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Relationships between daily sexual interactions and domain-specific and general models of personality traits

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ABSTRACT

Although sexuality is an important component of personal relationships, there has been relatively little research on relationships between personality and everyday sexual behavior. Moreover, existing research on sexual behavior and personality (defined in terms of the Five-Factor Model, FFM) has found weak and inconsistent relationships. We hypothesized that sexual behavior can be better understood in terms of a model of personality that focuses on sexuality rather than in terms of a general model of personality. The present study examined relationships between two models of personality and daily sexual behavior. For 3 weeks, two different samples described their sexual interactions and they completed a measure of the FFM ($N = 104$) and the Sexy Seven ($N = 48$). A series of multilevel modeling analyses found that personality as measured by both models was related to both positive (e.g., feeling desired) and negative (e.g., feeling guilty)

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reactions to sexual experiences. As predicted, comparisons of the strength of the relationships between reactions to daily sexual experience and the two models found reactions to sexual experience were related more strongly to the Sexy Seven than to the FFM. The importance of considering both domain-specific and general measures of personality is discussed in terms of understanding sexual behavior.

KEY WORDS: Big Five • diary study • sexual interaction • Sexy Seven

A myriad of approaches can be used to examine relationships between personality and personal relationships. These approaches can vary in terms of how each of these constructs are defined. What is personality? What constitutes a personal relationship? Answering such questions definitively is well beyond the scope of a single journal article. Nevertheless, scientific progress often occurs incrementally, and the present article was intended to provide some insight into relationships between personality and personal relationships by describing the results of two studies that used a diary technique to examine relationships between personality and daily sexual experience.

We chose to examine daily sexual experience because sex is an important aspect of personal relationships, and there is surprisingly little research on relationships between trait models of personality and daily sexual experience. In terms of models of personality, we relied upon a traditional, Allportian, trait-based approach. Within such an approach, traits are assumed to be individual differences in predispositions to behave in certain ways that are relatively enduring (or stable) across time, and they tend to be viewed more as causes of behaviors than as effects. An important goal of the present studies was to compare the explanatory power of two trait-based models. One was a general model of personality reflecting what is known as the Five-Factor Model (FFM), and the other was a model of personality that was designed explicitly to understand sexuality. Given our focus on sexual interactions, we did not think a more situationally based approach to personality, such as that advocated by Mischel and Shoda (1995; e.g., Cognitive Affective System Theory), would be appropriate because we would be examining people in one type of situation.

General models of personality and sexuality

Despite the relative lack of research, there is a longstanding interest in relationships between personality and sex. Eysenck (1976) discussed them in terms of his Three-Factor Theory. He felt that both neuroticism and extraversion should be related to sexual behavior, in terms of type and quality of activity. More specifically, he felt that extraversion would be

positively related to sexual activity (e.g., more sexual partners, more varied sexual interests and attitudes, and a greater sexual frequency; Eysenck, 1976). In contrast, Eysenck felt that neuroticism would be positively related to sexual difficulties, including worry and negative attitudes about sex in general, as well as fewer sexual partners and experiences.

Research on relationships between sexuality and extraversion and neuroticism has provided mixed support for Eysenck's predictions. For example, and somewhat consistent with Eysenck, in a study of married people Schenk, Pfrang, and Rausche (1983) found that extraversion was positively related to sexual satisfaction and neuroticism was negatively related to it, although these relationships were true for men only. In subsequent research, Schenk and Pfrang (1986) found that unmarried men higher in extraversion reported earlier age of first intercourse and more frequent sexual behavior, although there were no relationships with neuroticism.

Although Eysenck's model still remains important, more recent work has relied upon the Five-Factor Theory (or Model) of Personality (FFM, or Big Five). The five traits of this model are neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (e.g., Digman, 1990). Several studies have examined relationships between the factors of the FFM and people's sexual attitudes and behavior, with mixed results. Heaven, Fitzpatrick, Craig, Kelly, and Sebar (2000) found that neuroticism was negatively related to sexual satisfaction and positively related to sexual guilt; however, in a follow-up study, Heaven et al. (2003) found that neuroticism was not significantly related to various measures of sexuality (e.g., sexual anxiety, sexual preoccupation). Heaven et al. (2000) found that conscientiousness was negatively related to sexual excitement, and subsequently (in 2003), that conscientiousness was not related to any measure of sexuality. In a longitudinal study of married couples, Donnellan, Conger, and Bryant (2004) found that neuroticism, agreeableness, and conscientiousness were related to marital sexual satisfaction. Shafer (2001) found that each of the FFM traits was related to at least one measure of sexuality (e.g., sexual motivation, sexual esteem, and sexual preoccupation).

Research also suggests that relationships between the FFM and sexual attitudes may differ between the genders. For example, Costa, Fagan, Piedmont, Ponticas, and Wise (1992) found that openness to experience was positively related to sexual positive affect in women but was not related to any outcome for men. For men, extraversion was positively related to positive affect and sexual satisfaction and was negatively related to negative affect, whereas for women, extraversion was related only (and positively) to positive affect.

In sum, research has found relationships between the constructs that constitute the FFM and both sexual attitudes and sexual behavior, although these relationships are somewhat inconsistent. One reason for such inconsistency may be that the underlying relationships are weak, meaning that they can be obscured by idiosyncratic differences across studies in the specific measures that are used, by small sample sizes, and so forth. Individual differences that are more strongly related conceptually to sexuality might provide a better basis for understanding people's sexual behavior

and attitudes. By design, the FFM is meant to describe personality as it is related to broad aspects of human experience. Of particular importance to the current research is the fact that the FFM was constructed without the inclusion of any sex-linked descriptors (Buss, 1996). Thus, the current FFM framework was not designed to account for individual differences in sexuality.

