this field of study.

The Relationship between Marital Satisfaction and Cortisol Reactivity

While physiological indicators of stress provide a powerful new tool for relationship researchers, we are still left with the challenge of understanding how these new physiological methodologies and the previous self-report techniques relate to one another.

The current research provides important new insights into how these two measurement techniques may act in concert. Our research shows a parallel relationship between marital power and self-report indicators of marital satisfaction and marital power and cortisol reactivity and recovery. In particular, we found that high power husbands reported more relationship satisfaction and experienced lower levels of cortisol during and after conflict, than low power husbands. For wives, having power in the marriage predicted both a greater satisfaction with the marriage, as well as a decline in cortisol post-conflict. Low power wives, however, not only reported less satisfaction with their marriage, but also failed to recover toward baseline after the cortisol reaction brought about by a marital conflict. This consistency between our self-report outcomes and our physiological outcomes lends support for continued efforts to utilize multiple measurement methodologies, specifically the addition of physiological indicators, in future psychological research.

In comparing our findings regarding whether perceptions of fairness mediate the relationship between marital power and our dependent variables, our findings showed the distinctive predictive power of fairness in regard to self-reported marital satisfaction. While perceptions of fairness around the division of household chores completely mediated the Marital Power → Marital Satisfaction relationship for wives, none of our results indicated a significant mediation when cortisol reactivity was the dependent variable. Nevertheless, this

research provides an important first step in connecting the self-report literature with the burgeoning literature involving physiological indicators.

Methodological Contributions

This work makes a number of substantive methodological contributions to the existing marital literature. First, previous work investigating the link between marital power and marital satisfaction, including the mediating effect of perceptions of fairness, operationalized both marital power and perceived fairness in terms of the completion and interpretation of household labor. The current research clarifies this relationship by operationalizing and measuring the power construct as distinct from the perception of fairness surrounding the division of labor. Second, our findings once again support the interpretation of marital power through a gendered lens. We found consistently distinct patterns for both our self-report and physiological outcome measures, dependent on whether it was the husband or wife who reported experiencing high or low marital power. Finally, by utilizing structural equation modeling for handling marital dyads, this research was able to build and test an actor plus partner effects moderated mediation model, which both captured the non-independence inherent to married couples, while simultaneously reducing overall measurement error.

Limitations/Future Directions

It is important to note that our study focused specifically on newlywed couples in the first seven months of marriage. It is possible that married couples, who are still adjusting to their lives together, may react differently than long-established couples when faced with marital conflict. In this regard, further work is necessary, and important, to understand the effect of marital power across the life span. Specifically, it seems likely that particularly

charged life phases, such as the transition to parenthood, "empty-nest syndrome," and retirement, could make for significant changes in the marital power dynamics.

Additionally, while our participants were ethnically and socio-economically representative of the geographical area (central Massachusetts), there was a lack of racial and economic diversity in our sample, which further limits the generalizability of our findings. Past research has shown the potential for drastically different marital outcomes dependent on a couple's financial situation (Goldberg & Perry-Jenkins, 2004; Perry-Jenkins & Folk, 1994). In future work, these demographic differences need to be re-incorporated into the existing marital power framework.

One of the strengths of the current research strategy is that we examined explicit self-report measures of power and satisfaction as well as more implicit (less consciously accessible) physiological outcomes. However, an additional observational measure of marital power, specifically one focusing on the content of a discussion and the concurrent behavior of the couple during a videotaped conflict interaction, would further clarify the impact marital power has on marriage. By integrating as many indicators of power basis (e.g. class variables) and process (e.g. observational measures) into our understanding of marital power as possible, we can begin to study marital power while simultaneously taking into account the complexity inherent to close-relationship dynamics.

Finally, it is important to remember that cortisol is a hormonal indicator of stress, and does not necessarily equate to the experience of stress (Chida & Steptoe, 2009; Paris, Franco, Sodano, Freidenberg, Gordis, Anderson, Forsyth, Wulfert, & Frye, 2010). As the use of physiological indicators becomes more ubiquitous, our understanding of how the body's hormones work together to produce a variety of emotional responses will become clearer.

While research in the field has previously connected cortisol with a stress reaction, further research continues to investigate what other hormonal indicators, such as adrenocorticotrophic hormone (ACTH) and testosterone, may work in concert when experiencing stress.

Table 1: Summary of Descriptive Statistics and Husbands' and Wives' Means for all Variables

	Husbands		Wives	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	29.17	5.262	27.75	4.776
Relationship Length (months)	60.574	36.063	60.586	35.483
Cohabitation Length (months)	33.093	26.839	32.921	26.921
Yearly Income	\$40,070	\$23,383	\$34,282	\$21,819
Work Hours Per Week (Approx.)	39.5	11.3	37.2	11.5
Domain Specific Influence	3.85	.587	4.12	.537
General Influence	3.93	.914	4.09	.981
Conflict Power	3.85	.742	3.95	.729
Perceived Fairness, Division of Labor	3.17	.661	2.76	.756
Feminine Stereotypical Labor	2.62	.548	3.64	.582
DAS Satisfaction	42.261	3.808	42.3829	3.885
PRQ Satisfaction	6.437	.656	6.423	.723
DOL Satisfaction	3.570	1.065	3.280	1.204

