

THE RELATIONSHIPS BETWEEN CONFLICT, MARITAL
SATISFACTION AND COUPLES'
TIME SPENT IN JOINT
ACTIVITY

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ACTIVITY

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A Dissertation

Submitted to

the Graduate Faculty of

Auburn University

in Partial Fulfillment of the

Requirements for the

Degree of

Doctor of Philosophy

Auburn, Alabama
December 16, 2005

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DISSERTATION ABSTRACT
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SATISFACTION AND COUPLES'
TIME SPENT IN JOINT
ACTIVITY

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Doctor of Philosophy, December 16, 2005
(M.A., Auburn University, 1995)
(B.A., Auburn University, 1994)

85 Typed Pages

Directed by Joe F. Pittman

The purpose of this study is to examine the links between marital satisfaction, couples' time together in joint, leisure activity and relationship conflict. Current literature has established the positive link between marital satisfaction and joint activity, as well as the negative link between marital satisfaction and conflict. Any link between conflict and couples' low involvement in joint activity has yet to be established. In addition, the inter-workings of all three variables has not previously been considered.

Two waves of data (Wave Two & Wave Three) from the National Survey of Families and Households (NSFH) were used to assess these relationships within and

across time. Structural Equation Modeling (SEM) analyses affirmed the positive relationship between joint activity and marital satisfaction and the negative relationship between conflict and marital satisfaction. The negative relationship between conflict and joint activity was clearly established. The strength of the direct, negative relationship between conflict and joint activity surpassed the strength of the previously established direct, negative relationship between conflict and marital satisfaction. These results suggest that conflict, over time, has a substantial, negative impact on couples' marital satisfaction and joint activity. Essentially, more open disagreements make couples' less inclined to spend time with one another and less enthusiastic about their marriages. It should be noted that these results apply to couples involved in long-term, highly stable marriages and a predominantly Caucasian population. Due to study limitations, future research needs to include a more diverse sample, measures of conflict that include observational level data of couples' engaging in conflict. Finally, future research needs to include time-incremental measures of time spent in joint activity.

ACKNOWLEDGMENTS

Thanks are due to a number of people for their assistance and support throughout this process. First, Joe Pittman deserves the most thanks for his enormous amount of patience, expertise and compassion in working with me. Without him, I would not have been admitted into this doctoral program, nor would I have succeeded. Second, my committee, Leanne Lamke, Donna Sollie and Jennifer Kerpelman, have continuously provided excellent advice and support. They epitomize the best academia has to offer in terms of teaching and mentoring.

Aside from Joe Pittman, Lisa Taylor has been the person I owe the most throughout this entire program. She has always been the one to take the risks and allowed me to benefit from her experiences. She set the standard for what a graduate student should be and will continue to set the standard as a new professional in the field.

Thanks go to Mary Helen Brown for continuing to be a terrific mentor and friend for the past eleven years. Thank you Beth Yarbrough, one of my best friends in the world, for sticking with me through the good and bad and for never wavering – regardless of my silliness and craziness.

Finally, I thank my family. My father was instrumental in supporting my decision to go back to school and I owe him and my mother a tremendous amount for their continuous support and understanding of all of my decisions – for better or worse.

Style manual or journal used: American Psychological Association. *Publication Manual of the American Psychological Association*. 5th ed. Washington: APA, 2001.

Computer software used: SPSS Basic 12.0 for Windows and AMOS Basic 5.0

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I. REVIEW OF LITERATURE

The purpose of this study is to examine the relationships between couples' engaging in leisure time together, their marital satisfaction and relationship conflict. The following pages will include the literature review regarding these three variables, the introduction and rationale for the study, the methods used to examine the links between these three variables and the results and discussion regarding what the analysis strategies indicated.

In order to fully explore the associations between couples' engaging in leisure time together, their marital satisfaction and relationship conflict, the current literature regarding each linkage must be reviewed and discussed. Additionally, a model of the relationships among these variables will be presented and discussed (see Figure 1).

Literature focusing on couples' use of time together will be presented and discussed first. The bulk of this literature focuses on how families and couples must balance their home and professional lives. Next to be presented and discussed is the literature focused on the relationship between couples' free time together and couples' marital satisfaction. This body of work is heavily focused on the couples' engagement in shared activities and how positive interactions are associated with greater relationship satisfaction. Third, literature that focuses on marital conflict, particularly rates of open disagreements will be presented and discussed. Although there are many forms of marital conflict, the focus of this study is on couples' perceptions of their rates of open

disagreements about day-to-day issues that are indicators of negative interactions related to conflict in romantic relationships. Literature focusing on the impact open conflict has on marital satisfaction will next be presented and discussed. In addition, literature that supports the possibility of a link between relationship conflict and couples' time spent in joint activities will be included. Finally, the current literature regarding methodological issues associated with the chosen data set and the analysis strategies that were used for this study are presented and discussed.

Couples' Time Use

When considering how couples spend their time together researchers seem to have multiple perspectives. Some researchers examine how individuals perceive time (Harvey, 1982; Marks & MacDermid, 1996; Marks, Huston, Johnson, MacDermid, 2001). For example, Harvey (1982) suggests that time is about each person having just twenty-four hours per day in which to choose between activities that are obligatory and those that can be considered discretionary. Other researchers hold a differing view and suggest that although we all have the same amount of time in a day, we choose how much time to spend on each task based upon the value we place on that task (Marks and MacDermid, 1996; Marks, Huston, Johnson, MacDermid, 2001). In essence, the number of minutes spent engaged in an activity is less important than the value of the chosen activity.

Another perspective on couples and time use focuses on "families" and time. Some researchers discuss families' use of time in terms of how individual family members value or de-value their time together (Hochschild, 1997; Barnett, 1998; Daly,

2001). Hochschild (1997) studied families and found that a large percentage of her subjects organized their time in order to maximize their companionship and support. Interestingly, she found that many of her subjects received more companionship and support at work. Hochschild's (1997) findings are significant in how they have assisted researchers in redefining how spending time with family is perceived. Ordinarily, one assumes that companionship and support comes from one's family, however, Hochschild's 1997 article indicates that family is not always perceived as the source of said companionship and support.

Barnett (1998) offers a review and re-conceptualization of the work and family literature and further suggests that early researchers made poor assumptions about the definitions individuals hold about what it means to spend time with their families. Barnett (1998) proposed that early researchers assumed spending time with family was always perceived as positive and that individuals preferred to spend time at home rather than elsewhere. However, Barnett (1998) and Hochschild's (1997) research indicates that individuals often do not perceive family time as positive and often prefer to spend time elsewhere in order to get their needs met.

The literature regarding couples and their use of time is very diverse. For this study, the most salient issue is the way couples perceive the amount of time they spend together.

Time Spent in Joint Activity and Marital Satisfaction

Bryant and Wang (1990) discuss the impact of the individual's perception of family time on his/her marital satisfaction. These researchers examined 316 married

women's perceptions of their family time in comparison to their time spent alone.

Although husbands were excluded from the study's subsample, Bryant and Wang (1990) focus on the time spouses spend together engaging in household work, leisure activities and mealtimes. They found that, among wives, time spent engaged in leisure activities with their spouses was viewed as more valuable and emotionally satisfying than alone time when engaging in the same activities.

A common theme in research on time use in marriage/family is the decisions spouses make about spending time together within the context of their responsibility demands, especially in terms of how each partner juggles his/her responsibilities of work and family (Barnett, 1998; Bryant, 1992; Clarkberg & Moen, 2001; Daly, 2002). The prevailing theme in this work is that couples and families must strike some kind of balance between their valued time with one another and their demanding work time both in and outside of the home (Daly, 1996; 2001; 2002).

Dindia and Baxter (1987) examined how couples spend relationship time engaged in strategies to maintain and repair their relationships and its impact on relationship satisfaction. Through the use of the Locke-Wallace Marital Adjustment Scale, these researchers assessed couples' satisfaction as they examined 50 married couples. Results showed that the majority of husbands and wives used prosocial, ceremonial, communication and togetherness strategies. The use of these strategies during their marital interactions was significantly related to higher levels of marital satisfaction (Dindia & Baxter, 1987).

Guldner and Swensen (1995) used self-report questionnaires to examine the links between time spent and relationship quality in long distance relationships. They assessed subjects' adjustment, satisfaction, trust and intimacy through the use of multiple assessment tools. They used data collected from 194 undergraduate psychology students engaged in long distance relationships and 190 undergraduate psychology students engaged in geographically proximal relationships. Those in the long distance group reported not being able to see their partners daily, while those in the geographically proximal group reported the ability to see their partners daily. Guldner & Swensen (1995) assumed that those living in geographically distal areas have a barrier to spending time together and spend less time together than those who live in geographically proximal areas.

These two groups of students were compared to see if being in a long distance relationship (i.e., spending less time together) had an impact on their levels of satisfaction. No significant differences in adjustment, satisfaction, trust or intimacy were found between couples who were engaged in long distance relationships and those who were geographically proximal. Therefore, these researchers concluded that there is no link between the quantity of time a couple spends in physical proximity together and a couple's overall level of relationship satisfaction. However, the relationship between relationship satisfaction and couples' engagement in joint activity is still in question. These researchers did not consider regular, non-face-to-face communication as time together, therefore it is possible that having the ability to contact one's partner (whether in person or via technology) has the most impact on satisfaction.

In a like manner, Rindfuss and Stephen (1990) examined how marital non-cohabitation impacts marital satisfaction. Through the use of longitudinal data from the National Longitudinal Study of the High School Class of 1972 (NLS72), Rindfuss and Stephen (1990) studied 7,191 married couples. Approximately 238 of those couples were not cohabiting primarily due to military deployments or incarceration and the other 6,953 were cohabiting at the time of data collection. Rindfuss and Stephen (1990) found that couples living apart in the 1976 collection wave were almost twice as likely to divorce within three years. These high divorce rates were significantly associated with low marital satisfaction. The findings of this study suggest that contact is significant to marital satisfaction. Interestingly, it appears to be at odds with Guldner & Swensen's (1995) suggestion that physical proximity has relatively no impact on marital satisfaction.

The research does not appear to offer a simple answer to the relationship between time together and satisfaction. Perhaps the more important variable is not the amount of time but the way it is used. Reissman, Aron and Bergen (1993) examined the impact that couples' time spent in shared activities has on their marital satisfaction. Fifty-three couples in the Reissman et al. (1993) study were asked to engage in activities that were either, (a) exciting, (b) pleasant, or (c) non-special. Reissman et al. (1993) discovered that couples in the exciting group were found to report higher levels of satisfaction and those in the pleasant group reported moderate levels of satisfaction. Interestingly, no effects were found in the non-special activities group, therefore the researchers suggest that the positive association between time spent and increased marital satisfaction is not based on couples just simply spending time together. In fact, Reissman et al. (1993)

suggest that engaging in positive experiences is what leads couples to experience greater levels of satisfaction. In addition, Reissman et al. (1993) point out that their findings hold true for couples engaged in long-term relationships, but not as much for those in newer relationships. This finding suggests that engaging in exciting or positively perceived activities with one's partner increases satisfaction by combating boredom that occurs over time in longer lasting relationships.