Domain-specific personality traits

In response to this, several researchers (Schmitt & Buss, 2000; Shafer, 2001) have created domain-specific measures of individual differences in sexuality. Research in other areas such as self-esteem, locus of control, and creativity suggests that domain-specific measures of individual differences may provide a better understanding of specific behaviors than more general measures (e.g., Kirkpatrick, Waugh, Valencia, & Webster, 2002).

The domain-specific measure of personality we used was the 'Sexy Seven' (Schmitt & Buss, 2000). This scale was created using a lexical approach (using naturally occurring language as a starting point for identifying important traits), guided by Evolutionary Personality Theory. The theory suggests that individual differences can stem from variations in sexuality and mating tendencies (Buss, 1991). The Sexy Seven consists of seven scales concerning aspects of personality that are particularly relevant to sexuality: sexual attractiveness, relationship exclusivity, gender orientation, sexual restraint, erotophilic disposition, emotional investment, and sexual orientation. Although there is some overlap between the FFM and the Sexy Seven, the Sexy Seven is not subsumed by the FFM (Schmitt & Buss, 2000).

Daily sexual interaction

Although prior research has examined relationships between personality and sexual attitudes and global reports of sexual behavior, no study has examined reactions to sexual encounters using a naturalistic diary technique. Although diary methods have been important in the study of social interaction, they have not been used as often to study sexuality (Christopher & Sprecher, 2000; cf. Smith, 2007). Thus, the use of a diary method here is an important contribution because it allows people to provide real-time reports of their sexual activities, thoughts and feelings rather than asking them to recall and aggregate this information days or weeks later. Our hypotheses and analyses focused on the relationship between personality and these interactions.

Hypotheses and expectations

The primary hypothesis guiding the study was that the constructs measured by the Sexy Seven would be more strongly related to daily sexual experience

than the constructs measured by BFI-44, a measure of the FFM. We also had expectations about relationships between reactions to sexual interactions and the specific factors of the two personality models.

Some research has examined the relationship between FFM factors and reactions to daily social interactions. For example, Feldman Barrett and Pietromonaco (1997) found that higher scores on extraversion were associated with interactions characterized by high intimacy and low conflict. Higher scores on agreeableness were also associated with lower conflict in one's interactions, whereas higher scores on openness were associated with increased intimacy. Neither neuroticism nor conscientiousness was significantly related to people's reactions to interactions.

Based on this evidence and Eysenck's (1976) original proposal, we expected to find negative relationships between neuroticism and reactions to interactions and positive relationships between reactions and extraversion, agreeableness, and openness. It is important to note, however, that such expectations were formed with the knowledge that previous research has been somewhat inconsistent regarding such relationships. That is, although we expected these relationships, we also recognized that these expectations might not be met.

Due to its relative newness and its specific focus, there was not a large body of research and theory using the Sexy Seven that could be used to formulate hypotheses and expectations. Our review of the literature found that few studies used the full set of seven characteristics, and we found no published research on relationships between these characteristics and common, everyday sexual behaviors. Nonetheless, given its focus, we thought the Sexy Seven should be related to people's daily sexual experiences. Given the variety of constructs measured by this scale and by the sexual interaction diary, we describe here only broad hypotheses. Based on the definitions of the constructs as provided by Schmitt and Buss (2000), we expected that reactions to sexual interactions would be positively related to emotional investment (being loving and romantic), relationship exclusivity (being faithful), and erotophilic disposition (strong sexual urges).

Method

Participants

Participants in Sample 1 were recruited from introductory psychology classes at the College of William and Mary and received credit in partial fulfillment of class requirements. Of the 124 original participants, 58 were dropped from the analyses because they did not describe more than one sexual interaction (two is the minimum required by the multilevel analyses we used), and ten were dropped because they did not complete the measure of the FFM correctly or completely. The final sample ($N = 56$) consisted of 25 males and 31 females. Participants who were dropped from the analyses because they did not report enough sexual interactions did not significantly differ from those who were retained in terms of scores on the FFM or in terms of gender.

Participants in Sample 2 were recruited from introductory psychology and human sexuality classes at the College of William and Mary and received credit

in partial fulfillment of class requirements. Of the 111 original participants, 44 were dropped from analyses because they did not describe more than one sexual interaction, and five were dropped because they did not complete one of the personality measures. The final sample consisted of 48 females and 14 males ($N = 62$). Comparisons of those excluded from and included in the current analyses revealed two significant differences. Participants who had less than two sexual interactions during the course of the study were more sexually restrained ($F(1, 109) = 16.49, p < .001$) and more conscientious ($F(1, 96) = 3.99, p = .05$).

Measures

FFM. The Big Five Inventory (BFI; John & Srivastava, 1999) is a 44-item measure of the FFM traits of personality. Participants responded to each item using a 5-point Likert-type rating scale (1 = 'disagree strongly,' 5 = 'agree strongly'). In the present study, the following reliabilities were obtained: Neuroticism ($\alpha = .84$), extraversion ($\alpha = .89$), openness ($\alpha = .80$), conscientiousness ($\alpha = .85$), and agreeableness ($\alpha = .82$).