Table 2: Correlation Matrix of All Indicator Variables

	Domain Specific Inf. (H)	Domain Specific Inf. (W)	General Influence (H)	General Influence (W)	Conflict Power (H)	Conflict Power (W)	Perceived Fairness Labor (H)	Perceived Fairness Labor (W)	Fem. Stereo. Labor (H)	Fem. Stereo. Labor (W)	DAS Satisfaction (H)	DAS Satisfaction (W)	PRQ Satisfaction (H)	PRQ Sat.(W)	Labor Sat. (H)	Labor Sat. (H)
Domain Specific Inf. (H)	1.000															
Domain Specific Inf. (W)	-.480***	1.000														
General Influence (H)	.676***	-.480***	1.000													
General Influence (W)	-.392***	.712***	-.509 ^o	1.000												
Conflict Power (H)	.258***	-.112	.320***	-.137*	1.000											
Conflict Power (W)	-.140*	.288 ^o	-.160*	.307***	-.292***	1.000										
Perceived Fairness Labor (H)	.045	-.018	.074	-.033	-.006	-.006	1.000									
Perceived Fairness Labor (W)	-.085	.032	-.112	.082	.006	.005	-.481***	1.000								
Feminine Stereo. Labor (H)	.171*	-.181**	.170*	-.197**	.027	-.071	.534***	-.473***	1.000							
Feminine Stereo. Labor (W)	-.142*	.054	-.124	.098	.023	.047	-.380***	.600***	-.675***	1.000						
DAS Sat. (H)	.089	.046	.048	.078	-.007	.007	.058	.050	.026	.039	1.000					
DAS Sat. (W)	.050	.053	-.015	.112	.005	-.013	.113	.034	.055	.023	.627***	1.000				
PRQ Sat. (H)	.005	.051	.024	.080	-.052	.031	.016	.035	.027	-.019	.597***	.487***	1.000			
PRQ Sat. (W)	.018	.112	-.025	.175*	.094	-.021	.072	.070	.002	.066	.432***	.710***	.411***	1.000		
Labor Sat. (H)	.050	-.035	.048	.007	-.022	.017	.054	.021	.007	.014	.236**	.206*	.150*	.083	1.000	
Labor Sat. (W)	-.006	-.011	.000	.017	.131	-.032	-.222**	.418***	-.228**	.307***	.051	.105	-.007	.134	.169*	1.000

* = p < .05, ** = p < .01, *** = p < .001

Table 3: Description of Both the Time of Assessment and the Point on the Stress Trajectory That Each Cortisol Sample Assesses

Cortisol Sample	Assessment Time	Description of Sample ^a	Sample Description
Sample 1	Taken at home at the same time of day as Sample 2, post-lab visit	Cortisol level assessed at home at the same time of day as the initial lab sample (Sample 2).	Home Baseline
Sample 2	30-45 minutes after arrival at lab	Cortisol level approximately 15-30 minutes after entering the lab; measuring baseline cortisol	Lab Baseline
Sample 3	15 minutes prior to discussion	Cortisol level in response to a vivid description of the upcoming conflict negotiation task	Anticipation
Sample 4	10 minutes post-discussion	Cortisol level during the middle of the conflict negotiation task (5–10 minutes into discussion)	Discussion
Sample 5	30 minutes post-discussion	Cortisol level 10-15 minutes after the end of the task; measuring recovery	Recovery 1
Sample 6	60 minutes post-discussion	Cortisol level 40-45 minutes after the end of the task; measuring recovery	Recovery 2

^a Description of approximate time cortisol was released from the adrenal gland in reaction to the stressor.

Table 4: Husbands' and Wives' Mean Cortisol Levels ($\mu\text{g}/\text{dl}$) for the Six Saliva Samples

	Husbands		Wives	
	<i>M</i> *	<i>SD</i>	<i>M</i> *	<i>SD</i>
Home Baseline, Sample 1	-1.187	.313	-1.209	.275
Lab Baseline, Sample 2	-1.033	.313	-1.078	.297
Anticipation, Sample 3	-1.171	.324	-1.158	.312
Discussion, Sample 4	-1.293	.310	-1.255	.315
Recovery 1, Sample 5	-1.315	.320	-1.294	.297
Recovery 2, Sample 6	-1.399	.352	-1.321	.313

*all cortisol levels were log transformed and reflect $\mu\text{g}/\text{dl}$

Table 5: A Summary of the Path Coefficients from the Structural Equation Models Estimated at Each Sampled Time Point

	Men						Women					
	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6
At Time Point	-.035 [∅]	-.029 [∅]	-.026 [∅]	-.018**	-.030 [∅]	-.043 [∅]	-.020 [∅]	.003	.008	-.004	-.045 [∅]	-.071 [∅]
Linear Slope	.015*	.010*	-.002	-.009**	.001	-.020**	.061 [∅]	.028 [∅]	-.013 [∅]	-.048 [∅]	-.107 [∅]	-.097 [∅]
Quadratic Growth	-.006*	-.008**	-.008**	-.008**	.000	-.006*	-.031 [∅]	-.031 [∅]	-.032 [∅]	-.032 [∅]	-.048 [∅]	-.031 [∅]

* = $p < .05$, ** = $p < .01$, [∅] = $p < .001$

Figure 1: The standardized coefficients for the measurement model of the X-side of the structural equation model of perceived fairness as a mediator between marital power and marital satisfaction.