As with Reissman et al. (1993), Aron, Norman and Aron (2001) suggest that couples who engage in exciting, or positive activities are more likely to experience greater levels of marital satisfaction. In two separate laboratory experiments, Aron et al. (2001) studied 24 dating and 4 married, undergraduate couples and 63 community married couples. Both experiments had couples fill out pretest questionnaires and then engage in an experimental task designed to be either exciting or ordinary. After the shared activity, both partners were asked to fill out a post-test questionnaire. Both experiments yielded the same results in that a clear association between shared, exciting or positive activities on relationship quality was found.

Aron et al. (2001) suggest that "shared participation in self-expanding [exciting, novel, arousing] activities may be a powerful mechanism for maintaining and enhancing close relationships (p. 63)." This conclusion again suggests that it is more than couples just spending time together that is important in marital satisfaction, but it is their perceptions of positive activities in which they are engaged that seem to have the most impact. If shared participation in exciting or positive activities is powerful for maintaining and enhancing close relationships (Aron et al., 2000), then the opposite may

also be true. A lack of, or serious reduction in, shared positive activities may be powerful in ruining or encouraging negative interactions in relationships.

Consistent with these studies, Smith, Snyder, Trull and Monsma (1988) examined the relationship between leisure activity patterns and marital satisfaction. Survey data were used to measure 251 married respondents' engagement in individual, parallel or joint activities with their spouses or others. Smith et al. (1988) found that engaging in leisure activities with one's partner was very important to couples' levels of satisfaction and engaging in leisure activities alone or with others (excluding one's partner) was associated with higher levels of marital distress.

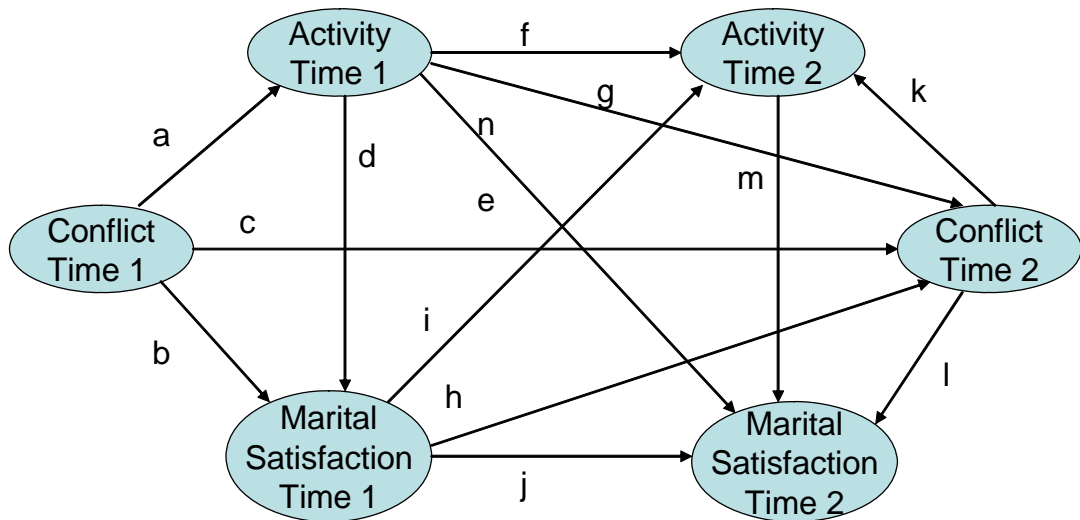
In a similar fashion, Holman and Jacquart (1988) studied 318 married individuals to assess the relationship among four separate types of leisure activity patterns and marital satisfaction. Based on respondents' answers to surveys, Holman and Jacquart (1988) separated husbands and wives into four distinct leisure activity pattern groups; individual leisure (without spouse), low joint leisure (with spouse, but with little or no interaction), moderate joint leisure (with spouse, with moderate interaction), high joint leisure (with spouse, with a great deal of interaction). Results showed that for both husbands and wives, greater amounts of individual leisure time were associated with lower levels of marital satisfaction and conversely, couples who spent greater amounts of leisure time together in joint activity experienced greater marital satisfaction (Holman & Jacquart, 1988).

In sum, social science researchers have spent a great deal of time examining and defining "time" in families and marital relationships. The link between couples' use of

their free time in shared activities and marital satisfaction is clearly established and time in minutes is not the issue, but rather, time spent in joint, leisure activity. This body of literature supports several of the proposed links in the provided model (see Figure 1).

The link between time spent in joint activity and relationship satisfaction is shown in paths d and m. The possible link between time spent in joint activity and relationship

Figure 1: **Proposed Model**



satisfaction at time one and future time spent in joint activity is also suggested by the previously discussed literature (see path i, Figure 1).

Relationship Conflict

Conflict in relationships comes in many forms and is prevalent among couples (Schaap et al., 1988; Karney & Bradbury, 1995; Christensen & Heavey, 1993; Heavey, Christensen, & Malamuth, 1995; Hansson, Jones, & Fletcher, 1990; Roloff & Cloven,

1994; Leary, Springer, Negel, Ansell, & Evans, 1998; Feeney, 2004). Researchers have defined conflict as an action by one partner that prevents, obstructs or interferes with the actions of the other (Johnson, 1990). Couples differ in the manner in which they react to on-going, frequent conflict. Their interaction choices during open disagreements vary (Burman, Margolin, & John, 1993; Gottman & Krokoff, 1989; Kilmann & Thomas, 1977) and their engagement in persistent open disagreements serves to evoke rigidity and withdrawal, negative emotions and aggression (Coyne & Downey, 1991; O'Leary & Smith, 1994). In instances of persistent negative interactions, certain behaviors may be considered violations of the couples' understandings of the relational rules or enacted unpleasant instrumental and emotional behaviors toward one another (Roloff & Cloven, 1994; Wills, Weiss, & Patterson, 1974). These unpleasant interactions can be psychological, physical, emotional, sexual or economic in nature (Dickstein, 1988).

Offended partners' reactions to those unpleasant interactions during conflict vary depending on the duration of the acts (Leary et al., 1998). While not all conflict is negative and destructive, too often conflict is continuous and on-going and escalates into a separate entity that differentiates itself from the seminal issues (Deutsch, 1969). The presence of this negative, consistent conflict leads to overt hostilities that have the potential to tear apart relationships depending upon their duration and frequency (Margolin, 1988).

Conflict and Relationship Quality/Satisfaction

The diversity of negative exchanges that occur during on-going conflict in relationships has a significant negative impact on a couple's marital quality and

satisfaction (Gottman, 1993; Margolin & Wampold, 1981; Revenstorf, Vogel, Wegener, Hahlweg & Schindler, 1980). For example, Gottman (1993) examined how 73 community, married couples reacted to persistent conflict in their marriages at two points in time. During the first wave of data collection, Gottman (1993) studied these couples' conversations regarding the events of the day, their discussion of a persistent problem area and a pleasant topic.

At the second wave of data collection, 4 years later, Gottman (1993) asked at least one spouse from each couple to complete a set of questionnaires assessing their current marital satisfaction, including items that indicated a possible marital dissolution. Gottman (1993) classified couples into five groups based on the observation data (3 groups of stable couples: validators, volatiles and avoiders and 2 groups of unstable couples: hostile and hostile/detached). In this article, Gottman proposes his balance theory of marriage that suggests it is necessary to have a balance of positive and negative "speaker and listener behaviors." The most significant finding in this particular study is that negativity appears to be "dysfunctional only when it is not balanced with about five times the positivity, and when there are high levels of complaining, criticizing, defensiveness, contempt and disgust" (Gottman, 1993, p. 14).

Wilson and Gottman (1995) used meta-analyses to further discuss the differences between distressed and non-distressed couples. They reviewed multiple articles and found that couples' conflict interaction patterns, when examined in the laboratory, could be categorized into three phases. The first phase was agenda-building, the second phase was disagreement, and the final phase was negotiation. These researchers found that the

negative reciprocity among couples is most salient during their disagreement/arguing phase where they express the most negative affect toward one another. When couples engage in a repeated cycle of negative reciprocity, they become more and more dissatisfied with their relationship (Wilson & Gottman, 1995), thus low satisfaction is a casualty of negativity (see paths b & i).

Revenstorf et. al. (1980) used sequential analyses to examine 10 distressed couples' interaction patterns with regard to problems in their relationships. Revenstorf et. al. (1980) found that the 10 distressed couples, compared to 10 non-distressed couples, tended to escalate their problems through repeated negative exchanges and increased distancing behaviors. These negative exchanges and increased distancing behaviors lead to increased levels of distress and unhappiness (Revenstorf, et. al., 1980). This result suggests the link between low relationship satisfaction leading to future conflict which then leads to fewer joint activities. The proposed model illustrates this relationship in paths h and k from Figure 1.

Marchand and Hock (2000) studied avoidance and attacking conflict-resolution strategies and married couples' satisfaction. Forty, Caucasian, non-clinical married couples were asked to fill out questionnaires assessing their depressive symptoms, marital satisfaction and marital-conflict resolution strategies. Depressive symptoms were defined as hostility, irritability and withdrawn-avoidant behaviors. These researchers found that couples' depressive symptoms and marital conflict-resolution strategies were strong predictors of negative conflict resolution strategies (Marchand & Hock, 2000) and lower levels of marital satisfaction. In addition, husbands' depressive symptoms and

marital satisfaction were significant predictors of their use of avoidance as a conflict-resolution strategy (Marchand & Hock, 2000). Thus, conflict seems to lead to both lower levels of marital satisfaction and lower levels of joint activity. Paths a and b from Figure 1 illustrate this possible linkage.

Similarly, Schundlich, Papp and Cummings (2004) examined couples' dysphoria in marital conflict resolution strategies. Two hundred and sixty seven married couples were observed during marital resolution tasks designed to assess their conflict resolution strategies. These researchers found that couples who have at least one spouse that exhibits depressive symptoms (criticism, disagreement, and negative self-disclosures), show heightened hostility and tension in their interactions (Schundlich et al., 2004). Additionally, couples with a dysphoric partner showed a wide range of negative conflict tactics (withdrawal/avoidance, defensiveness, hostility, and physical aggression) and an absence of positive strategies (support, humor, calm discussion) during their interactions (Schundlich et al., 2004). These findings suggest that negative interactions are strongly linked to a lack of joint activity between partners and the potential for lower levels of marital satisfaction. The proposed model in Figure 1 includes paths d and m to illustrate this possible relationship.

Although Marchand and Hock (2000) and Schundlich et al. (2004) examined depressed couples, other research suggests the same behavioral linkages. For example, Gottman (1993) and Wilson and Gottman (1995) examined couples' withdrawal/avoidance and hostile behaviors. Therefore, Marchand and Hock (2000)

and Schundlich et al.'s (2004) findings should hold in the population of married couples more generally.

