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Understanding the Psychometric Properties of the Sexual Communication Style Scale

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Abstract

The purpose of this study was to create and validate a scale that could be used to examine the verbal and sexual communication that occurs during sexual interactions. The Sexual Communication Style Scale consists of 18-items that factored into two clear factors (verbal and nonverbal sexual communication). This study utilized five previously validated scales (temperament, sociocommunicative orientation, sexual narcissism, dyadic sexual communication, and sexual satisfaction) to determine the predictive validity of the Sexual Communication Style Scale. Partner verbal sexual communication was found to be positively related to participant extraversion, participant perceptions of dyadic sexual communication, and participant sexual satisfaction, and negatively related to participant neuroticism. Partner nonverbal sexual communication was found to be positively related to participant perceptions of dyadic sexual communication and participant sexual satisfaction, and negatively related to participant sexual narcissism.

In the mid-1990s, the rap duo Salt 'N' Pepa released a song entitled "Let's Talk about Sex." The lyrics in the chorus of the song takes place between an imaginary couple where one person says, "Let's talk about sex baby/ Let's talk about you and me/ Let's talk about all the good things/ And the bad things that may be/ Let's talk about sex." While this song may be catchy and defined a generation's perception of sexual communication, research in the area of sexual communication dates back to 1966 with the publication of Masters and Johnson's *Human Sexual Response*. Masters and Johnson realized that communication during sexual intimacy was extremely important to relational and sexual satisfaction. In fact, Masters and Johnson thought sexual communication was so important they developed a 3-stage sensate focus exercises that moves a couple stepwise from non-genital pleasuring to genital pleasuring to non-demanding coitus, which is still used by sex therapists and physicians today to treat a myriad of sex related problems (Beers & Berkow, 1999).

Research in sexual communication can be broken down into three different forms: symbolic interaction, communication about sex, and communication during sex. While not related to the current study, one group of sexual communication researchers spend their time applying the concepts of symbolic interactionism to the discussion of how sexual identities and realities are created (Gecas & Libby, 1976; Longmore, 1998). These researchers believe that our perceptions of sex are created largely through our use of language and our interaction of this language with others. The second type of research, which is the most common form of sexual communication research, with the exception of the Masters and Johnson (1966, 1979) observational studies, examines how couples communicate about sex (Catania, 1986; Catania et al., 1989; Cupach & Comstock, 1990; Dolcini, Coates, Catania, Kegeles, & Hauck, 1995; L. Wheelless, V. Wheelless, & Baus, 1984), which is reminiscent of the lyrics described above from Salt 'N' Pepa. This type of research has predominantly stemmed out of the need for research on safer sex that has come about as a result of the AIDS crisis in the United States. Communication about sex research has examined topics like condom usage during sex (Catania et al., 1989, 1993, 1994) and the tendency to engage in extramarital sexual relations (Choi, Catania, & Dolcini, 1994). The third type of sexual communication research examines communication between sexual partners during sexual interaction. Although this third type of sexual communication is realized to be an extremely important part of sex research, very little research has been conducted in the area of communication during sex (Spercher & Cate, 2004). Spercher and Cate (2004) discuss two main reasons why communication during sex is virtually non-existent in sex research:

Several factors contribute to this situation. First, much sexual communication occurs during sexual interaction, which make it much less amenable to scientific study using observational methods.... Second, considerable sexual communication is transmitted through subtle nonverbal channels that may be relatively idiosyncratic to individual couples. (p. 246)

In essence, without climbing through the window or becoming a peeping tom, sex researchers currently do not have the ability to measure the extent to which people verbally and nonverbally communicate during sexual interactions. Previous research in the field of communication has consistently examined the need to research both verbal and nonverbal aspects of communication phenomenon (Andersen, Garrison, & Andersen, 1979; Mehrabian & Ferris, 1967; Richmond & McCroskey, 2004). The purpose of this study is to create and validate a new measure to enable researchers to study this third form of sexual communication, communication during sexual interactions.

Rationale

The purpose of this study was to create a measure for examining the verbal and nonverbal communication during sexual interactions. The new scale must have the ability to overcome both problems that Spercher and Cate (2004) identified. First, a new scale for examining sexual communication must be based on communication during sexual interactions, and secondly, the new scale must be able to measure both verbal and nonverbal sexual communication. As a result of this challenge, the *Sexual Communicator Style Scale* (SCSS) was created to measure an individual's tendency to communicate both verbally and nonverbally during sexual encounters with another person.

Sexual Communicator Style Scale Creation

Using the conceptualization that sex is a context for both verbal and nonverbal communication, the Sexual Communication Style Scale was created to measure the extent to which an individual's sexual partner communicates both verbally (use of words to relay a message to another person) and nonverbally (communication that occurs without the aid of words) during sex. The scale consisted of 30 Likert items ranging from (1) *strongly disagree* to (5) *strongly agree* (Table 1). The dimensionality of the 30 items from the Sexual Communicator Style Scale was analyzed using a maximum likelihood factor analysis with a varimax rotation. Three criteria were used to determine the number of factors to rotate: sampling adequacy, the scree test, and the interpretability of the factor solution. To examine sampling adequacy, Kaiser's Measure of Sampling Adequacy was used. The Kaiser's Measure of Sampling Adequacy obtained was .88, which is considered between "meritry" and "marvelous" for conducting a factor analysis (Kaiser, 1974). The scree plot clearly indicated that there were two primary factors.

To create the final version of the Sexual Communicator Style Scale, the top nine Eigenvalue loadings for each factor were used. Since the nonverbal factor only had nine items with eigenvalues above .6 without loading on the verbal factor above .45, only the top nine items for both the verbal and nonverbal factors were used to create the final instrument in an effort to keep the instrument's factors symmetrical (Table 1). The verbal sexual communication factor accounted for 45.99% of the variance, and the nonverbal sexual communication factor accounted for 19.76% of the variance for a cumulative total of 65.74% of the variance being accounted for by the two factors. Next, a Pearson Product Moment correlation was calculated between the two factors, $r(155) = .51, p < .0001$.

After the creation of the two factors, Cronbach (1951) alpha reliabilities were conducted on the two nine-item factors. Scores for both factors of the SCSS factor can range from 9-45, which was seen in this study. The alpha reliability for the verbal sexual communication factor was .95 ($M = 31.91, SD = 9.52$), and the alpha reliability for the nonverbal sexual communication factor was .91 ($M = 33.94, SD = 7.98$).

With the creation of the new Sexual Communicator Style Scale, a series of validity tests needed to be conducted to examine the predictive validity of the Sexual Communicator Style Scale. For this reason, five previously validated research measures were employed to test the predictive validity of the two measures created in this current study.

Predictive Validity Hypotheses

With the development of any new tool for research, understanding how validly a tool can be used is extremely important. For this reason, the three-factor temperament model (extraversion, neuroticism, and psychoticism), sociocommunicative orientation, sexual narcissism, dyadic sexual communication, and sexual satisfaction have been chosen to test the

predictive validity of the Sexual Communicator Style Scale.