Sexy Seven. The Sexy Seven Scale (Schmitt & Buss, 2000) consists of seven factors comprised of 77 adjectives related to sexuality. Participants were asked to rate the extent to which each of these adjectives applied to them on a 9-point Likert-type scale (1 = 'extremely inaccurate,' 9 = 'extremely accurate'). Items were summed to create scores for each of the seven factors, labeled sexual attractiveness (e.g., adorable, sultry) ($\alpha = .89$), relationship exclusivity (e.g., faithfulness, promiscuity) ($\alpha = .88$), gender orientation (e.g., feminine, lady-like) ($\alpha = .95$), sexual restraint (e.g., abstinence, prudish) ($\alpha = .88$), erotophilic disposition (e.g., lewd, vulgar, risqué) ($\alpha = .84$), emotional investment (e.g., lovable, romantic) ($\alpha = .90$), and sexual orientation (e.g., bisexual, homosexual) ($\alpha = .75$). For the first five scales, higher scores indicate a greater agreement with that trait (e.g., feeling very sexually attractive, being highly exclusive, having high restraint). For gender orientation, higher scores indicate having a more feminine gender orientation. For sexual orientation, higher scores indicate a greater tendency towards homosexuality. Only participants in Sample 2 completed this measure.

Sexual interaction. Participants used a version of the Rochester Interaction Record (RIR; Wheeler & Nezlek, 1977) to describe their sexual interactions. Although the RIR has traditionally been used to study daily social interactions, we felt that the standardized format could be adopted for sexual interactions. For 3 weeks, participants described their sexual interactions, including the specific behaviors that occurred, partner's characteristics, and responses to the interaction itself. Participants were instructed to describe every sexual interaction, which was defined as 'any interaction in which a person is physically intimate with another person.' Sexual interactions could range from heavy petting to sexual intercourse. Participants were instructed to fill out the form as soon as possible after the event occurred but were told not to let the recording interfere with the interaction itself.

For each interaction, participants rated the interaction on several dimensions using a 9-point Likert-type rating scale (1 = 'not at all,' 9 = 'very much'). For Sample 1, the dimensions were enjoyment ('How much you enjoyed yourself

and the interaction'), intimacy ('How close you felt to the other person during the interaction'), and feeling desired ('How desirable you felt, or how much your partner wanted you during the interaction'), loved ('The degree to which you felt your partner had romantic feelings toward you during the interaction'), respected ('How respected and valued by your partner you felt during the interaction'), pressured ('How pressured you felt by your partner during the interaction'), and in control ('The degree to which you felt in control during the interaction'). For Sample 2, the same dimensions were used, with the addition of feeling regretful ('How regretful you felt after the interaction; regret is a feeling you have after you have done something you wish you had not done') and guilty ('How guilty you felt after the interaction; guilt is a feeling you have after you have done something that goes against what you believe in'), which were added to allow for examination of both positive and negative reactions to sexual behavior. The enjoyment, intimacy, and control scales were identical to those used in previous studies of daily social interaction (e.g., Nezlek & Pilkington, 1994), whereas the other scales were created for this study. Participants also described the type of intimacy they experienced in the interaction: Kissing, heavy petting, receiving oral sex, giving oral sex, intercourse, anal intercourse, and other (participants were instructed to check all that applied).

Procedure

In Samples 1 and 2, introductory psychology students were recruited on the basis of their response to a question administered as part of a mass testing session, 'Would you be willing to participate in a study in which you report your sexual interactions for 3 weeks online?' During this mass testing session participants also completed the BFI-44. Interested participants were contacted and attended an orientation session. Participants in Sample 2 were also recruited from a Psychology of Human Sexuality class and were asked the same question as that included in the mass testing questionnaire. Individuals who were interested in participating were asked to complete the mass testing questionnaire and attend a single-sex orientation session (led by a researcher of the same sex). The content of these sessions was modeled after the instructions developed by Wheeler and Nezlek (1977) for studies of social interaction.

During the session, individuals were assigned an identification number and were told how to use the website to describe their interactions. The experimenter explained the procedure for completing the interaction form. Participants were assured that their data would be completely confidential, and they were encouraged to be candid and honest. In addition, they were told not to let the recording process affect their behavior, as the researchers wanted to be sure that they were studying the 'typical' sexual lives of the participants. Participants were sent e-mail reminders during the study to encourage continued participation. Over the 3 weeks of the two studies, 118 participants described 750 sexual interactions ($M = 6.36$, $SD = 4.83$).

Results

Comparisons of the personality measures of the two samples

Scores on the BFI-44 for participants in Samples 1 and 2 were compared with univariate ANOVAs that included a between-subjects factor of gender. Although

there were no significant interactions of Study with gender, there was a significant gender difference for both neuroticism ($F(1, 114) = 14.74, p < .001$) and conscientiousness ($F(1, 114) = 5.85, p = .02$). Women reported higher scores on neuroticism and conscientiousness than men. There was only one main effect for sample. Participants in Sample 1 reported higher agreeableness scores ($F(1, 114) = 4.80, p = .03$). Because there were few differences between the two samples, the data from Samples 1 and 2 were combined for the remaining analyses.

Correlations among the personality measures

Correlations between scales of the BFI-44 and the Sexy Seven Scale are presented in Table 1. Extraversion was correlated with only one of the Sexy Seven, sexual attractiveness. Agreeableness was correlated with three of the Sexy Seven subscales: Positively with feminine gender orientation and being emotionally invested, and negatively with erotophilic disposition. Conscientiousness was also correlated with three subscales of the Sexy Seven: Sexual attractiveness, emotional investment, and erotophilic disposition. Neuroticism was significantly related to both relationship exclusivity and emotional investment. Openness to experience was positively correlated with three of the Sexy Seven Subscales: sexual attractiveness, having a feminine gender orientation, and erotophilic disposition. In sum, although there is some overlap between general personality and sexual personality, this overlap is not so great to suggest that the constructs do not have divergent validity.