Leary, Negel, Ansell, Evans and Springer (1998) examined the causes, phenomenology, and consequences of hurt feelings. One hundred sixty-four undergraduate participants were asked to reflect upon and report about incidents where they experienced hurt feelings. The researchers focused their initial energies on the antecedents of hurt feelings and the prospect that hurt feelings arise from one's partner devaluing the relationship through negative interactions such as rejecting one's partner.

Leary et al. (1998) examined the emotions involved in experiencing hurt feelings. Participants were asked to complete a victim questionnaire (thinking of an incident where one's feelings were hurt by a transgression). These questionnaires were designed to elicit the participants' victim "story" in great detail. Once the story was complete, participants were asked to answer a series of questions regarding their feelings based upon being the victim in the story. Leary et al. (1998) found that victims "recounted an extensive variety of hurtful episodes" (p. 1227). Active and passive instances of partners disassociating themselves from the victim were significant (Leary et al., 1998) and most victims reported feeling very hurt by the events (negative interactions) in their story and experienced more hurt by those closest to them (Leary et al., 1998). In addition, the effects of those hurt feelings (resulting from negative interactions) were long-lasting and had significant negative consequences for the victim/perpetrator's relationship satisfaction for most participants (Leary et al., 1998). Ultimately the study suggests that negative interactions are strongly associated with damage to their relationship

satisfaction. This study illustrates a clear link between hurtful and negative interactions and relationship satisfaction (see paths b and l, Figure 1).

Feeney (2004) researched the negative effects of hurt feelings in romantic relationships. Similar to Leary et al. (1998), Feeney (2004) asked 224 undergraduate participants to think of instances in which a romantic partner hurt their feelings and then answer a series of questions regarding their background, attachment security, long-term effects of the hurtful event (negative interaction) immediate emotional reactions to the hurtful event (negative interaction). Feeney (2004) found close relationship negative interactions to be the most significant and therefore the most damaging with regard to the relationship.

Vangelisti and Young (2000) also focused on hurt feelings, but focused on the particular messages that couples send to one another. The unambiguity of the sender's message was most significant in this study because previous research found that undeniably hurtful messages have a strong impact on how hurt the victim felt following the exchange (Vangelisti & Young, 2000; Feeney, 2004; Leary, et. al., 1998). Vangelisti and Young (2000) conducted two studies. In the first, 486 undergraduate respondents were asked to "recall, describe, and rate various aspects of an interaction in which someone said something that hurt their feelings (p. 401)." As with Feeney (2004) and Leary et al. (1998), Vangelisti and Young (2000) examined the type/significance of relationship in which respondents reported experiencing hurt feelings. Not only did Vangelisti and Young (2000) ask respondents to rate how hurtful the messages were, but also how respondents felt about that relationship (e.g., was it miserable or enjoyable).

Vangelisti and Young's (2000) first study found that participants who believed the hurtful message was undeniably hurtful, experienced feeling more emotionally distant (similar to Gottman's (1993) "withdrawal") from their partners than those who felt the messages were more ambiguous. In addition, the experience of undeniable hurt was also associated with how respondents viewed their relationship as a whole (Vangelist & Young, 2000). If the message was viewed as undeniably hurtful, respondents believed their relationships were unenjoyable or even miserable (Vangelisti & Young, 2000). This clearly suggests the link between negative experiences with a partner and relationship satisfaction and lower levels of joint activity (see paths a, b, l, and k in Figure 1).

Despite the number of articles that support the association between negative interactions and low marital satisfaction, Lloyd (1996) found a much different dynamic among her 78 married community couples. She found that some violent distressed couples from her sample exhibited high levels of positive interactions that mimicked those of non-violent, non-distressed couples. Lloyd (1996) speculates that intense attachments in violent distressed relationships account for such an unusual finding. Therefore, the occurrence of negativity in couple interactions does not necessarily account for their perceptions of relationship quality. It would seem that negativity in a relationship is not always associated with lower marital satisfaction. Interestingly, these findings seem consistent with Gottman's (1993) negative to positive (1:5) interaction ratio.

In contrast to Lloyd's (1996) findings, the general pattern in the literature suggests that the negative link between relationship quality/satisfaction and conflict is

relatively clear. Generally, relationship interactions that are more negative than positive are associated with lower levels of marital satisfaction. In addition, the duration and frequency of conflict seems to have an impact on satisfaction and more dissatisfied couples appear to engage in more persistent conflict.

Relationship Conflict and Joint Marital Involvement in Leisure Activity

There is surprisingly little literature that explicitly examines a direct link between married couples' involvement in leisure activity and relationship conflict, some literature suggests a possible link. For example, Vangelisti and Young's (2000) previously discussed study does suggest a possible link between conflict (negative experiences) and lower levels of joint activity. In addition, Driver, Tabares, Shapiro, Nahm and Gottman (2003) cited multiple observational studies from the Gottman Laboratories to document the effects of conflict on marital relationships.

Driver et al. (2003) illustrated that couples who engage in negative behaviors such as "criticizing," "contempt," or "emotional disengagement/withdrawal" tend to report more conflict and hostility (Driver, et al., 2003). Thus, conflict and hostility is associated with "withdrawal," described as partners lacking interest, affection, humor and concern for one another. This withdrawal, in turn, erodes intimacy and leads to each person's "editing out parts of their personality" that "becomes hidden from their partners" (Driver, et al., 2003). This pattern of interaction suggests a unique circular pattern starting with negative behavior/conflict and withdrawal (low involvement) to another negative behavior/conflict back to withdrawal (low joint activity). The proposed model illustrates these suggested links through the path trajectory of a-g-k in Figure 1.

Similar to Gottman (1993), Margolin and Wampold (1981) observed married couples' conflict management styles. Margolin and Wampold (1981) used sequential analyses and the Marital Interactional Coding System to examine 22 distressed couples and 17 non-distressed couples' problem-solving behaviors. Their study was an attempt at replicating previous studies that found "base rates" of behaviors that differentiated distressed from non-distressed couples. Interestingly, non-distressed couples engaged in more positive and neutral behaviors during problem-solving exercises than distressed couples. These findings are consistent with those cited in Gottman's (1993) balance theory of positive to negative behaviors that illustrate how negative behaviors during marital interactions lead to poor marital satisfaction, but more importantly these findings illustrate the linkage between conflict and subsequent lack of joint activity (see paths a and k, Figure 1).

Leary and Downs (1995) also reviewed previous studies to support their theory that feelings of hurt associated with negative interactions affect one's social perceptions and subsequent interactions with others. The subsequent interactions may include avoidance, withdrawal and complete disconnectedness from one's partner through self-imposed social exclusion. This study suggests a path that illustrates conflict/negative interactions leading to withdrawal from one's partner (see paths a and k, Figure 1).

Baumeister and Leary (1995) suggest that feeling de-valued in one's current relationship increases the likelihood that one will seek out other relationships, thus significantly decreasing or completely ending one's involvement with the offending partner. In a like manner, Jones, Moore, Schratte and Negel (2001) speculate that

negative interactions may lead to “avoidant actions” that have the potential to escalate a couple’s conflict, thus suggesting a link between couple’s negative interactions and lack of involvement (see paths a and k, Figure 1).

In addition, Buysse, De Clercq, Verhofstadt, Heene, Roeyers and Oost (2000) have examined the connections between relationship conflict and avoidance. Buysse et al. (2000) used 2 waves of data collection to assess 32 heterosexual couples’ relational conflict in stable relationships (married or cohabiting). These researchers found that avoidance is a frequent response to relationship conflict (negative interactions). For Buysse et al. (2000), “avoidance” referred to couples’ tendency to avoid certain topics when communicating with one another. Nevertheless, communicative avoidance and physical avoidance may be variations on a common theme.

Vangelisti and Maguire (2002) present a discussion of relational distancing, perhaps the closest concept directly linking transgressions with partners experiencing a deliberate change in their engagement patterns. For example, when one person experiences extreme emotional distress (resulting from an undeniable negative interaction) he/she is “primed to take action” and potentially disengages from his/her environment (Vangelisti & Maguire, 2002). Vangelisti and Maguire (2002) suggest that when a rift in the relationship occurs the partner feeling hurt will disengage him/herself from the offending partner.

The suggested path illustrating conflicts leading to withdrawal or avoidance of one’s partner is supported by the previously mentioned articles (Leary & Downs, 1995; Baumeister & Leary, 1995; Jones, et al., 2001; Buysse, et al., 2000 and Vangelisti &

Maquire, 2002). Interestingly, the following study by Vangelisti and Young (2000) suggests a previously unexamined link between relationship conflicts and joint, leisure activity.

Vangelisti and Young's (2000) second study is similar to their first, but includes only 260 undergraduate respondents reporting on the frequency with which a perpetrator sent hurtful messages. In this second study, Vangelisti and Young (2000) found that respondents who perceived the hurtful messages from a close, intimate partner, to be unambiguous were more likely to distance themselves from the sender.

The link between relationship conflict and marital satisfaction is suggested in the research literature. The duration and frequency of conflict generally has a negative impact on relationship satisfaction. The current model proposes that conflict, a social experience, directly affects both joint activity, a behavioral response, and satisfaction, a cognitive appraisal. The model further places satisfaction logically after a change in activity as an evaluation of the social experience. Subsequent effects can follow from reduced satisfaction, such as further conflict and lower joint activity.

Often, the perception of the negative interaction seems to have more of an impact than the conflict itself, therefore, the individual's perspective seems to be more important than that of the couple. In addition, the paths illustrated in the proposed model are all well-supported by the literature focusing on conflict, marital satisfaction and time together in joint, leisure activity. As previously mentioned, the research strategies and methodological issues involved with using longitudinal data analyses will now be examined.

Research Strategies and Methodologies

For the purpose of this study, secondary data analyses strategies with a nationally representative, longitudinal data set were used. The nature of the research questions proposed in this study are such that the use of a longitudinal data set is necessary. For example, in order to test the links between all three variables across time, it is necessary to have at least two data points. Furthermore, in order to understand how each of the variables impacts later relationship outcomes, researchers must follow their subjects as their relationship moves through time.

The use of secondary data sets has both advantages and disadvantages. First, two of the primary advantages of secondary data analyses are time and money (Teachman and Crowder, 2002; Brush, 1993). According to Teachman and Crowder (2002), data collection efforts are extremely time-consuming and expensive. A considerable amount of time is needed to create a valid and reliable instrument to measure the phenomena one is interested in examining and to recruit and train survey/interview administrators (Brush, 1993). Finally, recruitment of subjects and instrument administration can take anywhere from weeks to years, depending on the number of subjects and how recruitment efforts are handled (Brush, 1993).

