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ORIGINAL PAPER

An Examination of the Nature of Erotic Talk

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Abstract Using a mixed-methods study, we provided the first systematic documentation and exploration of erotic talk. In Study 1 ($N = 95$), participants provided 569 erotic talk statements in an anonymous online survey, which we classified, using a modified thematic analysis, as being representative of eight themes. In Study 2 ($N = 238$), we quantified individual differences in these themes, subjected them to factor analysis, and examined the nomological network surrounding them with measures of relationship and sexual satisfaction, sociosexuality, and personality. The eight initial categories represented two higher order factors, which we call *individualist talk* and *mutualistic talk*. These factors were orthogonal in factor analysis and distinct in their nomological network. While the majority of people reported using erotic talk, we found few sex differences in its use.

Keywords Communication · Sexuality · Satisfaction · Erotolalia · Sociosexuality · Profanity

Introduction

In order to get insight into human sexual behaviors and desires, researchers often focus on behaviors people have committed, are interested/willing to commit, and attitudes about behaviors (Joyal, Cossette, & Lapierre, 2015; Kinsey, Pomeroy, Martin, & Gebhard, 1953; Schmitt, 2005). One aspect of human sexuality appears to have been neglected; *erotic talk* (aka *sex talk, pillow talk,* or *dirty talk*) or communication in the context of sexual encounters. So long as one accepts the premise that what people say (i.e., vocalizations or utterances) are meaningful observational units of analysis (Hamilton & Hunter, 1985; Potter & Wetherall, 1987), one could better understand sexual behaviors, fantasies, and motivations by examining what people say in the context of sexual episodes.

While previously deemed unimportant (Levin, 2006), a recent, large-scale sex survey suggests 62 % of respondents enjoyed talking during sex (Redhotpie, 2014). In addition, erotic talk appears to play a role in relationship and sexual satisfaction (Babin, 2013; Brogan, Fiore, & Wrench, 2009; Byers, 2001; Crawford, Kippax, & Waldby, 1994; Sanchez, Phelan, Moss-Racusin, & Good, 2012) and facilitates orgasm (Muehlenhard & Shippee, 2010; Roberts, Kippax, Waldby, & Crawford, 1995). Interestingly, vocalizations (i.e., nonverbal erotic talk) in nonhuman primates facilitate orgasm and pair-bonding in various nonhuman primates as well (Engelhardt, Fischer, Neumann, Pfeifer, & Heistermann, 2012; Hamilton & Arrowood, 1978; Pfefferle, Brauch, Heistermann, Hodges, & Fischer, 2008). So long as ones accepts evolutionary theory and humans being part of the primate order, what is "said" during sex might be biologically meaningful. Despite these points, erotic talk has received limited attention because it may contain verbal and sexual taboos (e.g., cursing; Jay, 1992, 1999, 2009; MacDougald, 1961; Murnen, 2000; Patrick, 1901; Sanders, 1969). Taken together, this suggests erotic talk is worthy of more detailed study. In this study, we provide the first (that we know of) documentation of erotic talk themes along with how the individual differences of participant's sex, sociosexuality, and relationship satisfaction account for the use and enjoyment of erotic talk.

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Content of Men and Women's Erotic Talk

Different goals or sexual motivations may underlie different themes in erotic talk. When erotic talk is geared towards relationship building, we expect it to involve voluntary and involuntary (reflexive) feedback that is verbal and nonverbal, expressions of intimacy, and instructional statements (Brogan et al., 2009; Byers, 2011; Kinsey et al., 1953; Levin, 2006). All of these (and maybe more) have the implicit, if not explicit, goal of trying to improve the quality of sexual activity for both members of the relationship. As both people benefit from an improved relationship, such themes might be considered mutualistic themes.

However, people are not always overtly motivated by relationship enhancement or group needs (Jonason, Strosser, Kroll, Duineveld, & Baruffi, 2015) and, may, instead, be more concerned with their own sexual arousal/enhancement.[1] In this aspect of erotic talk, individuals may adopt a more aggressive posture, tone, and content. To get some insight into this form of erotic talk, we might look to sexual deviance (Williams, Cooper, Howell, Yuille, & Paulhus, 2009). Sexually deviant behaviors tend to place the sexual arousal of one partner as paramount and the fact that the partner also gets aroused (maybe) is secondary (e.g., sexual asphyxiation). Sexual bondage and other domination manifestations of sexual behavior suggest some people are aroused by being dominant or submissive, leading us to expect such themes in erotic talk as well. This desire for power may even go a step further in the form of sexual ownership in erotic talk (e.g., "whose pussy is this?"). Alternatively, vocalizing one's sexual fantasies may better facilitate arousal and climax by creating a self-arousing stimuli, and therefore, we expect this to be another theme in erotic talk.