Table 1
Sexual Communication Style Scale

		Full Factor Analysis		18-item Factor Analysis	
		Factor 1	Factor 2	Verbal	Nonverbal
1.	My partner does not verbally tell me when he or she is sexually satisfied. (19)	-.84	-.16	-.87	-.15
2.	My partner demonstrates what he or she likes sexually through her or his nonverbal communication. (22)	.01	.75	.01	.79
3.	My partner verbally tells me when he or she is sexually satisfied. (25)	.83	.16	.78	.25
4.	My partner demonstrates nonverbally what “turns them on” during sex. (26)	.01	.74	.01	.74
5.	My partner verbally communicates during sex. (13)	.81	.01	.79	.00
6.	I can tell when my partner is sexually satisfied through her or his nonverbal communication. (28)	.10	.73	.01	.76
7.	My partner does not verbally communicate during sex. (29)	-.81	.17	-.83	-.22
8.	I cannot tell when my partner is sexually satisfied through her or his nonverbal communication. (14)	-.16	-.73	.18	.74
9.	My partner talks during sex. (17)	.81	.01	.78	.00
10.	I can tell from my partner’s nonverbals whether he or she is enjoying sex. (24)	.12	.70	.11	.75
11.	My partner does not verbally tell me what he or she finds pleasing during sex. (27)	-.81	-.21	-.81	-.25
12.	My partner does not nonverbally demonstrate what “turns them on” during sex. (12)	-.28	-.64	-.30	-.63
13.	My partner is verbally communicative during sex. (21)	.80	-.00	.77	.01
14.	My partner does not communicate nonverbally that he or she is sexually satisfied. (20)	-.40	-.64	-.43	-.63
15.	My partner does not verbally tell me when he or she is enjoying sex. (23)	-.79	-.28	-.80	-.29
16.	My partner does not show me nonverbally when he or she is sexually satisfied. (10)	-.39	-.63	-.39	-.63
17.	My partner does not verbally demonstrate what he or she likes sexually. (7)	-.77	-.34	.78	.26
18.	My partner nonverbally communicates that he or she is sexually satisfied. (4)	.00	.57	.00	.64
19.	My partner does not verbally tell me what he or she likes sexually. (15)	-.76	-.28		

20.	My partner does not physically show me what he or she likes sexually. (18)	-.37	-.54		
21.	My partner tells me what he or she finds pleasing during sex. (11)	.74	.16		
22.	I cannot tell from my partner's nonverbals whether he or she is enjoying sex. (8)	-.25	-.52		
23.	My partner verbally tells me what he or she liked sexually. (1)	.73	.11		
24.	My partner is nonverbally responsive during sex. (16)	-.15	.44		
25.	My partner verbally tells me when he or she is enjoying sex. (9)	.68	.00		
26.	My partner is nonverbally responsive during sex. - 30	-.14	.43		
27.	My partner does not talk during sex. (3)	-.56	-.01		
28.	I can tell when my partner is sexually satisfied through her or his nonverbal communication. (6)	-.14	-.32		
29.	My partner verbally tells me when he or she is sexually satisfied. (5)	.56	.28		
30.	My partner physically shows me what he or she likes sexually. (2)	.35	.34		

Only the first 18-items were retained for the final Sexual Communication Style Scale.

Odd numbered questions were designed to represent verbal sexual communication and even numbered questions were designed to represent nonverbal sexual communication.

The number in parentheses indicates the original item numbers.

The items shown above are listed by the strength to which they loaded on the two factors

Temperament

One commonly employed way of examining an individual's temperament is through the three-factor model of temperament created by Hans Eysenck (1998). The model consists of three supertraits (extraversion, neuroticism and psychoticism). Extraversion exists on a continuum from Extravert to Introvert. People can exist at any point along the continuum. Extraverts are characterized by their desire to be sociable, have stimulation around them, and possess an easy going nature; whereas, introverts are quiet, asocial (or not social), serious, reliable, and controlled individuals (McCroskey, Richmond, and Wrench, in press).

The second of Eysenck's (1998) super traits, neuroticism, also exists along a continuum ranging from high to low neuroticism. Neuroticism is defined as an individual's tendency towards mania (being really happy) and depression (being really sad) (McCroskey, Richmond, and Wrench, in press). In other words, neuroticism measures an individual's emotional stability, which a person cannot have (high neurotic) or have (low neurotic). Furthermore, people that are highly neurotic are prone to high levels of anxiety, depression, and panic attacks (Eysenck, 1998).

The last of the three supertraits, psychoticism, refers to the extent to which an individual believes that societal rules and norms do or do not pertain to her or him (Eysenck, Eysenck, and Barrett, 1985). People that are highly psychotic tend to be loners, unempathetic (don't care about other people's emotions), and antisocial (violating social rules and norms). Highly

psychotic individuals are also more likely to be big risk takers. People at the opposite end of the psychoticism spectrum are high self-monitors (Beatty, McCroskey, and Valencic, 2001).

Eysenck's (1998) conceptualization of the three temperamental supertraits is a biological framework for understanding human behavior. In essence, Eysenck sees the three supertraits as intervening variables between genetics and human behavior. In communication research, Eysenck's supertraits have accounted for a great deal of variance in various communication variables: communication apprehension (Beatty, McCroskey, & Heisel, 1998, Beatty & Valencic, 2000, Kelly & Keaten, 2000), verbal aggression (Valencic, Beatty, Rudd, Dobos, & Heisel, 1998, Wrench, 2002), communicator style (Bodary & Miller, 2000, Horvath, 1995), sociocommunicative orientation (Cole & McCroskey, 2000), nonverbal immediacy (Cole, 2000), and humor (Wrench & McCroskey, 2001). However, none of these studies has shown that a person's temperament can predict someone else's communication or perceptions of someone else's communication. For this reason, we offer the following hypothesis:

H1: There will be no relationship between an individual's temperament and her or his perception of her or his partner's verbal and nonverbal sexual communication.

Sociocommunicative Orientation

While a lot of research has been conducted looking at biological sex differences (Canary & Dindia, 1998; Canary & Hause, 1993), an increasing body of research has been examining the impact that one's psychological gender has on her or his communication. In the mid to late 1970s, Sandra Bem (1974) began examining psychological gender orientation. In her theorizing of psychological gender, Bem measured two constructs, masculinity and femininity, using a scale she created called the Bem Sex-Role Inventory (BSRI). While the BSRI was great for initial research, the scale was found to have some serious statistical problems (Wheless & Dierks-Stewart, 1981). Primarily, the biggest complaint about the BSRI was that factoring structure that Bem (1974) hypothesized simply did not exist (Gaurdeau, 1977; Waters, Waters, & Pincus, 1977; V. Wheless & Dierks-Stewart, 1981; L. Wheless & V. Wheless, 1981).