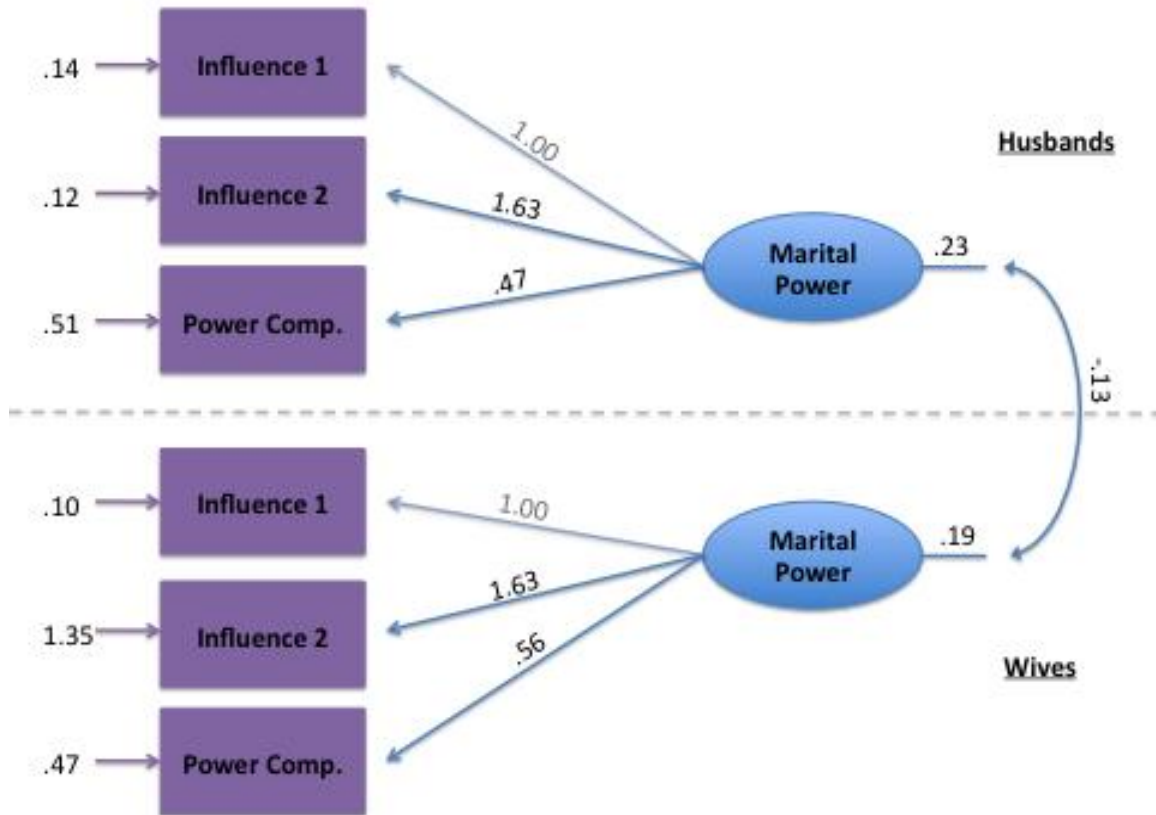


Figure 2: The standardized coefficients for the measurement model of the Y-side of the structural equation model of perceived fairness as a mediator between marital power and marital satisfaction.

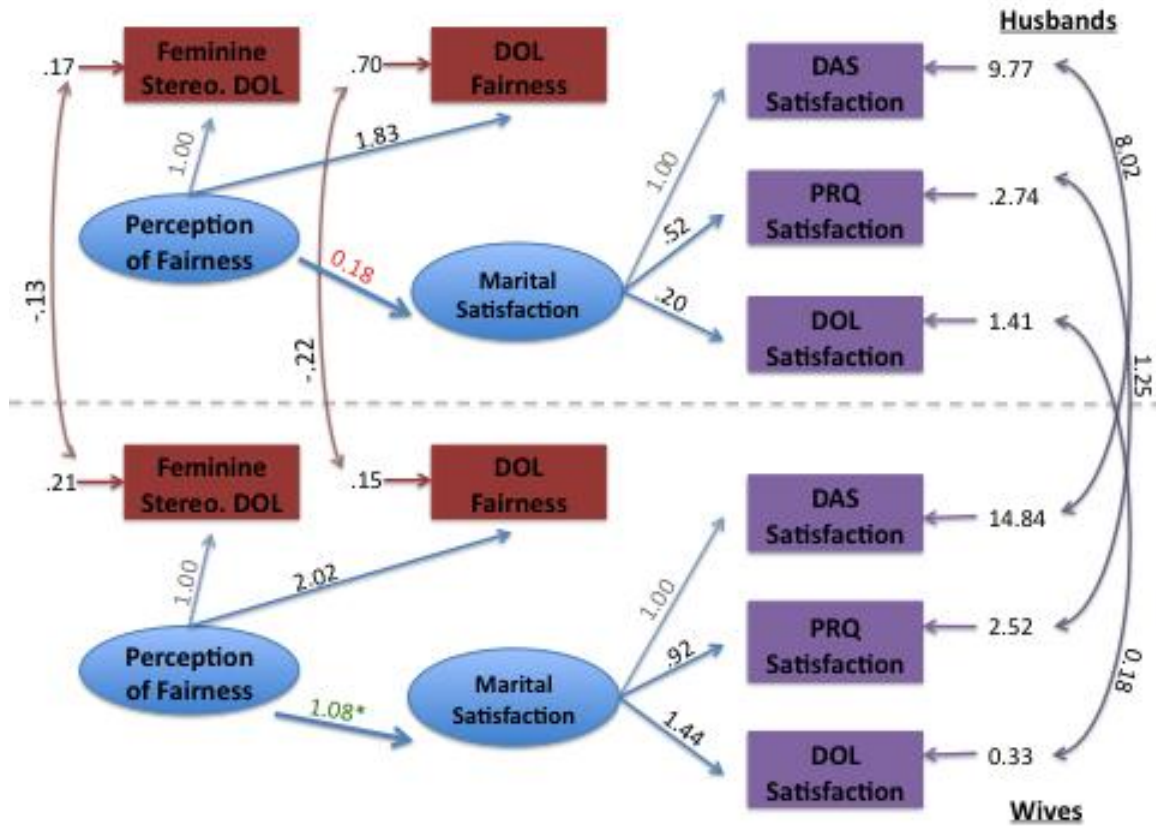
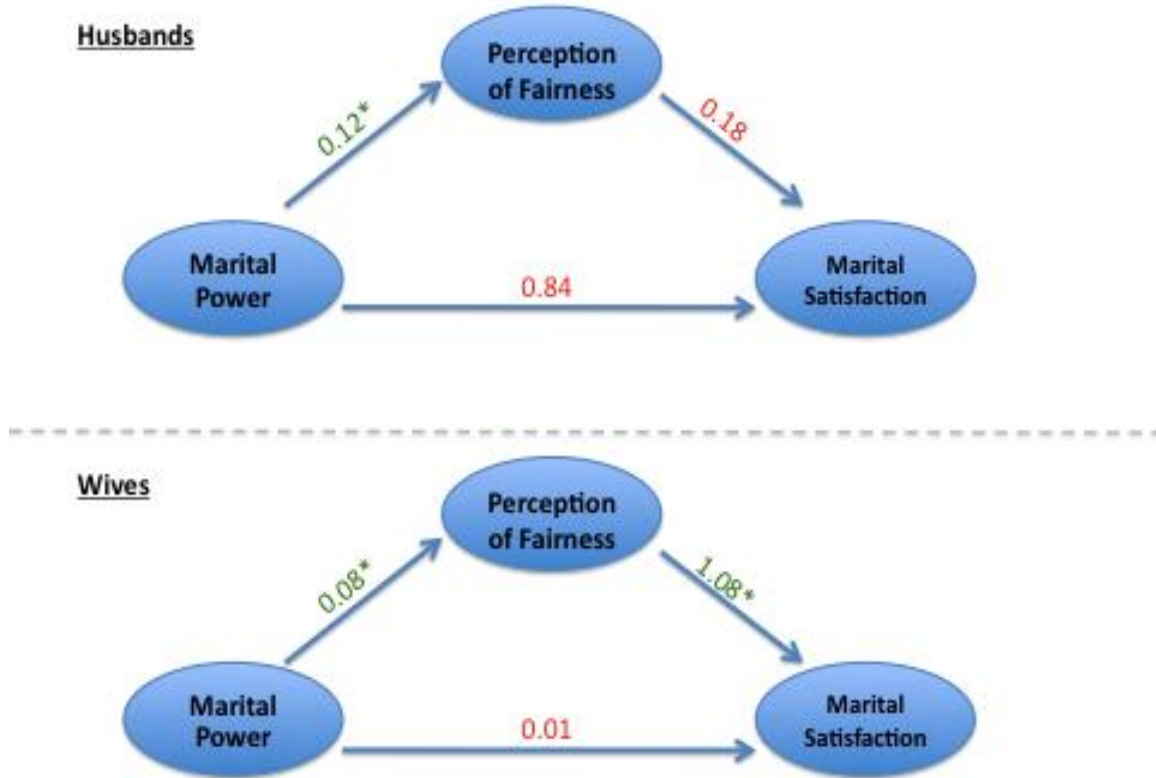
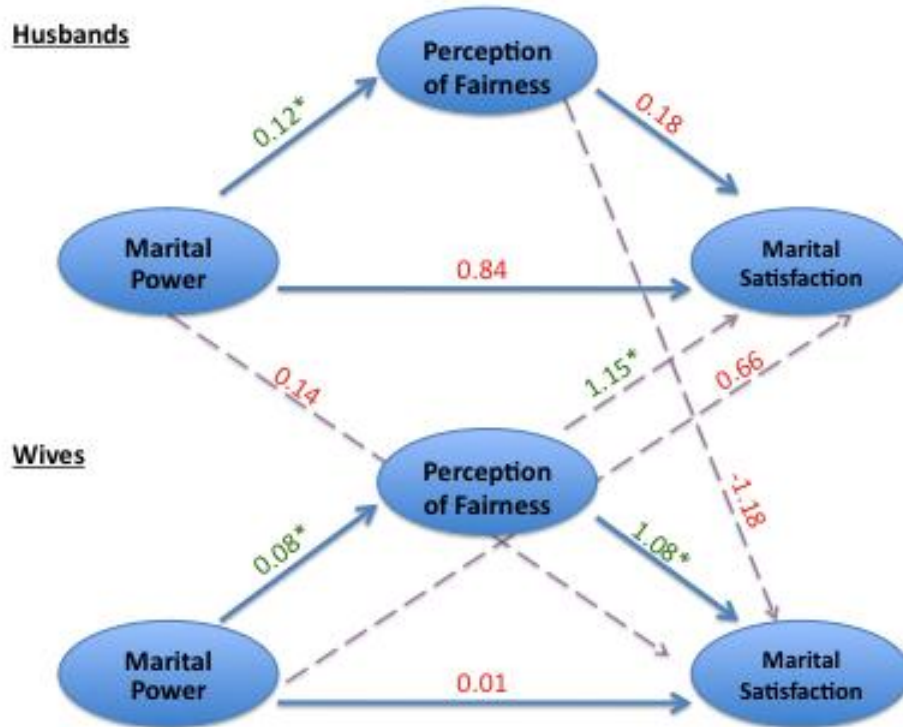