Financially speaking, Petersen (1993) explains that secondary data analyses are less expensive because there is limited need for the basic funds necessary for paying subjects, making photocopies, paying coders and more. Additionally, less money is spent on computers and laboratory space necessary during data collection (Petersen, 1993). Finally, Petersen (1993) adds that it is difficult for one researcher to have the time and

funds available to collect enough data to get a large representative sample. Brush (1993) supports the use of established, grant-funded data sets as advantageous because they often provide nationally representative samples and have thousands of respondents. The large number of respondents corresponds to the amount of power and confidence a researcher has in finding relationships among variables if they do exist. Additionally, the generalizability of the findings are unmatched due to the nationally representative nature of the sample (Brush, 1993).

Unfortunately, the use of secondary data analyses strategies has some problems. The primary negative issues associated with secondary data analyses focus on the lack of control the individual researcher has over the data collection procedures, instruments used and individual items asked of respondents (Petersen, 1993; Brush, 1993). It is difficult to know if data collection procedures were followed correctly, if the instruments used were valid and reliable and if the items asked of respondents are the most useful in examining the phenomena that you hope to study (Petersen, 1993).

Similar to the use of secondary data analyses strategies, the use of longitudinal research also has multiple advantages and disadvantages. First of all, researchers using longitudinal data are able to show distinct changes in relationships over time (Petersen, 1993; Dugan, 2002; Andrews & Eaton, 2003). According to Andrews and Eaton (2003), it is difficult to show actual changes when studying cross-sectional data. Petersen (1993) points to attrition rates as the major disadvantage in longitudinal research. Too often, the same large number of subjects used in the first wave of data collection are unable to participate in subsequent data collection efforts.

Structural Equation Modeling (SEM) is a proven methodology that allows for researchers to examine the direct and indirect relationships among the variables they are interested in studying (Stage, Carter & Nora, 2004). The strength of this approach is in its ability to show direct and indirect effects “simultaneously with multiple independent and dependent variables” (Stage, Carter & Nora, 2004) and the ability to account for measurement error in the equation.

II. INTRODUCTION

Social science research has a long history of examining adult relationships. Research focused on married couples' satisfaction and use of their discretionary time is abundant. In addition, research focusing on married couples' experiences of relationship conflict is also abundant. What is lacking in the current literature is research focused on the inter-workings of these three variables considered together. The purpose of this study was to examine the links between conflict, couples' time in joint, leisure activity and marital satisfaction. In order to examine the relationships between the aforementioned variables, it is important to show how current researchers have examined them.

First of all, time is often referred to as a scarce resource, "the allocation of which is a major determinant of ultimate individual and family well-being (Harvey, 1993, p. iii)." Human beings are forced to make choices about how to use this finite resource. Because time is limited, we must choose certain investments over others. Most often for married couples, the most significant time investment choices are among work responsibilities, family/relationship responsibilities and leisure activities (Becker, 1965; Bryant, 1992; Daly, 1996; Barnett, 1998; Aron, Norman, Aron, 2001; Clarkberg & Moen, 2001; Daly, 2001). The significance of the time couples spend together is based, in part, upon their decision to invest their time in their relationship rather than in competing interests and their perceptions of the amount of time they share. Furthermore, Marks (1979) suggests that the nature of the chosen activity during the time partners spend

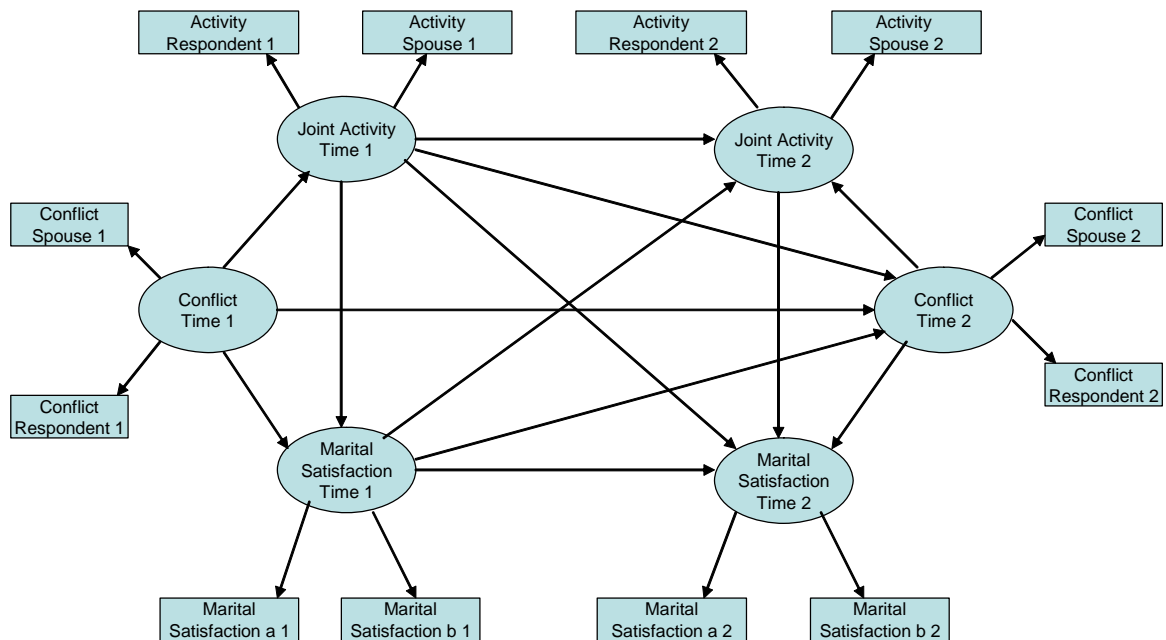
together is more important than the actual amount of time spent.

Assuming that people spend free time in activities they enjoy, the empirical association between couples' marital satisfaction and their time spent together engaged in joint activity is unsurprising. There are multiple studies that show couples who spend free time together are more satisfied (Bryant & Wang, 1990; Gerner & Zick, 1983; Gronau, 1977). By the same token, the unpleasant experience of open disagreements makes the negative empirical association between satisfaction and such relationship conflict equally unsurprising. Studies show a decrease in relationship satisfaction dependent upon the duration and frequency of relationship conflict (Jones & Burdette, 1994; Metts, 1994; Mikula, 1994; Christensen & Margolin, 1988; Schaap, Buunk, & Kerkstra, 1988).

There is, however, little-to-no published research treating these three variables together. This is an important oversight because this study will argue that open disagreements about common, day-to-day issues may have a more substantial and threatening impact on couples' overall satisfaction than previous researchers have indicated. In addition, these constant open disagreements may make partners choose to spend less time together, which further reinforces their feeling less enthusiastic about their relationships. If these claims are supported, couples and marriage counselors can begin to emphasize the importance of managing the frequency of open disagreements about everyday issues in order to improve the quality of time partners spend together and their overall marital satisfaction.

The research on the link between marital satisfaction and engaging in free time spent together as a couple will be addressed below. Attention will then be turned to the association between satisfaction and conflict. Finally the justification for cross-time linkages among these variables will be detailed. Assumptions regarding the priority among these variables will be explained and the predicted model indicating the expected results is presented in Figure 2.

Figure 2: **Predicted Model**



Reissman, Aron and Bergen (1993) suggest that couples who spend free time together in joint activities have increased communication and companionship which in turn allows for the promotion of satisfaction. Not only is Reissman et al. (1993) one of the few studies that suggests a logical priority between engaging in free time together in

joint activity and satisfaction, but it is also one of the few studies that suggests a mechanism through which that engagement could affect satisfaction. Essentially, time together participating in joint, leisure activity enhances couples' satisfaction. On the contrary, spending little or no time together in joint leisure activity may actually encourage negative experiences in relationships. This possibility leads to the next expectation of the current study: *couples' joint activity is directly and negatively related to conflict at time two* (see Figure 2).

Smith, Snyder, Trull and Monsma (1988) also support the strong empirical association between engaging in time together in joint, leisure activities and satisfaction. Smith et al. (1988) found that couples who spent increasing amounts of leisure time together were generally more satisfied than those who spent their time engaged in other, non-leisure activities. Holman and Jacquart (1988) found similar results when they examined couples' satisfaction and their engagement in leisure activities. Each of these studies supports the strong link between time together and satisfaction, and similar to Reissman et al. (1993), they suggest factors such as enjoyable shared activities that may create differing levels of satisfaction while couples spend time together. Consistent with this pattern, Rindfuss and Stephen (1990) found that couples who spend less time together report feelings of distance and lower satisfaction with their relationships. It appears that spending more free time in positively perceived, joint activity is related to relationship satisfaction.

These studies also suggest the logical priority of activity, with satisfaction tending to follow as an evaluation of the relationship engaged in the activity (Aron, Aron,

Norman, McKenna & Heyman, 2000; Aron, Norman & Aron, 2001; Fraley & Aron, 2004; Reisman, et al.1993). According to Aron et al. (2000) the relationship dynamics associated with engaging in novel or positively perceived shared activities lead couples to report higher levels of satisfaction with their relationship. Similarly, Bryant and Wang (1990) suggest that wives who spend time engaged in enjoyable activities with their spouses tend to report more marital satisfaction. Furthermore, Fitzpatrick and Dindia, (1986) suggest that couples who spend time discussing current events (both locally and globally) with their spouses tend to have better quality relationships. Lastly, Reissman et al. (1993) suggest that engaging in these novel or positively perceived activities allows for the couples to enjoy communication and companionship that might not otherwise be possible during their day-to-day lives due to competing interests. Each of these studies prioritizes the activities shared in free time spent together and maintain that relationship satisfaction results from them.

The next expectations of the current study are to affirm that time spent together in joint, leisure activity enhances satisfaction both within time a specific time frame and across time. First, *joint activity at time one and time two is directly and positively related to marital satisfaction at time one and time two* and second, *joint activity at time one is directly and positively related to marital satisfaction at time two* (see Figure 2).

Interestingly, however, other studies evaluate satisfaction levels first, before examining differences between happy and unhappy couples' interaction patterns (Gottman, 1993; Driver, Tabares, Shapiro, Nahm & Gottman, 2003). These studies show

that satisfaction has implications for subsequent interpersonal interactions, such as effective communication, trust and intimacy.

These two logical scenarios, suggested in the literature, suppose a possible “circular” relationship between leisure time spent and satisfaction whereby more time together in joint, leisure activity increases satisfaction which may subsequently further increase time spent in joint, leisure activity. The second expectation of the current study is to assess this possible circular relationship between leisure time spent together, marital satisfaction and subsequent leisure time spent together. *Joint activity at time one is directly and positively related to marital satisfaction at time one, which is then directly and positively related to joint activity at time two* (see Figure 2).

Conflict

Like research on the association between time spent and marital satisfaction, there is a great deal of literature examining the link between relationship conflict and marital satisfaction (Schaap, Buunk, & Kerkstra, 1988; Christensen & Margolin, 1988; Jones & Burdette, 1994; Metts, 1994; Mikula, 1994). O’Leary, Barling, Arias, Rosenbaum, Malone and Tyree (1989) show that the more frequent and enduring the relationship conflict, the lower the marital satisfaction levels will be for both partners.

