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An Observational and Longitudinal Investigation of the Stress-Buffering and Main Effects

Models of Social Support

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Abstract

This study investigates the relationship between social support and stress in newlywed couples. The main purpose of this study is to compare two models of social support: 1) the stress-buffering model and 2) the main effects model in close relationships. The stress-buffering model states that social support interacts with stress such that the effects of social support will be seen only when a person is under high stress. The main effects model indicates that social support will keep people healthy and feeling good in all life circumstances, not only when under high stress. Participants were 229 newlywed couples who discussed current life stressors in the lab while being videotaped. Immediate and long-term outcomes of the support discussions were assessed. Results were mixed in that there was some evidence for stress-buffering for husbands but not for wives (for long-term outcomes), but also some results that were counter to predictions (for immediate outcomes). Implications and future research directions are discussed.

An Observational and Longitudinal Investigation of the Stress-Buffering and Main Effects

Models of Social Support

Social support is one of the most well documented predictors of mental and physical

health outcomes (see reviews by Cohen, 1988; Holt-Lunstad & Smith, 2012; House, Landis,

& Umberson, 1988; Uchino, 2004, 2009). For example, research has shown that people who

are more socially integrated and who experience more supportive and rewarding

relationships with others have better mental health, high levels of subjective well-being,

and lower rates of morbidity and mortality (e.g., Cohen, 2004; Cohen & Syme, 1985; Collins,

Dunkel Schetter, Lobel, & Scrimshaw, 1993; Kawachi & Berkman, 2001; Lakey & Cronin,

2008; Miller, Lachman, Chen, Gruenewald, Karlamangla, & Seeman, 2011; Sarason, Sarason,

& Gurung, 1997; Seeman, 2000; Uchino, 2009; Uchino, Cacioppo, & Kiecolt-Glaser, 1996;

Vaux, 1988). Social support has also been linked with lower mortality rates from

cardiovascular disease (e.g., Berkman, Leo-Summers, & Horwitz, 1992; Rutledge et al.,

2004), cancer (e.g., Ell et al., 1992), infectious disease (e.g., Patterson et al., 1996), high

numbers of stressful life events (Rosengren, Orth-Gomer, Wedel, & Wilhelmsen, 1993), and

aging more generally (Blazer, 1982). Especially notable, a recent meta-analysis (Holt-

Lunstad & Smith, 2012) shows that being socially integrated in a network of meaningful

relationships predicts mortality more strongly than many lifestyle behaviors (e.g., smoking,

physical activity) that have been the focus of national health care campaigns. Unfortunately,

the underlying pathways of how close relationships promote one's overall well-being are

still unclear.

Although a predominant portion of the social support literature has focused on

social support as a predictor of mental and physical health (e.g., Cohen, 1988; 2004; 2005;

Cohen & Syme, 1985; Cohen & Wills, 1985; Kawachi & Berkman, 2001; Sarason et al., 1997; Uchino, 2009; Uchino et al., 1996; Vaux, 1988), this body of research has rarely considered social support processes as they unfold in the context of actual support interactions. In many studies, social support is conceptualized as and assessed via self-reports of general perceptions of available support, reports of social network size, and reports of support received within a certain period of time. In addition, most of the empirical work linking relationships to health and well-being conceptualizes social relations in terms of individuals' general reports of their marital status, social networks, social integration, and perceived social support (e.g., Antonucci, Okorodudu, & Akiyama, 2002; Diener, Suh, Lucas, & Smith, 1999; Helgeson, 1993; Hughes, Waite, Hawkley, & Cacioppo, 2004; Lang & Carstensen, 1994; Ryff, 1989; Uchino et al., 1996). Relatively few studies have included observations of support behaviors (and related interpersonal dynamics) as they unfold during actual support interactions with close relationship partners, and virtually nonexistent are studies that follow people over time to assess the extent to which these concrete relational dynamics predict health outcomes. This is likely due to the labor-intensive (and costly) nature of conducting observational and longitudinal studies, and because researchers have historically examined social support more from an *intrapersonal* rather than an *interpersonal* perspective. Because social support is dyadic in nature, it must be viewed as part of an interpersonal process such that specific instances of enacted support are assessed within the context of actual support interactions that are embedded within particular relationship contexts. This is consistent with Uchino's (2009) emphasis on the current context as being important to consider when examining effects of received support, whereas general perceptions of available support are less context-specific and

more likely to emerge over the lifespan from early family experiences and to be part of a relatively stable positive psychosocial profile.