Analyses of reactions to sexual interactions

The data set in the current study is commonly referred to as a multilevel data structure in that observations at one level of analysis (sexual interactions) were nested in a second level of analysis (people). Accordingly, the data were analyzed with a series of multilevel random coefficient models (MRCM) using the program HLM (Raudenbush, Bryk, Cheong, & Congdon, 2001). Multilevel analyses of social interaction diary data are discussed in Nezlek (2001, 2003).

The first set of analyses examined the distribution of within- and between-person variance in each of the outcome variables. Such analyses are generally known as 'totally unconditional models' because the outcome measure is not modeled as a function of variables at any level of analysis. An unconditional model was run for each outcome variable. The basic level 1 (also called the within-person or interaction-level) model was:

$$y_{ij} = \beta_{0j} + r_{ij}.$$

In this model, β_{0j} is a random coefficient representing the mean of y (for example, regret) for person j (across the i interactions for which the person provided data), and r_{ij} represents the error associated with each measure of y . The basic Level 2 (also called the person-level) model was:

$$\beta_{0j} = \gamma_{00} + u_{0j}.$$

In this model, γ_{00} is a random coefficient that represents the grand mean of the person-level means (intercepts) from the Level 1 model. The u_{0j} coefficient represents the error associated with β_{0j} . Descriptive statistics for each of the outcome measures are presented in Table 2. The variances describe the amount of variance that was between- and within-people.

TABLE 1
Descriptive statistics and correlations between the two personality schemes

	M		FFM							Sexy Seven						
	SD	E	A	C	N	O	SA	RE	SO	GO	SR	EI	ED			
Extraversion	3.49	.80														
Agreeableness	3.71	.56	.23**													
Conscientious	3.53	.53	.20*	.26**												
Neuroticism	2.80	.73	-.31**	-.22*	.04											
Openness	3.76	.59	.32**	.23*	-.01	-.26**										
Sexual attractiveness	6.42	.97	.42**	.21	.26*	-.04	.30*									
Relationship exclusivity	4.52	.63	.16	-.13	-.11	-.32	.12	.11	(.39)							
Sexual orientation	1.78	1.60	.00	-.09	-.17	.09	.29*	-.13	.35**	(2.55)						
Gender orientation	4.44	.78	-.01	.30*	.23	.19	.13	.24	.04	.14	(.61)					
Sexual restraint	2.10	1.09	-.19	-.02	-.08	.07	.13	-.37**	-.19	.03	.05	(1.2)				
Emotional investment	7.87	.92	.21	.50**	.43**	.30*	.06	.45**	-.38**	-.15	.31*	-.09	(.86)			
Erotophilic disposition	4.23	1.12	.23	-.38*	-.31*	.04	.28*	.33**	.35**	.36**	.04	-.18	-.16	(1.24)		

Note. Numbers on the diagonal are covariances.
 * $p < .05$; ** $p < .01$.

TABLE 2
Summary statistics of reactions to interactions and difference in fit between the Big Five and Sexy Seven models ($\Delta\chi^2$)

Variable	Mean	Variance			Big 5 $\chi^2(8)$	Sexy 7 $\chi^2(10)$	Sexy 7 – Big 5 $\Delta\chi^2(2)$
		Between	Within	% Between			
Enjoyment	7.93	.87	.98	47.0%	1,305.81	1,288.14	-17.67**
Intimacy	7.60	1.64	1.55	52.4%	1,592.85	1,555.37	-37.47**
Desire	7.81	1.11	1.11	50.0%	1,371.42	1,357.53	-13.89**
Control	7.34	1.25	1.69	42.5%	1,564.21	1,555.82	-8.39*
Respect	7.75	2.06	1.05	66.2%	1,393.20	1,354.35	-38.85**
Loved	7.39	2.17	1.04	67.4%	1,391.43	1,349.43	-42.00**
Pressure	1.60	.79	.98	44.6%	1,240.69	1,229.95	-10.74*
Regret	1.67	1.45	.66	69.0%	1,195.93	1,182.88	-13.05*
Guilt	1.82	1.53	.92	62.4%	1,329.04	1,311.40	-17.64**

Note. $N = 117$ persons and 750 interactions, except for guilt and regret ($Ns = 62, 434$).

* $p \leq .01$; ** $p \leq .001$.

These summary statistics suggested that overall, as might be expected, sexual interactions were enjoyable across a broad range of characteristics (pleasure, feeling loved, respected, etc.), and although means for the three negative characteristics were not 1.0 (the scale minimum), they were quite low. The distribution of variances suggested that analyses at either the interaction or person level could be fruitful (Nezlek, 2001). Our research primarily concerned relationships between personality and sexual interaction, and so most of the analyses entailed adding personality measures to the Level 2 (person-level) model. Nevertheless, differences in types of interactions are considered following the presentation of the analyses of personality measures.

Sample and gender differences in reactions to sexual interactions

To determine if the samples were comparable, for each of the outcome variables, the differences between the two samples were examined. This was done by adding, uncentered, a contrast-coded variable representing sample to the person-level model described earlier.