Thus far, we have focused on themes we expect in both sexes. However, there might be some reason to expect the sexes to differ in some ways. While the sexes are more alike than they are different, sexual behavior and attitudes remain one context in which they continue to differ in meaningful degrees (Oliver & Hyde, 1993; Petersen & Hyde, 2010). Women may be more motivated to bond and commune than men are (Buhrke & Fuqua, 1987; Jonason, Webster, & Lindsey, 2008) and, therefore, may be more interested in erotic talk centered around intimacy and bonding. Indeed, women may be more partner-focus in the bedroom (Bensman, 2011), which may explain why they sometimes fake orgasm (Muehlenhard & Shippee, 2010; Roberts et al., 1995). Men, in contrast, may have a greater need for power and control than women do, leading them to be more interested in messages that make them feel that way.

Structure of Erotic Talk

While we expect some clear themes to emerge in erotic talk, we expect they will likely reduce down to two fundamental, higher order constructs that have been well researched in personality psychology. The distinction between selfish/individualistic traits and prosocial/mutualistic (i.e., agency and communion) traits is particularly important in personality psychology (Allport, 1924; Trapnell & Paulhus, 2012). We expect individual differences in talk designed to improve the quality of the relationship (e.g., feedback) to fall under a higher order distinction of mutualistic talk. In contrast, we expect erotic talk of a more overtly sexual nature (e.g., sexual ownership) to fall under a higher order distinction of individualistic talk.

One way to understand the nature of different aspects (at different levels) of erotic talk is to assess its nomological network. A nomological network is composed of the correlations that surround a given construct in theoretical space. Primarily, we are interested in three aspects of sexuality that may allow us to distinguish the types and themes of erotic talk. Sociosexuality is a personality trait that taps attitudes, behaviors, and desires related to promiscuity or a casual sex approach to mating (Simpson & Gangestad, 1991). Given the overtly sexual nature of this trait, we expect it to correlate more with individualistic talk than mutualistic talk. That is, we expect those who are sociosexually liberal to engage in more individualistic talk than mutualistic talk. In contrast, relationship satisfaction and sexual satisfaction may be facilitated by open communication and expressions of affection (Byers, 2001; Montesi, Fauber, Gordon, & Heimberg, 2011; Pascoal, Narciso, & Pereira, 2014). As such, we expect it to be correlated with the use of mutualistic talk but not individualistic talk. As each higher order dimension of talk comes from different psychological space, we expect what it is related to differ, further revealing the relative orthogonality of these types of erotic talk.

Secondarily, we examine, in a descriptive fashion, how the Big Five personality traits[2] may allow us to distinguish these two major dimensions of erotic talk. We expect two general patterns. First, extraversion describes a person's tendency to engage with the social world. As much of erotic talk requires communication, we expect extraversion to provide some discriminatory value in understanding aspects of erotic talk. Second, we have expectations that agreeableness will also be valuable. Agreeableness is an individual difference that describes how much people try to get along with others and are generally nice. As this trait has major implications for relationship stability (Botwin, Buss, & Shackelford, 1997; Buss & Shackelford, 1997), we expect it to also be associated with mutualistic talk. And last, if erotic talk is a manifestation of some psychological dysfunction, it should be correlated with neuroticism. As we do not feel it is an

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[1] Indeed, as individuals can have sex outside of a formal relationship, sex talk might not occur within a relationship and, therefore, there is little reason to try to build relationship satisfaction and commitment.

[2] Extraversion, Agreeableness, Neuroticism, Openness, and Conscientiousness.

expression of dysfunction, we expect no correlations with neuroticism.

In an act-nomination/frequency study (Buss & Craik, 1983; Jonason & Buss, 2012), we document major themes in erotic talk and try to understand the factor structure of erotic talk. We adopt such a method to minimize experimenter bias. We collect statements from one sample and then quantify individual differences in those statements in another sample. We provide an exploration and documentation of individual differences in erotic talk in order to get a clearer picture of people's sexual motives and behavior.