Richmond and McCroskey (1985) hypothesized that the construct that Bem (1974) was attempting to measure actually related closer to communication styles than to psychological gender. The Richmond and McCroskey (1985) scale was originally designed for teaching purposes, but the scale has been used in a considerable amount of communication research (Cole & McCroskey, 2000; Ishi, Thompson, & Klopff, 1990; Richmond & McCroskey, 1990; Thomas, Richmond, & McCroskey, 1994; Thompson, Ishi, & Klopff, 1990; Wanzer & McCroskey, 1998; Wooten & McCroskey, 1996). One of the biggest shifts between the early gender theorizing of Bem (1974) to gender theorizing by Richmond and McCroskey (1985) has been discarding of the biological sexed biased language of "masculine" and "feminine" for a more gender neutral language of "assertiveness" and "responsiveness."

According to Richmond and Martin (1998), assertive communicators "are able to initiate, maintain, and terminate conversations, according to their interpersonal goals" (p. 136). Conversely, responsiveness refers to an individual who "considers other's feelings, listens to what others have to say, and recognizes the needs of others (Richmond & Martin, 1998). The sociocommunicative orientation scale has two subscales (assertiveness and responsiveness) with ten items on each subscale. Research conducted by Richmond and McCroskey (1990) found that the two subscales factored separately into two distinct factors (assertiveness and responsiveness), and the two factors are not meaningfully related to each other. In a study completed by Thompson, Ishii, and Klopff (1990) that compared American and Japanese sociocommunicative orientations, the researchers found that U.S. females reported higher responsiveness levels than

the Japanese females, but there was no difference in responsiveness between U.S. males and Japanese males. When examining assertiveness, the researchers found that U.S. females and males were more assertive than Japanese females and males. Overall, Thompson, Ishii, and Klopf (1990) found that cross-culturally females were more responsive and males were more assertive. This general pattern was also seen in a Chinese sample (Anderson, Martin, Zhong, & West, 1997) and a Russian sample (Christophel, 1996).

Outside of the intercultural examination of sociocommunicative orientation, research has also been conducted on the influence of sociocommunicative orientation and teaching style in the classroom, which has primarily looked at the impact that a teacher's sociocommunicative style, as perceived by her or his students, in the college classroom. In fact, research has found that a teacher's assertiveness and responsiveness positively relates to student perceptions of nonverbal immediacy (Thomas, Richmond, & McCroskey, 1994) and student perceptions of teacher trustworthiness (Wooten & McCroskey, 1996). Research by Wanzer and McCroskey (1998) found that there was a negative relationship between a teacher's sociocommunicative style and student perceptions of teacher misbehaviors. Aylor and Oppliger (2003) found that students were more likely to communicate with highly responsive teachers out of class, and were more satisfied with their communication with highly responsive teachers.

In the patient-physician context, Richmond, Smith, Heisel, and McCroskey (2002) found that a physician's responsiveness was positively related to patient perceptions of that physician's credibility (competence, caring/goodwill, and trustworthiness). Additionally, a physician's assertiveness is also positively related to patient perceptions of that physician's credibility (competence, caring/goodwill, and trustworthiness), but to a lesser degree. Most interesting in this study was the finding that a physician's responsiveness was positively related to patient perceptions of the quality of medical care one received and a patient's satisfaction with that physician. However, there was not a relationship between physician assertiveness and patient perceptions of the quality of medical care one received and a patient's satisfaction with that physician.

In a study by Cole and McCroskey (2000), the researchers examined the communibiological influence of socio-communicative orientations. Using Eysenck, Eysenck, and Barrett's (1985) Eysenck Personality Questionnaire – Revised (EPQ-R), Cole and McCroskey (2000) examined the relationship between the biologically based supertraits (extraversion, neuroticism, and psychoticism) and sociocommunicative orientation. When examining assertiveness, the researchers found a positive relationship between assertiveness and extraversion; a negative relationship between assertiveness and neuroticism; and no relationship between assertiveness and psychoticism. Overall, extraversion, neuroticism, and psychoticism accounted for 57% of the variance in an individual's assertiveness. When examining responsiveness, the researchers found a positive relationship between responsiveness and extraversion; a negative relationship between responsiveness and psychoticism; and no relationship between assertiveness and neuroticism. Overall, extraversion, neuroticism, and psychoticism accounted for 72% of the variance in an individual's responsiveness. In essence, an individual's responsiveness is fairly biologically based, but an individual's assertiveness appears to be both biologically and culturally based. Since Cole and McCroskey (2000) found a genetic predisposition to for assertiveness and responsiveness, there is no reason to think that one's assertiveness or responsiveness would relate to a person's perceptions of her or his sexual partner's verbal and nonverbal sexual communication. For this reason, we offer the following hypothesis:

H2: There will be no relationship between an individual's sociocommunicative orientation and her or his perception of her or his partner's verbal and nonverbal sexual communication.

Sexual Narcissism

The Narcissistic Personality Disorder has long been studied as an anti-social personality trait by psychologists and psychiatrists (American Psychiatric Association, 1994). While clear conceptualizations of the Narcissistic Personality are varying, the most commonly used instrument of assessment for the Narcissistic Personality Inventory (NPI) was developed by Raskin and Hall (1979) and has been shown to measure four major factors associated with narcissism: leadership/authority, superiority/arrogance, self-absorption/self-admiration, and exploitiveness/entitlement (Emmons, 1984, 1987). Narcissism is defined as the state of development where considerable erotic interest and attachment in one's own body and ego occurs, which impairs healthy cognition, affective responses, interpersonal functioning, and impulsivity (American Psychiatric Association, 1994). The current clinical thoughts on the development of narcissism lie primarily in unmet affective needs during childhood development (Farwell & Wohlwend-Lloyd, 1998).

Recently, David Hulbert and Carol Apt (1991) have started examining the innate sexual side of the Narcissistic Personality Disorder through what they have coined as "sexual narcissism." Apt and Hulbert (1995) defined sexual narcissism through a series of related behaviors, "persons with sexual narcissism are typically men who have traditional and rigid gender role orientation These individuals tend to manifest long-term, enduring patterns of chronic relationship intimacy dysfunction and exhibit low self-esteem these individuals show a preoccupation with sex and view themselves as excellent lovers. Sexual promiscuity is likely" (p. 104). In the original study, Hulbert and Apt (1991) found a relationship between a male's level of sexual narcissism and his tendency to be an abusive relational partner. In a predictive validity study by Hulbert, Apt, Gasar, Wilson and Murphy (1994), the researchers examined the relationship between sexual narcissism and narcissistic personality disorder (NPD) in military men both with diagnosed cases of NPD and a control group of males without personality disorders. In this study, narcissistic men were shown to have lower self-esteems, more negative attitudes toward sex, greater egocentric patterns of sexual behavior, more conservative (traditional gender-role orientation), and had greater preoccupations with sex. This study helps validate the notion that sexual narcissism is a characteristic of borderline and histrionic personality disorders. Further validation of this study came in the form of a study designed to look at the relationship between sexual narcissism and female sexuality. Hulbert, Apt, and White (1992) found that sexual narcissism is closely associated with cluster B type personality disorders (e.g., borderline personality disorder, depression, etc...).