Figure 3: The standardized coefficients for the actor-only structural model of perceived fairness as a mediator between marital power and marital satisfaction.



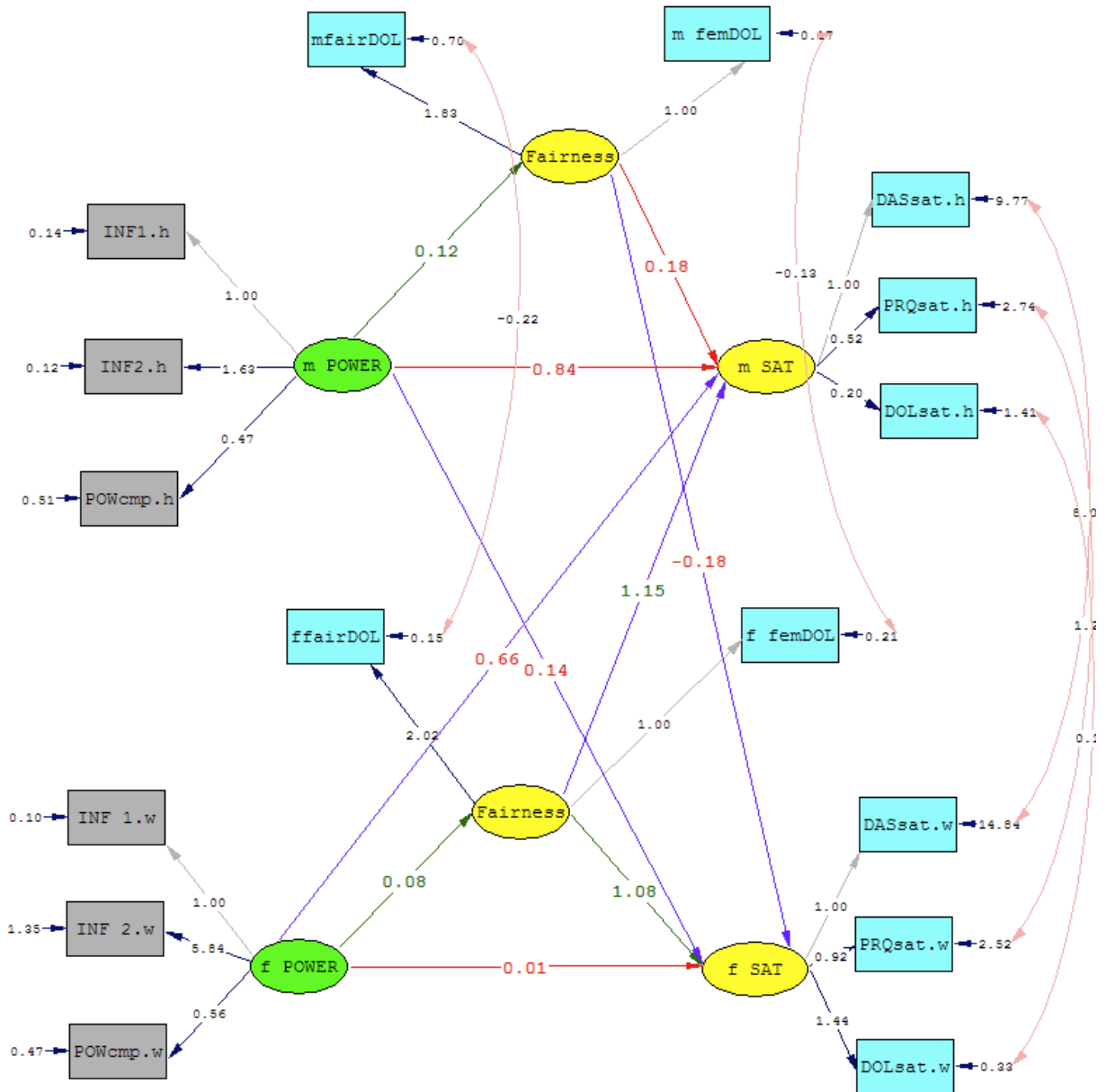
All estimates in green are significant, $p < .05$
 $\chi^2(88) = 513.25$
RMSEA = .10
CFI = .84
sRMR = .11