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{Sample}) + u_{0j}$$

A significant γ_{01} coefficient would indicate that the means for the two samples differed. These analyses revealed only one significant difference. Participants in Sample 1 ($M = 7.66$) reported feeling more in control than participants in Sample 2 ($M = 7.05$; $\gamma_{01} = 0.30$, $t = 2.69$, $p = .01$). Structurally similar analyses were conducted to examine gender differences, using an uncentered contrast code for gender. These analyses found only one significant difference. Men ($M = 2.06$) felt more pressured than women ($M = 1.47$; $\gamma_{01} = -0.30$, $t = 2.58$, $p = .01$). Given the lack of gender differences, gender was not included in the primary analyses, except for the analyses of pressure, although the inclusion of gender at Level 2 made no meaningful differences in the analyses of pressure presented later.

Relationships between FFM traits and reactions to sexual interactions

To examine relationships between the traits of the FFM and reactions to sexual interactions, a series of analyses were conducted in which the interaction level model (level 1) was unconditional (no predictors were added) and the FFM traits were added to the person-level model (level 2). All trait measures were standardized prior to analysis (Nezlek, 2001, 2003). In these analyses, all five traits were included as in the following model, and the results of these analyses are presented in Table 3.

$$\text{Level 1: Reaction} = \beta_{0j} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + \gamma_{01} (\text{Neuroticism}) + \gamma_{02} (\text{Extraversion}) + \gamma_{03} (\text{Openness}) \\ + \gamma_{04} (\text{Conscientiousness}) + \gamma_{05} (\text{Agreeableness}) + u_{0j}$$

Agreeableness and neuroticism were the FFM factors that were most consistently related to interaction outcomes. Agreeableness was significantly related to feeling loved, and relationships between agreeableness and enjoyment, intimacy, and feeling respected were marginally significant ($ps = .06, .06, \text{ and } .09$). All of these relationships were positive. People who were more agreeable had more enjoyable and intimate interactions, in which they felt more loved and respected. Neuroticism was significantly related to feeling desired and loved, and the relationship between neuroticism and intimacy was marginally significant ($p = .09$). All of these relationships were also positive. People who were more neurotic had more intimate interactions in which they felt more loved and desired. The only other FFM trait that was a significant predictor of interaction outcomes was openness and it was positively related to both feeling guilty and regretful. People who were more open felt more guilt and regret in their sexual interactions than people who were less open.

Relationships between Sexy Seven traits and reactions to sexual interactions

Analyses of the Sexy Seven traits used the same type of model as did the analyses of the FFM, except there were seven Level 2 variables instead of five, and only data from Sample 2 were included. The results of these analyses are presented in Table 3. Emotional investment was the Sexy Seven trait that was most consistently related to reactions to sexual interactions. It was significantly and positively related to enjoyment, intimacy, and feeling desired, respected, and loved, and it was negatively related ($p = .07$) to feeling pressured. Compared to those lower in emotional investment, individuals who were higher in emotional investment had more enjoyable and intimate sexual interactions in which they felt more desired, loved and respected and less pressured.

Relationship exclusivity was another Sexy Seven trait that was related to reactions to sexual interactions, although these relationships were negative. Relationship exclusivity was significantly and negatively related to feeling respected and loved, and it was negatively related to intimacy and control ($ps = .10 \text{ and } .06$). Compared to those lower in relationship exclusivity, individuals who were higher in relationship exclusivity felt less loved and respected, and found less intimacy and a sense of control in their sexual interactions.

Erotophilic disposition was also related to reactions to sexual interactions, although these relationships were mixed. Erotophilic disposition was significantly and positively related to feeling respected and loved ($p = .06$), although

TABLE 3
Relationships among five-factor model factors, Sexy Seven factors, and reactions to sexual interactions

Variable	Five-factor model					Sexy Seven factors						
	N	E	O	C	A	Sexual attract.	Relationship exclusivity	Sexual orient.	Gender orientat.	Sexual restraint	Emotional investment	Erotophilic disposition
Enjoyment	.26†			.21	.21†			.20*			.51*	-.27†
Intimacy	.27*			.16	.28†		-.37†				.90**	
Desire		.18†			.16		-.28			-.30	.57**	
Control						.58**	-.38†				-.23	
Respect	.19			.20†	.20†	-.26	-.64*		.27	-.22	.80**	.51*
Loved	.48*		.17	.34	.36*	-.22	-.75*		.53†	-.23	1.26**	.49†
Pressure								.21	.22		-.30	
Regret		-.33	.34*					.25	.36	.26	-.28	
Guilt		-.30	.39*	.15			.21	.23	.36	.43*	-.21	

Note. Five-factor model: Coefficients with an absolute value less than .15 are not shown. Analyses of Regret and Guilt used only data from Sample 2. Sexy Seven factors: Coefficients with an absolute value less than .20 are not shown.
 † $p < .10$; * $p < .05$; ** $p < .10$.

it was negatively related to enjoyment ($p = .10$). Compared to those lower in erotophilic disposition, individuals who were higher in erotophilic disposition felt more loved and respected in their sexual interactions, although they enjoyed these interactions less.

The other traits of the Sexy Seven were related somewhat sporadically to reactions to sexual interactions. Not surprisingly, sexual restraint was positively related to feeling guilty. Sexual attractiveness was positively related to perceived control, and sexual orientation was positively related to enjoyment.