Despite some research that suggests a small percentage of distressed couples report high levels of satisfaction (Lloyd, 1996), the majority of research indicates a strong negative association between frequent and enduring conflict and marital satisfaction. More frequent, open arguments are linked to one partner feeling negativity toward the other (Jones, Couch & Scott, 1997; Lampe, 1987; Leary, Springer, Negel,

Ansell & Evans, 1998) which is associated with decreased satisfaction in the relationship (Jones, Couch & Scott, 1997).

These more frequent, open arguments may also lead to the couple engaging less in joint, leisure activity or recoiling from the relationship. The basic assumption appears to be that the immediate effect of conflict is a negative relationship evaluation and a recoil from joint activity with one another. This next expectation suggests, *conflict at time one is directly and negatively related to both joint activity at time one and marital satisfaction at time one and conflict at time two is directly and negatively related to both joint activity and marital satisfaction at time two* (see Figure 2).

For the purposes of this study, relationship conflict is defined as frequent open disagreements among married partners because they are unambiguous indicators of persistent relationship problems (Gelles & Straus, 1979). Unresolved, open conflict eventually leads to negative feelings in the relationship (Schaap, Buunk, & Kerkstra, 1988). Those negative feelings have far-reaching consequences (Vangilisti & Maguire, 2002). Our focus is whether those negative feelings are associated with partners changing their patterns of joint, leisure activity. The bulk of this literature seems to suggest that mishandled conflict produces negative feelings in relationships. What I suggest also is that these constant and persistent negative feelings are associated with subsequent, discernable, negative change in a couples' pattern of time spent in joint, leisure activity and satisfaction levels. The next two expectations of this study are whether these negative feelings are associated with subsequent discernable, negative change in a couples' pattern of time spent in joint leisure activity and their marital

satisfaction. *Conflict at time one is indirectly, negatively related to joint activity at time two, through the negative relationship between conflict and joint activity at time one* (see Figure 2). *Conflict at time one is indirectly, negatively related to marital satisfaction at time two, through the negative relationship between conflict and marital satisfaction at time one* (see Figure 2).

The previously mentioned literature suggests that, over time, conflict has a negative impact on satisfaction and subsequently leads to couples choosing to spend less time in joint activity. Thus, the next expectation for this study suggests an indirect link between conflict and subsequent joint activity. *Conflict at time one is indirectly and negatively related to joint activity at time two, through the negative, direct relationship between conflict at time one and marital satisfaction* (see Figure 2).

There appears to be no literature that directly examines the links between conflict, time spent in joint, leisure activity and satisfaction. Conflict seems to have the potential to damage otherwise healthy and positive relationships, therefore its impact on couples' time together and overall satisfaction warrants further investigation.

Research links conflict to lower levels of satisfaction in relationships. Couples who experience repeated instances of conflict are less satisfied than couples who are able to move beyond their issues (Margolin, 1988; Margolin, Michelli & Jacobson, 1988; Margolin, John & Gleberman, 1988). Margolin, Christensen & John (1996) found that distressed families have increased tensions or conflict in their day-to-day lives and this conflict is associated with lower levels of satisfaction in their marriages. It is arguable that a concurrent effect of these forms of conflict, in addition to the effect on satisfaction,

is to decrease joint, leisure activity.

In Driver, Tabares, Shapiro, Nahm, Young and Gottman's (2003) review article, the authors discuss withdrawal patterns within couple dynamics as a process of "stonewalling" and "emotional disengagement" from one another during conflict. These behaviors are associated with unhappy (less satisfied) couples. In the Gottman Laboratory studies, those identified as "happy" couples made different behavioral choices than those who are "unhappy." "Happy" couples choose positive behaviors (e.g., direct eye contact and engagement) and "unhappy" couples choose negative behaviors (e.g., withdrawal). These studies, rather than treating marital satisfaction as an evaluation of joint marital activity or a response to unresolved conflict, treat it as a starting point and examine its implications for subsequent behavior.

These negative behaviors that Gottman and colleagues identify have been labeled "the Four Horsemen of the Apocalypse" and three of them read like behavioral approximations of the conflict examined for this study (criticism, contempt, hostility). The response of the unhappy partner engaged in such conflicting interactions may be an intensification of marital dissatisfaction, suggesting a satisfaction-conflict-satisfaction path. Importantly, another one of the "horsemen" is a behavioral strategy that suggests a time use decision. Called "withdrawal," the dissatisfied partner tends to disengage emotionally, but also physically and behaviorally, from the other partner. It is supposed that when one partner demands (using negative behaviors), the other withdraws (disengages) and relationship satisfaction lowers. Each subsequent incident of conflict may lead to further withdrawal, decreased satisfaction and subsequently more conflict

over time. This leads to the next expectation for the current study which suggests, *marital satisfaction at time one is directly and negatively related to conflict at time two* (see Figure 2).

According to Berns, Jacobson and Gottman (1999), demand/withdrawal patterns are strongly exhibited in relationships with persistent conflict. Indeed, open and frequent disagreements seem to be manifestations of “demand” in these demand/withdrawal patterns. Berns et al. (1999) suggest that withdrawal serves as a means of avoiding further conflicting interactions in the relationship. This supposition suggests a direct, concurrent link between conflict and less joint, leisure activity, but does not address the issue of subsequent satisfaction in any direct way. A possible direct way of addressing this is by noting that conflict or open disagreements are social stimuli that may lead to behavioral recoils among partners, which may subsequently lead to cognitive assessments of the relationship (dissatisfaction/satisfaction). This suggestion further supports the two previously mentioned expectations regarding negative feelings’ association with subsequent discernable, negative change in a couples’ pattern of time spent in joint leisure activity and their marital satisfaction levels [(a) *Conflict at time one is directly and negatively related to joint activity at time one and (b) conflict at time one is directly and negatively related to marital satisfaction at time one* (see Figure 2)].

The 3-way links between conflict, satisfaction and less time spent in joint, leisure activity are not yet established in the research literature. This study presents and addresses multiple expectations regarding how conflict in relationships may be linked concurrently and over time to a couples’ perception of their engagement together in

leisure activity and their reported satisfaction with the relationship.

In sum, researchers have found clear associations between couples' time together in joint, leisure activity and satisfaction. Multiple research studies indicate that there is a link between couples' free time together, the specific activities in which they are engaged during their interactions and their reported levels of satisfaction. In addition, researchers have found clear, negative relationships between couples' satisfaction and conflict. Multiple research findings show a clear negative link between the frequency and duration of conflict in a relationship and lower levels of satisfaction. None of these findings was in question with regard to this study. What was in question was the working of the three variables together over time.

III. METHOD

Subjects

Study participants were selected from the National Survey of Families and Households (NSFH) longitudinal data set. Participants were selected from the second and third waves of data collection. This nationally representative sample was initially collected between 1987 and 1988 (wave one) and consisted of 13,007 interviews from 9,637 households. Follow-up data collection efforts were conducted between 1992 and 1994 (wave two), consisting of interviews with 10,005 of the original main respondents and their spouses or ex-spouses. Wave three was collected between 2001 and 2003 and consisted of 7,277 interviews with families who had at least one focal child from wave one.

Data collection efforts at wave one allowed for an over-sampling of African Americans, Puerto Ricans, Mexican Americans, cohabiting couples, single-parent families, blended families with step-children, and newly married couples. In the first wave of data collection, one adult per household was randomly chosen and identified as the “primary respondent” for the various interview questions and subsequent waves of data collection. In the interests of being sensitive to participants providing very personal information and to “ease the flow of the interview,” large portions of the main interview were self-administered. According to the principle investigators for this data collection, the average primary respondent interview took approximately one hour and forty minutes

to complete. Spouses or cohabiting partners of the primary respondents were asked to complete a shorter, self-administered questionnaire. For wave three of data collection, CATI (computer assisted telephone interviews) were exclusively used instead of the face-to-face and self-administered protocol used in waves one and two.

The interview data and self-administered questionnaires provided detailed information regarding the participants' "life-history." Examples of this detailed information include the primary respondents' childhood living arrangements, marital history, education, fertility and employment.

When the second wave of data was collected between 1992 and 1994, the number of personal interviews conducted with the original respondents was 10,005, while the number of personal interviews conducted with the current spouse or cohabiting partner of the original respondents was 4,508. The spousal or partner interviews were "almost identical" to the interviews conducted with the original respondents in this wave of data collection.

When the third wave of data was collected between 2001 and 2003, the CATI interviews conducted with the original respondents ($n = 4,600$) and their spouses or former spouses ($n = 2,677$) were limited to only those families who had at least one focal child during wave one of data collection (total = 7,277). The severe funding limitations of the third wave of data collection significantly lowered the number of eligible respondents for the NSFH project.

To be included in the current study, respondents were married to the same spouse

at both waves two and three of data collection. With this exclusion, 3,252 participants remained (respondents $n = 1,626$, spouses $n = 1,626$) in the study. Ninety-seven cases were also excluded due to missing data. The final number of participants included in this study is 1,529 respondents and 1,529 spouses. This number of participants is 42% of the 7,277 families in wave three. The final sample was 89% Caucasian, 7.5% African American, 2.4% Mexican American, Chicano, .5% Asian and .1% Hispanic. The mean age of female respondents was 47.05 years ($SD = 9.9$ years), and the mean age of their male marital partners was 50.4 years ($SD = 34.8$ years).

The mean age of male respondents was 49.36 years ($SD = 11.06$ years), and the mean age of their female marital partners was 47.9 years ($SD = 35.3$ years). The mean level of education for male respondents was 12.02 years ($SD = 4.1$ years), and the mean level of education for female respondents was 10.86 years ($SD = 5.8$ years). The mean level of education for male spouses was 12.4 years ($SD = 3.8$ years) and the mean level of education for female spouses was 12.8 years ($SD = 4.0$ years) indicating that the average level of education for both husbands and wives was a high school diploma.

Procedure

Respondents in wave two were interviewed and given a self-administered questionnaire containing all of the instruments utilized in this study. Respondents in wave three participated in computer assisted telephone interviews which consisted of the main interview instruments, with the self-enumerated questionnaires folded into the interview. The data set was compiled by researchers at the University of Wisconsin. Prior to the author's accessing the data set, all identifiable information regarding

participants was filtered out so the data were anonymous. The Institutional Review Board at Auburn University approved the use of this secondary data set.

Measures

Marital satisfaction. For the current analysis, the respondent's marital satisfaction is of interest at two time points. Only data for respondents' marital satisfaction is examined. Four items per wave of data collection were used to assess respondents' marital satisfaction for this study. Identical items were used in waves two and three of data collection with regard to marital satisfaction. The first item asked, "Taking things all together, how would you describe your marriage?" Responses to this item ranged from 1 (very unhappy) to 7 (very happy). The second set of items was based upon the question, "How happy are you with each of the following aspects of your marriage?" Each of the aspects allowed for scores ranging from 1 (very unhappy) to 7 (very happy): (a) "the understanding you receive from your spouse"; (b) "the love and affection you get from your spouse"; (d) "the demands your spouse places on you." Aspect (c), "the amount of time you spend with your spouse" was not used in assessing marital satisfaction, but rather in assessing spousal reports of joint activity. Appendix A provides the means and standard deviations for both wave two and three with regard to all of these items.

