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# Modeling Dyadic Effects in the Associations Between Relational Uncertainty, Sexual Communication, and Sexual Satisfaction for Husbands and Wives

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## Abstract

This study models the individual and dyadic associations between relational uncertainty, indirect communication about sexual intimacy, and sexual satisfaction within marital relationships. A sample of 220 married couples completed questionnaires about their sexual relationship, and hypotheses were tested using structural equation modeling (SEM). Results indicate that (a) relational uncertainty is positively associated with indirect communication about sexual intimacy for both husbands and wives, (b) indirect sexual communication is negatively associated with husbands' and wives' own sexual satisfaction, (c) husbands' and wives' sexual satisfaction and indirectness about sexual intimacy are positively associated, and (d) husbands' and wives' indirect communication about sexual intimacy are negatively associated with their spouse's sexual satisfaction. The results are discussed in terms of their implications for understanding the dynamics of sexual intimacy within marriage.

## Keywords

sexual intimacy, sexual satisfaction, relational uncertainty, interpersonal communication, marriage

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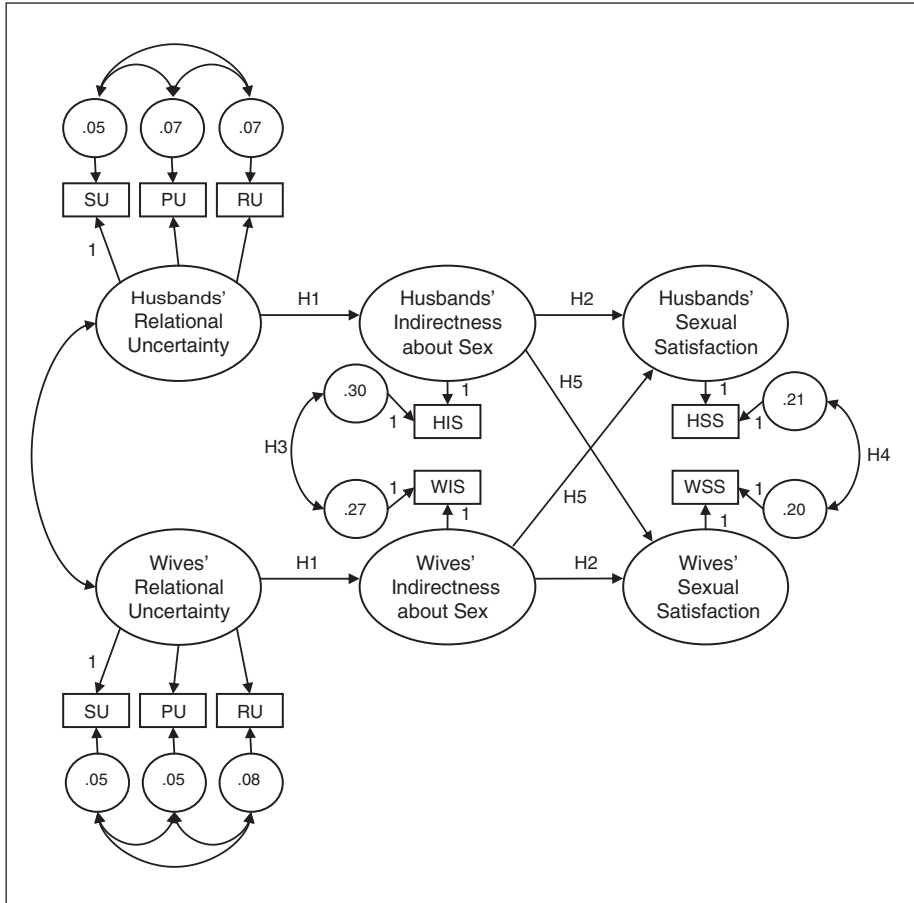
Sexual intimacy is a central component in many romantic relationships, which has prompted researchers to explore the relationship qualities and characteristics that contribute to satisfying sexual experiences (e.g., Lawrence & Byers, 1995; Sprecher, 1998). Studies suggest that generally satisfying relationships provide a context for more satisfying sexual encounters (e.g., MacNeil & Byers, 2005; Sprecher, 2002), but negative characteristics, such as unresolved conflicts, emotional distancing, and feeling unloved predict decreased sexual satisfaction (Davidson & Darling, 1988). Researchers have also found that sexual self-disclosure and open communication about sex positively correlate with sexual satisfaction in particular and relational satisfaction in general (Byers & Demmons, 1999; Cupach & Comstock, 1990). Thus, one goal of this study is to explore how relationship characteristics and interpersonal communication interact to predict sexual satisfaction for married couples. Specifically, this study highlights relational uncertainty as one feature in relationships that predicts more indirect communication about sex, which in turn predicts decreased sexual satisfaction.

A second goal of this study is to highlight the interdependence that exists between husbands' and wives' communication about sex and their perceptions of sexual satisfaction. Because sexual intimacy and romantic relationships inherently integrate actions from both partners, it is important to understand how the behaviors and perceptions of husbands and wives are interdependent (e.g., Duck, 2008). Recent research has revealed an array of dyadic effects in marital relationships. For example, the demand/withdraw pattern in marriage illustrates how one spouse may retreat in response to nagging or demanding behavior from the other (Caughlin & Huston, 2002). In addition, one partner's emotional suppression during interaction is associated with decreased relational satisfaction for both partners (Gottman & Levenson, 1988). These studies illustrate how the communication behaviors and relationship perceptions of husbands and wives are interrelated. Thus, the current study also examines how husbands' and wives' sexual satisfaction is predicted by their spouse's behaviors.