Comparison of the two personality schemes

One of our primary interests was to compare the relative strength of the relationships between reactions to sexual interactions of the Big Five and the Sexy Seven. Multilevel analyses produce goodness of fit indices similar to those produced by a structural equation model (SEM), and similar to SEM, they can be used to compare the relative goodness of fit of competing models. Theoretically, it would have been possible to enter all 12 personality measures simultaneously into one analysis and compare the coefficients representing each of the measures; however, with only 62 participants, we felt that such a procedure would produce unstable estimates. In the present case, fit indices represented how well a set of personality measures (the FFM or the Sexy Seven) predicted reactions to interactions (i.e., how strong the relationship was between reactions and the personality measures taken as sets). For those familiar with the use of chi-squared based fit indices in SEM, the overall fit indices of our models might seem large; however, it is important to note that in MRCM, unlike in SEM, fit indices are not used to evaluate an entire model (Nezlek, 2007). Fit indices are primarily used to compare models, and in terms of the model per se, the emphasis is on the significance of individual coefficients.

Goodness of fit indices in MRCM can be compared using a test in which the difference in the fit of two models is treated as a chi-squared with degrees of freedom reflecting differences in the number of parameters in the two models. For these analyses, estimates were obtained using full maximum likelihood. The results of these analyses are presented in Table 2. The results of these analyses were very clear and consistent. The Sexy Seven model was more strongly related to each interaction measure than the FFM was.

Nature of sexual contact

The preceding analyses did not take into account the type of sexual activity that occurred. Across all interactions in both samples, approximately 48% involved vaginal intercourse. Initially, we intended to estimate within-person differences between interactions that involved intercourse and those that did not; however, the distribution of interactions involving intercourse did not allow such analyses. That is, for most participants, all their sexual interactions involved intercourse or they did not, making it impossible to estimate within-person differences between the two types of events. Nevertheless, we explored the role such differences may have played in the results described earlier in two ways. First, we examined relationships between personality measures and the relative frequency of intercourse (percent). Second, we reanalyzed the models described earlier including a term that adjusted each person's intercept (mean reaction) for percent of interactions that involved intercourse.

In the analyses of relationships between personality and the relative frequency of intercourse, the dependent measure was dichotomous, 0 = no intercourse, 1

= intercourse. In MRCM, analyses of nonlinear dependent measures use techniques that are structurally similar to those used for linear dependent measures, although the specific algorithms differ because the dependent measure is not normally distributed. See Nezlek (2001, 2003) for a discussion of such analyses for social interaction diary data. One set of analyses included the FFM at Level 2 (the person-level), and another included the Sexy Seven.

The results of these analyses did not suggest that individual differences in frequency of intercourse were responsible for the relationships found between personality and reactions to interactions. For the FFM, there were no significant, or near significant, relationships between relative frequency of intercourse and any of the factors of the FFM, all $t_s < 1.0$. Similarly, for the Sexy Seven, there were no significant, or near significant, relationships between relative frequency of intercourse and any of the factors of the FFM, all $t_s < 1.0$, with one exception, sexual restraint ($\gamma_{05} = -0.61, t = 3.07, p < .01$).

We also controlled for the nature of the sex that occurred in the interaction at Level 1. This was done by including a contrast-coded variable (-1 for not intercourse, 1 for intercourse) in the Level 1 models presented earlier. This contrast coded variable was entered *grand-mean* centered in these analyses, which meant that the intercept represented the mean reaction adjusted for the relative distribution of intercourse and nonintercourse interactions. Although there were significant main effects for the type of sex that occurred in the analyses of enjoyment ($p < .01$), intimacy ($p < .01$), and feeling desired ($p < .01$) loved ($p < .05$), and respected ($p < .05$), such that interactions that involved intercourse were more positive, controlling for type of interaction did not change the results of the analyses of the FFM and the Sexy Seven. The coefficients from these analyses were virtually identical to the coefficients presented in Table 3.

Discussion

The current study was designed to examine how individual differences in personality were related to experiences in sexual interaction. Overall, and in line with our main hypothesis, a domain-specific measure of personality (the Sexy Seven) was related more strongly to people's sexual interactions than was a measure of general personality, the FFM. Support for this hypothesis occurred in two forms. First, only three of the FFM traits were significantly related to any of the interaction outcomes. In contrast, for the Sexy Seven, six traits were significantly related to at least one outcome variable. Second, and more importantly, comparisons of the fits between the two models revealed that the Sexy Seven was related more strongly than the FFM for all nine of the outcome variables. This occurred despite the fact that analyses involving the FFM had more participants than analyses involving the Sexy Seven, providing more statistical power for the FFM analyses than for the Sexy Seven analyses. Within this context, we summarize and discuss the findings for the two sets of personality measures. In doing so, we make the widely held assumption that such traits are more causes of behaviors than they are consequences of behaviors, an assumption we discuss in greater detail in a separate section below.

Sexy Seven and reactions to interactions

Although six of the Sexy Seven traits were significantly related to at least one outcome variable, three traits – emotional investment, relationship exclusivity, and erotophilic disposition – were related more reliably to more outcomes, and our discussion focuses on these traits. Because the Sexy Seven has not been used extensively to examine people's sexual behavior, we could not compare our findings with other research. Nevertheless, the present results suggest that research using the Sexy Seven will further our understanding of human sexuality.

Emotional investment. This variable was significantly related to five outcomes (with a sixth approaching conventional levels of significance). Consistent with our expectations, people who saw themselves as more emotionally invested (e.g., romantic, affectionate, passionate, loving) had more positive interactions (more enjoyment and intimacy and feeling more loved, desired, and respected, and less pressured) than those who felt less emotionally invested. Individuals high in emotional investment appear to be more willing to give affection and to be more willing to receive affection. In turn, individuals high in emotional investment may be more open to and engaged in sexual experience in general, and they may derive more benefits from sexual experience. It is important to note that emotional investment as measured by the Sexy Seven is not meant to be relationship specific. That is, participants described what they were like in general, not what they were like in a specific relationship.

