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The Mediating Role of Sexual and Nonsexual Communication Between Relationship and Sexual Satisfaction in a Sample of College-Age Heterosexual Couples

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This study aimed to examine in a sample of college-age heterosexual couples the relations between (a) relationship and sexual satisfaction and (b) sexual and nonsexual communication. The authors tested a mediation model whereby couples' relationship satisfaction was hypothesized to predict couples' sexual satisfaction by way of sexual and nonsexual communication levels. Participants were 266 individuals (133 couples) who completed measures of satisfaction and communication independently of their partner. A mediation model, tested with structural equation modeling, showed the degree to which couples were relationally satisfied was positively related to their level of sexual and nonsexual communication, which, in turn, was positively associated with their degree of sexual satisfaction. Results indicate that levels of sexual and nonsexual communication among couples affect the link between relationship and sexual satisfaction. Such findings may have important implications for college-age couples in committed relationships who are looking to improve satisfaction as well as for therapists, counselors, and educators who work with these couples to improve relationship and/or sexual satisfaction.

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There are numerous magazine articles, websites, and lay books devoted to the topics of sexual and relationship satisfaction that indicate the complexity of achieving satisfaction within a romantic relationship. Many factors potentially contribute to sexual and relationship satisfaction in the context of a romantic relationship and, in turn, sexual and relationship satisfaction seem to influence the overall level of happiness of the individuals in the relationship. Relationship satisfaction has been conceptualized as a relationship merely lacking dissatisfaction (Renaud, Byers, & Pan, 1997), where others have indicated that relationship satisfaction entails happiness that is more substantial than average levels of well-being (Kleinplatz & Menard, 2007). Sexual satisfaction has also been conceptualized in various ways. Although it may seem plausible that sexual satisfaction is a component of relationship satisfaction, most researchers have conceptualized sexual satisfaction as a solitary construct that is highly correlated with relationship satisfaction (Apt, Hurlbert, Pierce, & White, 1996; Byers, 2001; Hurlbert & Apt, 1994; Yeh, Lorenz, Wickrama, Conger, & Elder, 2006). For example, sexual satisfaction has been defined by the number of orgasms an individual experiences during a certain period of time or the frequency with which a person engages in sexual activity (Hurlbert, Apt, & Rabehi, 1993). Sexual satisfaction has also been described as feeling content with one's sexual interactions or the sexual aspects of one's relationship, feeling intense moments of pleasure during sex, or experiencing good sex (Joannides, 2006). Interest in the topic of sexual satisfaction may be, in part, attributable to the widespread finding that sexual and relationship satisfaction are heavily intertwined (Apt et al., 1996; Byers, 2001; Hurlbert & Apt, 1994; Lawrance & Byers, 1995; Yeh et al., 2006). In addition to describing relationship satisfaction in the context of sexual satisfaction, relationship satisfaction has been described as partner's experience of conflicts within the relationship, feelings of being loved, and emotional closeness and distance from partner. Previous research also indicates that these factors are associated with sexual satisfaction (Davidson & Darling, 1988; Schenk, Pfrang, & Rausche, 1983). Among heterosexual couples, MacNeil and Byers (2005) found that being able to self-disclose in a relationship may also help define relationship satisfaction, and it has been found to mediate the association between self-disclosure and sexual satisfaction. However, the mediation was examined separately for women and men with relationship satisfaction mediating the association between sexual and nonsexual self-disclosure and sexual satisfaction for women but just nonsexual self-disclosure and sexual satisfaction for men (MacNeil & Byers, 2005).

Researchers have provided distinct descriptions for sexual and relationship satisfaction and found the two heavily interconnected (Apt et al., 1996; Byers, 2001; Hurlbert & Apt, 1994; Yeh et al., 2006). For example, Hurlbert and Apt (1994) examined this association among married couples via semi-structured face-to-face interviews in which relationship satisfaction was