To accommodate both individual and dyadic effects, this study adopts an actor-partner interdependence model (APIM) as the analytical framework for modeling dyadic effects between husbands and wives. One advantage of APIM is that it highlights the dynamic interdependence that exists in relationship processes (e.g., Cook & Kenny, 2005; Cook & Snyder, 2005; Kashy & Kenny, 1999). The model presented in Figure 1 documents how individual and dyadic factors contribute in reciprocal ways to shape people's relationship experiences. In this study, I focus specifically on the ways in which one's own perceptions of the relationship and communication about sex and one's partner's relational perceptions and sexual communication each contribute to sexual satisfaction in unique ways.

## **Individual Effects for Relational Uncertainty and Indirect Communication About Sex**

Relational uncertainty is influential in close relationships because it heightens people's emotional and cognitive reactivity to relationship circumstances and makes it difficult for partners to communicate effectively (e.g., Knobloch, 2006; Solomon & Knobloch, 2004;



**Figure 1.** Predicted model

Note: In the structural model, ovals represent latent variables, rectangles represent observed variables, and circles represent the measurement error of the observed variable. In APIM, the exogenous latent variables are correlated and the endogenous error terms are correlated (see Kenny, Kashy, & Cook, 2006). Paths linking elements within a variable were fixed to 1; all other paths were freely estimated.

Theiss & Solomon, 2006a-b). In particular, studies of dating relationships show that people engage in more topic avoidance under conditions of relational uncertainty (Knobloch & Carpenter-Theune, 2004) and they are more indirect about irritating relationship circumstances (e.g., Theiss & Solomon, 2006b). Research on communication during the negotiation of sexual intimacy between dating partners suggests that passive and indirect communication strategies can have negative ramifications for individuals and their relationships (e.g., Motley & Reeder, 1995). Specifically, a lack of open communication about sex is

associated with decreased sexual satisfaction for partners (Cupach & Comstock, 1990; MacNeil & Byers, 2005). As a starting point, then, I consider the collective impact of relational uncertainty and indirect communication about sex in predicting an individual's own sexual satisfaction.

### *Relational Uncertainty Predicting Indirect Communication About Sex*

Relational uncertainty refers to the lack of confidence that people have in their perceptions of a relationship, and it encompasses three interrelated sources of doubt in interpersonal associations (Berger & Bradac, 1982; Knobloch & Solomon, 1999): *Self uncertainty* refers to doubts about one's own involvement in the relationship, *partner uncertainty* refers to doubts about a partner's involvement in the relationship, and *relationship uncertainty* involves doubts about the status of the relationship in general. This study focuses on the influence of relational uncertainty as a global mechanism in relationships that consists of three underlying factors that reflect self, partner, and relationship ambiguity. Although theorists have argued that relational uncertainty should subside as relationships become more intimate (e.g., Berger & Calabrese, 1975), and much of the existing research focuses on relational uncertainty in dating relationships (e.g., Knobloch & Carpenter-Theune, 2004; Theiss & Knobloch, 2009; Theiss & Solomon, 2006a-b), recent studies suggest that relational uncertainty is a persistent factor in committed relationships and even in marriage (Knobloch, 2008; Laurenceau, Barrett, & Rovine, 2005; Solomon & Theiss, 2008). In fact, studies indicate that more than two thirds of married couples can identify an event that increased uncertainty about their relationship (Turner, 1990). Thus, relational uncertainty is a pervasive experience in romantic relationships at various stages of development.

The nature of relational uncertainty is such that it often compromises partners' ability to communicate in ways that are effective and appropriate. Relational uncertainty presents a barrier to effective communication because people lack sufficient information to make relational judgments that will help them frame their messages appropriately (e.g., Berger, 1997; Knobloch, 2006). This deficit of information creates challenges in two ways. First, partners who lack sufficient information to understand their relational context struggle to formulate plans for behavior, anticipate a partner's response, and predict outcomes of interaction (Berger, 1997; Berger & Bradac, 1982). Second, relational uncertainty may amplify the potential for face threats by obscuring the rules and goals for interaction (Knobloch, 2006). As a result of these two factors, communication can be quite challenging under conditions of relational uncertainty.

Prior research has pointed to the impact of relational uncertainty on the directness or explicitness of interpersonal communication. Empirical evidence suggests that people who experience relational uncertainty tend to avoid sensitive topics during conversations with romantic partners (e.g., Knobloch & Carpenter-Theune, 2004). In particular, studies have shown that relational uncertainty corresponds with avoidance of conversations about relationship status (Baxter & Wilmot, 1985), jealousy (Afifi & Reichert, 1996), and private matters (Afifi & Burgoon, 1998). In addition, individuals with relational uncertainty are less explicit and direct in their communication with relationship partners in an effort

to prevent face threats (Baxter, 1987), avoid embarrassment (Solomon, 1997), and protect the relationship (Baxter & Wilmot, 1985). These findings are particularly salient in the context of conversations about sexual intimacy where the potential for face threats and embarrassment are high. Although much of the existing literature documents the link between relational uncertainty and indirectness in dating relationships, married couples might also feel threatened by the prospect of sexual communication when they are experiencing doubts about their partner. Accordingly, the first hypothesis predicts that spouses who experience relational uncertainty tend to be more indirect in their communication about sexual intimacy. Formally stated:

*Hypothesis 1:* Relational uncertainty is positively associated with the indirectness of communication about sexual intimacy.