One of the problems with most of the early research in sexual narcissism is that Hulbert and Apt have relied on heavily clinical samples (Hulbert & Apt, 1991; Hulbert et al., 1994; Hulbert, Apt & White, 1992). As a result of this limited perspective of sexual narcissism, Wryobeck and Wiederman (1999) conducted a study to analyze the incidence of sexual narcissism in a college male sample. In this study, sexual narcissism was found to positively relate to sexual sensation seeking, sexual preoccupation, sexual esteem, perceptions of the importance of sex, exposure to sexual media, number of sexual partners in a person's lifetime, and the number of sexual partners in the previous six months. Sexual narcissism was also shown to be negatively related to traditional sexual values, which mirrors the results from Hulbert and Apt (1991) and Hulbert et al. (1994).

Wryobeck and Wiederman (1999) found that in adults who do not have personality disorders sexual narcissism still affects their behavior and perceptions of sex. And since sexual narcissists are innately self-centered (Hulbert and Apt, 1991; Hulbert et al., 1994), it is conceivable to predict that sexual narcissists will not perceive their partners as sexually communicative or simply be unaware of their partner's sexual communication. For this reason we offer the following hypothesis:

H3: Sexual narcissism will not relate to a participant's perception of her or his partner's verbal and nonverbal sexual communication.

Dyadic Sexual Communication

As noted above, communication within sexual relationships is an extremely important part of a healthy relationship. For this reason, Catania (1986) created the Dyadic Sexual Communication scale. The Dyadic Sexual Communication scale is designed to measure an individual's perception of her or his partner's communication about their sex life. While the scale is a general scale to examine a couple's tendency to communicate about their sex life, most of the research using the scale has been completed examining how couples communicate about safe sex in the AIDS in Multi-Ethnic Neighborhoods (AMEN) research series.

In the AMEN studies, dyadic sexual communication has been shown to be related to a number of variables that can reduce the transmission of AIDS. For example, Catania et al. (1989, 1993, 1994) all found that dyadic sexual communication was a factor in predicting whether or not someone used a condom during sexual intercourse. Dolcini et al. (1995) and Catania et al. (1989) found that dyadic sexual communication also aiding in predicting whether or not someone would engage in sexual intercourse outside of a partnered relationship. In these two studies, there was also a negative relationship between likelihood to commit an extramarital affair and dyadic sexual communication. Based on these results, it would appear that communicating about the state of one's sexual relationship is important to prevent extramarital affairs. In another study by Choi, Catania, and Dolcini (1994), the researchers found that when comparing White, African-American, and Hispanic men that Hispanic men with poor dyadic sexual communication were more likely to engage in extramarital affairs than either White or African-American men. Although no one has actually studied the degree to which a person communicates during sex and the relationship with the degree to which couples communicate about their sex life, one could surmise that if one communicates in one context he or she would also communicate in the other context. For this reason, we offer the following hypothesis:

H4: There will be a positive relationship between dyadic sexual communication and both factors of the Sexual Communication Style Scale (verbal and nonverbal).

Sexual Satisfaction

Interpersonal communication scholars are always trying to find the answer to one simple question, "why do some relationships last, and others not." While there are many theories for why relationships last or dissolve, one important characteristic that has been shown to be consistent for romantic relationship longevity is sexual satisfaction (Sprecher & Cate, 2004). Sexual satisfaction is defined as "the degree to which an individual is satisfied or happy with the sexual aspect of his or her relationship" (Sprecher & Cate, 2004, p. 236). While defining sexual satisfaction is fairly simple, understanding what causes sexual satisfaction is not. Lawrence and Byers (1995) argued that sexual satisfaction is grounded in social exchange and created the Exchange Model of Sexual Satisfaction (IEMSS). This model proposes that sexual satisfaction is the result of a cost/benefit analysis. Lawrence and Byers (1995) demonstrated that partners within long term romantic relationships did perceive sexual satisfaction as positive if they

perceived that they benefited more from the sexual relationship than the sexual relationship cost them. This relationship between costs, benefits, and sexual satisfaction was later replicated within dating relationships where the dating partners were sexually intimate (Byers, Demmons, & Lawrence, 1998).

In one of the most ambitious sex studies to date, Laumann, Gagnon, Michael, and Michaels (1994) found that in a nation wide study 88% of married respondents reported being very or extremely physically pleased in their relationship. Furthermore, married participants reported having higher levels of emotional satisfaction and physical pleasure than cohabitating and single dating adults. In fact, regardless of relationship type, participants reported being most sexually satisfied when having sex with their primary partner when the participants did not have an additional secondary partner. Other research conducted by Waite and Joyner (2001) found that expectations of future relationship stability ultimately accounts for a lot of the variance in sexual satisfaction. Both men and women participants in Waite and Joyner's study indicated that emotional satisfaction and physical pleasure was strongly impacted by the stability and future outlook of the romantic/sexual relationship.

Although relationship stability is an important aspect of sexual satisfaction for both men and women, men and women do not view sexual satisfaction in identical fashions. Baumeister (2000) has proposed a unique theory for understanding how male and female sex drive, and ultimately sexual satisfaction, differ. The theory Baumeister (2000) has proposed is erotic plasticity, or the degree to which affective responses to sexuality and sexual behaviors are impacted by social, cultural, and situational variables. Males tend to be more consistent (aka have stronger biological underpinnings for sex drive) in their sexual feelings and behaviors, or males are less erotic-plastic. Females, conversely, tend to be largely shaped by non-biological forces. In fact, Baumeister (2000) reported that female sexual orientation is more malleable than male sexual orientation; female sexuality is more likely to be impacted by cultural, religious, and educational forces than males; and women have lower sexual attitude-behavior consistency than males. As a result of this erotic plasticity, women and men do view sexual satisfaction differently. In fact, these differing perceptions of sexual satisfaction may be why the Laumann et al. (1994) study found that 25% of married men and 15% of married women engaged in extramarital sexual activity. In a meta analysis of gender differences and sex drive, Vohs, Cantanese, and Baumeister (2004) reported that no "measure in any study showed women to have a stronger [sex] drive than men" (p. 458). As a result of these differences, men are more likely to engage in extramarital sexual activity if they perceive their normal sexual relationship as non-satisfying (Vohs, Cantanese, & Baumeister, 2004). Other research by Sprecher (2002) and Oggins, Leber, and Veroff (1993) found that sexual satisfaction was a very good predictor of relationship dissolution.