assessed via the Index of Marital Satisfaction and sexual satisfaction assessed using the Index of Sexual Satisfaction (Hudson, 1982). Yeh and colleagues (2006) also assessed satisfaction among married couples using items such as "My spouse and I have a wonderful sex life," "Sex isn't very important to me," and "My spouse is happy with our sex life" to assess sexual satisfaction (Conger & Wickrama, 1993). Apt and colleagues (1996) also used the Index of Sexual Satisfaction to assess sexual satisfaction which included items to assess satisfaction such as "I feel that my partner enjoys our sex life" and "I think that sex is wonderful." Other researchers have used the Global Measure of Sexual Satisfaction to assess sexual satisfaction and the Global Measure of Relationship Satisfaction to assess relationship satisfaction (Byers & Demmons, 1999; Lawrance & Byers, 1998). These measures included a response to the item, "In general, how would you describe your sexual (for sexual satisfaction)/overall (for relationship satisfaction) relationship with your partner," using five 7-point bipolar scales (good-bad, pleasant-unpleasant, positive-negative, satisfying-unsatisfying, and valuable-worthless). Characteristics of the individuals in the relationship, aspects of sexual satisfaction, and aspects of relationship satisfaction may also contribute to the overall level of satisfaction in a partnership.

Link Between Relationship Satisfaction and Sexual Satisfaction

Researchers (Apt et al., 1996; Byers, 2001; Hurlbert & Apt, 1994), therapists (Wincze & Carey, 2001), and the lay public (Sprecher, 1998) have acknowledged the link between people's sexual satisfaction and relationship satisfaction. Numerous studies support the theory that relationship satisfaction and sexual satisfaction are intertwined (e.g., Byers, 2005; Haavio-Mannila & Kontula, 1997). For example, Henderson-King and Veroff (1994) provided support for a bidirectional relationship between the satisfaction constructs, meaning that relationship satisfaction causes sexual satisfaction and sexual satisfaction causes relationship satisfaction, although there is a lack of consensus regarding the applicability of this theory. In addition, Byers (2005) found that sexual satisfaction and relationship satisfaction seem to change concurrently, meaning that as relationship satisfaction increases so does sexual satisfaction and vice versa. Therefore, neither relationship satisfaction nor sexual satisfaction can be said to lead to changes in the other type of satisfaction. Davies, Katz, and Jackson (1999) provided another perspective by stating that relationship satisfaction is the most important contributor to sexual satisfaction for men and women, although this association has been found to be more prominent in women (Byers, 2001), and Newcomb and Bentler (1983) found that a woman's sexual satisfaction is strongly influenced by her perceived degree of emotional involvement in her intimate partner. In addition, Fields (1983) found that the quality of a sexual relationship affects

the quality of the relationship among married couples. In addition, others have suggested that sexual satisfaction in a relationship is an important component in creating and maintaining a happy relationship (Apt et al., 1996; Christopher & Sprecher, 2000; Donnelly, 1993; Fields, 1983). Similarly, individuals with greater relationship satisfaction report greater sexual satisfaction (Byers, 2005; Haavio-Mannila & Kontula, 1997; Purnine & Carey, 1997) and Byers (2001) reported that relationship satisfaction has a substantial influence on the overall sexual satisfaction of the individuals in the relationship, even more so than the specific sexual behavior engaged in (Byers, 2001).

MacNeil and Byers (1997) reported that a balanced relationship (i.e., when both individuals in the relationship experience similar levels of satisfaction) is indicative of sexual satisfaction in a romantic relationship and that couples tend to perceive their partner's level of satisfaction to be comparable to their own (Byers, 2001; MacNeil & Byers, 1997). However, few studies have examined the nature of sexual and relationship satisfaction on a dyadic level; most have looked at the perceptions of the satisfaction level by one partner or the other. Although support has been strong for the association between relationship satisfaction and sexual satisfaction, the link between these two constructs may not be direct (McCabe, 1999) and factors that potentially affect the link between relationship and sexual satisfaction should be considered.

The Effect of Communication on Satisfaction

Researchers have indicated that communication in couples may strongly influence levels of satisfaction (Byers & Demmons, 1999; Cupach & Comstock, 1990). For example, a couple's communication behaviors and patterns of interaction are related to satisfaction within their marriage (Litzinger & Gordon, 2005), and more specifically, effective communication has been cited as an important component central to relationship satisfaction (Carrere & Gottman, 1999; Christensen & Shenk, 1991; Gottman & Levenson, 1998). In this context, communication has often be assessed using the Communications Patterns Questionnaire (Christensen & Sullaway, 1984), which asks about spouse perceptions of communication when (a) "some problem in the relationship arises," (b) "during a discussion of relationship problems," and (c) "after a discussion of a relationship problem." Sexual communication has also be assessed using a measure of Sexual Communication Satisfaction (Cupach & Comstock, 1990), which includes items such as "I am not afraid to show my partner what kind of sexual behavior I find satisfying" and "My partner does not show me when he or she is sexually satisfied." Quality of communication—sexual and nonsexual—has also been assessed using the Dyadic Sexual Communication Scale (Catania, 1986, 2011) and the Communication Function Questionnaire (Burlinson & Samter, 1990) respectively.