Explaining Social Support using Two Models

There are two general models that attempt to explain when social support will be most effective and most predictive of important outcomes. Most of the evidence for each model has been found using perceptions of available support as the operationalization of social support (see Cohen & Wills, 1985 and Lakey & Orehek, 2011 for reviews). Each of these models are described below, as the current investigation will examine the extent to which each of the models holds true when considering social support as an interpersonal process that unfolds during actual dyadic interactions.

Stress-Buffering Model. The stress-buffering model is the first of two general models that have attempted to explain when support will be most beneficial (Cohen, 1988, 2004; Cohen & Wills, 1985). According to the stress-buffering model, social support interacts with stress such that effects of social support will be seen only when a person is under high stress. The majority of the social support literature has focused on stress-buffering effects of social support (e.g., Cohen & Wills, 1985). In fact, social support has been defined as the "provision of psychological and material resources intended to benefit an individual's ability to cope with *stress*" (Cohen, 2004, p. 676).

With regard to stress-buffering, there is substantial evidence that the perceived availability of social support buffers the effect of stress on psychological distress, depression, and anxiety (Cohen et al., 1985; Cohen & Wills, 1985; Kawachi & Berkman, 2001). In addition, mortality studies provide evidence for stress buffering effects on physical health. For example, Rosengren et al. (1993) prospectively showed that high levels

of perceived emotional support buffered the effects of high numbers of stressful life events on mortality in older adults; however, perceived emotional support made no difference for those with few stressful events. Also, the laboratory/observational studies showing beneficial effects of received support in times of stress provide additional evidence for stress buffering. Stress buffering effects on physical health also have been demonstrated with regard to maternal nurturance protecting against effects of childhood poverty (Miller et al., 2011) – and have even been shown in primates (Cohen, Kaplan, Cunnick, Manuck, & Rabin, 1992). In one study, virtual reality technology was used to create a frightening task for one member of each couple (by asking them to walk along the edge of a mountain cliff in a virtual world) and to experimentally manipulate their romantic partner's attentiveness and emotional support in the virtual world (Kane, McCall, Collins, & Blascovich, 2012). Participants in the attentive-partner condition experienced the task as less stressful than those who were alone; they also reported feeling more secure during the task and were less vigilant of their partner's behavior compared to those in the inattentive-partner condition. Those in the inattentive-partner condition felt less cared for and kept greater physical distance from their partner on a subsequent task. These findings suggest that perceived responsiveness, not mere presence, is the key modulator of emotional and relational security. In other studies, the quality of support given by romantic partners was experimentally manipulated by having partners copy pre-written notes designed to be high or low in emotional support (Collins & Feeney, 2004; Guichard & Collins, 2008), which were then delivered shortly before and after their partner participated in a stressful speech task. Support recipients who received high support were in a better mood after their speech, had higher state self-esteem, and

felt more satisfied with their relationship compared to those who received low support. When support recipients were then given a chance to help their partner by switching tasks, those who had received high support were more willing to switch. In other studies, the quality of support given by romantic partners was experimentally manipulated by having partners copy pre-written notes designed to be high or low in emotional support (Collins & Feeney, 2004; Guichard & Collins, 2008), which were then delivered shortly before and after their partner participated in a stressful speech task. Support recipients who received high support were in a better mood after their speech, had higher state self-esteem, and felt more satisfied with their relationship compared to those who received low support. When support recipients were then given a chance to help their partner by switching tasks, those who had received high support were more willing to switch. They suggest that responsive support can reduce stress and foster relationship quality, and that unresponsive support can erode both physical and emotional closeness between partners. They also indicate that small acts of kindness can foster an environment of reciprocal compassion and helping.