### *The Indirectness of Sexual Communication Predicting Sexual Satisfaction*

Researchers often highlight open communication as one of the cornerstones of a satisfying sexual relationship (e.g., Byers & Demmons, 1999; Ferroni & Taffee, 1997). The ability to communicate about sexual intimacy facilitates closeness and allows partners to negotiate a maximally satisfying sexual encounter (Cupach & Metts, 1991). In particular, self-disclosing about the sexual behaviors that one likes or dislikes promotes sexual encounters in which partners are aware of the actions that will lead to satisfaction, as well as the behaviors that contribute to dissatisfaction (Metts & Cupach, 1989). These findings imply that the road to sexual satisfaction typically involves open and direct communication about sexual desires.

Unfortunately, much of the existing research on sexual communication among dating partners indicates that partners tend to use indirect and passive methods for negotiating sexual intimacy (e.g. Hickman & Muehlenhard, 1999). With regard to sexual self-disclosure, dating partners are likely to self-disclose about sexual behaviors they find enjoyable, but they tend to avoid the more difficult and taboo conversations about the sexual acts they find undesirable (Herold & Way, 1988). Moreover, traditional sexual scripts encourage less sexual self-disclosure among women, who are expected to be more sexually naïve, and an expectation that men should be more directive and assertive about their sexual desires (Byers, 1996).

Taken together, these studies highlight a troubling paradox for sexual partners who want to promote sexual satisfaction. On one hand, open communication and self-disclosure about sexual intimacy promotes sexual satisfaction. On the other hand, traditional scripts for sexual communication discourage directness. These circumstances suggest that individuals likely encounter difficulty on the path to sexual fulfillment. This is especially the case for individuals who experience relational uncertainty because they are unlikely to be assertive in their communication with a sexual partner. Thus, Hypothesis 2 predicts a negative association between indirect sexual communication and sexual satisfaction. Formally stated:

*Hypothesis 2:* Indirect communication about sexual intimacy is negatively associated with sexual satisfaction.

## Dyadic Effects Predicting Indirect Sexual Communication and Sexual Satisfaction

Up to this point, I have focused on the ways that an individual's relational uncertainty predicts his or her own indirect communication about sex, which in turn corresponds with his or her own sexual satisfaction. Given that the negotiation of sexual intimacy is an inherently dyadic event in relationships, what are the implications that one partner's indirect communication has for his or her spouse's communication and sexual satisfaction? In this section, I explore the ways in which husbands' and wives' communication and sexual satisfaction are interrelated.

Understanding the ways in which spouses' communication behaviors are intertwined is an important starting point for this discussion. One theoretically grounded assumption about the nature of interpersonal communication is that openness and disclosures are typically reciprocated by interaction partners (Altman & Taylor, 1973). By extension, the assumption of reciprocity also applies to passivity, such that partners respond to indirect and reticent communication behaviors by withholding their own open communication. Moreover, husbands and wives co-create a relational culture for their marriage that either encourages or discourages direct discourse about sex (e.g., Goldsmith & Baxter, 1996). In turn, the marital culture provides norms for behavior that both spouses are likely to follow (e.g., Huston, 2000). Thus, husbands and wives should have similar tendencies toward indirect communication about sexual intimacy. Moreover, the assumptions of APIM imply that the relational experiences of husbands and wives are interrelated (Kashy & Kenny, 1999). Following this logic, Hypothesis 3 predicts a positive association between husbands' and wives' indirect communication about sexual intimacy. Formally stated:

*Hypothesis 3:* Husbands' and wives' indirect communication about sexual intimacy are positively associated.

A similar pattern of association should be visible when considering the interdependence that exists between husbands' and wives' sexual satisfaction. Research suggests that men's sexual satisfaction is predicted by the frequency of sexual contact and orgasm, whereas women find their sexual satisfaction in the emotional and relational closeness that contextualize sexual behavior (Hurlbert & Apt, 1993; Hurlbert, Apt, & Rabehl, 1993). At first glance, this evidence implies that it is possible for one spouse to be sexually satisfied while the other spouse is not, because the sources of sexual fulfillment are different for husbands and wives. On further reflection, however, it is easy to see how the sexual goals of husbands and wives are deeply intertwined. Wives who lack the emotional and relational closeness they desire are likely to avoid sexual contact with their spouse to prevent further dissatisfaction; in turn, husbands are likely dissatisfied by the lack of sexual contact from their wife. In contrast, because wives' sexual satisfaction encompasses sexual contact as well as relational well-being, it stands to reason that husbands' sexual satisfaction is implicit in a wives' sexual satisfaction. Moreover, as spouses continue to create and enact their relational and sexual culture, they become locked into patterns of

behavior that reinforce the same sexual outcomes over time (e.g., Huston, 2000). The assumptions of APIM also call for the experiences of relationship partners to be intercorrelated (Kashy & Kenny, 1999). Thus, I predict a positive association between husbands' and wives' sexual satisfaction. Formally stated:

*Hypothesis 4:* Husbands' and wives' sexual satisfaction are positively associated.