Yet, communication skills may not be the only determinant of relationship happiness as other factors such as the characteristics of the individuals in the relationship and of the relationship itself may influence the effect of communication on happiness (Litzinger & Gordon, 2005). In addition, various types of communication, such as sexual communication (i.e., communication regarding the sexual aspects of a relationship) and nonsexual communication (i.e., communication which addresses other aspects in the relationship outside of sex) may also affect sexual and relationship satisfaction.

Successful sexual communication and nonsexual communication within a romantic relationship is highly related to sexual and relationship satisfaction (Byers & Demmons, 1999; Cupach & Comstock, 1990). However, studies tend to focus on relationship satisfaction or sexual satisfaction with regard to communication, but rarely the combination of both. Given that relationship and sexual satisfaction are so intertwined, examining communication in the context of both may be helpful. In addition, research tends not to distinguish between sexual and nonsexual communication. For example, MacNeil and Byers (1997) found that sexual satisfaction has a strong association with levels of sexual and nonsexual communication within the couple, but this study did not directly examine relationship satisfaction, which could have affected the findings. Egeci and Gencoz (2006) found a strong association between relationship satisfaction and communication skills (i.e., "individual's communication abilities and problems they face during communication" [p. 386]) in individuals currently involved in a romantic relationship, yet they did not address sexual satisfaction nor did they distinguish between sexual and nonsexual communication. However, this association held true after accounting for the influence of external variables such as self-esteem and attachment patterns, which limits the extent to which confounding variables may have influenced the findings. As such, communication seems to be an important factor in assessing overall satisfaction, and it may mediate the link between relationship satisfaction and sexual satisfaction within a romantic dyad.

For years, sex and couple therapists have emphasized the importance of general communication in order to improve relationship satisfaction, further indicating that communication may be a substantial factor in overall satisfaction within a romantic relationship (LoPiccolo & LoPiccolo, 1978; Russell, 1990). For example, lack of communication, distressed communication, and negative communication have all been linked to couple distress and more conflict or psychological distance within the relationship (Baucom & Adams, 1987; Gottman & Krokoff, 1989; Noller & Fitzpatrick, 1990).

Although communication seems to be an important aspect influencing a couple's relationship satisfaction (Egeci & Gencoz, 2006), other researchers maintain that satisfaction in the sexual relationship play an integral role in the creation and maintenance of overall relationship happiness (Apt, et al., 1996; Christopher & Sprecher, 2000; Donnelly, 1993; Fields, 1983).

Researchers have mainly used cross-sectional data (Hurlbert & Apt, 1994; McCabe, 1999; Hurlbert et al., 2000; MacNeil & Byers, 2005; Byers & Demmons, 1999) and some longitudinal data (Byers, 2005; Yeh et al., 2006) to examine the association among relationship and sexual satisfaction along with communication. There is a lack of available research that has assessed these associations within a couple via dyadic data. Given that previous research indicates that sexual and relationship satisfaction are intertwined and that communication seems to influence both types of satisfaction, the purpose of the present study was to test a mediation model whereby couples' relationship satisfaction was hypothesized to predict couples' sexual satisfaction by way of sexual and nonsexual communication levels. Specifically, the present study aimed to assess the mediation of sexual and nonsexual communication on the link between relationship and sexual satisfaction among a sample of couples in committed relationships. This was accomplished by testing a proposed model of sexual and nonsexual communication as mediating the link between relationship satisfaction and sexual satisfaction using structural equation modeling in a sample of college-age heterosexual couples.

METHOD

Procedure

A total of 133 couples attending a midsize university who were in a monogamous, heterosexual relationship for at least 12 months at the time of the study completed an online survey investigating satisfaction in romantic relationships. Participants were recruited through the following methods: (a) information posted about the survey in high-traffic campus areas, (b) email distributions across various departments on campus, and (c) online advertisements. Interested participants were instructed to e-mail the principal investigator for information about the study. Eligibility criteria included that the participants must be older than 18 years of age, in a heterosexual, monogamous relationship for a minimum of one year, and the partner of the interested participant also had to be willing to participate individually. Participants were emailed the study URL with independent, but corresponding (for data analytic purposes), study codes to access the study link.