Figure 4: The standardized coefficients for the actor plus partner effects structural model of perceived fairness as a mediator between marital power and marital satisfaction.



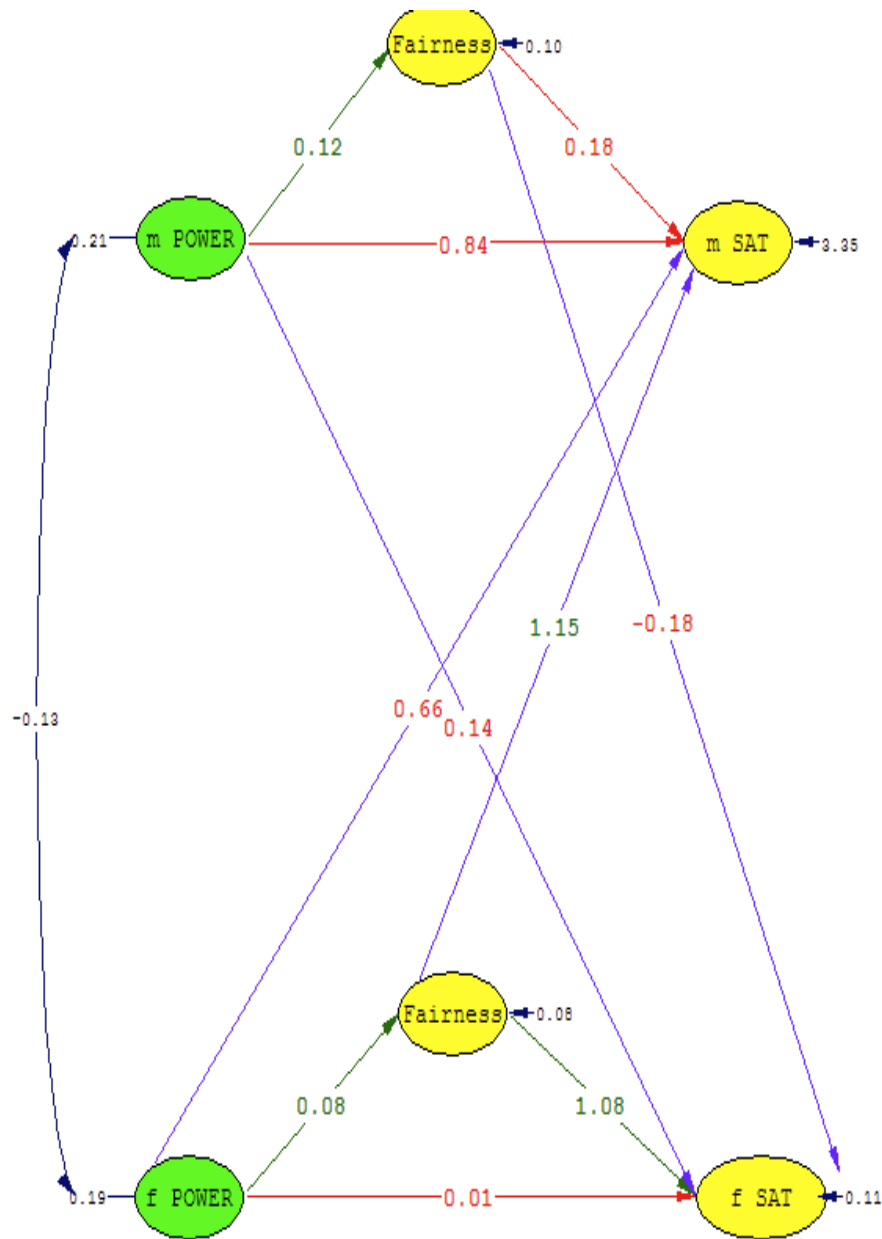
All estimates in green are significant, $p < .05$
 Partner effects are drawn as purple lines
 $\chi^2(88) = 513.25$
 RMSEA = .10
 CFI = .84
 sRMR = .11

Figure 5: The standardized coefficients for the actor plus partner effects full model of perceived fairness as a mediator between marital power and marital satisfaction.