As a final consideration, this study examines the implications of husbands' and wives' indirect communication about sex for their spouse's sexual satisfaction. As previously argued, sexual communication and sexual self-disclosure are important factors in achieving sexual satisfaction (e.g., Cupach & Metts, 1991). Previously in this article I explained how an individual's indirect communication about sex predicts his or her *own* sexual satisfaction; now I consider how an individuals' indirect sexual communication corresponds with their spouse's sexual satisfaction. Because women's sexual satisfaction is derived from feeling emotionally and relationally close to their partner (Hurlbert & Apt, 1993; Hurlbert et al., 1993), a husband's indirectness should be particularly problematic in this context because it prevents his wife from achieving the emotional connection she needs to feel sexually satisfied. For men, having a sexual partner who communicates indirectly about sexual desires makes it difficult to determine which sexual behaviors are appropriate, acceptable, and satisfying for a female partner (e.g., Metts & Spitzberg, 1996). Moreover, studies of dating partners have revealed that both men and women show a preference for more direct assertions of sexual interest, desire, and consent from a sexual partner (Hickman & Muehlenhard, 1999). Taken together, these studies suggest that men and women are more sexually satisfied when they have a partner who communicates openly and directly about sexual intimacy. In contrast, having a partner who engages in indirect communication about sexual intimacy should correspond with dissatisfying sexual experiences. This logic is summarized in the following hypothesis:

*Hypothesis 5:* Husbands' and wives' indirect communication about sex is negatively associated with their spouse's sexual satisfaction.

The hypotheses in this study are summarized in Figure 1. First, Hypothesis 1 predicted that husbands' and wives' relational uncertainty is positively associated with their own indirect communication about sexual intimacy. In addition, Hypothesis 2 predicted that indirect sexual communication on the part of husbands and wives is negatively related to their own sexual satisfaction. Beyond individual effects, I also hypothesized about dyadic effects between spouses. Specifically, Hypothesis 3 predicted that husbands' and wives' indirect communication about sex are positively associated and Hypothesis 4 predicted that husbands' and wives' sexual satisfaction are positively associated. Consistent with the logic of APIM, these associations are reflected in paths that link the error terms for these variables (Kenny, Kashy, & Cook, 2006). Finally, Hypothesis 5 predicted that husbands' indirect communication about sex is negatively associated with wives' sexual satisfaction and wives' indirect sexual communication is negatively associated with husbands' sexual

satisfaction. The model also includes a path linking husbands' and wives' relational uncertainty, which is consistent with the assumptions of APIM (Kenny et al., 2006). Next, I describe a study that was designed to test these predictions.

## Method

The hypotheses were evaluated by collecting self-report data from both spouses in a married dyad. Undergraduate students in communication classes at a large university in the Northeastern United States recruited married couples to participate in the study. Couples were entered in a drawing for a gift certificate to a popular retail store and students received a small amount of extra credit for each couple they recruited. The questionnaire assessed demographic characteristics, as well as each partner's perceptions of the relationship, directness of communication about sex, and sexual satisfaction within their marriage.

## Sample

Respondents in this study were 220 married couples. Respondents ranged in age from 20 to 81 years, with a mean age of 43.43 years. The sample was predominantly Caucasian (68%), with the remainder of the sample being 9.4% Hispanic, 8.7% Asian, 8.5% African American, 0.9% Middle Eastern, and 0.2% Native American. The average length of marriage for the sample was 15.16 years, and the majority of the sample (74.9%) had at least one child. In addition, 14.7% of the sample had been previously married.

## Procedures

Undergraduate students were asked to solicit married couples they knew for the study in exchange for extra credit in their course. The students were given a packet containing instructions, consent forms, and questionnaires for both spouses and were asked to give the packet to a married couple who were not college students. Married couples were given the option to return the research materials directly to the principal investigator or to have the student return the packet on their behalf. A total of 330 packets were taken by students to disseminate; of those, 220 were returned with complete data (67% response rate). The couples were asked to provide their phone number so that the researchers could verify that the questionnaires were completed by a legitimate married couple and not falsified by the undergraduate students. Couples who did not provide contact information were excluded from the sample. One third of the couples were randomly selected and contacted to verify their data. All of the couples who were contacted indicated that they had completed the questionnaire; thus, all of the remaining couples were retained in the sample. Respondents were instructed to complete the questionnaires independently and not to share their answers with their spouse. To ensure confidentiality, individuals were instructed to seal their questionnaire in an envelope separately from the consent forms and from their spouse's questionnaire. This strategy ensured that an individual's responses were kept private from



the spouse. The questionnaire gathered information on relational uncertainty, indirectness of communication about sex, and sexual satisfaction.

## Measures

A variety of closed-ended Likert-type questions were used to operationalize the variables used in this study. Confirmatory factor analyses were conducted on all multi-item scales to ensure that they met the criteria of face validity, internal consistency, and parallelism (Hunter & Gerbing, 1982). Criteria for a good-fitting model were  $CMIN/df < 3.0$ , comparative fit index (CFI)  $> 0.90$ , root mean square error of approximation (RMSEA)  $< 0.10$  (Kline, 1998; Ullman, 2001). After confirming the unidimensionality of the scales, composite scores were constructed by averaging the responses to the individual items.