After the participants entered the study code, they were brought to a study consent form. If they consented to participate, they were directed to the study questionnaire and instructed to complete it independent of their partner. Participants were provided unlimited time to complete the survey and could discontinue their participation at any time. There were 288 individuals who accessed the link and consented to participate in the study. Of those, four individuals identified themselves as in nonheterosexual relationships (two couples), nine encountered technical problems (e.g., code typed

incorrectly), and nine individuals' partners did not complete the questionnaire, so those participants were removed from the final sample. Therefore, 133 women and 133 men (266 couples) were included in the present sample.

Although using Internet-based data collection methods limits sampling to only those individuals with access to a computer with an Internet connection, previous research has found that Internet-based studies using a convenience sample can help researchers investigate sensitive issues such as sexuality (Carballo-Diequez, Miner, Dolezal, Rosser, & Jacoby, 2006; Prause & Graham, 2007; Turner, Miller, & Rogers, 1997). Furthermore, web-based surveys can be a more comfortable environment to collect data on sensitive issues such as sexuality, and therefore couples may have been more likely to submit accurate sexual information online, thus reducing response bias (Turner et al., 1998). Also, Internet data has been found to be equivalent in comparison to traditional data collection methods in terms of validity and reliability, and is a more efficient way of collecting questionnaire data (Tyron, 2003).

Participants

Female participants' age ranged from 18 to 37, ($M = 21.87$ years, $SD = 3.17$ years) and the male participants' age ranged from 19 to 41 years ($M = 23.04$ years, $SD = 4.09$ years); men were significantly older than women, $t(264) = 2.60$, $p < .05$. The majority of the participants, 227 individuals in this sample, identified as Caucasian/White (85.3%); there were no significant gender differences for race.

The participants were in their current relationship for a minimum of 1 year and a maximum of 14 years ($M = 4.32$ years, $SD = 3.13$ years). All of the couples in the sample indicated that they were in a heterosexual relationship at the time of data collection and although the majority of the sample individually identified as heterosexual (95.1%), some participants identified as bisexual (1.5%), queer (0.8%), or uncertain/questioning (0.8%). Of the 133 couples included in the analysis, 32 of the couples (23.7%) were living together at the time of data collection and 101 couples (76.3%) were not.

Measures

Measures included demographic items, including questions on age and duration of relationship, as well as the following measures:

INDEX OF SEXUAL SATISFACTION

This index is a 25-item scale that measures the level of sexual satisfaction with a partner where higher scores are indicative of higher levels of

satisfaction (Hudson, Harrison, & Crosscup, 1981). We used the Index of Sexual Satisfaction to assess sexual satisfaction in the current relationship and has demonstrated good reliability and validity (Davies et al., 1999). Scores on the Index of Sexual Satisfaction distinguish between couples with and without sexual problems and correlate well with measures of marital adjustment, indicative of concurrent and discriminant validity (Hudson, 1982; Hudson et al., 1981). In the present sample, the internal consistency coefficient was sufficiently high for women ($\alpha = .92$) and men ($\alpha = .89$).

DYADIC ADJUSTMENT SCALE

The Dyadic Adjustment Scale comprises 32 items that measure the level of relationship quality in a romantic partnership and is composed of four subscales: dyadic consensus, affection, cohesion, and satisfaction (Spanier, 1976). We used the satisfaction subscale to assess relationship satisfaction. The satisfaction subscale consists of a total score of 10 items where higher scores are indicative of higher satisfaction. The full scale has shown strong reliability and validity in cohabiting couples (Carey, Spector, Lantinga, & Krauss, 1993; Hunsley, Pinsent, Lefebvre, James-Tanner, & Vito, 1995). Although reliability and validity has not been assessed in noncohabiting couples, the questions that comprise the satisfaction subscale are more generic items as opposed to those asking about finances for example, that may not be applicable to noncohabiting couples. In the present sample, the internal consistency coefficient (Cronbach's α) was .77 for women and .79 for men.