Communication has also been shown to be an extremely important variable when trying to understand sexual satisfaction. While research has shown that sexual communication is important, scant research has been completed in this area (Sprecher & Cate, 2004). The research that has been conducted has primarily focused on communication about sex outside of an actual sexual context. Byers & Demmons (1999) found a positive relationship between talk about sex in general and both sexual and non-sexual relationship satisfaction. Further research by Cupach and Comstock (1990) found that the quality of sexual communication positively related to sexual and nonsexual satisfaction. L. Wheeler, V. Wheeler, and Baus (1984) found that sexual communication related positively to relationship development and overall communication satisfaction within a relationship. As Sprecher and Cate (2004) noted, sexual communication

research is sparse despite its purported importance. Outside of the observational research of Masters and Johnson (1966, 1979), no research has attempted to measure the communication between individuals involved in sexual activity. With that said, it is expected that there would be a positive relationship between individuals communicating both verbally and nonverbally during sex and sexual satisfaction. For this reason, we offer the following hypothesis:

H5: There will be a positive relationship between a participant's sexual partner's verbal and nonverbal sexual communication and participant sexual satisfaction.

Method

Procedures

Participants in this study were recruited using two different methods. First, an internet based sample was collected using the same technique employed by Wrench and Booth-Butterfield (2003). Participants were recruited through fifty Internet postings in America Online chat rooms asking for participants. Individuals in the chat rooms were also asked to forward the call for participants to any friends and family. Participants who decided to participate in the study were sent to the World Wide Web page where they read the consent form with a link to the survey if they decided to participate ($N = 88$). Previous research has suggested that online samples may be more honest when talking about issues related to sexuality (Blink, Mah, and Kiesler, 1999). However, generalizability is always a concern since people on the internet tend to be "younger, richer, better educated, more likely male, and more likely to have computer and technical skills than the general population" (Blink, Mah, and Kiesler, 1999, p. 83).

The second sample employed in this study was a simple networking sample. Network samples have been used successfully in sex research because finding people in the general public willing to discuss sexual cognitions and behaviors is often very difficult (Dunne, 2002). College students at a large Mid-western university's regional campus were asked to help find research participants for the study. Students in six separate classes were asked to recruit family and friends for the study. The network sample participants were given a blank paper copy of the survey and an empty envelope. The first page of the study contained a consent letter which explained the nature of the study and clearly said that participants were not required to participate in the study. Since anonymity is an extremely important aspect for self-disclosure and to reduce social-desirability bias in sex research (Meston, Heiman, Trapnell, & Paulhus, 1998; Richman, Weisband, Kiesler, & Drasgow, 1999), participants were informed that returning the completed survey in the envelope equated to their signed consent for participation in this study. After completing the survey, participants were directed to put the survey in the envelope and return it to a survey collection box ($N = 71$).

Participants

In the internet based sample, there was a total of 88 participants: 47 (53.4%) were male and 40 (45.5%) female with one person not reporting her or his biological sex. In the network sample, there was a total of 71 participants: 23 (32.4%) were male and 47 (66.2%) female with one person not reporting her or his biological sex. The overall sample consisted of 70 (44%) males and 87 (54.7%) female with two not responding.

A second demographic variable collected in this study was sexual orientation. Using a one-shot question about participant sexual orientation, which has been previously validated by Wrench (2002), this study found that in the online sample there were 31 (35.2%) participants who identified as gay/lesbian, 15 (17%) who identified as bisexual, 40 (45.5%) who identified as heterosexual, and 2 (2.3%) who did not respond to this question. This finding is similar to that of Ross et al. (2003) who also found a higher number of gay, lesbian, and bisexual participants in

online sex surveys than are speculated to exist in the general public. Furthermore, this study found that in the network sample there were 4 (5.6%) participants who identified as gay/lesbian, 4 (5.6%) who identified as bisexual, 62 (87.3%) who identified as heterosexual, and 1 (1.4%) who did not respond to this question. Overall, this study had 35 (22%) gay/lesbian participants, 19 (11.9%) bisexual participants, 102 (64.2%) heterosexual participants, and 3 (1.9%) who did not respond to this question.

Age for the online sample ranged from 18 to 78 ($M = 34.69$, $SD = 13.27$). Age for the network sample ranged from 18 to 75 ($M = 34.33$, $SD = 12.27$). The mean age for the entire sample was 34.53 ($SD = 12.79$).

Instruments

Eysenck Personality Questionnaire. Eysenck, Eysenck's, and Barret's (1985) 12-item measure of psychoticism was embedded within a general questionnaire consisting of Eysenck's (1998) 10-item measures of extraversion and neuroticism. Extraversion, neuroticism, and psychoticism as proposed by Eysenck (1998) are "supertraits" that are biologically based and can account for great deals of variance in other biological, sociological, psychological, and behavioral variables. In this study, Chronbach's alphas were obtained for all three supertraits: extraversion was .78 ($M = 34.76$, $SD = 6.38$); neuroticism was .86 ($M = 28.80$, $SD = 7.93$); and psychoticism was .60 ($M = 27.74$, $SD = 5.73$).

Sociocommunicative Orientation Scale. The Sociocommunicative Orientation scale was created by Richmond and McCroskey (1985) as an instructional tool to examine Sandra Bem's (1974) concepts of assertive or responsive communication. The sociocommunicative orientation scale consists of ten items on each factor (assertiveness and responsiveness) for a total of twenty items. Participants are asked to score short descriptive phrases that range from one to five words in length that indicate ways in which they may communicate. The scoring system for the measure consists of a Likert scale from (1) *strongly disagree* that it applies to (5) *strongly agree* that it applies. In this study, Chronbach's alpha for assertiveness was .87 ($M = 36.65$, $SD = 7.12$) and for responsiveness was .90 ($M = 41.56$, $SD = 6.42$).

Sexual Narcissism. The Hurlbert Index of Sexual Narcissism was created by created by Hulbert and Apt (1991) and validated in a study by Hulbert, Apt, Gasar, Wilson, and Murphy (1994) to measure sexual preoccupation and compulsivity, promiscuity, a sense of inflated sexual skill, interpersonal exploitiveness, and a sense of entitlement. The scale consists of 25 Likert items ranging from (1) *strongly disagree* to (5) *strongly agree*. The Chronbach's alpha for sexual narcissism in this study was .83 ($M = 27.74$, $SD = 5.73$).

Dyadic Sexual Communication Scale. The Dyadic Sexual Communication Scale was created by Catania (1986) to assess respondents' perceptions of the communication process encompassing sexual relationships. Only people who reported having sex with their regular partner in this study filled out this scale. The scale consists of 13 Likert items ranging from (1) *strongly disagree* to (5) *strongly agree*. The Chronbach's alpha for dyadic sexual communication in this study was .90 ($M = 45.32$, $SD = 9.71$).

Index of Sexual Satisfaction. The Index of Sexual Satisfaction was created by Hudson, Harrison, and Crosscup (1981) to measure the degree of sexual discord or dissatisfaction of one's sexual relationship with a partner. The scale consists of 25 Likert items ranging from (1) *none of the time* to (7) *all of the time*. This study has coded the scores so that lower scores represent sexual discord and higher scores represent sexual satisfaction. The Chronbach's alpha for sexual satisfaction in this study was .95 ($M = 136.04$, $SD = 30.31$).