**Relational uncertainty.** Relational uncertainty was measured by Knobloch's (2008) marital uncertainty scale, which assesses sources of relational uncertainty specific to marriage. A series of statements followed a stem that read, "How certain are you about...?" Participants used a 6-point Likert scale to indicate their response (1 = *completely or almost completely uncertain*, 6 = *completely or almost completely certain*). All items were reverse scored so that the resulting variable was a measure of relational uncertainty.

The *self uncertainty* scale consisted of four items: (1) your ability to emotionally support your spouse, (2) how to resolve conflict in your marriage, (3) the amount of excitement or spontaneity you should have in your marriage, and (4) how to let your spouse know you care about him or her (CFI = 0.99, RMSEA = 0.01,  $\alpha = .91$ ;  $M = 1.54$ ,  $SD = 0.74$ ). *Partner uncertainty* included three items: (1) your spouses' view of your marriage, (2) how important your marriage is to your spouse, and (3) how your spouse feels about your marriage (model saturated;  $\alpha = .93$ ,  $M = 1.68$ ,  $SD = 0.93$ ). *Relationship uncertainty* included four items: (1) the current status of your marriage, (2) how you can or cannot behave around your spouse, (3) the definition of your marriage, and (4) the future of your marriage (CFI = 0.99, RMSEA = 0.08,  $\alpha = .87$ ,  $M = 1.60$ ,  $SD = 0.76$ ).

**Indirectness of communication about sex.** A scale was developed for this study to measure the indirectness of communication about sexual intimacy. Participants recorded their agreement with a series of items on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). Five items formed a unidimensional measure of the *indirectness of communication about sex*: (1) I have never openly discussed my sexual desires with my spouse, (2) I have never been direct with my spouse about sexual behaviors I find satisfying, (3) I have directly talked to my spouse about appropriate sexual behaviors (reverse coded), (4) I have openly discussed my sexual desires with my spouse (reverse coded), and (5) I can openly talk to my spouse about our sexual relationship (reverse coded; CFI = 0.99, RMSEA = 0.06,  $\alpha = .80$ ,  $M = 2.89$ ,  $SD = 1.20$ ).

**Sexual satisfaction.** The measure of sexual satisfaction was adapted from a scale I had previously developed to assess sexual satisfaction among dating partners. Participants were instructed to reflect on how satisfied they were with their sexual relationship and with their spouse as a sexual partner. Participants recorded their agreement with a series of items on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). Six items were

included in the measure of *sexual satisfaction*: (1) My partner and I have a fulfilling sexual relationship, (2) I find the sexual contact that I have with my partner to be satisfying, (3) my partner always makes sure that I achieve orgasm, (4) I am content with the sexual aspect of our relationship, (5) there are parts of our sexual relationship that need improvement (reverse coded), and (6) I am generally dissatisfied with our sexual relationship (reverse coded; CFI = 0.99, RMSEA = 0.04,  $\chi^2 = .85$ ,  $M = 4.29$ ,  $SD = 1.17$ ).

## Results

### *Preliminary Analyses*

As a starting point, I conducted paired-sample *t* tests to evaluate sex differences in all of the variables. Paired-sample *t* tests revealed a significant difference between husbands and wives on the indirectness of communication about sex, such that wives ( $M = 2.70$ ) were more indirect than husbands ( $M = 3.05$ ,  $t = 3.97$ ,  $p < .001$ ). Next, I assessed the bivariate correlations among all variables for husbands and wives (see Table 1). Results indicated that for husbands and for wives, the three sources of relational uncertainty were all positively correlated with each other and that they were each positively associated with the indirectness of communication about sexual intimacy and negatively associated with sexual satisfaction. Between husbands and wives, all sources of relational uncertainty were positively correlated. Husbands' sources of relational uncertainty were all positively associated with wives' indirectness about sex and negatively associated with wives' sexual satisfaction. Wives' sources of relational uncertainty were all positively associated with husbands' indirectness about sex and positively associated with husbands' sexual satisfaction. In addition, husbands' and wives' indirectness about sex and sexual satisfaction were each positively interrelated.