Main Effects Model. On the other hand, there is also ample evidence for main effects of social support on mental health outcomes (Lakey & Orehek, 2011). The main effects model indicates that social support will keep people healthy and feeling good in all life circumstances, not only when under high stress (Cohen, 2004). A review of studies linking perceived support to major depressive disorder (cross-sectionally) revealed that nearly all studies found main effects (Lakey & Cronin, 2008), and meta-analyses have shown consistent main effects linking low levels of perceived support to posttraumatic stress disorder (Brewin et al., 2000) and psychological distress (Finch et al., 1999;

Procidano, 1992). Additional evidence that adds importance to the main effects model comes from studies showing beneficial effects of received support for goal strivings (exploration behavior) in non-adverse circumstances (e.g., Feeney, 2004; Feeney & Thrush, 2010). This evidence highlights the need for social support researchers to consider benefits of support provision in non-adverse circumstances as well as stressful ones.

The Current Investigation

There have been a lack of studies that examine and compare the stress buffering versus main effects models of social support in the context of close relationships, and in the context of actual, observed dyadic interaction (as opposed to relying on self-reports of perceived available support. Given the massive size of the social support literature, relatively few studies have been observational in nature and then followed the discussants over time to assess long-term (as well as immediate) outcomes of the social support that was observed to have been received during these discussions. Moreover, there have not been observational studies that examine whether the effects of support received differentially predicts outcomes as a function of the level of stress experienced by the recipient at the time support is received. Observational studies are especially important in such an investigation because they take into account the responsiveness of the support received.

It is also important to emphasize that close relationships are an especially important context in which to examine social support processes.   This is because social support is likely to be most effective when coming from others with whom one shares a close emotional bond. According to attachment theory (Bowlby, 1973; 1982), individuals come into the world equipped with an attachment system that function to maintain the

individuals' safety and security through contact with nurturing caregivers. Thus, social support is a core function of close relationships, and its effects should be seen most strongly in this relational context.

With these considerations in mind, the purpose of this study was to compare effects of the stress buffering and main effects models of social support (a) in close relationships, (b) in an observational investigation that assesses the provision of responsive support as it occurs in actual, dyadic interaction, and (c) in a longitudinal investigation that considers long-term (in addition to immediate) outcomes of receiving social support from one's close relationship partner in a stressful situation.

In this investigation, we considered three forms of support: emotional support, instrumental support, and availability/sensitivity. The hypotheses for this investigation are as follows: 1) the effects of support provision observed in the study will follow the stress-buffering model, which indicates that the effects of support will be seen most strongly when the recipient is under high levels of stress, particularly for instrumental forms of support; 2) main effects of social support are likely to be observed primarily for emotional support and availability/sensitivity (as opposed to tangible assistance); 3) with regard to immediate outcomes, the more social support given by the support provider, particularly when the recipient is experiencing high levels of stress, the more positive the recipient's emotion will be immediately after the interaction; 3) with regard to long-term outcomes, we expected to see long-term effects of social support on the recipients' level of relationship satisfaction and physical health symptoms.

Method

Participants

Participants were 229 couples recruited from the Pittsburgh, Pennsylvania, area through local newspaper advertisements and posted flyers. Couples had been married for an average of 18 months. The mean age of participants was 27.8 years (range 19–40). Couples were all heterosexual and living together except for 1 couple. Of the female participants, 82.2% were Caucasian, 3.1% were African American, 6.7% were Asian, 3.1% were Hispanic, and 4.1% were others; 12.5% had a high school education or had received some college credit, 44.4% had a college education, and 43.1% had an advanced professional degree. Of the male participants, 86.2% were Caucasian, 6.9% were African American, 1.7% were Hispanic, and 5.2% were other; 27.1% had a high school education or had received some college credit, 40.7% had a college education, and 32.2% had an advanced professional degree.

Procedure

Couples visited the laboratory for a total of two sessions, one couple at a time, as part of a larger investigation of marital relationships. The two sessions were scheduled approximately one week apart. A final "third" session is a one-year follow-up phase that involved sending out relationship and health surveys to assess long-term outcomes.

Session 1: Collecting relationship information through the use of questionnaires. During the first session, couple members completed a packet of questionnaires in separate, private rooms, which included background and demographic information, as well as other assessments that are not relevant to the current investigation.