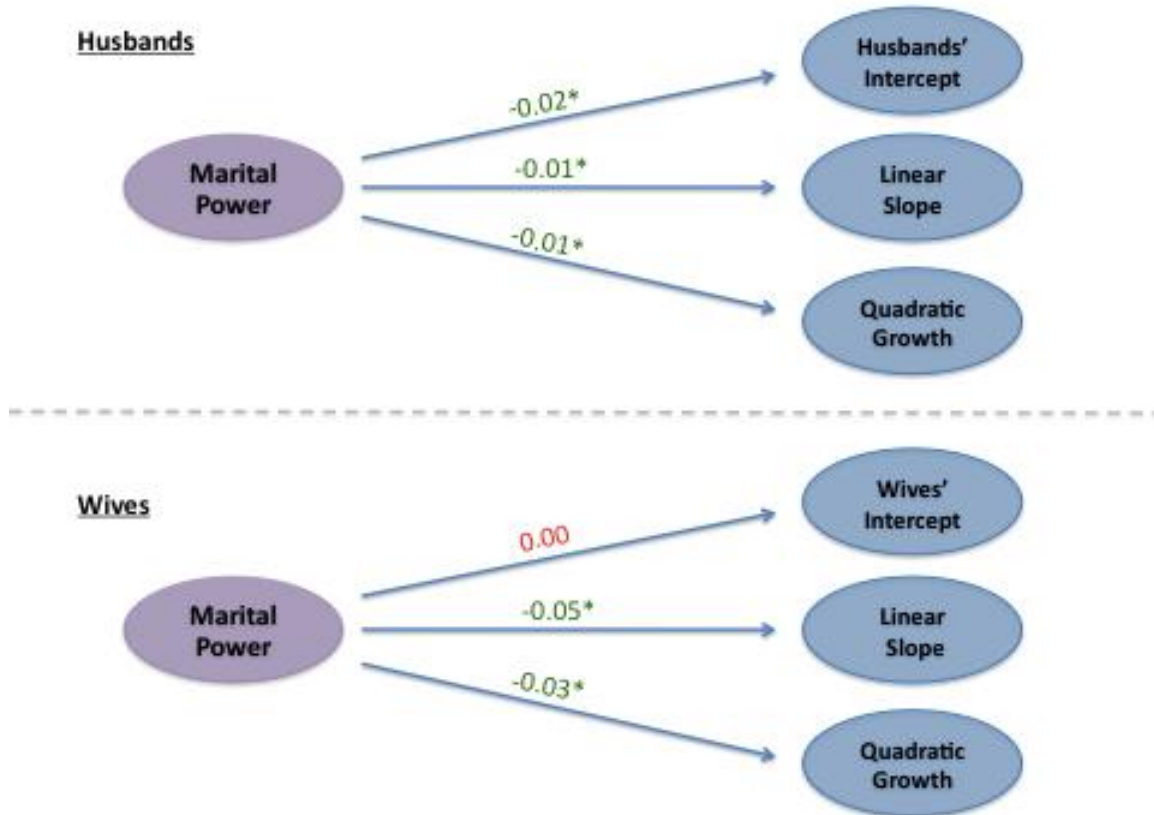
All estimates in green are significant, $p < .05$
 Partner effects are drawn as purple lines
 $\chi^2(88) = 513.25$
 RMSEA = .10
 CFI = .84
 sRMR = .11

Figure 6: The standardized coefficients for the actor plus partner effects structural model of perceived fairness as a mediator between marital power and marital satisfaction, including indices of non-independence between latent variables.



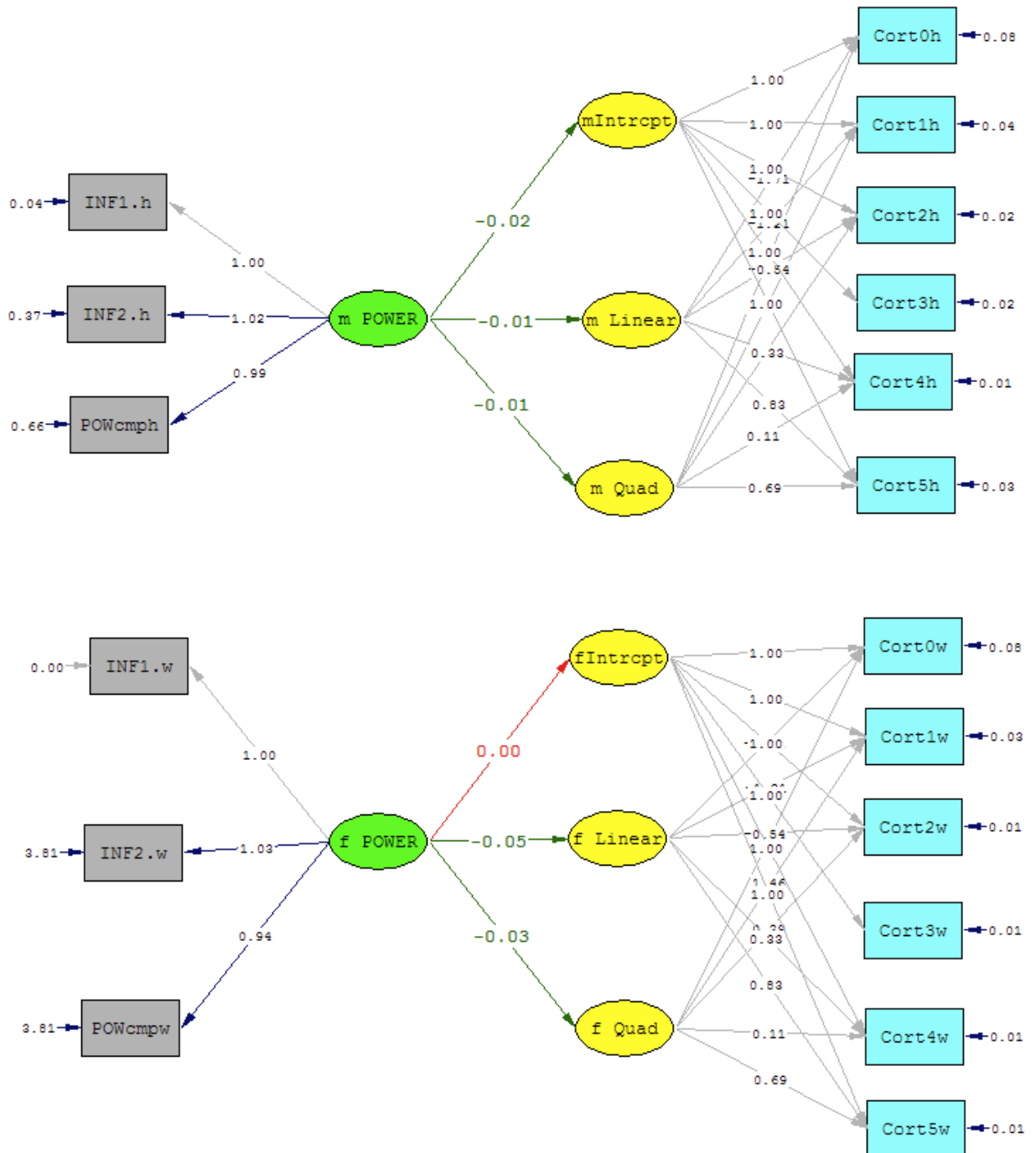
All estimates in green are significant, $p < .05$
 Partner effects are drawn as purple lines
 $\chi^2(88) = 513.25$
 RMSEA = .10
 CFI = .84
 sRMR = .11

Figure 7: The standardized coefficients for the structural model of the relationship between marital power and salivary cortisol at its intercept, linear slope, and quadratic trajectory for the time-point representing cortisol during the marital conflict.