### *Substantive Analyses*

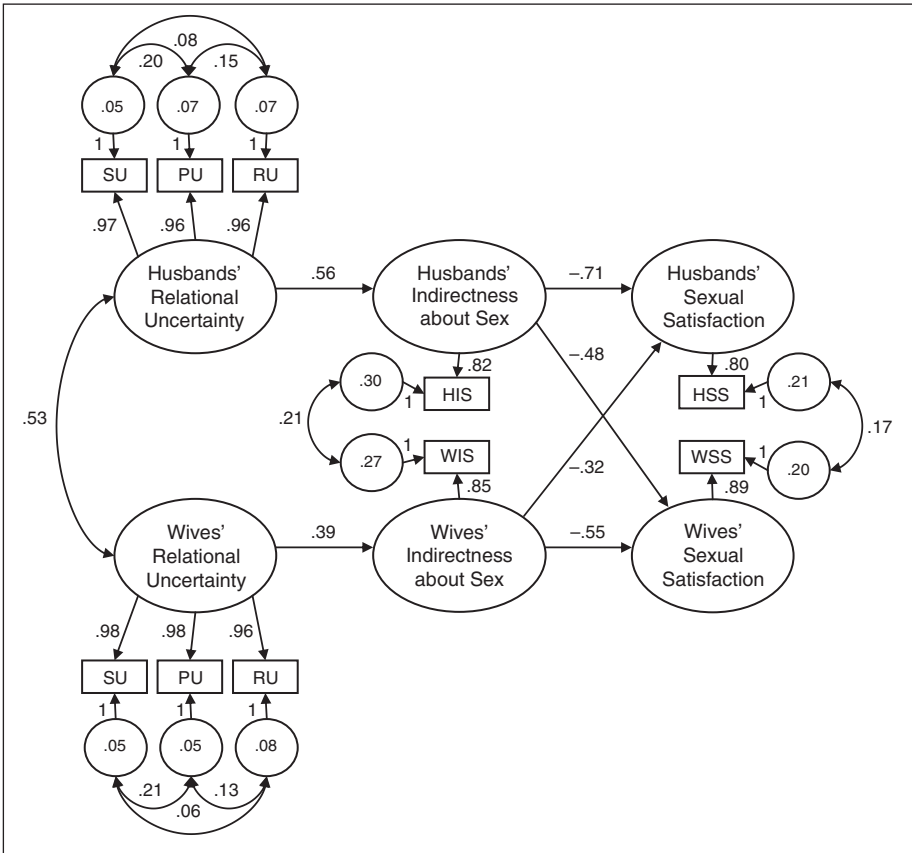
APIM was the analytical framework for modeling the individual and dyadic effects predicted by Hypotheses 1 to 5 because this methodological approach highlights the interdependence that exists between partners (e.g., Cook & Kenny, 2005; Cook & Snyder, 2005; Kashy & Kenny, 1999; Kenny et al., 2006). I analyzed the data using maximum likelihood structural equation modeling (SEM) because this strategy is capable of modeling effects for husbands and wives in the same model. Moreover, this strategy accounted for measurement error in the data and it was capable of assessing the hypothesized associations while controlling for the effects of the other independent variables. As a starting point, relational uncertainty was modeled as a second-order factor for husbands and wives consisting of the individual variables of self uncertainty, partner uncertainty, and relationship uncertainty. A reliability analysis of a second-order factor based on these variables revealed that they would form a reliable second-order variable for husbands ( $\alpha = .90$ ) and wives ( $\alpha = .92$ ). The error variance for each of the latent variables in the model was fixed to  $(1 - \alpha)(\sigma^2)$  to account for unreliability within the measures (Bollen, 1989). The error

**Table 1. Bivariate Correlations Among All Variables**

Variables	1	2	3	4	5	6	7	8	9	M
1. H Self-uncertainty										1.53
2. H Partner uncertainty	.72**									1.71
3. H Relationship uncertainty	.86**	.76**								1.64
4. H Indirectness about sex	.39**	.36**	.45**							3.05
5. H Sexual satisfaction	-.52**	-.48**	-.52**	-.53**						4.33
6. W Self-uncertainty	.52**	.47**	.51**	.29**	-.33**					1.52
7. W Partner uncertainty	.51**	.43**	.54**	.33**	-.31**	.74**				1.63
8. W Relationship uncertainty	.53**	.49**	.54**	.35**	-.34**	.88**	.80**			1.55
9. W Indirectness about sex	.22**	.18*	.22*	.39**	-.31**	.30**	.37**	.34**		2.7
10. W Sexual satisfaction	-.37**	-.37**	-.40**	-.41**	.64**	-.35**	-.41**	-.39**	-.47**	4.31

\*\*\*p < .01. \*\*p < .001.

Note. Variables marked with an H are for husbands and variables marked with a W are for wives.



**Figure 2.** Fitted model  
 Note: All path coefficients are significant at  $p < .001$ .

variance is reported in the circle attached to each variable in the model. To control for the effect of length of marriage on the model, I regressed marriage length onto each variable and saved the residuals, which were then used as observed variables in the SEM.

Results of the SEM analysis revealed that the predicted model provided a good fit for the data,  $\chi^2(30) = 55.6$ ,  $CMIN/df = 1.85$ ,  $CFI = 0.98$ ,  $RMSEA = 0.07$  (see Figure 2). As predicted in Hypothesis 1, husbands' and wives' relational uncertainty were positively associated with their own indirectness of communication about sexual intimacy. In addition, the results supported Hypothesis 2, such that husbands' and wives' indirectness of communication about sexual intimacy were negatively associated with their own sexual satisfaction. With regard to the predicted partner effects, husbands' and wives' indirectness about sexual communication were positively associated (Hypothesis 3) and husbands' and wives' sexual satisfaction were positively associated (Hypothesis 4). As predicted in

Hypothesis 5, husbands' indirectness about sexual intimacy was negatively associated with wives' sexual satisfaction and wives' indirectness about sexual intimacy was negatively associated with husbands' sexual satisfaction. Thus, Hypothesis 5 was supported.

## Discussion

This study used dyadic data analytic technique to explore the individual and dyadic associations among relational uncertainty, indirect communication about sexual intimacy, and sexual satisfaction for husbands and wives. The goal of this study was to understand the dynamic interdependence that exists between the sexual experiences of husbands and wives. The findings point to both intra- and inter-personal processes that predict sexual satisfaction in marriage. In this section, I explore the implications of these findings for understanding the individual and relational factors that shape outcomes of sexual intimacy.