Session 2: Laboratory exploration activities and discussions for testing social support hypotheses. Couple members were seated in a laboratory living room. As part of the larger project on marital relationships, couple members participated in games and

discussion activities and completed short questionnaires in between sessions. Two of the

discussions were 7-minute stressor discussions in which each couple member discussed a

current, ongoing stressor that was bothering him or her at the moment. Each couple

member was asked to select a stressor that was personal to him or her, and not one that

was a joint relational stressor or that involved conflict between the couple members.

These stress discussions were the focus of this investigation and were used to test

hypotheses regarding main effects and stress buffering models of social support. These

discussions were videotaped and later coded for support provision by independent raters

(described below).

Before the stress discussions, each couple member was asked to complete a

questionnaire on which they listed their stressor and indicated why it was stressful to him

or her. Each couple member also indicated the degree to which they were stressed about

this issue/event/problem on a scale from 1 (not at all) to 5 (extremely). This rating of the

individuals stress level was used to test stress-buffering effects of social support (i.e., that

the effect of social support on a recipient's immediate and long-term outcomes depends on

the stress level of the recipient).

The immediate outcome of interest that we assessed immediately after the stress

discussions was the support-recipients' felt positive emotions. Positive emotions were

assessed by asking participants to report the extent to which they felt 9 different kinds of

positive emotions, including grateful, thankful, optimistic, caring/compassionate, happy,

excited, pleased, understood, and sympathetic. For the use in data analysis, a composite

variable representing positive emotions was computed (α = .889 for husbands as support

recipients; α = .892 for wives as support-recipients). Participants rated their felt emotions on Likert scales ranging from 1 (not at all) to 5 (extremely).

Session 3: Follow-up questionnaires one year later. Approximately one year after completing session 2, couples returned to the lab to complete a packet of follow-up questionnaires to assess potential long-term outcomes of receiving social support from one's spouse. The long-term outcomes of interest in this investigation include the participant's (a) current relationship satisfaction and (b) physical health symptoms.

To assess current relationship satisfaction, participants completed a 6-item relationship satisfaction scale. For example, participants answered questions such as, How satisfied are you with you're your relationship?, How much do you love your spouse?, and how happy are you in your? Participants rated each item on Likert scales with appropriate anchors, and the items were averaged to form a composite index of relationship satisfaction (α = .924 for husbands as support recipients; α = .938 for wives as support-recipients).

Participants also reported their physical health symptoms that they experienced during the past month. Examples of symptoms reported include: nausea or upset stomach, feeling weak in parts of the body, soreness of muscles or body aches, and difficulty getting to sleep or staying asleep. Each symptom was rated on a scale ranging from 1 (not at all) to 5 (extremely). The ratings of each health symptom were averaged into a composite index representing "physical health symptoms" (α = .865 for husbands; α = .858 for wives).

Three Types of Social Support

Spouse behaviors relevant to each of three types of social support (emotional support, instrumental support, and availability/sensitivity) were coded by independent raters who were trained to reliability.

Emotional support. Emotional support was coded as the extent to which the support provider was sympathetic and responsive to the emotional needs of the support recipient. Some behaviors include communicating to the recipient that his or her needs are well understood, conveying reassurance, compassion, and understanding to the disclosing recipient, and providing physical and verbal affection. Ratings from two independent coders were obtained, and an average of these ratings reflecting emotional support were used in data analyses (α = .927 for husbands as support providers; α = .938 for wives as support providers).

Instrumental support. Instrumental support was coded as the extent to which the support provider gave actual, tangible assistance to the support recipient that was focused on fixing on a specific stressor-related issue or helping to make a plan for how a particular problem can be dealt with. Related behaviors included: helping support recipient construct a solution to cope/deal with a problem by giving suggestions, providing information about the stressor that could be helpful to the support recipient, and asking clarifying questions about the details of the problem/concern. Ratings from two independent coders were averaged into an index representing instrumental support for use in data analysis (α = .938 for husbands as support providers; α = .900 for wives as support providers).

Availability/Sensitivity Composite. Availability was coded as the extent to which the support provider was responsive to any of the recipient's expressions of distress. The support provider may show availability by conveying to the recipient that he or she will be

available to help out as needed in the future. Sensitivity was coded as the extent to which

the support provider was accepting of the recipient's worries, concerns, thoughts, and

feelings. Because these two codes were highly correlated, we created a composite index

representing availability/sensitivity for use in data analysis (α = .945 for husbands as

support providers; α = .936 for wives as support providers).