COMMUNICATION FUNCTION QUESTIONNAIRE

This questionnaire is a 12-item scale measuring the quality of communication between a dyad where higher scores are indicative of higher quality communication between two people (Burlison & Samter, 1990). It has been modified for use with romantic couples and shown strong psychometric properties (Burlison, Kunkel, Samter, & Werking, 1996). In the present study, we used the Communication Function Questionnaire to assess nonsexual communication in the relationship and the internal consistency coefficient (Cronbach's α) was 0.82 for women and 0.78 for men.

DYADIC SEXUAL COMMUNICATION SCALE

This scale comprises 13 items measuring the quality of sexual communication between individuals in a relationship (Catania, 1986, 2011). In the present study, we used the Dyadic Sexual Communication Scale to measure sexual communication in the context of the relationship. Higher scores on this scale are indicative of higher quality communication in the couple. In our sample, the internal consistency coefficient was sufficiently high for women ($\alpha = .79$) and men ($\alpha = .82$).

Analyses

The proposed model focused on the mediating role of sexual and nonsexual communication between relationship and sexual satisfaction. The model was tested with path analysis using structural equation modeling to keep the individuals in the dyad linked while assessing the dyadic sample as a whole. One key benefit of structural equation modeling is that it allows researchers to estimate all model parameters simultaneously in complex models such as the mediation model presented in the present study. As such, the variables in the model were correlated with one another on the couple and individual level, whereas the path coefficients were calculated between (a) the communication variables and relationship and sexual satisfaction and (b) relationship and sexual satisfaction. Although the final model's chi-square was marginally significant, $\chi^2(13) = 22.42, p = .05$, this is not unusual in large samples (Kline, 1998).

The mediation model involved a number of paths between study variables. First, there were paths from the predictors (women's and men's relationship satisfaction) to each of the mediators (sexual communication and nonsexual communication). Second, there were paths from the mediators to the outcome variables (women's and men's sexual satisfaction). See Figure 1 for a path model of these variables with standardized values. The curved arrows represent correlated error between variables. To account for the interdependence between relationship satisfaction and sexual satisfaction within couples, both satisfactions were correlated between women and men to improve the fit of the model and better represent the true nature of relationships. In addition, within each gender, errors were correlated between sexual and nonsexual communication.

RESULTS

Descriptive statistics and zero-order correlations among all the variables of interest are reported in Table 1. Sexual satisfaction and relationship satisfaction were significantly correlated within the individual and between women and men. All of the variables were significantly, positively correlated with one another with the exception of men's nonsexual communication and women's sexual communication. None of the correlations was greater than .58, indicating minimal risk for multicollinearity.

We tested the structural model (see Figure 1) using maximum-likelihood method in AMOS 4.0. The models were evaluated at two levels: overall model fit and individual parameters included within the model. Because of limitations with the chi-square likelihood test, researchers have suggested using a number of criteria to determine the fit of the model to the data (e.g., Hoyle, 2000). In the present study, the statistical significance of model parameters such as factor loadings and structural coefficients were evaluated