### *Individual Pathways to Sexual Satisfaction*

With regard to individual effects, this study predicted that spouses' relational uncertainty predicts increased indirectness in their communication about sexual intimacy (Hypothesis 1), which in turn corresponds with decreased sexual satisfaction (Hypothesis 2). Results indicated that this was the case for both husbands and wives, thereby supporting the hypotheses. Taken together, these findings point to an interesting pattern of associations between relational uncertainty, communicative indirectness, and sexual satisfaction. Considered separately, support for these hypotheses contributes to the literature on relational uncertainty and sexual satisfaction.

Independently, support for Hypothesis 1 adds to a growing body of literature that suggests relational uncertainty is a barrier to open communication (e.g., Berger, 1997; Berger & Bradac, 1982; Knobloch, 2006; Knobloch & Carpenter-Theune, 2004). Relational uncertainty contributes to a lack of relational information that makes it difficult to formulate appropriate plans for interaction and to anticipate how a relational partner might respond (Berger, 1997). Thus, previous research has indicated that relational uncertainty corresponds with both topic avoidance (Knobloch & Carpenter-Theune, 2004) and indirect communication about conflict and jealousy (Theiss & Solomon, 2006a-b) in dating relationships. Thus, indirect communication strategies are often preferable for partners when discussing sexual intimacy under conditions of relational uncertainty.

The finding that indirect communication about sexual intimacy corresponds with decreased sexual satisfaction is also consistent with the existing literature on sexual intimacy, which consistently shows that sexual satisfaction is a function of open communication about sex (e.g., Byers & Demmons, 1999; Cupach & Comstock, 1990; Cupach & Metts, 1991; Metts & Cupach, 1989). Direct disclosures about sexual behaviors that are liked or disliked inform a sexual partner about what actions are required to promote satisfaction. Thus, individuals who are direct about the sexual behaviors they enjoy are more likely to receive those behaviors and, therefore, more likely to be satisfied with their sexual encounters. In contrast, individuals who are indirect about their sexual likes and dislikes

leave their partner fumbling in the dark, so to speak, and are less likely to have their sexual desires fulfilled. Notably, the majority of past research on sexual communication has focused on individuals in dating relationships rather than committed relationships. The results of this study suggest that indirect sexual communication is problematic beyond the initial stages of courtship and relationship development. Although indirect communication about sex might become a normative aspect of some marital relationships over time, the negative association documented in this study suggests that relationships characterized by indirectness are less sexually satisfying than those that are characterized by direct sexual communication.

When considering these associations in combination, the structural equation model reveals that indirect communication about sexual intimacy mediates the association between relational uncertainty and sexual satisfaction. Researchers have argued that relational uncertainty heightens emotional, cognitive, and communicative reactivity to relational circumstances (e.g., Solomon & Knobloch, 2004; Solomon & Theiss, 2008). By this logic, relational uncertainty might be expected to share a direct association with sexual satisfaction, such that people are less sexually satisfied under conditions of relational uncertainty. Indeed, prior research has revealed a negative association between relational uncertainty and sexual satisfaction, as well as positive associations between relational uncertainty and negative cognitive and emotional reactions to sex (Theiss & Nagy, 2010; Theiss & Solomon, 2007). The fact that communicative indirectness mediates the association between relational uncertainty and sexual satisfaction in these data imply that the primary manifestation of relational uncertainty in relationships might be in the ways that it impedes effective communication. Thus, associations between relational uncertainty and other cognitive and emotional markers of distress might be byproducts of impaired communication. Of course, this is only speculative in the absence of data, so future research should examine more closely the mediating role of communication in associations between relational uncertainty and cognitive and emotional distress.

### *Dyadic Pathways to Sexual Satisfaction*

In addition to the associations that were modeled for spouses individually, the findings in this study also highlight the ways that husbands' and wives' sexual communication and sexual satisfaction are interdependent. Specifically, results indicated that husbands and wives are interrelated in terms of their sexual communication (Hypothesis 3) and sexual satisfaction (Hypothesis 4) and husbands' and wives' indirect communication about sex is negatively associated with their spouse's sexual satisfaction (Hypothesis 5). Thus, all hypotheses were supported.

As a starting point, these results point to the ways in which husbands' and wives' relational experiences are intertwined. The model revealed that husbands' and wives' relational uncertainty, indirect sexual communication, and sexual satisfaction were all positively correlated. Given that husbands and wives co-create their relational culture, which then shapes and defines their perceptions and behaviors within the relationship, these results are not surprising. Notably, the correlation between husbands' and wives' sexual satisfaction was

smaller than the associations between the other relationship characteristics. The strength of this association in contrast to the others likely reflects the fact that men and women derive their sexual satisfaction from different sources: men from the frequency of sexual contact and women from the depth of emotional connection with their partner. Thus, even though most spouses share in a co-constructed sexual experience that is mutually satisfying or dissatisfying, there are likely some individuals who remain unfulfilled in the face of their partner's sexual satisfaction. For example, a husband might be sexually satisfied in a relationship where sex is frequent, even though his wife is dissatisfied by the level of emotional connection they achieve during sex. On the other hand, a wife might be deeply satisfied by the one relationship enhancing sexual experience they have each month whereas her husband is longing for more frequent sexual contact. Future research should attempt to further parse the distinct sources of sexual satisfaction for husbands and wives and the ways in which they are interrelated.