Results

Overview of Data Analyses

Main effects and stress-buffering models of social support were tested through the

use of hierarchical linear regression analyses. On the first step of each analysis, social

support behavior (that occurred during the interaction and that was coded by observers)

and support-recipient stress level (as reported prior to the support interaction) were

entered as predictors of immediate and long-term effects of receiving social support. On

the second step of each analysis, the interaction between support behavior and stress level

were entered. Any significant effects of support behavior on the first step of the analyses

would be indicative of main effects of social support behavior on outcomes. A significant

interaction effect would be indicative of stress-buffering effects of social support, such that

support behavior is most beneficial when recipients are highly stressed. Separate

hierarchical linear regression analyses were conducted for each support behavior

(emotional support, instrumental support, availability/sensitivity) predicting both

immediate outcomes (positive emotion after the support discussion) and long-term

outcomes (relationship satisfaction and physical health).

Support Behavior and Stress Level Predicting Positive Emotion (Immediate

Outcome of Receiving Support). First, we conducted hierarchical linear regression

analyses with each support type and recipient stress level as predictors of the recipient's

positive emotions immediately after the support interaction – which represents an

immediate outcome of receiving social support. Results indicated main effects of each

support type such that all 3 types of social support were significant predictors of recipients'

positive emotion after the support interaction, but only for the husbands (N = 165, β = -.032

$p < .001$ for emotional support; N = 165, β = -.016, $p < .05$ for instrumental support; N =

165, β = .047, $p < .001$ for availability/sensitivity composite). These results indicate that

wives' availability/sensitivity was associated with husbands' more positive emotions after

the discussion. However, counter to expectations, there were negative associations for

wives' emotional and instrumental support predicting husbands' positive emotions

(indicating that more of these forms of support during the discussion predicted less

positive emotion on the part of the husband). The same pattern emerged for emotional and

instrumental support (which are not depicted). Interestingly, the nature of this interaction

is contrary to the expected pattern and not consistent with the stress-buffering model. As

shown in Figure 1, husbands who were highly stressed about their problem experienced

more positive emotions after the discussion when their wives provided *less* support. It is

the low-stressed husbands who are benefitting the most from their wives' support and the

most harmed by a lack of wife support (in terms of positive emotions felt after the

interaction).

Support Behavior and Stress Level Predicting Relationship Satisfaction and

Health Symptoms (Long-Term Outcomes of Receiving Support). We next conducted

hierarchical linear regression analyses with each support type and recipient stress level as

predictors of the recipient's relationship satisfaction and health symptoms one year later –

which represent important long-term outcomes of receiving social support. Results

revealed statistically significant interactions between support behavior (both

availability/sensitivity and instrumental support) and stress level predicting relationship

satisfaction one year after the interaction – but only when predicting husbands' outcomes

(N = 165, β = .041 p < .05 for instrumental support; N = 165, β = .294, p < .05 for

availability/sensitivity composite). The plot of the availability/sensitivity x stress

interaction predicting relationship satisfaction is shown in Figure 2. And the plot of the

instrumental support x stress interaction predicting relationship satisfaction is shown in

Figure 3. Consistent with the stress-buffering model, results indicated that highly stressed

husbands reported greater relationship satisfaction one year later when their wives had

provided high levels of availability/sensitivity during their stress discussion one year prior

(Figure 2). Likewise, highly stressed husbands reported greater relationship satisfaction

one year later when their wives had provided high levels of instrumental support during

the stress discussion one year prior (Figure 3).

Also consistent with the stress-buffering model, results revealed a statistically

significant interaction between support behavior (availability/sensitivity) and stress level

predicting physical health one year after the interaction – but again only for husbands (N =

165, β = -.249, p < .05 for availability/sensitivity composite). There were no significant

effects predicting wives' outcomes in terms of physical health symptoms, no significant

effects for emotional and instrumental support, and no significant main effects. The plot of

the availability/sensitivity x stress interaction predicting physical health is shown in Figure

4. Consistent with the stress-buffering model, results indicated that highly stressed

husbands who received high levels of availability/sensitivity from their husbands during the stress discussion reported the lowest health symptoms one year later.