Study 1: The Content of Erotic Talk

Study 1 was an act-nomination study (Buss & Craik, 1983) designed to identify the types of statements that individuals say during sexual activity, and group these into qualitatively similar messages. This method is useful for basing research on content provided by participants, not researchers. The process was guided by the question: *What is the content of people's erotic talk, and are there recurrent themes across the statements that can be categorized?* To do so, we collected open-ended responses from a group of participants and then subjected them to a sorting procedure to detect major themes.

Method

Participants and Procedure

Ninety-five participants (52 % female), aged between 18 and 69 years old ($M = 40.70$, $SD = 12.22$) were recruited via social media in a snowball fashion. As per the act-nomination methodology, participants were asked, in open question format, to provide a list of the things that they and their partner say during sex including, but not limited to, for excitement and expressions of emotions. In order to collect as many erotic statements as possible to better represent a wide range of speech, participants were free to provide statements men and women use. Participants who indicated that they did not use erotic talk (13 %) were asked to supply statements that they knew or believed other men and women say during sex.[3] Only participants from unique IP addresses were included. Ethics approval was granted by the University of Western Sydney.

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[3] While allowing people to report on statements that others say and not them, we may have introduced some learned content from pornographic movies, but as we (1) will not examine particular statements and (2) feel men and women can still accurately report statements offered by men and women even from pornographic films, we feel this is a minor concern. Moreover, as most pornographic consumption in the age of Redtube (and other website devoted to pornographic clips) revolves around limited scripts and budgets, this seems like a quite minor concern.

Results

A total of 569 erotic statements were collected, with content ranging from sweet talk (e.g., "Darling") to what would be considered in a broader context to be offensive (e.g., "Shut up bitch").[4] Men and women did not differ in the number of statements they provided. Typographical errors were corrected and a modified thematic analysis was conducted. Two research assistants, who were blind to the hypotheses and expected themes, independently analyzed the statements, and discrepancies among researchers were discussed. This procedure mirrored prior analysis with act-nomination data (Jonason & Buss, 2012) and acts to reduce some of the noise present in act-nomination data. It does not, however, strictly follow thematic analysis procedures of creating coding schemes.

This process produced a total of eight message themes. The eight themes were (1) *sexual dominance* (e.g., "Take it!," "Who's my fucktoy?," "Are you a slaveboy?"); (2) *sexual submission* (e.g., "Fuck me good," "Let me be your dirty slut," "Do with it as you please"); (3) *instructive statements* (e.g., "Go faster/harder," "Bend over," "Put your cock in me"); (4) *positive feedback/ reinforcement* (e.g., "You are so good at that," "I love it when you slow down," "You taste so good"); (5) *intimacy/emotional bonding* (e.g., "I love you," "Darling," "You're beautiful"); (6) *sexual ownership* (e.g., "Whose pussy is this?," "You're mine now," "Are you my girl?"); (7) *speaking fantasies* (e.g., "I'm imagining people are watching us fuck," "Tell me what you would do with that guy"); and (8) *reflexive calls* (e.g., "Yes/ yeah!," "Fuck!," "Oh God!"). Categories sometimes overlapped, for example, messages of *sexual dominance* and *sexual submission* were sometimes also *instructive*, and if so, were coded under both. However, *sexual dominance* was only coded if the statement clearly contained a degrading-the-other or controlling message (e.g., "You'll come when I tell you to come"), and *sexual submission* only coded if a statement contained a self-degrading or yielding message (e.g., "Please use me to please you"). However, by examining the themes in Study 2, we reduce this problem.

The open question format proved valuable in providing current and relevant data on the content of erotic talk that avoided any preordained vocabulary or categories being imposed, as with many previous studies. In stark contrast to previous findings that contend there is a high usage of euphemisms (e.g., *making love*) and formal terminology (e.g., *vagina, penis*) used to refer to sexual terms (e.g., Sanders & Robinson, 1979; Walsh & Leonard, 1974; Wells, 1990), only one statement contained a euphemism (i.e., "I love the way you make love"), and one statement contained a formal term (i.e., "I love how smooth the head of your penis is"). Slang was by far the most preferred grammar for sexual anatomy (e.g., *cock, dick, pussy, ass/arse, tits,* and *balls*) and for sexual intercourse (mostly, *fuck*). There was

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[4] The full list of statements is available from the first author, upon request.

one exception to this rule—the word *cunt* was only used by two participants, both male. This is not surprising given that the word is considered the most taboo of all sexual terms, particularly by women (Braun & Kitzinger, 2001; Murnen, 2000; Sanders & Robinson, 1979; Wells, 1990) and we relied on an American sample where such a term may be less common than in countries that speak the Queen's English (e.g., Australia).