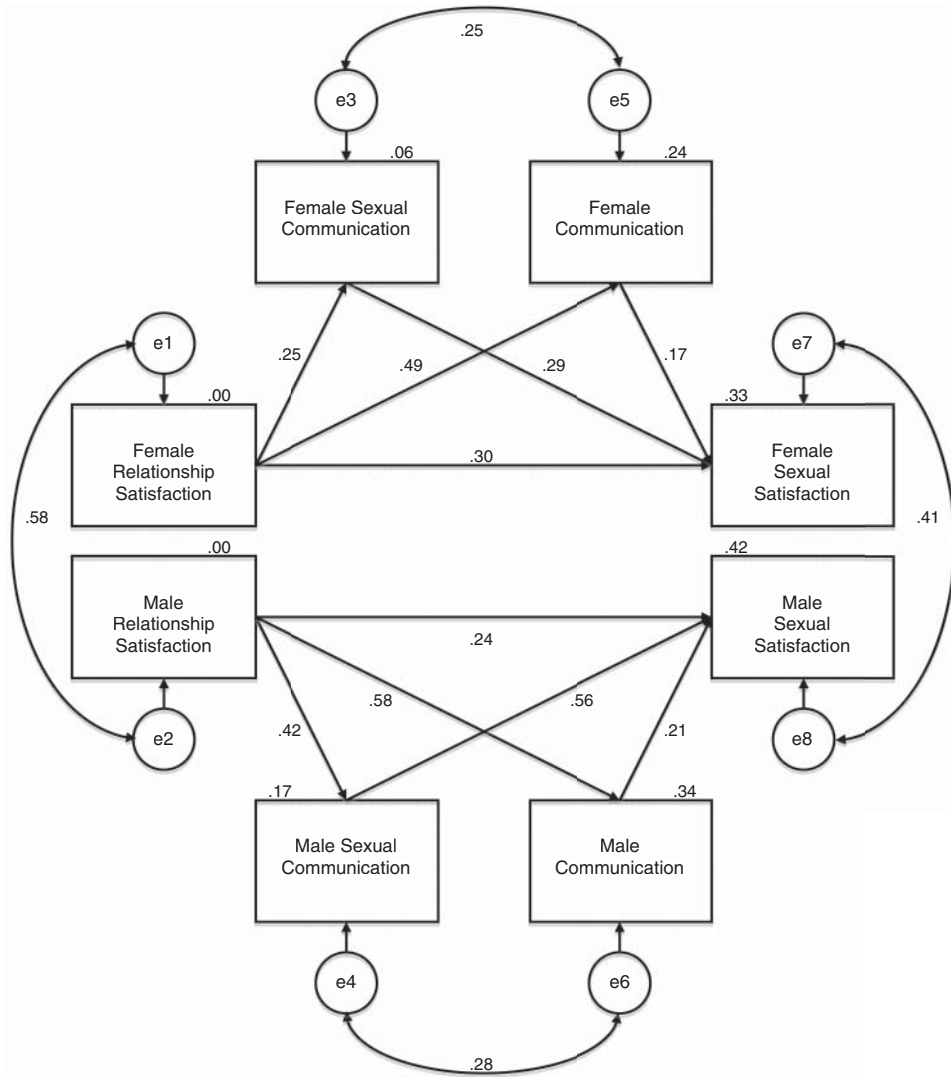


FIGURE 1. The fully mediated model ($N = 266$) displaying factor loadings and standardized structural path coefficients, all significant at $p < .001$.

based on an alpha level of .05. In evaluating overall model fit, the following indices were used in addition to the chi-square statistic: (a) the comparative fit index (CFI), with values greater than 0.90 indicating a reasonable fit; (b) the Tucker Lewis Index (TLI), with values greater than 0.90 indicating a reasonable fit; (c) the root mean square error of approximation (RMSEA), with values less than 0.10 indicating a reasonable fit. The final estimated mediation model fit well according to descriptive fit indices, $\chi^2(14) = 26.43$, $p < .05$, CFI = 0.97, TLI = 0.93, RMSEA = 0.08. In addition, all indices of the

TABLE 1. Descriptive Statistics and Zero-Order Correlations

	1	2	3	4	5	6	7	8
Women								
1. Index of Sexual Satisfaction	—							
2. Dyadic Adjustment Scale-Satisfaction	.42***	—						
3. Dyadic Sexual Communications Scale	.46***	.25**	—					
4. Communication Function Questionnaire	.40***	.49***	.33***	—				
Men								
5. Index of Sexual Satisfaction	.48***	.18*	.28**	.18*	—			
6. Dyadic Adjustment Scale-Satisfaction	.33***	.58***	.20*	.30**	.51***	—		
7. Dyadic Sexual Communications Scale	.26**	.18*	.30**	.27**	.56***	.42***	—	
8. Communication Function Questionnaire	.30***	.31***	.12	.22*	.54***	.58***	.45***	—
<i>M</i>	147.67	40.91	67.71	53.80	146.42	40.30	64.88	52.01
<i>SD</i>	16.62	4.13	8.15	6.06	17.43	4.89	9.39	6.62

Note. For each gender, $n = 133$.

* $p < .05$. ** $p < .01$. *** $p < .001$.

preceding steps of the mediation model indicated good model fit. Although some modifications could have been made to the model to improve model fit at some steps, the focus of the present study was to test the mediation rather than to find the best fitting model. Therefore, modifications were not made at any steps of testing mediation. All standardized parameter values in the final full mediation model appear in Figure 1.