Discussion

The purpose of the study was to investigate and compare the stress buffering and main effects models of social support (a) in close relationships, (b) in an observational investigation that assesses the provision of responsive support as it occurs in actual, dyadic interaction, and (c) in a longitudinal investigation that considers long-term (in addition to immediate) outcomes of receiving social support from one's close relationship partner in a stressful situation. Main effects and stress-buffering models of social support were tested through the use of hierarchical linear regression analyses to predict both immediate and long-term outcomes.

Findings for Immediate Outcome (Positive Emotions after Discussion)

The results indicated different patterns of effects for immediate and long-term outcomes. The hypothesis for that more social support would be associated with more positive emotion immediately after the interaction was only supported for availability/sensitivity. Main effects of emotional and instrumental support showed negative associations with support received. This could be due to the fact that the investigation did not control for degree of positive emotions before the discussions. Thus, the negative associations between emotional/instrumental support and lower positive emotions may reflect a support mobilization process whereby partners provide more support when their spouses are more distressed. It will be important to control for initial levels of emotion in follow-up studies.

With regard to the interaction effects predicting positive emotion after the discussions, it is notable that there were significant interactions for all three support types, but the nature of these interactions were counter to predictions and counter to the stress-buffering hypothesis. Results indicated that husbands who were highly stressed about their problem experienced *more* positive emotions after the discussion when their wives provided *less* support (for all 3 types). It is noteworthy that this occurred only for husbands, and that the effects were opposite to predictions of the stress-buffering model. It is unclear why the more social support given by the wife support provider, the less positive the husband recipient's emotion is. It is possible that men prefer to maintain a sense of mastery and independence over adverse circumstances, such that wife support in this context may make them feel more vulnerable and less effective (or in control). Another reason for this trend may be that wives did not provide the right kind of support that would make husbands feel good when they are under high stress. For example, when wives give instrumental support (e.g., provide tangible ways to solve problems), it may increase the husbands' stress level by making them feel that they are incapable of solving the problem on their own. It remains for future research to replicate these effects and to explore the underlying reasons for these effects. .

Findings for Long-term Outcomes (Relationship Satisfaction and Physical Health)

With regard to the long-term outcomes (relationship satisfaction and physical health), the prediction was that all 3 types of social support would be linked to higher level of relationships satisfaction and physical health over time, and that we might see stress-buffering effects of social support on these long-term outcomes. Although there were no main effects of social support on these outcomes, results did reveal statistically significant

interactions (a) between support behavior (both availability/sensitivity and instrumental support) and stress level predicting relationship satisfaction one year after the interaction – but only when predicting husbands' outcomes, and (b) between support behavior (availability/sensitivity) and stress level predicting physical health symptoms one year after the interaction – but again only when predicting husbands' outcomes. These results supported the stress-buffering model of social support and indicated that when wives provided more support to their husbands one year earlier, their husband reported greater relationship satisfaction and fewer health problems -- particularly when the support was provided when the husbands were highly stressed. The stress-buffering effect (Cohen, 1988, 2004; Cohen & Wills, 1985 is shown here such that when husbands are highly under stress, wives' social support does in fact improve husbands' relationship satisfaction and physical health symptoms overall. The findings for long-term outcomes provide strong evidence for the stress-buffering model of social support, but no evidence for the main effects model of social support.

Strengths and Limitations of the Study

There are many strengths of this investigation. First, this study used observational methods to examine actual support behaviors as they unfold during actual support interactions. Give the labor-intensive nature of this research method, observational studies have been rare in the social support literature (despite the fact that social support is an interpersonal process). Most studies in the social support literature consider social support in terms of individuals' self-reports of perceived available support. A second strength is that this investigation included longitudinal methods that followed couples over a year to examine long-term effects of support interactions on the recipient. Third, this investigation

included a large sample of married community couples; thus, the results are likely to generalize to other married relationships (and perhaps other types of close relationships) more generally.