The results of this study also point to dyadic effects in the ways that husbands' and wives' indirect sexual communication is associated with their spouse's sexual satisfaction. Results indicated that husbands' and wives' indirect communication about sex was negatively associated with their spouse's sexual satisfaction. Notably, a husband's indirectness has a stronger effect on his wife's sexual satisfaction than a wife's indirectness has on her husband's satisfaction. There are clear explanations that account for women's decreased sexual satisfaction when their husbands are indirect in their communication about sexual intimacy. As mentioned previously, women derive their sexual satisfaction from the feelings of emotional and relational closeness that emerge in the context of sexual intimacy (Hurlbert & Apt, 1993; Hurlbert et al., 1993). Having a partner who communicates indirectly about sex would be dissatisfying for women because they are not given the opportunity to engage in behaviors that bolster relational well-being. A husband's indirectness about sex might be interpreted as a lack of satisfaction, an indicator of disinterest, or a marker of relational distancing. Thus, wives are likely to be sexually dissatisfied under these conditions because their husband's indirectness denies them the opportunity to establish the kind of connection that defines sexual satisfaction for them. The results also indicate that husbands are less sexually satisfied when their wife is indirect, but the effect size is not as strong as it is for wives. A wife's indirectness is problematic for her husband's satisfaction because it makes it difficult to discern when sexual contact is desired or which sexual behaviors are enjoyed. When wives are explicit about what kind of sexual contact they want and when they want it, husbands have an easier time achieving their underlying goal of sexual frequency and orgasm.

Despite the fact that these data revealed significant negative associations between husbands' and wives' indirectness and their spouse's sexual satisfaction, I caution against the assumption that direct sexual communication will always correspond with sexual satisfaction. There are a variety of scenarios in which directness might be dissatisfying or even threatening. For example, husbands who expect their wife to conform to traditional gender roles might be dissatisfied if she breaks from the norm of being sexually passive to assert her sexual desires (Byers, 1996). Wives who are direct and assertive in sexual contexts might also be face threatening to their husbands if their assertiveness is perceived as an

indicator that the husband is doing something wrong. Moreover, since husbands' sexual satisfaction rests primarily in physical rather than emotional gratification (e.g., Hurlbert & Apt, 1993), having a wife who insists on talking openly about sexuality might be dissatisfying because it requires more effort and involvement than the husband needs to achieve sexual fulfillment. Although wives typically enjoy open communication to foster relational closeness, they might be dissatisfied if their husband uses direct communication strategies to express negativity, dissatisfaction, or criticism. Future research should attempt to further disentangle the specific communication behaviors that correspond with satisfying and dissatisfying sexual encounters.

### *Strengths, Limitations, and Future Directions*

One strength of this study is the use of dyadic data and the APIM to examine the interdependence that exists between husbands' and wives' experiences of relational uncertainty, indirectness of communication about sexual intimacy, and sexual satisfaction. Most studies of sexual intimacy tend to focus on one individual's perceptions of the relationship rather than both members of the dyad, so this study marks an important contribution to the literature by considering the interdependence that exists within couples. Although the dyadic design marks a significant strength of this study, the fact that couples completed the questionnaires in their home made it impossible to control the time, place, and conditions in which individuals answered these questions. It was also impossible to guarantee that spouses completed their questionnaires independently.

A second strength of this study is that it broadens the focus of research on sexual intimacy to consider the sexual experiences of married couples. Much of the existing literature on sexual intimacy focuses on casual sexual encounters or sexual intimacy between dating partners, so the focus on marriage in this study marks an important contribution to the literature. Notably, the fact that couples in this study were more committed than previous samples of sexual partners contributed to relatively low levels of relational uncertainty and rather high levels of sexual satisfaction. Although the restricted range of these variables limits the generalizability of the findings, the fact that indirect communication was a significant predictor of sexual satisfaction, despite its limited variance, highlights the importance of interpersonal communication for maintaining an enjoyable sexual relationship.

One limitation of this study was the reliability of individuals' self-reports about the directness of their communication about sexual intimacy. It is possible that people overestimated how directly they communicate with their partner about sex. This may be a fruitful avenue for future research to consider the manifestations of relational uncertainty and other relationship characteristics in interactive data and to examine the dynamic interdependence that exists between partners during an actual conversation about sexual intimacy. A study of this nature would be beneficial for modeling the truly dyadic processes that characterize sexual communication.

Another limitation was that this study did not obtain data about family planning, which may influence the content of sexual communication and the degree of sexual satisfaction.



Couples in the early years of marriage who are attempting to build a family may be quite direct about ovulation cycles, the best days to have sex, or the outcomes of sex, but less direct about sexual desires and the quality of sexual contact. In addition, couples who engage in sex for the sole purpose of procreating may be less satisfied than those who engage in sex with the goal of connecting physically and emotionally with their spouse. Future research should consider family planning as a covariate and should investigate the content of sexual communication as a predictor of sexual satisfaction.

## Conclusion

In conclusion, the results of this study suggest that sexual satisfaction is a function of both individual and dyadic processes in a relationship. The individual pathways to sexual satisfaction suggest that indirect communication about sexual intimacy is predicted by the degree of relational uncertainty a partner is experiencing and that it is detrimental to the individual's sexual satisfaction. The dyadic pathways to sexual satisfaction highlight the interdependence that exists between husbands and wives in terms of their ability to negotiate satisfying sexual relationships. The dyadic associations that were revealed in this study are encouraging, and future research should attempt to model more explicitly the nature of sexual communication between spouses.

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## Bio

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