According to Baron and Kenny (1986), using structural equation modeling to measure mediation can be tested through a number of steps. First, the path between relationship satisfaction and sexual satisfaction was tested. Relationship satisfaction significantly predicted sexual satisfaction for women ($R^2 = 0.46, p < .001$) and men ($R^2 = 0.49, p < .001$). Second, the overall fit among relationship satisfaction, sexual satisfaction, and sexual and nonsexual communication was tested. Relationship satisfaction remained a significant predictor of sexual satisfaction for women ($\alpha = 0.30, p < .001$) and men (*coefficient* = .24, $p < .001$). Relationship satisfaction was significantly, positively related to sexual communication for women and men (women: *coefficient* = 0.25, $p < .001$; men: $\alpha = 0.42, p < .001$) and nonsexual communication (women: *coefficient* = 0.49, $p < .001$; men: *coefficient* = 0.58, $p < .001$). Sexual communication (women: *coefficient* = 0.29, $p < .001$; men: *coefficient* = 0.36, $p < .001$) and nonsexual communication (women: *coefficient* = 0.17, $p < .001$; men: *coefficient* = 0.21, $p < .001$) were significant predictors of sexual satisfaction. Third, the same model with the path from sexual satisfaction to relationship satisfaction removed was tested. The fit indices suggest the data did not fit this model as well as the previous model, $\chi^2(15) = 43.28, p < .01$, CFI = 0.92, TLI = 0.85, RMSEA = 0.12, most likely because of the path between sexual and relationship satisfaction being so crucial in this relationship. Fourth, the overall model under two conditions was tested: (a) constraining the path between sexual and relationship satisfaction to zero, and (b) leaving that path unconstrained. The fit indices suggest the data fit the model well: $\chi^2(15) = 43.28, p < .01$, CFI = 0.92, TLI = 0.85, RMSEA = 0.12; and $\chi^2(13) = 22.42, p < .05$, CFI: 0.97, TLI: 0.94, RMSEA: 0.07. Fifth, to test mediation, we conducted a chi-square difference test to assess whether the nonconstrained model fit significantly better than did the constrained model. The chi-square difference test was significant, $\Delta\chi^2(2) = 20.86, p < .001$. Therefore, it can be concluded that sexual and nonsexual communication significantly mediated the link between sexual satisfaction and relationship satisfaction.

DISCUSSION

We aimed to examine how a model of relationship and sexual satisfaction was mediated by sexual communication and nonsexual communication in a sample of heterosexual couples. Sexual and nonsexual communication significantly mediated the link between relationship and sexual satisfaction.

This study is the first to use a single statistical model to assess the indirect and direct effects of relationship satisfaction and two forms of communication (sexual and nonsexual) on sexual satisfaction using a single sample of intact dyads. Although the link between these constructs has been previously discussed (e.g., Byers, 2005; Haavio-Mannila & Kontula, 1997; Lawrance & Byers, 1995; Purnine & Carey, 1997), the present findings emphasize the strengths of these associations in relation to one another through the use of dyadic data. Consistent with previous research (Byers, 2005; Lawrance & Byers, 1995), relationship satisfaction accounted for an impressive 46% of sexual satisfaction in women and 49% of sexual satisfaction in men suggesting, as others have, that these two constructs are related for women and men. Thus, being satisfied in a romantic relationship may increase sexual satisfaction in a partnership. More specifically, results from the present study indicate that the link between relationship and sexual satisfaction is affected by levels of sexual and nonsexual communication among individuals in a dyad suggesting that partners' communication is an influential factor responsible, at least in part, for how relationship satisfaction intertwines with sexual satisfaction. Such findings may have important implications for individuals in a couple as well as therapists, counselors and educators who work with couples to improve relationship and/or sexual satisfaction. By understanding the difference between sexual and nonsexual communication and acknowledging that both types of communication may affect sexual satisfaction, therapists, counselors, and educators can focus on building specific communication skills. It is important to note that in this sample of young adults, having strong sexual and nonsexual communication skills is related to satisfaction levels.