Four composite variables consisting of two items each were created to indicate respondents' reports of marital satisfaction for waves two and three. The first and third composite variables, Marital Satisfaction A at Time One and Marital Satisfaction A at Time Two, consist of "Taking things all together, how would you describe your

marriage?” and “How happy are you with the understanding you receive from your spouse?” The second and fourth composite variables, Marital Satisfaction B at Time One and Marital Satisfaction B at Time Two consist of “How happy are you with the love and affection you get from your spouse?” and “How happy are you with the demands your spouse places on you?” For wave two, the correlations for the Marital Satisfaction A items is .66 and for the Marital Satisfaction B items is .57. For wave three, the correlations for the Marital Satisfaction A items is .80 and for the Marital Satisfaction B items is .46. The correlations for Marital Satisfaction A and B at wave two is .75 and the correlations for Marital Satisfaction A and B for wave three is .73. Table 1 provides the means and standard deviations for all of the composite variables in this study. The distribution for these composite variables was substantially skewed in a negative direction, therefore the following transformation formula was utilized in correcting this problem: $NEWX=LG10(K-X)$. Appendix B provides the new variable names and transformation formulas for all composite variables in this study.

Joint activity with spouse. Joint activity is examined from two perspectives for the current analysis, i.e., from the perspective of the respondent and the spouse. Involvement in joint activities of the primary respondent and his/her spouse represents perceived quantities evaluated on Likert-type scales. Identical items were used in waves two and three of data collection with regard to spousal involvement in joint activity. For this study, three specific items per wave of data collection were used to assess husbands’ and wives’ involvement in joint activities. For wave two, the first item asked, “On average, about how much free time do you spend with your husband or wife?” The scores

on this item range from 1 (almost none) to 5 (almost all). The second item asked, “During the past month, about how often did you and your husband/wife spend time alone with each other, talking, or sharing an activity?” Scores on this item 1 (never) to 6 (almost everyday). The next item used asked, “How happy are you with each of the following aspects of your marriage?” The only aspect from this item included for assessing joint activity was: (c) “the amount of time you spend with your spouse.” Responses to this item ranged from 1 (very unhappy) to 7 (very happy). See Appendix A for the means and standard deviations for both wave two and three with regard to all of these items.

For wave two, the alpha measure of internal consistency equals .72 for respondents and for spouses. For wave three, the alpha measure of internal consistency equals .72 for respondents and .74 for spouses.

Four composite variables were created as indicators of respondents’ accounts of joint activity and spouses’ accounts of joint activity for waves two and three. See Table 1 for the means and standard deviations for the composite variables. The distribution for these composite variables was moderately skewed in a negative direction, therefore the following transformation formula was utilized in correcting this problem:

$$\text{NEWX}=\text{SQRT}(\text{K}-\text{X}).$$

Marital conflict. Marital conflict is operationalized for this study in terms of five reports per wave from respondents and spouses disagreements (open disagreements to serious disagreements). Identical items were used in waves two and three of data collection with regard to relationship conflict. For conflict, the items asked, “How often,

if at all, in the last year have you had open disagreements about each of the following: (a) household tasks, (b) money , (c) spending time together; (d) sex, (e) in-laws?”.

Responses to this item range from 1 (never) to 6 (almost everyday). Given the actual wording of the question, higher scores indicate not just more conflict, but more conflict that is poorly managed.

Table 1
Means, Standard Deviations and Intercorrelations between Time One and Time Two Composite Variables (N = 1,529)

				1	2	3	4	5	6	7	8	9	10	11	12
Variable	M	SD	C_1_R	C_1_S	A_1_R	A_1_S	M_1_A	M_1_B	C_2_R	C_2_S	A_2_R	A_2_S	M_2_A	M_2_B	
Time One															
1	Conflict R	9.49	3.91	-	.40**	-.33**	-.20**	-.35**	-.35**	.50**	.28**	-.26**	-.18**	-.27**	-.30**
2	Conflict S	9.65	3.93		-	-.24**	-.35**	-.25**	-.24**	.32**	.49**	-.18**	-.24**	-.21**	-.23**
3	Activity R	4.49	1.13			-	.45**	.47**	.49**	-.21**	-.18**	.44**	.32**	.28**	.32**
4	Activity S	4.50	1.10				-	.27**	.31**	-.13**	-.21**	.28**	.48**	.18**	.22**
5	Marital Sat. a	5.63	1.20					-	.73**	-.28**	-.17**	.33**	.22**	.43**	.45**
6	Marital Sat. b	5.67	1.34						-	-.26**	-.15**	.34**	.22**	.40**	.53**
Time Two															
7	Conflict R.	8.39	3.37							-	.30**	-.39**	-.23**	-.41**	-.45**
8	Conflict S.	8.42	3.48								-	-.26*	-.39**	-.26**	-.28**
9	Activity R.	4.87	1.00									-	.45**	.53**	.58**
10	Activity S.	4.86	1.02										-	.31**	.32**
11	Marital Sat. a	5.93	1.10											-	.72**
12	Marital Sat. b	6.01	1.22												-

**correlation is significant at .01 level (2-tailed)

Appendix A provides the means and standard deviations for both wave two and three with regard to all of these items.

Four composite variables were created to indicate respondents' and spouses' reports of marital conflict for waves two and three (see Table 1). For wave two, the alpha measure of internal consistency was .76 for respondents and .72 for spouses with regard to disagreements. For wave three, the alpha measure of internal consistency for respondents was .73 and .74 for spouses.

The distribution for the composite variables was moderately skewed in a positive direction, therefore the following transformation formula was utilized in correcting this problem: $NEWX = \sqrt{X}$.

Analysis Strategy

The goal of this study is to examine the links between relationship conflict, spousal involvement in joint activity and marital satisfaction. Through the use of Structural Equation Modeling (SEM) the multiple paths that link the three variables together were examined. The model previously presented was created in the AMOS program and addressed simultaneously the analyses of two conceptually distinct models; a measurement model, which specified the relations of the observed measures with their underlying constructs (Byrne, 2001) and a structural model which defined the relationships between the unobserved variables in the model (Ullman, 1996). Through a maximum likelihood method (ML), the structural model was assessed for goodness of fit.

IV. RESULTS

Prior to conducting the SEM analyses, a series of multiple regressions were performed (see Appendix D). These twelve regressions were run separately with each individual measured variable in the model to control for race, age, education and gender. The output of the unstandardized residuals for these variables became the input for the SEM procedure. The purpose of the multiple regressions was to remove the effects of those four demographic factors before conducting the analyses of the model.

All four demographic factors produced significant findings in the regression analyses. The regressions indicated that older participants spent less time together in joint activity, experienced higher levels of conflict and lower levels of marital satisfaction than younger participants. In addition, Caucasian participants experienced more conflict and spent more time together in joint activity than non-Caucasian participants. Male participants tended to spend less time together in joint activity and experienced lower levels of marital satisfaction than women. Finally, more educated respondents experienced lower levels of marital satisfaction than less educated respondents. Only required analyses for Respondent variables were conducted due to their colinearity with the Spouse variables.

Through AMOS, the ML estimation method was used to test the extent to which the proposed model adequately described the sample data. The full, predicted model (see Figure 2) was tested for its goodness of fit and found to be inadequate. The fit estimates

fell far outside of the admissible range. The first fit parameter, the χ^2 statistic, simultaneously tests the validity of the specification of the factor loadings, factor variances/covariances and error variances (Byrne, 2001). For the predicted model, the χ^2 was highly significant ($\chi^2 = 975.09$). Although sensitive to large sample size, when coupled with other goodness-of-fit indexes the model clearly needed modification in order to better fit the data.

The χ^2 statistic was used as the baseline comparison for all subsequent model fit tests. The next parameter estimate used to assess the proposed model was the CMIN which indicates the minimum discrepancy between the unrestricted sample covariance and the restricted covariance (Byrne, 2001). The admissible range for the CMIN is less than 10 for large sample sizes (Byrne, 2001). For the proposed model, the CMIN was 23.21, thus indicating an unacceptable fit. The goodness-of-fit index (GFI), designed to measure the relative amount of variance and covariance that are jointly explained, was .901. The value range for the GFI is zero to 1.00 (those values closest to 1.00 indicate a good fit) (Ullman, 1996). Thus, the GFI on the original model was not ideal.

The adjusted-goodness-of-fit index (AGFI) is also used to measure the relative amount of variance and covariance that are jointly explained, but additionally, it adjusts for the number of degrees of freedom in the model (Ullman, 1996). The AGFI for the proposed model was .816, but as with the GFI, values greater than .90 and closer to 1.00 indicate a good fit, therefore the value for the proposed model fell far below the acceptable range. The next fit index was the root mean square error of approximation (RMSEA) which takes into account the error of approximation in the population and

measures the discrepancy between the optimally chosen parameter values and the available parameter estimates (Ullman, 1996). For the proposed model, the RMSEA was .121 (the admissible range is less than .05 or .08; Byrne, 2001) clearly indicating an unacceptable fit.

Modification indexes indicated several highly correlated residuals that could be freed into the model in order to cause an overall drop in the χ^2 of subsequently run models, thus leading to better fit indexes. The correlated residuals were for spousal reports only and could be indicative of measurement error that is person specific and represent some sort of bias in perception or response style. Those correlated residuals seemed to be measuring a factor that is not accounted for by the latent variables in the model and could legitimately be freed into subsequent estimated models.

The first parameter to be freed was the correlated residual between spousal reports of conflict at time one and spousal reports of conflict at time two. Once freed, the χ^2 statistic improved ($\chi^2 = 743.58$), but still did not satisfy the criteria for a good fit when the other fit indexes, with the exception of the GFI (.93), (CMIN = 18.14; DF = 41; $p = .000$; AGFI = .86; and RMSEA = .106) were still far beyond acceptable.

The second parameter freed in an attempt to gain better fit with the data was the correlated residual between spousal reports of joint activity at time one and spousal reports of joint activity at time two ($\chi^2 = 502.15$; CMIN = 12.55; DF = 40; $p = .000$; GFI = .95; AGFI = .90; and RMSEA = .087). Again, showing an improved χ^2 statistic and improved GFI and AGFI indexes, but still showing an unacceptable CMIN and RMSEA.

The next freed parameter was the correlated residual between spousal reports of

joint activity at time two and spousal reports of conflict at time two ($\chi^2 = 380.51$; CMIN = 9.76; DF = 39; $p = .0000$; GFI = .96; AGFI = .92; and RMSEA = .076). With this parameter allowed to be freely estimated into the model all of the fit indexes were within acceptable range, but still not ideal since the correlated residual between spousal reports of conflict at time one and spousal reports of joint activity at time one revealed a very large modification index (MI = 53.47), with this parameter estimated, fit further improved ($\chi^2 = 319.59$; CMIN = 8.41; DF = 38; $p = .000$; GFI = .97; AGFI = .93; and RMSEA = .070).