Despite these strengths, it is important to also note the limitations of this study. One limitation of this study (despite the large sample size) is that the sample was restricted to younger married couples and did not include older married couples. This study can be broadened to test other age groups, as well as longer time periods for assessing long-term effects. It remains for future research to determine whether the same patterns of results would occur in older married couples and over longer periods of time. Second, it is important to note that this is a correlational study; therefore; we cannot make causal claims about the effects obtained. Because our independent (predictor) variables preceded our dependent measures, we have greater confidence in the expected direction of causality. However, this must be established empirically in experimental studies. Third, the assessments of immediate and long-term outcomes were self-report in nature. This may have introduced a self-report bias. Although the outcome variable of relationship satisfaction is a perceptual variable that must be self-report in nature, it will be important for future research to obtain more objective measures of physical health outcomes. It will also be important for future research to consider other immediate and long-term outcomes that were not represented in this investigation (e.g., problem resolution, mental health). Because effects of social support emerged primarily for husbands' outcomes, it will be important for future research to delve more deeply into the gender differences and what may be responsible for these effects.

Conclusion

This investigation provides important insight into the function of social support behavior in predicting immediate and long-term outcomes, it provides a test of stress-buffering and main effects models of social support in the same study, and it provides valuable information regarding the ways in which close relationships may promote or hinder positive personal and relational outcomes in adulthood. It is hoped that this research will provide a foundation for future work that includes both observational and longitudinal methods in the same study to examine effects of receiving social support.

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Figure 1. Availability/Sensitivity x Stress Interaction Predicting Positive Emotions.
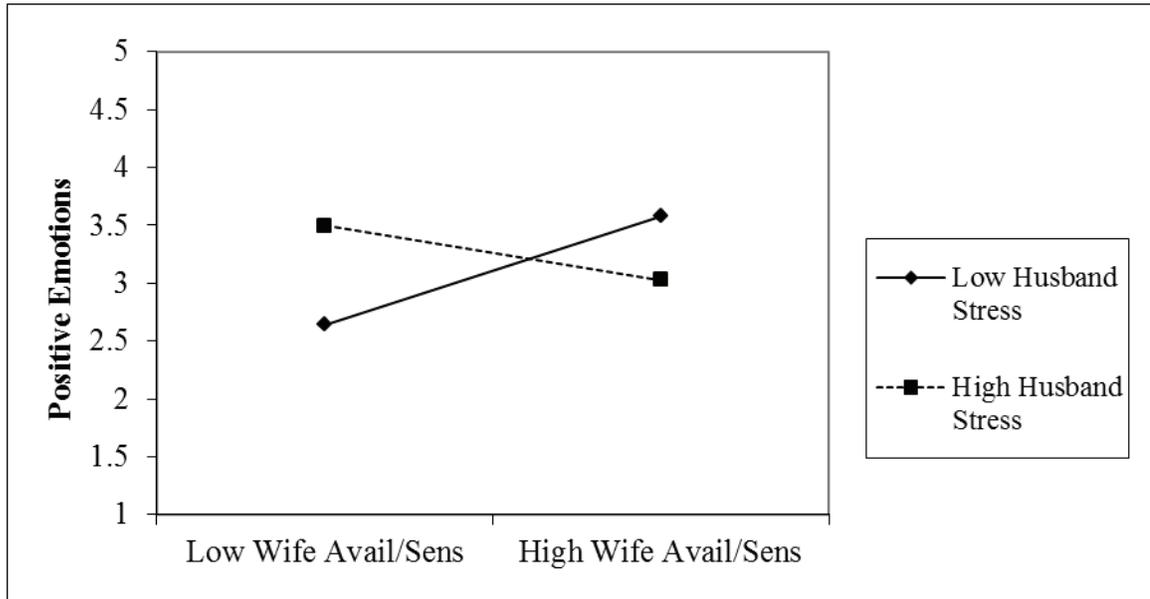
Figure 2. Availability/Sensitivity x Stress Interaction Predicting Relationship
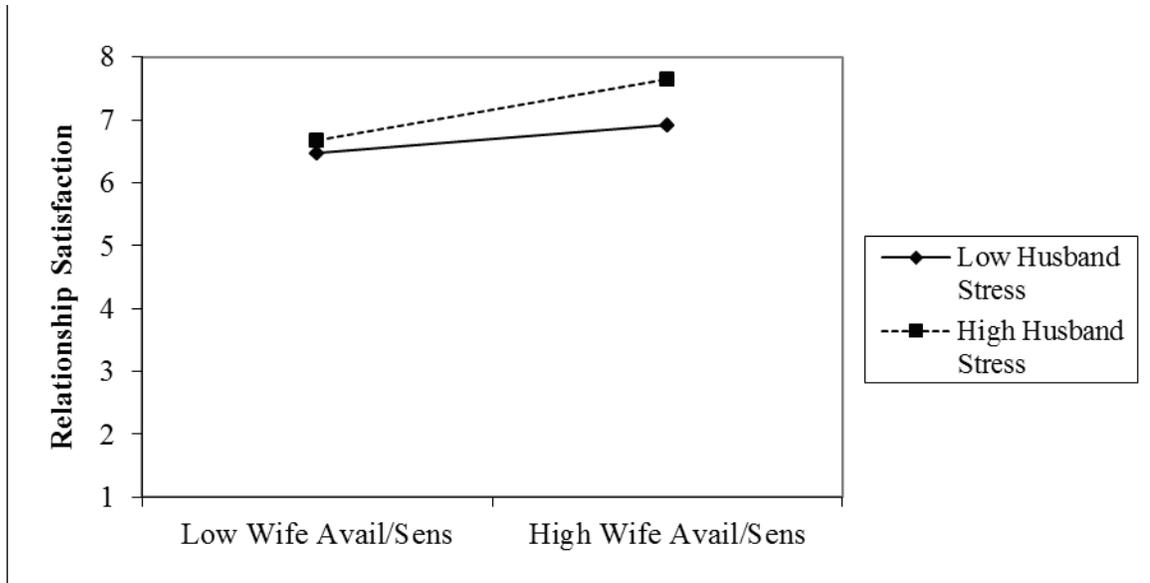
Satisfaction.