Relationship exclusivity. Contrary to expectation, people who saw themselves as more faithful, monogamous, and devoted reported more negative interactions. They felt less loved and respected, and felt less intimacy and less control. Although the vast majority of interactions in the study took place in what participants described as committed relationships, it may be the case that participants questioned the seriousness of these relationships. They may have been certain about their own level of commitment, but they may have been uncertain about their partner's commitment, resulting in some doubt about their partner's feelings for them.

Such an argument may be particularly relevant for the present sample. All participants were young, unmarried college students. However strongly they may have believed that their present relationships would be long-term relationships, it is likely that many (if not most) recognized that their present relationship would end well before the term 'long-term' could be applied. Given this likely reality, the partners of individuals who thought of relationships in more exclusive terms may have felt that expectations or desires of participants (i.e., the target person about whom we had data) regarding the present relationship may have been unrealistic. Such unrealistic (or perhaps more nonnormative) expectations or desires may have caused partners to withdraw or withhold somewhat. In this regard, it would be interesting to examine relationships between the Sexy Seven and

sexuality with adults who have long-term, committed relationships in which exclusivity might be more valued, realistic, and normative.

Erotophilic disposition. Consistent with our expectations, individuals who had stronger erotophilic dispositions (more explicitly sexual, e.g., lewd, obscene, horny) found more love and respect in their interactions than those with weaker erotophilic dispositions. These relationships suggest that love and respect have a strong, explicit, sexual basis, a basis that is probably more consistent with an evolutionary model of personality than it is with models of personality that focus more on interpersonal relationships per se.

FFM and reactions to interactions

Although the FFM was not related as strongly to reactions to sexual interactions as the Sexy Seven was, several findings are noteworthy. Due to the importance of the FFM as a model of personality, we discuss the results for all five factors. At a general level, we should note that similar to the results of previous research, these relationships were somewhat inconsistent.

Agreeableness. As expected, agreeableness was significantly and positively related to feeling loved, and was marginally significantly and positively related to three others outcomes: Enjoyment, intimacy, and respect. Our results are consistent with previous research which has found negative relationships between agreeableness and conflict and quarrelsomeness in social interaction (e.g., Asendorpf & Wilpers, 1998; Barrett & Pietromonaco, 1997; Côté & Moskowitz, 1998). In sexual interactions, more agreeable people may be eager to please their partners, perhaps by being more deferential, leading their partners to be more pleased with them, and in the process allowing them greater enjoyment and intimacy. Taken together, these results suggest that agreeableness plays a role in people's sexual lives. This conclusion fits with that of Donellan et al. (2004) who found that agreeableness was an important trait in understanding marital outcomes for both husbands and wives (including sexual satisfaction). They concluded that agreeableness 'deserves significant attention as a significant predictor of close relationships' (p. 499).

Neuroticism. Contrary to our expectations, people who were more neurotic felt more loved and desired by interaction partners than less neurotic people. Although inconsistent with Eysenck's (1976) original hypothesis, it is consistent with more contemporary research. More neurotic people may be more focused on sexual interaction per se, and therefore may be more sensitive to their partner's feelings. For example, Heaven et al. (2000) found that men who were more neurotic were more sexually curious and excited, and Shafer (2001) found that people scoring high on neuroticism reported higher sexual self-monitoring. Both of these findings suggest that neurotics are more attentive to sexual situations. Within the present context, such attentiveness may have led more neurotic participants to focus on the emotionally positive aspects of the sexual interactions in which they were involved.

Openness. Unexpectedly, we found positive relationships between openness and guilt and regret about sexual interactions. These results stand in contrast to research that has not found relationships between openness and sexual anxiety and guilt (e.g., Heaven et al., 2000; Shafer, 2001) or has found negative relationships between openness and sexual anxiety (e.g., Heaven et al., 2003). At first glance, our results may seem somewhat inconsistent with the definitions usually applied to openness. It seems reasonable to expect that individuals who are open to new experiences should feel less guilt about sexuality and the openness that can accompany it.

On the other hand, it is likely that people who are high in openness are probably involved with people who are less open than they are. We know of no data suggesting that openness is an assortative mating factor, and assuming this is the case, then individuals who are high on openness are statistically more likely to be involved with someone who is less open than they are. If this is the case, within the context of sexual interactions, individuals who are more open may suggest certain sexual practices or make certain remarks that are consistent with their openness; however, their less open partners may not respond uniformly positively to such openness, particularly regarding a topic as highly charged as sex. In turn, such less than uniformly positive responses may lead more open people to regret or feel guilty about being so open. More open people may believe that their willingness to engage in new activities violates social and relational norms, and they may feel guilt and regret as a result.

Extraversion. Contrary to our hypothesis, extraversion was not significantly related to any of the nine outcomes. Extraversion may be more important in less intimate, more public social situations (as studied in previous research of everyday social interaction) than it is in more intimate, private interactions such as those examined in the present study.

Conscientiousness. Conscientiousness was not significantly related to any of the outcome variables. Although some research has found relationships between this trait and sexual outcomes, our results support Costa et al.'s (1992) conclusion that this trait is less important than others for social interaction in general.