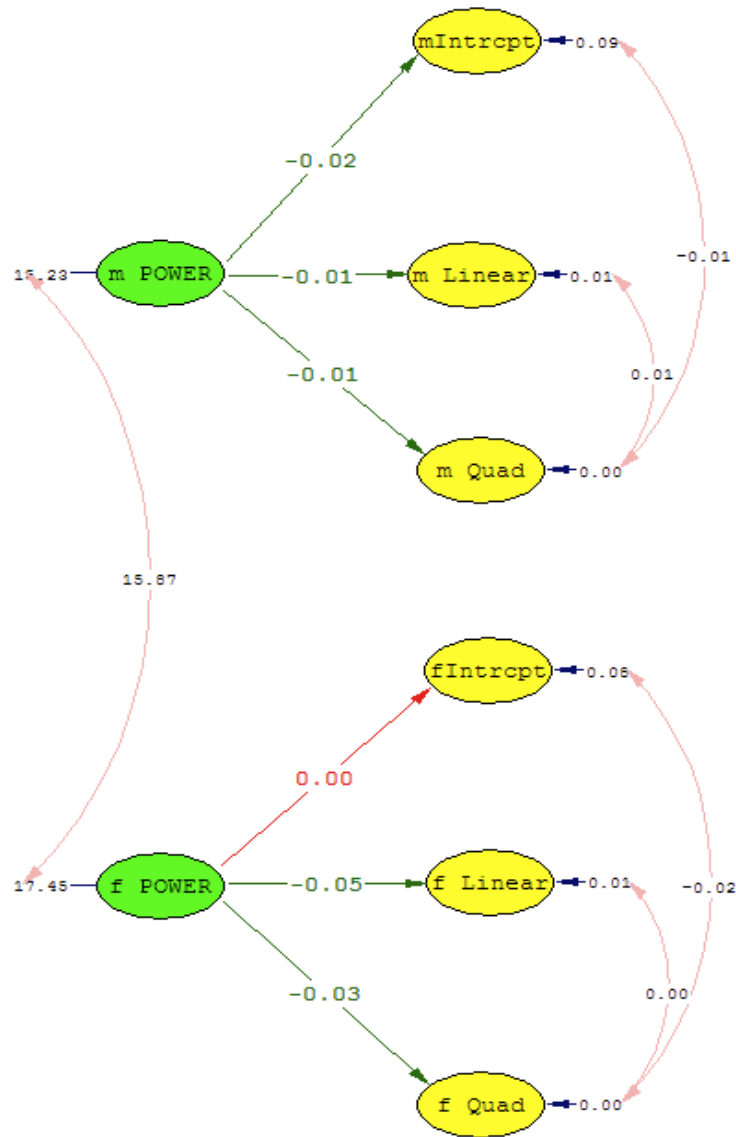
All estimates in green are significant, $p < .05$
 $\chi^2(143) = 1742.32$
 RMSEA = .17
 CFI = .41
 sRMR = .14

Figure 8: The standardized coefficients for the full model of the relationship between marital power and salivary cortisol at its intercept, linear slope, and quadratic trajectory for the time-point representing cortisol during the marital conflict.



All estimates in green are significant, $p < .05$
 $\chi^2(143) = 1742.32$
 RMSEA = .17
 CFI = .41
 sRMR = .14

Figure 9: The standardized coefficients for the structural model of the relationship between marital power and salivary cortisol at its intercept value, linear slope, and quadratic trajectory for the time-point representing cortisol during the marital conflict, including indices of non-independence between latent variables.



All estimates in green are significant, $p < .05$
 $\chi^2(143) = 1742.32$
 RMSEA = .17
 CFI = .41
 sRMR = .14

Figure 10: Women's cortisol trajectory as a function of high or low marital power over the course of the experiment.