Figure 3. Instrumental Support Interaction x Stress Interaction Predicting

Relationship Satisfaction.
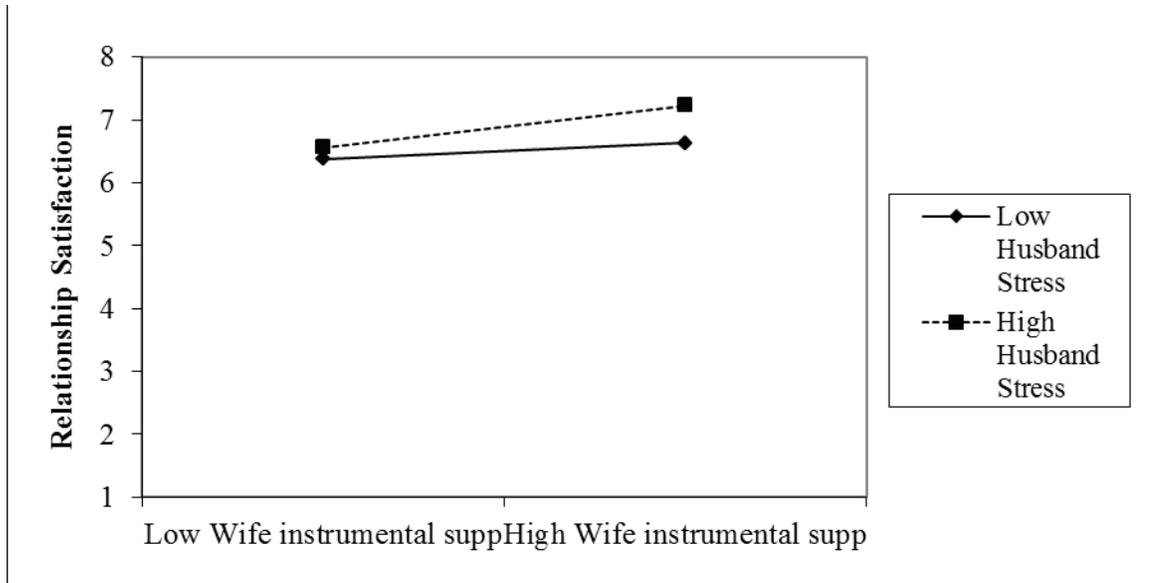
Figure 4. Availability/Sensitivity x Stress Interaction Predicting Physical Health

Symptoms.