Study 2: Individual Differences in Erotic Talk

Now that we have a list of erotic statements that are relatively devoid of researcher bias, we need to quantify individual differences in the use of erotic talk using the act-frequency method (Buss & Craik, 1983). In Study 2, we provide participants with quantitative questions asking about their use/enjoyment of each of the eight themes. We then subject these responses to factor analysis and an assessment of the nomological network surrounding the individual differences in the use of erotic talk. We again assess sex differences because those analyses in Study 1 were more tests about the number of statements each sex offered than any test of differences in erotic talk usage in men and women.

Method

Participants and Procedure

Two hundred and thirty-eight participants (52 % female) aged between 19 and 68 years old ($M = 35.43$, $SD = 10.09$),[5] from the USA, completed the anonymous online survey posted on Mechanical Turk in exchange for US$1. Ninety-two percent of participants indicated that they use erotic talk, 72 % were in a committed relationship (18 % single),[6] 88 % were heterosexual, 4 % homosexual, and 7 % bisexual.[7] Only participants from unique IP addresses were included. Ethics approval was granted by the University of Western Sydney.

Measures

To measure individual differences in erotic talk, participants were asked to rate their use of each of the eight categories of

erotic talk from Study 1 (i.e., sexual dominance, sexual submission, instructive statements, positive feedback/reinforcement, intimacy/emotional bonding, sexual ownership, speaking fantasies, and reflexive calls). Sample items of each were presented to avoid any confusion or objections to the terms used to represent each category. Three measures of usage were taken, which were, how much the individual used such statements (1 = *never*; 5 = *all the time*), how exciting it was to hear, and to say during sex (1 = *not at all*; 5 = *extremely*, for both dimensions). These three question types were averaged and found to have good-to-excellent internal consistency (see Table 2), and so to eliminate redundancy and reduce Type I error inflation, the 24 (eight themes by three question types) items were reduced to eight measures of erotic talk usage (*use/pleasure*) by averaging responses across three items for each theme.[8] Participants were asked to respond to these questions in relation to their current or most recent relationship.

Sexual satisfaction was assessed using the New Sexual Satisfaction Scale-Short (Štulhofer & Buško, 2010), a 7-item measure with a conceptual framework derived from the sex therapy literature. The items were averaged to create a single index of sexual satisfaction ($\alpha = .94$). Participants were asked to respond to these questions in relation to the last relationship where they used erotic talk.

Regardless of relationship status at the time of surveying, each participant completed the 7-item Relationship Assessment Scale (Hendrick, 1988). The items were averaged to create a single index of relationship satisfaction ($\alpha = .91$). Participants were asked to respond to these questions with respect to the last relationship where they used erotic talk.

To measure individual differences in sociosexuality, participants completed the Revised Sociosexual Orientation Inventory (Penke & Asendorpf, 2008), a 9-item measure of willingness to engage in uncommitted sexual relationships. The items were averaged to create a single index of sociosexual orientation ($\alpha = .89$).[9]

Personality was measured using a 20-item short form of the 50-item International Personality Item Pool-Five-Factor Model measure, the Mini-IPIP (Donnellan, Oswald, Baird, & Lucas, 2006). The scales contain four items per Big Five trait (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and intellect/imagination). Items were averaged to create indexes of each dimension, all of which returned good internal consistency (αs = .74 to .89).

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[5] Age was correlated with less use of the submissive themed erotic talk ($r(218) = -.14$, $p < .05$).

[6] The results were generally robust to this distinction. Indeed, the only effects suggested that those who were in committed relationships used mutualistic talk more than single participant ($t(218) = 2.24$, $p < .05$) which was driven by differences in intimate talk ($t(218) = 2.15$, $p < .05$) and reflexive talk ($t(218) = 1.97$, $p < .05$). As these are exploratory analyses and weak effects, we urge caution in their over-interpretation.

[7] Because of the small size of the latter two groups, and initial analyses showing no effect for sexual orientation, this variable was omitted from further analyses.

[8] Data on the original three dimensions are available from the first author upon request.

[9] An examination of the three dimensions of this scale proved reasonably fruitless. As our interest was to investigate sociosexuality in general as opposed to any one aspect of it, we feel this is the best approach theoretically and psychometrically.