This study makes an important contribution to the sexual and relationship satisfaction and communication literature. Past research has yet to acknowledge the links among relationship satisfaction, sexual satisfaction and both sexual and nonsexual communication among couples in a committed relationship. Most of the previous work in the field has mainly focused on either sexual satisfaction or relationship satisfaction exclusively, or has only examined one type of communication (either sexual or nonsexual, but not both at the same time), and has not kept dyads intact. The model presented in the current study attempts to provide some clarity to these issues by using advanced statistical techniques that can examine these variables relative to one another simultaneously within couples. The results indicate that both sexual and nonsexual communication significantly affect sexual satisfaction levels as both types of communication significantly mediated the path from relationship satisfaction to sexual satisfaction. This suggests that although there is an association between relationship and sexual satisfaction, that association is influenced by both sexual and nonsexual communication. Such findings may have important implications for individuals in a couple as well as therapists, counselors and educators who work with couples to improve relationship and/or sexual satisfaction. The present study used the

Communication Function Questionnaire and the Dyadic Sexual Communication Scale to assess sexual and nonsexual communication respectively. Both measures assessed the quality of communication between individuals in the dyad. Therefore, when providing guidance or teaching about mechanisms to improve sexual satisfaction, professionals may benefit from educating clients/students about the potential benefits of improving the quality of sexual and nonsexual communication within the partnership in order to enhance satisfaction. Improving the quality of communication in a partnership may help enhance relationship satisfaction in a few ways: (a) it can help create trust in the relationship, (b) it allows for an immediate need (perhaps a sexual interest) to be addressed, and (c) it helps to create an opportunity for partners to talk about their needs in the future. By positively influencing communication in a partnership, couples may find greater satisfaction both sexual and relational with their partners.

Communication explained a substantial amount of variance for both men (49%) and women (46%) suggesting that communication is an important component of achieving and maintaining satisfaction among couples. The link between relationship and sexual satisfaction is indirectly affected by sexual and nonsexual communication. As such, in a relationship, sexual and nonsexual communication affects the link between relationship and sexual satisfaction. These findings suggest that improving communication within a couple, both sexual and nonsexual, may, in turn, improve sexual satisfaction levels and as sexual satisfaction increases in a partnership, individuals in a couple continue to communicate, thus continuing to strengthen the relationship. Results may also suggest that if individuals are relationally unsatisfied yet maintain general communication or communication specifically pertaining to sex, sexual satisfaction can remain intact.

This study contributed to the literature using a dyadic sample analyzed with structural equation modeling, a statistically rigorous method that allows for the simultaneous estimation of a system of equations. This method enabled us to estimate the model as a whole, while taking into consideration each dyad as a pair and also considering how each variable affects the others. This is an important feature of the present study, as the constructs examined exist simultaneously in the context of a relationship, so structural equation modeling provided a mechanism to test these constructs and the relationship between them as they occur naturally.

Although this study demonstrates important strengths, it is not without limitations. The present study examines the direct and indirect effects of sexual and nonsexual communication and relationship satisfaction on sexual satisfaction among a university-based sample of college students, and results may not be generalizable to all college students or all individuals in heterosexual, monogamous relationships. Furthermore, it is important to note that correlational data such as the data presented here does not allow one to

determine if relationship satisfaction causes sexual satisfaction, although this was the directionality of the path in this particular study, which is consistent with some previous research (Davies et al., 1999). Testing the reverse link with regard to communication and conducting longitudinal research that can perhaps clarify the directionality of the link between relationship and sexual satisfaction would both be valuable avenues for future research.

The survey data used in the present study also relied on self-report and given that questions pertained to sexual and relationship satisfaction and individuals knew their partners were also participating in the study, participant responses may be biased, though this was thought to be minimized given that surveys were to be filled out separately using unique web links and study codes that ensured anonymity. In addition, given that the average relationship length among couples in this study was four years and most of the couples in the study were relatively young, results may change over time and over the course of the relationship as the couple continues to develop and grow. Last, the sample lacked a large degree of variability in the predictor and outcome variables as most couples indicated being relatively satisfied. This model may yield different results if more variability were reported in satisfaction levels among participants in the sample. Future research may examine the fit of such a model on a less satisfied sample of couples.

Overall, the present sample demonstrated the importance of sexual and nonsexual communication on satisfaction in a couple. In addition to the directions toward future research, these findings also have clinical implications indicating that building general communication and sexual communication skills can affect satisfaction levels in a couple. Sexual communication was significantly correlated with nonsexual communication in the present sample. However, it is important to note that they are distinct constructs. Acknowledging the difference between the two forms of communication to clients may be helpful, given that improving both forms of communication can improve satisfaction. Sexual and nonsexual communication contribute a substantial amount of variance to satisfaction and therapists may choose to direct their efforts toward improving communication skills if they would like to improve satisfaction levels.

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