Validity Check

A series of one-way ANOVAs were calculated using the independent variable sample frame (online vs. network) and the 10 variables examined in the current study plus the variable age as the dependent variables. Using a Dunn-Sidak correction (Dunn, 1991) [using the formula $1 - (1 - \alpha)^{1/k}$ where k is the number of comparisons being made] the new alpha level was calculated. Since this hypothesis was examining eleven different one-way ANOVAs, k was equal to 11 or $1 - (1 - .05)^{1/11}$. The revised alpha obtained using the Dunn-Sidak correction was .0046521717 or a 99.53478283 confidence interval. Using the new alpha level of .004 to control for compounded error, none of the one-way ANOVAs were significant (Table 2).

Table 2
Validity Testing of Sample Differences

Pair	Variables	N	M	SD	F	df	Significance
1	I – Extraversion	88	34.70	6.71	.017	(1, 155)	.895
	N - Extraversion	69	34.84	5.98			
2	I – Neuroticism	88	29.43	7.93	1.289	(1, 155)	.258
	N – Neuroticism	69	27.99	7.90			
3	I – Psychoticism	88	27.77	5.55	.007	(1, 155)	.934
	N – Psychoticism	69	27.70	5.99			
4	I – Assertiveness	87	37.39	7.07	2.135	(1, 156)	.146
	N – Assertiveness	71	35.73	7.13			
5	I – Responsiveness	87	42.53	5.28	4.481	(1, 156)	.036
	N – Responsiveness	71	40.38	7.45			
6	I – Sexual Narcissism	87	71.66	11.19	.001	(1, 156)	.970
	N – Sexual Narcissism	71	71.73	14.29			
7	I – Verbal Sex Comm.	87	31.62	10.01	.182	(1, 153)	.670
	N – Verbal Sex Comm.	68	32.28	8.90			
8	I – Nonverbal Sex Comm.	87	34.21	8.23	.218	(1, 153)	.642
	N – Nonverbal Sex Comm.	68	33.60	7.69			
9	I – Sexual Satisfaction	87	134.02	32.47	.855	(1, 156)	.357
	N – Sexual Satisfaction	71	138.51	27.44			
10*	I – Dyadic Sexual Comm.	41	45.10	10.61	.036	(1, 93)	.850
	N – Dyadic Sexual Comm.	54	45.48	9.07			
11	I – Sample Age	84	34.69	13.27	.03	(1, 149)	.863
	N – Sample Age	67	34.33	12.27			

* Only people who reported having had sex with a regular partner completed this scale.

I = Internet Sample

N = Network Sample

Results

The first hypothesis predicted that there would be no relationship between an individual's temperament and her or his perception of her or his partner's verbal and nonverbal sexual communication. Although correlations for the Sexual Communication Style Scale and all of the predictive validity variables can be seen in Table 3, a multivariate regression was calculated to answer this hypothesis using partner verbal and nonverbal sexual communication as the independent variables and the participant's scores for the three supertraits (extraversion, neuroticism, and psychoticism) as the dependent variables. The Bartlett's Test of Sphericity is

significant, $\chi^2(4) = 22$, $p < .001$, so a Bonferoni adjustment is not necessary for this test (Tabachnick & Fidell, 2001). Using Wilks' Λ , the overall model was significant for verbal sexual communication, Wilks' $\Lambda = .87$, $F(3, 148) = 7.34$, $p < .0005$. Univariate ANOVA results were interpreted using alpha at .05. Results revealed that verbal sexual communication related positively to extraversion, $F(1, 153) = 7.72$, $p < .05$, partial $\eta^2 = .049$, beta = .17); negatively to neuroticism, $F(1, 153) = 7.72$, $p < .05$, partial $\eta^2 = .049$, beta = -.29), but not to psychoticism, $F(1, 153) = 2.49$, $p > .05$. Next, the overall model was not significant for nonverbal sexual communication, Wilks' $\Lambda = .99$, $F(3, 148) = .54$, $p > .05$.

Table 3
Pearson Product Moment Correlations

Validity Variables	Verbal Sexual Communication	Nonverbal Sexual Communication
Extraversion	.24**	.07
Neuroticism	-.34***	-.16
Psychoticism	.10	-.02
Assertiveness	-.01	.13
Responsiveness	.18*	.19
Sexual Narcissism	-.06	-.29
Dyadic Sexual Communication	.49***	.41***
Sexual Satisfaction	.49***	.40***

- $p < .05$, ** $p < .005$, *** $p < .0005$

The second hypothesis predicted that there would be no relationship between an individual's sociocommunicative orientation and her or his perception of her or his partner's verbal and nonverbal sexual communication. To analyze this hypothesis a multivariate regression was calculated using partner verbal and nonverbal sexual communication as the independent variables and the participant's scores for sociocommunicative orientation (assertiveness and responsiveness) as the dependent variables. The Bartlett's Test of Sphericity was not significant, $\chi^2(2) = 3.60$, $p > .05$, so a Bonferoni adjustment would be necessary if the multivariate test was significant (Tabachnick & Fidell, 2001). Using Wilks' Λ , the overall model was not significant for verbal sexual communication, Wilks' $\Lambda = .97$, $F(2, 151) = 2.20$, $p > .05$, or for nonverbal sexual communication, Wilks' $\Lambda = .98$, $F(2, 151) = 1.97$, $p > .05$.

The third hypothesis predicted that sexual narcissism would not be related to a participant's perception of her or his partner's verbal and nonverbal sexual communication. To analyze this hypothesis, a multiple regression was calculated using partner verbal and nonverbal sexual communication as the independent variables and the participant's score for sexual narcissism as the dependent variable. The linear combination of the variables was significantly related to a participant's sexual narcissism, $F(2, 152) = 7.967$, $p < .001$. The sample multiple

correlation coefficient (r) was .31, which indicates that approximately 9.5% of the variance in a participant's sexual narcissism in the sample can be accounted for by the linear combination of: nonverbal sexual communication, $t(154) = -3.92, p < .0005$, unstandardized beta = $-.351$; but not verbal sexual communication, $t(154) = 1.36, p > .05$.

The fourth hypothesis predicted that there would be a positive relationship between sexual dyadic communication and both factors of the Sexual Communication Style Scale (verbal and nonverbal). To analyze this hypothesis, a multiple regression was calculated using partner verbal and nonverbal sexual communication as the independent variables and the participant's score for dyadic sexual communication as the dependent variable. The linear combination of the variables was significantly related to a participant's dyadic sexual communication, $F(2, 130) = 23.87, p < .0005$. The sample multiple correlation coefficient (r) was .52, which indicates that approximately 27% of the variance in a participant's dyadic sexual communication in the sample can be accounted for by the linear combination of: verbal sexual communication, $t(132) = 4.21, p < .0005$, unstandardized beta = $.38$; and nonverbal sexual communication, $t(132) = 2.12, p < .05$, unstandardized beta = $.19$.