Results

Factor Structure of Erotic Talk

We sought to understand the factor structure of erotic talk. To begin, we correlated individual differences on all eight themes (Table 1). There was sufficient overlap and the sample size was adequate (Kaiser–Meyer–Olkin = .80) to run factor analyses. Using Principal Components Analysis (for data reduction purposes) with an Oblimin rotation, there were two factors (Table 2) accounting for 56 % of the variance. Factor 1 contained items related to more self-focused sexual activity, and when averaged had good internal consistency ($\alpha = .75$). Factor 2 contained items that represented shared experience and communicating pleasure to one's sexual partner, and when averaged had adequate internal consistency ($\alpha = .68$). These two factors became new study variables, *individualistic talk* and *mutualistic talk*, respectively. Individualistic talk and mutualistic talk were correlated ($r(223) = .47, p < .001$). In a Confirmatory Factor Analysis, we verified that a two-dimensional model (Fig. 1) fit the data moderately well ($\chi^2(19) = 46.33, p < .01, \chi^2/df = 2.44$, CFI = .94, RMSEA = .08 (90 % CI .05–.11), p-closeness < .06) and better ($\Delta\chi^2 = 37.78, p < .01$) than a one-dimensional model ($\chi^2(20) = 84.11, p < .01, \chi^2/df = 4.21$, CFI = .85, RMSEA = .12 (90 % CI .09–.14), p-closeness < .01).

Sex Differences in Erotic Talk

Next, we examined the role of participant's sex[10] in the use of these two dimensions. A 2 × 2 repeated measures ANOVA, with sex of the participant as the between-subjects factor and the types of erotic talk as the within-subjects factor, showed that men and women did not differ on their preference for the two types of erotic talk. Both sexes had a higher ($F(1, 218) = 334.66, p < .001, \eta_p^2 = .61$) use/enjoyment of mutualistic talk ($M = 3.33, SD = 0.65$) than individualistic talk ($M = 2.45, SD = 0.76$). We did not conduct similar analyses for the eight themes or the particular questions we used to assess individual differences in erotic talk as they made little theoretical sense. Instead, we turn our attention to sex differences.

Generally, we found few sex differences. The sexes differed in only one theme *intimacy/emotional bonding* ($t(217) = -2.77, p < .05$, Cohen's $d = -0.38$), where women reported more use/enjoyment than men did. It appears that for women, sex is an opportunity to strengthen the dyadic relationship, but for men, it has a different purpose. To offset concerns that examining frequency, pleasure in hearing, and pleasure in saying independently may be essential, we examined sex differences in the particular items (despite an inflated Type I error). Women were more likely to say submissive messages ($t(217) = -3.28, p < .01$,

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$d = -0.45$) and to enjoy hearing intimate messages ($t(217) = -4.04, p < .01, d = -0.55$) than men were, and men reported more excitement when hearing messages of submission than women did ($t(217) = 4.33, p < .01, d = 0.59$).

Nomological Network of Erotic Talk

To follow the factor analysis, we sought to examine the nomological network surrounding each of these two dimensions and the eight themes (Table 3). Individualistic talk was correlated with sociosexuality, sexual satisfaction, and extraversion. Mutualistic talk was associated with relationship satisfaction, sexual satisfaction, extraversion, and agreeableness. The correlations between the higher order themes and sexual satisfaction differed (Steiger's $z = 1.90, p < .05$), suggesting it really is mutualistic talk that is associated with sexual satisfaction, not so much individualistic talk. Use/enjoyment of the sexual dominance theme was associated with extraversion and sociosexuality. Use/enjoyment of the sexual submission theme was associated with extraversion and sexual satisfaction. Use/enjoyment of the intimacy theme was associated with relationship and sexual satisfaction along with extraversion and agreeableness. Use/enjoyment of the positive feedback theme was associated with more sexual satisfaction and extraversion and agreeableness. Use/enjoyment of the instructive statements was associated with agreeableness. And last, use/enjoyment of the reflexive calls theme was associated with openness and agreeableness. While some apparent moderation was present, when we adjusted alpha for Type I error inflation, none passed that threshold ($p < .001$).