Limitations

As mentioned previously, we have assumed that the personality traits we measured were causes, and reactions to sexual interactions were effects. Such an assumption is consistent with a large body of research and theory about personality traits, although the opposite relationship is certainly possible. Another possible limitation is our use of the Big Five Inventory (John & Srivastava, 1999). We measured only the five factors and did not measure the facets of these traits. It is possible that stronger effects would have been found for the facets. For example, Heaven et al. (2003) found that the anxiety facet of neuroticism was a significant predictor of sexual anxiety and fear of sex, but the immoderation facet of neuroticism was not

a significant predictor of these outcomes. Finally, participants were all college-aged students who volunteered to be in a study of sexual interactions, and it is possible they differed from the population at large in meaningful ways. The results of a study of sexual interactions might be very different for other populations such as adults who have been married for some time.

Conclusion

In sum, the present results suggest that understanding individual differences in personality can further our understanding of people's interpersonal relationships, specifically their sexual experiences. More specifically, our understanding of the sexual interactions within interpersonal relationships can be enhanced by considering domain-specific measures of personality in addition to measures of more general personality. The current research is also important in its use of a diary method to examine people's sexual experiences. The results of the current study support the notion that individual differences in sexual personality exist and that they explain people's reactions to their daily sexual experiences beyond the explanation provided by a general personality taxonomy and by one-time self report measures of sexual behavior.

REFERENCES

- Asendorpf, J. B., & Wilpers, S. (1998). Personality effects on social relationships. *Journal of Personality and Social Psychology*, *74*, 1531–1544.
- Barrett, L. F., & Pietromonaco, P. R. (1997). Accuracy of the five-factor model in predicting perceptions of daily social interactions. *Personality and Social Psychology Bulletin*, *23*, 1173–1187.
- Buss, D. M. (1991). Evolutionary personality psychology. *Annual Review of Psychology*, *42*, 459–492.
- Buss, D. M. (1996). Social adaptation and five major factors of personality. In J. S. Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives* (pp. 180–207). New York: Guilford.
- Christopher, F. S., & Sprecher, S. (2000). Sexuality in marriage, dating, and other relationships: A decade review. *Journal of Marriage and the Family*, *62*, 999–1017.
- Costa, P. T., Jr., Fagan, P. J., Piedmont, R. L., Ponticas, Y., & Wise, T. N. (1992). The five factor model of personality and sexual functioning in outpatient men and women. *Psychiatric Medicine*, *10*, 199–215.
- Côté, S., & Moskowitz, D. S. (1998). On the dynamic covariation between interpersonal behavior and affect: Prediction from neuroticism, extraversion, and agreeableness. *Journal of Personality and Social Psychology*, *75*, 1032–1046.
- Digman, J. (1990). Five factor model. *Annual Review of Psychology*, *41*, 417–440.
- Donnellan, M. B., Conger, R. D., & Bryant, C. M. (2004). The Big Five and enduring marriages. *Journal of Research in Personality*, *38*, 481–504.
- Eysenk, H. J. (1976). *Sex and personality*. Austin, TX: University of Texas Press.
- Heaven, P. C. L., Crocker, D., Edwards, B., Preston, N., Ward, R., & Woodbridge, N. (2003). Personality and sex. *Personality & Individual Differences*, *35*, 411–419.

- Heaven, P. C. L., Fitzpatrick, J., Craig, F. L., Kelly, P., & Sebar, G. (2000). Five personality factors and sex: Preliminary findings. *Personality & Individual Differences*, 28, 1133–1141.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 102–138). New York: Guilford.
- Kirkpatrick, L. A., Waugh, C. E., Valencia, A., & Webster, G. D. (2002). The functional domain-specificity of self-esteem and the differential prediction of aggression. *Journal of Personality and Social Psychology*, 82, 756–767.
- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system of personality: Reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, 102, 246–268.
- Nezlek, J. B. (2001). Multilevel random coefficient analyses of event and interval contingent data in social and personality psychology research. *Personality and Social Psychology Bulletin*, 27, 771–785.
- Nezlek, J. B. (2003). Using multilevel random coefficient modeling to analyze social interaction diary data. *Journal of Social and Personal Relationships*, 20, 437–469.
- Nezlek, J. B. (2007). Multilevel modeling in research on personality. In R. Robins, R. C. Fraley, & R. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 502–523). New York: Guilford.
- Nezlek, J. B., & Pilkington, C. J. (1994). Perceptions of risk in intimacy and everyday social interaction. *Personal Relationships*, 1, 45–62.
- Raudenbush, S. W., Bryk, A. S., Cheong, Y. F., & Congdon, R. T., Jr. (2001). *HLM 5: Hierarchical linear and nonlinear modeling*. Lincolnwood, IL: Scientific Software International.
- Schenk, J., & Pfrang, H. (1986). Extraversion, neuroticism, and sexual behavior: Interrelationships in a sample of young men. *Archives of Sexual Behavior*, 15, 449–455.
- Schenk, J., Pfrang, H., & Rausche, A. (1983). Personality traits versus the quality of the marital relationship as the determinant of marital sexuality. *Archives of Sexual Behavior*, 12, 31–42.
- Schmitt, D. P., & Buss, D. M. (2000). Sexual dimensions of person description: Beyond or subsumed by the Big Five? *Journal of Research in Personality*, 34, 141–177.
- Shafer, A. B. (2001). The Big Five and sexuality trait terms as predictors of relationships and sex. *Journal of Research in Personality*, 35, 313–338.
- Smith, C. V. (2007). In pursuit of 'good' sex: Self-determination theory and the sexual experience. *Journal of Social and Personal Relationships*, 24, 69–85.
- Wheeler, L., & Nezlek, J. (1977). Sex differences in social participation. *Journal of Personality and Social Psychology*, 35, 742–754.