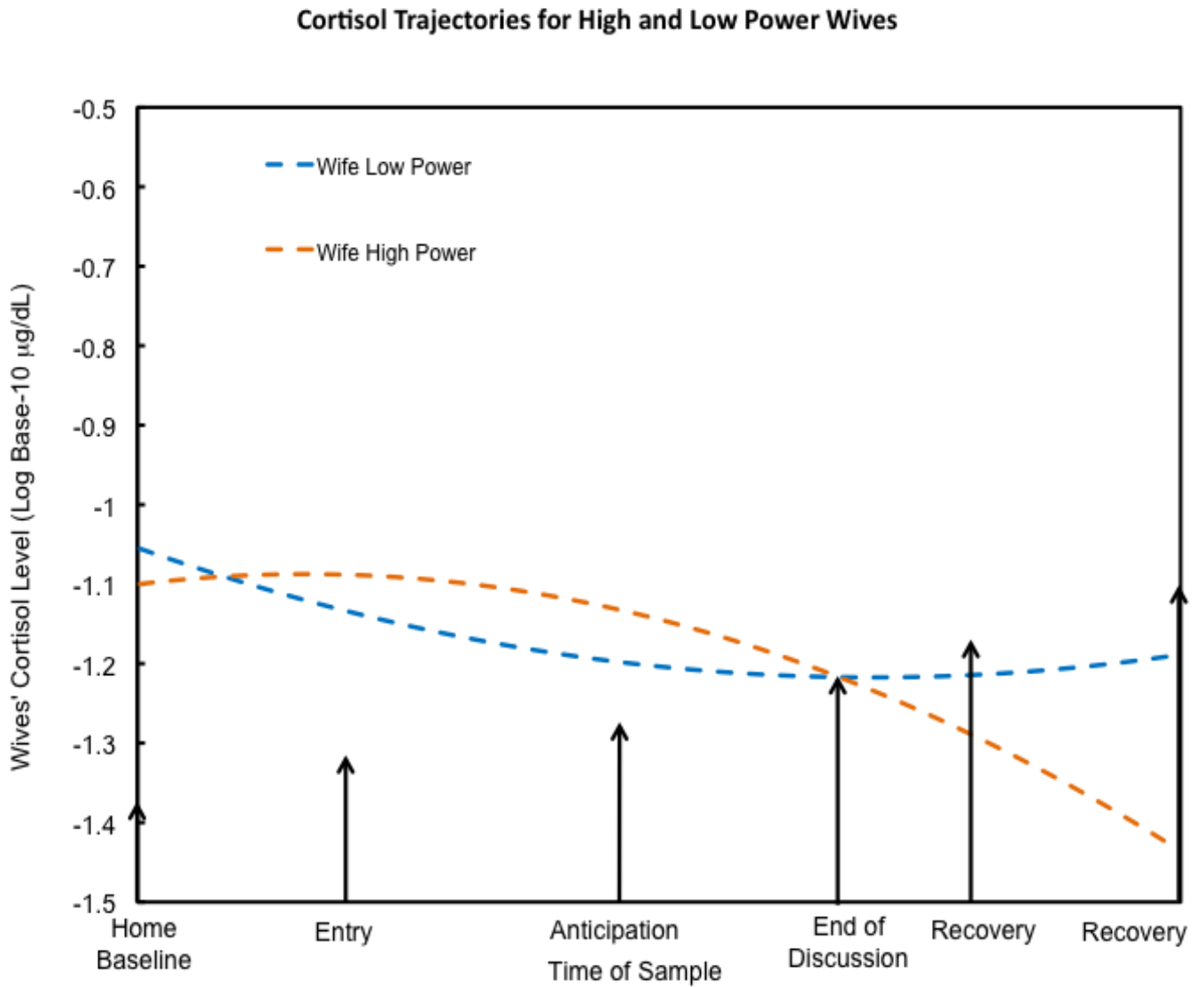
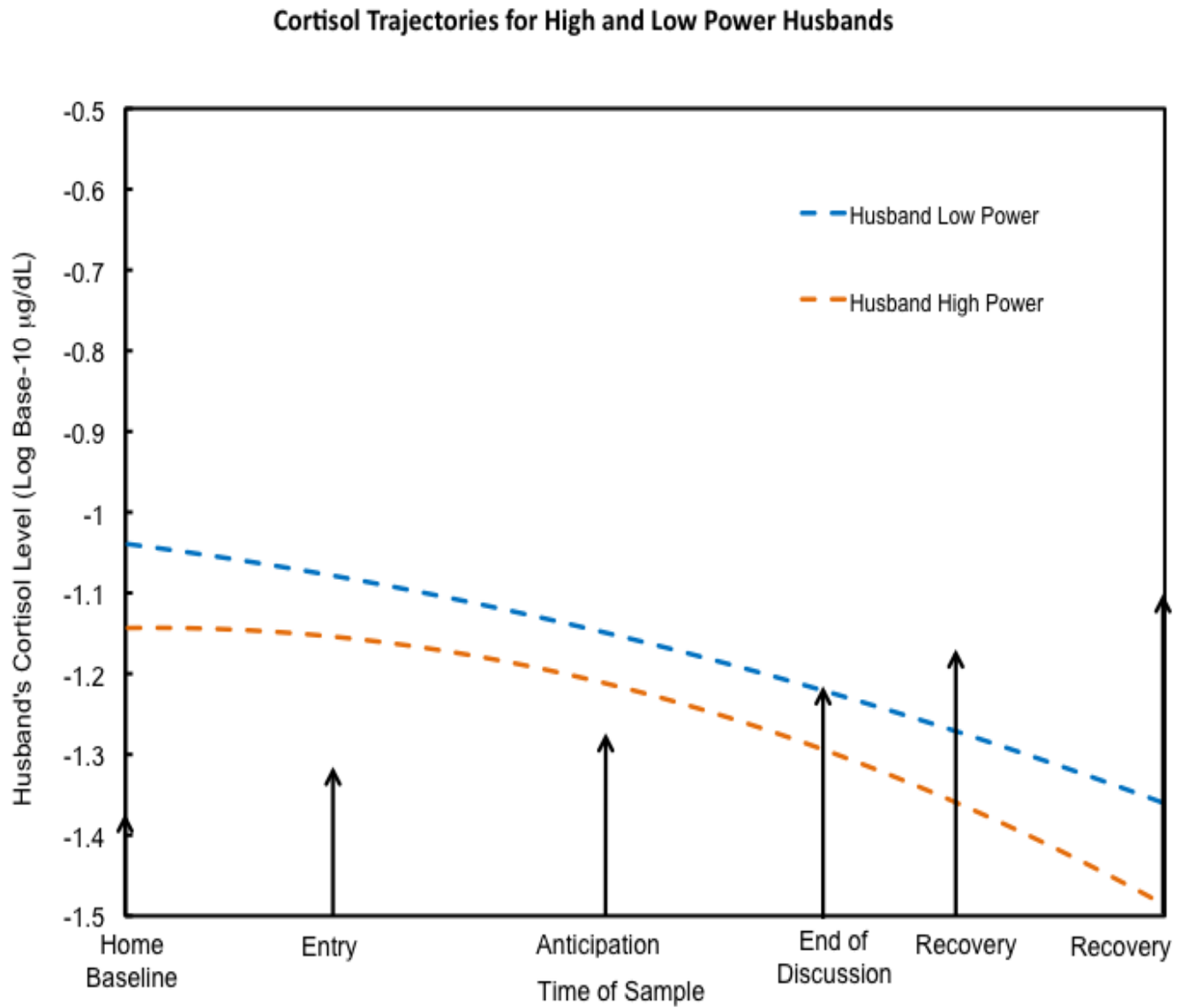


Figure 11: Men's cortisol trajectory as a function of high or low marital power over the course of the experiment.



APPENDIX

CONFLICT TOPIC GUIDELINES

How to choose the conflict topic:

Look at the three issues listed by the two participants.

1. If there is overlap, choose the conflict that both overlaps and has the highest combined intensity rating. [Be sure to read the issues carefully, as two issues that are phrased very differently may actually be discussing a mutually agreed upon conflict.]

2. If they agree on two of the conflicts and the intensity scores are tied, then:

a. choose the one you feel allows for the best conflict conversation OR

b. flip a coin if you cannot decide.

EXCEPTION: If neither intensity score is greater than 3, then see if any of the other non-agreed upon conflicts is greater than 3. If so, choose the more intense but unshared conflict topic.

3. If there is no overlap, check to see whether this session is designated as a “male issue” or “female issue” session. Then choose the issue with the highest intensity rating from that participant. CHECK OFF on the list in the control room whether you used the male or female issue, and write in date of session, Couple ID and Time point.

4. Use the Conflict Discussion Topic sheet to record the topic you selected, whether it is a male or female topic or both. Keep this sheet with you when you explain the topic to the couple.

5. Neatly print the description of the selected topic on a notecard, which you will give to the couple right before their discussion begins.

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