Next, we correlated the three question types with individual difference measures. Generalized frequency of use of any kind of erotic talk was correlated with sexual satisfaction ($r(223) = .21, p < .01$), extraversion ($r(220) = .19, p < .01$), and agreeableness ($r(220) = .18, p < .01$). Generalized enjoyment of saying any kind of erotic talk was correlated with sexual satisfaction ($r(223) = .28, p < .01$), extraversion ($r(220) = .21, p < .01$), and agreeableness ($r(220) = .18, p < .01$). Generalized enjoyment of hearing erotic talk had no correlates. Again, an adjusted alpha ($p < .001$) revealed no moderation by sex of the participant.

Last, we correlated the individual themes within each question type and the individual differences measures (Table 4). However, given the large number of correlations, we only will mention the larger ones and obvious patterns. We include this to provide the fullest account of individual differences in erotic talk as possible. Being sociosexually unrestricted was correlated with the frequency of use and the excitement in saying and hearing messages of sexual dominance. Agreeableness was associated with nearly every case of use and enjoyment of the aspects of mutualistic talk. The frequency of use, enjoyment in hearing, and enjoyment in saying intimacy messages was negatively correlated with being sociosexually unrestricted but positively correlated

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[10] The interaction of sex and use/nonuse of erotic talk was not tested given the unequal cell sizes.

Table 1 Descriptive statistics, Cronbach's alphas, and zero-order correlations among erotic talk themes

	α	Mean (SD)	1	2	3	4	5	6	7	8
1. Speaking fantasies	.91	1.80 (0.99)	–							
2. Sexual dominance	.97	2.81 (0.90)	.32**	–						
3. Sexual ownership	.84	2.30 (1.07)	.39**	.44**	–					
4. Sexual submission	.75	2.90 (0.98)	.35**	.63**	.49**	–				
5. Intimacy/bonding	.82	3.10 (1.01)	.03	.15*	.25**	.22**	–			
6. Positive feedback	.78	3.23 (0.83)	.21**	.30**	.26**	.36**	.40**	–		
7. Instructive statements	.76	3.25 (0.91)	.21**	.38**	.24**	.31**	.45**	.49**	–	
8. Reflexive calls	.76	3.70 (0.86)	.20*	.41**	.20*	.35**	.17*	.42**	.36**	–

* $p < .05$, ** $p < .01$

Table 2 Component loadings for the factor structure (oblimin rotation) of erotic talk themes

Erotic talk themes	Components		
	1	2	h^2
1. Speaking fantasies	.79	–	.55
2. Sexual dominance	.74	–	.64
3. Sexual ownership	.69	–	.50
4. Sexual submission	.68	–	.65
5. Intimacy/bonding	–	.80	.57
6. Positive feedback	–	.76	.63
7. Instructive statements	–	.63	.55
8. Reflexive calls	–	.48	.40
Eigen values	3.32	1.17	
% Variance	41.46	14.66	

Component loadings less than .30 have been suppressed

with both relationship and sexual satisfaction. Again, there was little evidence for moderation by participant's sex ($p < .001$).[11]

General Discussion

We have provided an advance in the measurement and understanding of a topic that appears important in relationship and sexual satisfaction in humans and nonhuman primates alike (Byers, 2001; Pfefferle et al., 2008; Roberts et al., 1995). We have argued that much can be revealed about the nature of people based on what they say (Potter & Wetherall, 1987), and thus, studying erotic talk may complement what is already known about their sexual behavior (Jonason, 2013; Kinsey et al., 1953). We examined individual differences and themes in erotic talk using classic test theory and the act-nomination/act-frequency paradigm.

There appear to be two primary dimensions that resemble the agency-communion distinction found in personality psychology (Allport, 1924; Trapnell & Paulhus, 2012). The dimensions were tested in two ways. First, in factor analysis, it is clear there are two, somewhat correlated dimensions we called mutualistic and individualistic talk, both of which are composed of four themes of erotic talk. Second, in assessing the nomological network surrounding aspects of erotic talk, each was correlated with different outcomes. Sociosexuality was associated with the individualistic theme through sexual dominance, but it was negatively correlated with the intimacy theme. Extraversion was associated with the individualistic theme through messages of sexual dominance and sexual submission. Extraversion was associated with mutualistic talk through intimacy and positive feedback. Agreeableness was only associated with mutualistic talk and its themes. This suggests each dimension has its own unique correlates to provide sufficient cause to consider them distinct here and in the future.

In terms of the content of erotic talk, each may reveal unique aspects of sexual motivations that have been highlighted in recent work on sexual fantasies (Joyal et al., 2015). Erotic talk,

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[11] Specific details regarding moderation tests can be obtained by contacting the first author.