The fifth hypothesis predicted that there would be a positive relationship between sexual satisfaction and both factors of the Sexual Communication Style Scale (verbal and nonverbal). To analyze this hypothesis, a multivariate regression was calculated using partner verbal and nonverbal sexual communication as the independent variables and the participant's score for sexual satisfaction as the dependent variable. The linear combination of the variables was significantly related to a participant's sexual satisfaction, $F(2, 152) = 28.30, p < .0005$. The sample multiple correlation coefficient (r) was .52, which indicates that approximately 27% of the variance in a participant's sexual satisfaction in the sample can be accounted for by the linear combination of: verbal sexual communication, $t(154) = 4.86, p < .0005$, unstandardized beta = $.39$; and nonverbal sexual communication, $t(154) = 2.48, p < .05$, unstandardized beta = $.20$.

Discussion

The purpose of this study was to create and validate the Sexual Communicator Style Scale. This discussion section will start off with a general discussion of the overall results and lastly examine possible applications and implications of the Sexual Communicator Style Scale.

General Discussion

The original purpose of this study was to create a scale to fill the void noted by Sprecher and Cate (2004) caused by the lack of information about communication during sexual encounters. The Sexual Communication Style Scale (SCSS) measures both verbal and nonverbal sexual communication in an attempt to better understand how communication affects an individual's sex life and interpersonal relationships. The two factors on the SCSS (verbal and nonverbal) were shown to be moderately related to each other. This relationship suggests that the extent to which someone communicates verbally during sex relates to the extent he or she communicates nonverbally during sex or the other. Both of the factors of the SCSS were shown to be strongly reliable and clearly loaded onto one factor. The rest of the study set out to examine a series of five predictive validity questions about the SCSS. Each of these hypotheses will be discussed in the order they appeared in the study.

Hypothesis One. The first hypothesis predicted that there would not be a relationship between an individual's temperament (extraversion, neuroticism, and psychoticism) and her or his perception of her or his partner's verbal and sexual communication. The results for participants' perceptions of verbal communication based on their temperament was found to be significant, which is contrary to the original hypothesis. The results found that a person's level

of extraversion positively related to perceptions of verbal sexual communication, and neuroticism was negatively related to perceptions of verbal sexual communication. Psychoticism was not shown to be significantly related to a participant's perception of her or his partner's verbal sexual communication. The question that must be theoretically explained then is how can a person's extraversion and neuroticism account for perceptions of another person's communication since temperament is something completely individualistic (Eysenck, 1998). One explanation for this finding could be that most temperamental research has focused on how an individual's temperament relates to individual personality characteristics such as communication apprehension (Beatty, McCroskey, & Heisel, 1998, Beatty & Valencic, 2000, Kelly & Keaten, 2000), verbal aggression (Valencic, Beatty Rudd, Dobos, & Heisel, 1998, Wrench, 2002) communicator style (Bodary & Miller, 2000, Horvath, 1995), socio-communicative orientation (Cole & McCroskey, 2000), nonverbal immediacy (Cole, 2000), and humor (Wrench & McCroskey, 2001). However, no communibiological research had examined how an individual's temperament affects her or his perceptions of other people's communication. It is theoretically plausible, that this finding is demonstrating a form of verbal communication sensitivity. In essence, people who have high levels of extraversion and low levels of neuroticism may be more cognitively adept to notice verbal communication in their sexual partners. Research has shown that compulsive communicators are more extraverted (McCroskey, Heisel, & Richmond, 2001) and compulsive communicators are more communicatively competent as well (McCroskey, Richmond, & Wrench, in press), so it is possible that highly extraverted people are simply more competent communicators and more aware of another person's communication.

As for the negative relationship found between neuroticism and a participant's perception of her or his partner's verbal sexual communication, this relationship is less clear. However, there is one possible explanation for this finding. Since neuroticism is defined as the tendency towards mania and depression (Eysenck, 1998), it is possible that this supertrait functions as a verbal communication sensitivity blocker. Neuroticism is associated with such psychological problems as anxiety, depression, and panic attacks (McCroskey, Richmond, and Wrench, in press), all of which are highly individually focused conditions. It is plausible that people who are highly neurotic are simply more self-focused because of their mood shifts; and therefore, less adept at being able to consistently pay attention to and recognize their partner's verbal sexual communication.

While there were some contrary results for verbal sexual communication, the findings for nonverbal sexual communication were consistent with the proposed original hypothesis. In this study, a participant's temperament did not relate to her or his perceptions of partner nonverbal sexual communication. This finding is similar to the finding from McCroskey, Heisel, and Richmond (2001) who found that an individual's temperament did not relate to their perceptions of another person's nonverbal immediacy. Ultimately, the big speculation in this study would then be why temperament affects perceptions of verbal but not nonverbal sexual communication. Richmond and McCroskey (2004) provide five explanations for how verbal and nonverbal messages are different, two of which can be used to explain the current findings. First, "verbal messages clearly depend on language, but nonverbal messages do not necessarily depend on the presence of any language" (p. 4). It is possible that extraversion is more about a person's use of language as a concept; and therefore, would not help explain another person's nonverbal communication. A second distinction between verbal and nonverbal communication as seen by Richmond and McCroskey (2004) relates to information processing. Many researchers have

shown that verbal and nonverbal information is processed differently suggesting two different communication systems (Andersen, Garrison, & Andersen, 1979; Mehrabian & Ferris, 1967; Richmond & McCroskey, 2004). The findings in this study would suggest that people process another person's verbal and nonverbal sexual communication using different brain structures, so the two would not be impacted by an individual's temperament in the same fashion.

Hypothesis Two. The second hypothesis in this study predicted that there would not be a relationship between an individual's sociocommunicative orientation (assertiveness & responsiveness) and her or his perception of her or his partner's verbal and nonverbal sexual communication, which was supported by the results in the current study. This finding suggests that an individual's communicative style does not impact the way he or she views her or his partner's verbal and nonverbal sexual communication. While sociocommunicative orientation has been shown to be biologically based (Cole & McCroskey, 2000; McCroskey, Valencic, & Richmond, 2004), and the results from hypothesis one found a relationship between temperament and verbal sexual communication, the lack of a relationship between sociocommunicative orientation and perceptions of one's partners verbal and nonverbal sexual communication is not surprising. In essence, this finding appears to show that while biologically based, sociocommunicative orientation is not just a secondary aspect of one's communicative temperament.

Hypothesis Three. The third hypothesis examined in this study predicted that sexual narcissism would not relate to a participant's perception of her or his partner's verbal and nonverbal sexual communication, which was not supported in this study. According to the results in this study, an individual's level of sexual narcissism was negatively related to participant perceptions of partner nonverbal communication but not related to participant perceptions of partner verbal communication. A participant's perception of her or his sexual partner's nonverbal sexual communication accounted for 9.5% of the variance in the participant's sexual neuroticism, which would indicate that people who are sensitive to nonverbal sexual messages are less likely to be sexual neurotics. This finding could be the result of the factor of the narcissistic personality disorder, self-absorption/self-admiration, (Emmons, 1984, 1987). In other words, it is highly likely that the more self-absorbed or self-admiring a person is during sexual interactions the less likely he or she is going to be paying attention to her or his sexual partner and ultimately underreport the partner's nonverbal sexual communication or simply not nonverbally sensitive. However, the flip side of this argument could be that people having sex with someone who is sexually narcissistic realize that the focus of sexual pleasure is entirely for the narcissist and simply stop communicating nonverbally because the narcissist does not pick up on the subtle nonverbal cues.