Finally, one further very large modification index was noted for respondents' reports of marital satisfaction for the second set of items at both time one and time two (MI = 67.93). The correlated error terms for marital satisfaction were based on Respondent answers to two items used to assess marital satisfaction; "How happy are you with the love and affection you get from your spouse?" and "How happy are you with the demands your spouse places upon you?" These two items, in comparison to the uncorrelated error terms for marital satisfaction ("Taking things all together, how would you describe your marriage?" and "How happy are you with the understanding you receive from your spouse?") seem to be measuring a factor that is not accounted for by the latent variables in the model.

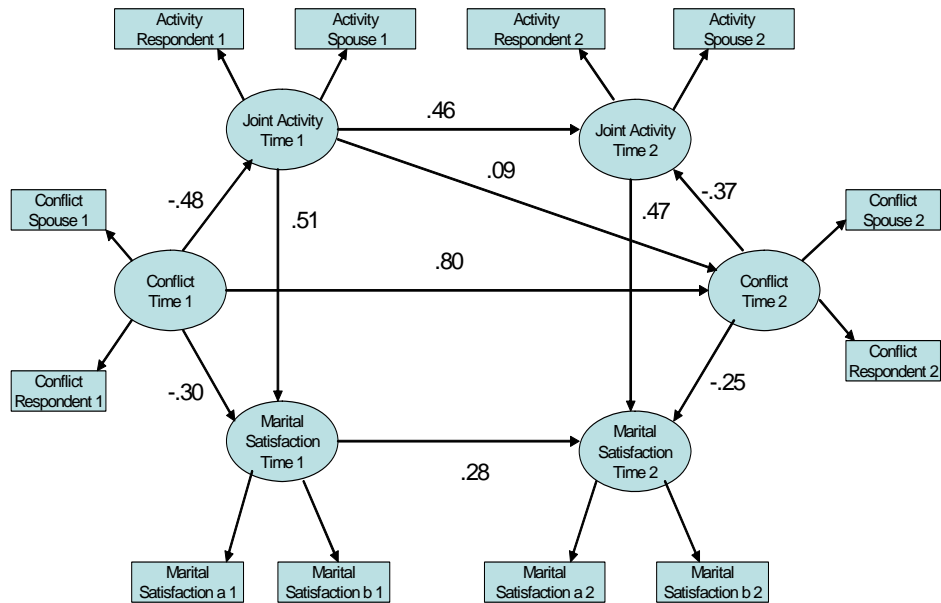
Based upon the two specific items, it might be a warmth or intimacy factor that was not considered in the model. Once these correlated residuals were freely estimated

into the model, the new fit indexes were a χ^2 of 234.15, a CMIN of 6.33, 37 degrees of freedom, a much improved GFI of .98 and a solid .95 AGFI, with the RMSEA at an acceptable .059.

Model	χ^2	DF	p	CMIN	GFI	AGFI	RMSEA
Proposed Model	975.09	42	.000	23.21	.901	.816	.121
Model with Act_1 spouse to Act_2 spouse	743.57	41	.000	18.13	.925	.858	.106
Model with Con_1 spouse to Con_2 spouse	502.15	40	.000	12.55	.950	.902	.087
Model with Act_2 spouse to Con_2 spouse	380.51	39	.000	9.75	.961	.922	.076
Model with Con_1 spouse to Act_1 spouse	319.59	38	.000	8.41	.967	.931	.070
Model with MS_1 B to MS_2 B	234.15	37	.000	6.32	.975	.948	.059
Final Model with original proposed paths from MS_1 to Act_2 and Con_2	234.18	39	.000	6.01	.975	.950	.057

Due to their lack of support from the data, the final model was estimated without the proposed paths from: (a) marital satisfaction at time one to joint activity at time two; (b) marital satisfaction at time one to conflict at time two; and (c) joint activity at time one to marital satisfaction at time two. Thus, the expectations, *joint activity at time one is directly and positively related to marital satisfaction at time two* and *marital satisfaction at time one is directly and negatively related to conflict at time two* were not supported. In addition, the expectation, *joint activity at time one is directly and positively related to marital satisfaction at time one, which is then directly and positively related to joint*

Figure 3: **Final Model**



activity at time two, was only partially supported. The final model revealed acceptable fit with the data and provided a much improved χ^2 statistic (234.18). Table 2 illustrates the progression of model fit indexes from the first inadequate model to the final, good-fitting model. In addition to the improved χ^2 statistic, the final model gained back two degrees of freedom (DF = 39) and provided acceptable CMIN (6.01), GFI (.975), AGFI (.950) and RMSEA (.057) fit indexes.

The final model is presented in Figure 3, which illustrates the paths and coefficients. Appendix C provides the factor loadings and standardized path coefficients for the final model. All of the factor loadings for respondents and spouses were statistically significant indicating that respondents and spouses answers for the items used in each construct were similar. They range from .75 to .90 for respondents and from

.38 to .51 for spouses. Smaller spousal factor loadings can be explained by the respondent being the most reliable reporter of his/her experiences in the relationship. Therefore, spousal experiences are not contributing to the constructs as strongly as those of respondents.

Multiple standardized path coefficients indicate support for the direct links proposed in the model and are represented by a Beta coefficient (β). Supported indirect links are represented by "I.E." and are calculated by multiplying each Beta coefficient per pathway (e.g., I.E. = Beta for Path1 x Beta for Path2 x Beta for Path3). Standardized path coefficients show support for the first expectation of this study, *joint activity is directly and positively related to marital satisfaction at time one and time two* (time one $\beta = .51$ and time two $\beta = .47$). *Conflict at time one is indirectly, negatively related to joint activity at time two, through the negative relationship between conflict and joint activity at time one* was the next supported expectation (I.E. = $-.22$). In addition, the model supports the expectation, *conflict at time one is indirectly, negatively related to marital satisfaction at time two, through the negative relationship between conflict and marital satisfaction at time one* (I.E. = $-.08$).

The final model also supports the expectation, *conflict at time one is directly and negatively related to both joint activity at time one and marital satisfaction at time one and conflict at time two is directly and negatively related to both joint activity and marital satisfaction at time two* (joint activity, time one $\beta = -.48$ and marital satisfaction, time one $\beta = -.30$; joint activity, time two $\beta = -.37$ and marital satisfaction, time one $\beta = -.35$). All of the findings that support the previously mentioned expectations are

consistent with theoretical expectations.

Interestingly, there is a small, yet significant, direct, positive relationship between joint activity at time one and conflict at time two ($\beta = .09$). The predicted model and theoretical expectations suggested a direct, negative relationship between the two variables. In addition, although no direct relationship was found, a positive, indirect effect of joint activity at time one on marital satisfaction at time two (I.E. = .21) was found.

Finally, conflict and activity have indirect effects from time one through marital satisfaction to conflict at time two (I.E. = -.17). Albeit small, this indirect, negative effect indicates the theoretically proposed relationship between joint activity, marital satisfaction and subsequent conflict in relationships. Time one variables seem to be affecting time two variables through their stabilities and the effects of conflict seem to pass across time.

V. DISCUSSION

The major contribution of this study is to show how conflict, couples' time spent in joint activity and marital satisfaction work together. One very important aspect of these inter-working variables is the significant negative impact conflict has on both couples' joint activity and marital satisfaction. Previous studies neglected to examine the specific question of how conflict, over time, is related to how couples spend their free time together, which then impacts their overall relationship assessment. This study clearly indicates that conflict, levels of joint activity and marital satisfaction are negatively related.

The existing literature may lead one to expect a strong relationship between marital satisfaction and conflict, but the findings from this study indicate that the stronger relationship lies within conflict and couples' choices to limit their time spent in joint activity. Marital satisfaction is an appraisal or an end point in a snap shot of data collection and this study indicates that half of the total effect of conflict on marital satisfaction is passed through couples' joint activity. This result supports Aron et al. (2000), Aron & Fraley (1999) and Aron, Norman & Aron's (2001) findings that couples' joint activity is important to marital satisfaction. In addition, as suggested by Gottman (1993) and his Laboratory studies, conflict seems to be a sabotage to couples' joint activity.

The data supported most of the direct and indirect relationships between conflict, time spent in joint activity and marital satisfaction proposed in the model. For example, joint activity at time one is directly and positively related to marital satisfaction at time one and time two and conflict at time one is indirectly, negatively related to joint activity at time two, through the negative relationship between conflict and joint activity at time one.

The proposed relationships within each time frame were more powerful than the proposed relationships across time. In addition, the stabilities for conflict in the model produced a very high standardized path coefficient (.80) and suggests that there is little variation in the model left to be explained by activity and marital satisfaction. This also suggests that participants' relationship conflict is very stable across time. Interestingly, the stabilities for joint activity and marital satisfaction are only moderate across time, with marital satisfaction being the least stable across time (.28).

The strength of the negative relationship between conflict at time one and joint activity at time one appears greater than that between conflict at time one and marital satisfaction at time one (despite the possibility that it may not be statistically significant). The relationship between conflict and marital satisfaction is supported in the literature (Gottman, 1993; Margolin & Wampold, 1981; Revenstorff, Vogel, Wegener, Hahlweg & Schindler, 1980), so the finding is unsurprising, however, the conflict and joint activity link has not previously been established.

Not only does this data indicate a relationship between conflict and low joint activity, but

it indicates a strength in the relationship that may surpass the conflict-marital satisfaction link.

The relationship between conflict and marital satisfaction, passing through joint activity is also supported (Driver, et al., 2003; Baumeister & Leary, 1995; Jones, Moore, Schratte & Negel, 2001). A high degree of confidence is held in the ordering of these variables based on marital satisfaction being a global assessment of how one feels about his/her relationship. The negative relationships between conflict, joint activity and marital satisfaction both within time and across time, suggest that open conflict about day-to-day issues makes individuals less enthusiastic about spending time with their partners and feel less satisfied with their marriages.

The small, yet significant, positive effect of joint activity at time one and conflict at time two initially seems peculiar. The expectation of a negative relationship between the two variables seemed more likely. However, without the benefit of existing empirical evidence, it is possible that couples who spend more time together, over time, have more opportunities to engage in open disagreements. This supposition is somewhat supported by Reissman et al. (1993) in that spending time together allows them more opportunities to communicate, thus allowing them more opportunities to engage in open disagreements.

As with all studies, this particular one has a few limitations. First, the use of secondary data constrains the researcher to using the measures created and used by the researchers who designed and collected the data. With this constraint, only self-report measures of conflict and less serious or injurious forms of conflict were available for this study. Also, couples' time together was only measured in terms of their perceptions of

how much time they spent together, on a scale from a lot to a little and not measured in terms of incremental time units.

Due to funding issues encountered by the original research team, the final wave of data was limited to only those participants with a focal child at the original point of data collection. This limited the subsample used for this study both in its size and characteristics. The study can really be generalized only to longer term marriages of about 15 years minimum. Because the couples in this study were so much older than the average married couple, the results of this study need be applied to marital research that focuses on long-life marriages.

A more important aspect of the sample limitations is that the subsample was no longer nationally representative, with a very large over representation of Caucasian participants. The possible implications of how conflict impacts joint activity on racially diverse marriages is all but lost in the current study.

Additionally, the time lag between studies seems to be too lengthy for this particular study. Data collection efforts were approximately seven years apart and may not be representative of the more immediate influences that conflict has on marital satisfaction and couples' choices to spend their free time together. A more appropriate time frame for this study would be approximately six months apart so there is enough distance to actually see a change across time, but that time distance is not too large to lose more immediate effects of each partner's perception of what is currently happening and what has happened in the relationship.

Finally, a particularly significant limitation and future direction for this study

pertains to how couples actually manage or handle conflict. This study did not address conflict management techniques or styles. Generally, conflict is not a bad or negative or destructive element in relationships, but if left unresolved or mishandled, it can be a very destructive force in a relationship. For future studies, the persistent disagreements that are reported may be examined in terms of how they continue to be persistent and why they have not been resolved. The ways in which couples choose to manage or handle the conflict is the salient issue with regard to the negative impact of conflict on time spent and marital satisfaction.

Despite the limitations, the results of this study suggest that experiencing frequent and enduring conflict in a relationship does have a negative impact on both a couple's marital satisfaction and their engagement in joint activity. If couples are engaging in open conflict over just about every aspect of their relationships, family lives and marriages, they may tend to view their relationships more negatively and choose to spend less and less free time together, thereby not allowing them opportunities to have positive interactions that might strengthen the relationship.

For future studies, the specific activities couples' engage in during their free time might give more insight into what actually causes the changes in time spent and marital satisfaction. For instance, Reisman et al. (1993) found that engaging in positive, novel and arousing activities together leads to higher levels of marital satisfaction. These findings are significant to the older, long-term married partners used in this sample. For older couples, the heightened positive arousal associated with a joint activity may be intricately connected with their partners, thereby drawing the couple together because

they crave the physiological arousal (much like a spark to renew an old flame). The possibility of negative, novel and arousing activities with one's partner (e.g., persistent nagging and bickering) may cause couples to repel one another (in a fight or flight response).

The couples' use of communication during open conflict may also provide a clearer understanding of the dynamics involved in choosing to spend less time together. Winters & Duck (2000) found that couples use swearing as both an aversive and relational activity. It is possible that some couples use swearing in their open conflict to deliberately drive their partners away. The use of swearing in this context is unambiguous and often effective (Winters & Duck, 2000).

In addition, Duck (2000) emphasizes the importance of everyday conversations on building positive relationships with one's partner. If couples fail to engage in everyday conversations, they may tend to view their relationships less positively and they may choose to withdraw from one another. Furthermore, it is possible that couples who spend little time together may have little to say to one another, thus their lack of everyday conversations may further decrease their marital satisfaction.

Finally, the measures of conflict can include both self-reports and observation data with regard to how couples behave when engaging in open disagreements or engaging in more serious verbal or physical aggression. Measures of time can be much more specific in terms of what actual activities couples are engaged in during their free time together and the actual time spent in these activities can be measured in incremental

time units.

With regard to the sample, a nationally representative sample would allow for comparisons to be made between Caucasian and non-Caucasian couples, but it would also provide valuable information about racially diverse marriages and the possible difference conflict has on their relationships. Samples that also include younger or newer married couples would provide much needed information regarding the impact conflict has on a diverse range of couples.

Family composition as a whole may be another issue to consider in future studies. Families that included extended family members or even fictive kin may place different demands on a couples' time or may somehow provide different and more serious issues of conflict.

In addition, couples who have launched their children or couples who simply choose not to have children may be another interesting subset to add to the sample. It is possible that couples with children may choose to spend differing amounts of time with their spouses than couples without children and conflict may have a differing impact on their time use choices. Finally, a study that collects measures of couples' conflict, joint activity and marital satisfaction every six months for approximately five years may provide a better picture of how couples' lives change in short term and long term increments. As stated previously, a six month time span allows researchers to see changes across time if they exist, but still allows participants the ability to recall incidents and perceptions with better clarity. Considering all of these future study directions, it is clear that the link between conflict, joint activity and marital satisfaction is open to

further exploration.

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APPENDICES

Appendix A		WAVE ONE				WAVE TWO			
<i>Means and standard deviations for Respondent and Spouse items</i>									
Construct		Respondents		Spouses		Respondents		Spouses	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Marital Satisfaction A									
Taking things all together, how would you describe your marriage?		5.95	1.27	--	--	6.18	1.08	--	--
How happy are you with the understanding you receive from your spouse?		5.54	1.43	--	--	5.95	1.26	--	--
Marital Satisfaction B									
How happy are you with the love and affection you get from your spouse?		5.82	1.40	--	--	6.09	1.29	--	--
How happy are you with the demands your spouse places on you?		5.37	1.44	--	--	5.68	1.45	--	--
Joint Activity									
On Average, How much time do you spend with your husband or wife?		3.56	1.24	3.62	1.23	3.80	1.14	3.81	1.13
During the past month, about how often did you and your husband/wife spend time alone with each other, talking or sharing an activity?		4.72	1.40	4.79	1.35	5.09	1.24	5.08	1.25
How happy are you with the amount of time you spend with your spouse?		5.20	1.57	5.11	1.58	5.73	1.38	5.70	1.39
Conflict									
How often, if at all, in the last year have you had open disagreements about household tasks?		1.97	.97	1.99	1.04	1.83	.94	1.83	.96
How often, if at all, in the last year have you had open disagreements about money?		2.00	1.03	2.04	1.04	1.80	.96	1.81	.98
How often, if at all, in the last year have you had open disagreements about spending time together?		1.88	1.11	1.90	1.12	1.62	.89	1.62	.90
How often, if at all, in the last year have you had open disagreements about sex?		1.74	1.00	1.78	1.04	1.47	.78	1.48	.79
How often, if at all, in the last year have you had open disagreements about your in-laws?		1.50	.84	1.49	.84	1.35	.66	1.35	.66

Appendix B
New Variable Names and Transformation Formulas

Construct	Participant Type	Neg/Pos Skew	Original Variable (X)	New Variable (NEWX)	Formulas
Wave Two					
Marital Sat. A	Respondent	Substantially Negative	msat1_ra	m_1_a	NEWX=LG10(K-X)
Marital Sat. B	Respondent	Substantially Negative	msat1_rb	m_1_b	NEWX=LG10(K-X)
Joint Act.	Respondent	Moderately Negative	act1_r	a_1_r	NEWX=SQRT(K-X)
Joint Act.	Spouse	Moderately Negative	act1_s	a_1_s	NEWX=SQRT(K-X)
Conflict	Respondent	Moderately Positive	tran1_r	c_1_r	NEWX=SQRT(X)
Conflict	Spouse	Moderately Positive	tran1_s	c_1_s	NEWX=SQRT(X)
Wave Three					
Marital Sat. 1	Respondent	Substantially Negative	msat2_ra	m_2_a	NEWX=LG10(K-X)
Marital Sat. 2	Respondent	Substantially Negative	msat2_rb	m_2_b	NEWX=LG10(K-X)
Joint Act.	Respondent	Substantially Negative	act2_r	a_2_r	NEWX=LG10(K-X)
Joint Activity	Spouse	Moderately Negative	act2_s	a_2_s	NEWX=SQRT(K-X)
Conflict	Respondent	Moderately Positive	tran2_r	c_2_r	NEWX=SQRT(X)
Conflict	Spouse	Moderately Positive	tran2_s	c_2_s	NEWX=SQRT(X)

* K = the maximum number in the range, plus 1

Appendix C

Factor Loadings for Final Model

Direct Paths		B	SE B	β
Conflict Time One	→ Joint Activity Time One	-.321	.028	-.484
Conflict Time One	→ Conflict Time Two	.836	.062	.789
Joint Activity Time One	→ Conflict Time Two	.151	.068	.094
Conflict Time One	→ Marital Satisfaction Time One	-.142	.018	-.297
Joint Activity Time One	→ Joint Activity Time Two	.457	.035	.457
Joint Activity Time One	→ Marital Satisfaction Time One	.370	.030	.512
Conflict Time Two	→ Joint Activity Time Two	-.229	.022	-.366
Marital Satisfaction Time One	→ Marital Satisfaction Time Two	.270	.027	.275
Joint Activity Time Two	→ Marital Satisfaction Time Two	.330	.029	.467
Conflict Time Two	→ Marital Satisfaction Time Two	-.111	.015	-.250
Correlated Residuals		B	SE B	β
Conflict Time One Spouse	→ Conflict Time Two Spouse	8.38	.648	.370
Joint Activity One Spouse	→ Joint Activity Two Spouse	2.65	.208	.354
Joint Activity Two Spouse	→ Conflict Two Spouse	-2.99	.313	-.233
Conflict Time One	→ Joint Activity Time One	-2.58	.334	-.195
Marital Satisfaction Time One B	→ Marital Satisfaction Time Two B	.547	.063	.430

Appendix D

Regression coefficients controlling for Race, Age, Sex and Education (n = 1,529)

Variable	Wave One			Wave Two		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Joint Activity Respondent						
Education	.002	.003	.021	-.001	.002	-.007
Race	-.009	.027	-.008	-.026	.025	-.024
Age	-.013	.001*	-.396	-.011	.001	-.351
Sex	-.007	.017	-.009	-.008	.016	-.012
Joint Activity Spouse						
Education	.000	.003	.002	.000	.002	.000
Race	-.023	.028	-.020	-.048	.026	-.045*
Age	-.012	.001	-.349*	-.011	.001	-.336*
Sex	-.012	.017	-.018	-.039	.016	-.058*
Conflict Respondent						
Education	.051	.029	.042	-.003	.029	-.003
Race	-1.24	.310	-.096*	-1.84	.311	-.143*
Age	-.109	.009	-.293*	-.102	.009	-.274*
Sex	-.601	.189	-.077	-.059	.190	-.008

Appendix D continued

Conflict Spouse	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Education	.031	.025	.030	.002	.026	.001
Race	-1.26	.264	-.116*	-1.07	.273	-.095*
Age	-.078	.008	-.243*	.080	.008	-.241*
Sex	-.206	.164	-.030	-.314	.170	-.045
Marital Satisfaction A	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Education	.000	.002	.006	-.003	.002	-.048*
Race	-.022	.017	-.031	-.024	.017	-.035
Age	-.004	.001	-.196*	-.003	.001	-.165*
Sex	-.013	.011	-.031	-.022	.011	-.052*
Marital Satisfaction B	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Education	.001	.002	.011	.000	.002	-.005
Race	.001	.019	.002	-.010	.018	-.013
Age	-.003	.001	-.151*	-.004	.001	-.187*
Sex	.012	.012	.025	.021	.011	.045

* $p < .05$.