Further understanding of this problem could come from the Apt and Hulbert (1995) notion that sexual narcissists rigidly adhere to gender roles. As a result of these perceived gender roles, sexual narcissists could simply end up performing predetermined sexual scripts despite any communication that may occur during a sexual encounter. As a result of these sexual scripts, sexual narcissists may ignore verbal communication that is contrary to the sexual script and downplay any nonverbal communication that is contrary to the sexual script.

Hypothesis Four. The fourth hypothesis predicted that there would be a positive relationship between dyadic sexual communication and both factors of the Sexual Communication Style Scale (verbal and nonverbal), which was found in this study. In this study, the linear combination of verbal and nonverbal sexual communication accounted for about 27% of a couple's dyadic sexual communication. Previous research had speculated that there was a

possible relationship between communication about sex and communication during sex (Spercher & Cate, 2004). The relationship between communication about sex and communication during sex further illustrates the importance and reciprocal nature of sexual communication. The more a couple can communicate during sex the more they will be able to communicate about their sex life and vice-a-versa. Ultimately, sexual communication could lead to the positive findings previously examined like use of condoms during sex (Catania et al., 1989, 1993, 1994) and not having extradyadic sexual encounters (Choi, Catania, & Dolcini, 1994). Furthermore, these findings further validate that the Masters and Johnson (1966) sensate exercises may be very useful when attempting to help couples reach sexual fulfillment.

Hypothesis Five. The final hypothesis predicted that there would be a positive relationship between a participant's sexual partner's verbal and nonverbal sexual communication and participant sexual satisfaction, which was supported in this study. While the literature proposed many variables that impact sexual satisfaction (being in a romantic relationship with one's sexual partner, Laumann et al., 1994; relationship stability, Lawrence and Byers, 1995; Waite & Joyner, 2001; and erotic plasticity, Baumeister, 2000), the findings in this study add another variable that needs to be considered by sexual researchers and interpersonal communication scholars alike. Although most of the research in sexual communication has focused on communicating about sex and not during sex (Sprecher & Cate, 2004), the findings in this study examining communication during sex mirror the results from those previous studies that found a positive relationship between communicating about sex and sexual satisfaction (Byers & Demmons, 1999; Cupach & Comstock, 1990; L. Wheelless, V. Wheelless, & Baus, 1984). The results from this study also further validate the observational studies by Masters and Johnson (1966, 1979) who found that communication during sex positively benefited sexual interactions.

Applications and Implications

The creation of the Sexual Communication Style Scale (SCSS) lends itself to a number of possible applications and implications. First, the Sexual Communication Style Scale provides researchers with a much needed tool to examine the degree to which people verbally and nonverbally communicate during sex without the need for observational studies (Sprecher & Cate, 2004). Although there has been an ethical debate over the observational methods employed by Masters and Johnson (1966, 1979), the SCSS provides a non-invasive research tool that can allow researchers to collect data on this very intimate form of communication without getting entangled in these ethical dilemmas.

A second application for this scale would be in the clinical setting. While the results in this study are preliminary, there is a clear indication that verbal and nonverbal sexual communication are very important during the sexual interactions. Clinicians and diagnosticians (both medically and psychotherapeutically) could use this scale to determine the degree to which people communicate during sex, which could determine possible courses of treatment for sexual dysfunction. If couples complain of sexual problems and it is determined that the two either do not communicate or have very different perceptions of communication during sex, possible treatment methods akin to the Masters and Johnson (1966, 1979) sensate exercises could be more beneficial than prescription drugs or over the counter herbal supplements.

As for implications of the current study, the current study clearly implies that there needs to be a growth of research in the world of verbal and nonverbal sexual communication. As had been noted by Spercher and Cate (2004), there has been a long understanding of the purported impact of verbal and nonverbal sexual communication on sexual behaviors and perceptions, but

virtually no research had been conducted in this area by sex researchers because of the invasive nature this type of research would entail. With the SCSS, research into verbal and nonverbal sexual communication does not have to be overly invasive. In fact, a statistically reliable and valid scale for the measurement of verbal and nonverbal sexual communication enables researchers to treat verbal and nonverbal sexual communication like other sex variables currently being measured through paper and pencil surveys (Cooper & Stinson, 1999).

The second implication of this study is that interpersonal communication researchers should really be doing this type of work and not leaving it up to the sex researchers. With the exception of the study by L. Wheelless, V. Wheelless, and Baus (1984), no research has attempted to broach the study of actual sexual communication. Admittedly, sexual research is innately dangerous and many scholars will shy away from the topic out of fear of governmental backlash, public backlash, university backlash, and/or not getting tenured or promoted (Okami, 2002). Furthermore, some researchers will avoid attempting sexual communication research because of the hassles that Institutional Review Boards and their almost puritanical stance on sexuality research at some institutions (Wiederman, 2002). In spite of both of these possible barriers to sexual communication research, communication researchers need to step up and inform our sexual research colleagues about human communication using the most current theories and measures of human communication.

Directions and Future Research

The creation of the Sexual Communication Style Scale (SCSS) lends itself to a number of possible research avenues. First, research needs to be conducted examining how couples perceive their own and their partner's verbal and nonverbal sexual communication. By simply re-tooling the SCSS to examine both personal and partner verbal and nonverbal communication, researchers could gain a more complex understanding of how sexual communication affects sexual enjoyment and satisfaction.

A second direction for the SCSS would be in examining gender differences and their perceptions of verbal and nonverbal sexual communication. Although outside the scope of the current study, understanding how the different gender and sex dyad combinations (male-female, male-male, and female-female) communicate could enhance our understanding of sexuality and perceptions of sexuality.

A third direction for the SCSS would be to correlate the SCSS with other interpersonal communication variables like communication competence, interpersonal communication motives, interpersonal communication satisfaction, humor assessment, verbal aggression, argumentativeness, etc.... In essence, any number of communication traits could be related to the degree to which people communicate verbally and nonverbally during sexual interactions.

Conclusion

In the introduction of this paper, we discussed the lyrics to Salt 'N' Pepa's song "Let's Talk about Sex." While talking about sex is extremely important, this study has shown that talking during sexual interactions as well as communicating nonverbally during sexual interactions are both important parts of sexual communication. While the primary purpose of this study was the creation of the Sexual Communication Style Scale, the authors of this paper hope that it will inspire other communication researchers to enter into the foray of sexual communication research. As communication scholars we have the ability to offer something very unique to the study and discussion of sexual interactions.

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