Fig. 1 Confirmatory factor analysis of the structure of erotic talk
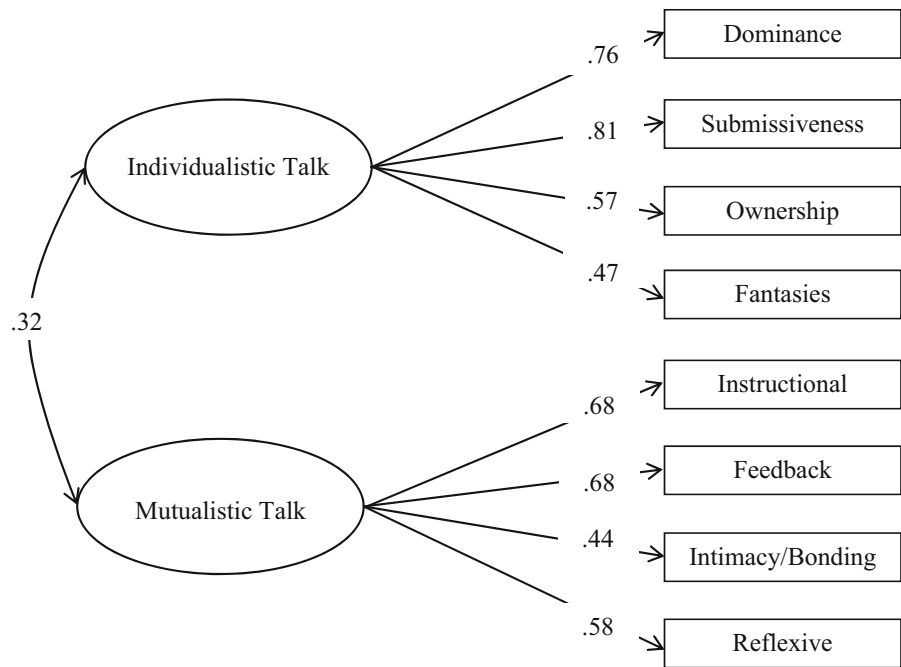
$$\chi^2(19) = 46.33, p < .01, \chi^2/df = 2.44, \text{NFI} = .90, \text{CFI} = .94,$$

$$\text{RMSEA} = .08 \ (90\%\text{CI} \ .05, .11), p\text{-closeness} < .06$$

Table 3 Nomological network correlations (r) of various aspects of erotic talk

	SOI	RS	SS	O	C	E	A	N
1. Speaking fantasies	.11	−.05	.06	.13	−.04	.06	−.01	.00
2. Sexual dominance	.24**	.05	.12	.08	.04	.18**	.06	−.08
3. Sexual ownership	.03	.00	.12	.01	−.08	.11	−.01	−.03
4. Sexual submission	.12	−.01	.13*	.07	−.04	.15*	.05	.03
5. Intimacy/bonding	−.27	.23**	.27**	−.05	.11	.15*	.18**	−.06
6. Positive feedback	−.06	.10	.24**	.07	.06	.17**	.21**	−.03
7. Instructive statements	−.06	.01	.13	.09	.04	.03	.18**	−.05
8. Reflexive calls	.07	.03	.11	.13*	−.02	.11	.20**	.03
9. *Individualistic talk*	.16*	.01	.14*	.09	−.04	.16*	.03	−.03
10. *Mutualistic talk*	−.12	.17*	.27**	.08	.07	.16*	.27**	−.04

Italicized items reflect higher order dimensions of erotic talk

SOI sociosexuality, *RS* relationship satisfaction, *SS* sexual satisfaction, *O* openness, *C* conscientiousness, *E* extraversion, *A* agreeableness, *N* neuroticism

* $p < .05$, ** $p < .01$

like sexual motivations, may have mutualistic and individualistic shades. The former appear to be other-focused motivations that may improve the quality of sex and the relationship. For instance, message of bonding and intimacy may serve to further cement the commitment individuals have towards one another (Byers, 2001; Montesi et al., 2011; Pascoal et al., 2014). The latter may place the enjoyment of the individual at the forefront. For instance, verbalizing ones sexual fantasies may facilitate the

speaker's pleasure and any arousal created in one's partner is incidental. Nevertheless, while this divide is consistent with work in personality psychology (Allport, 1924; Trapnell & Paulhus, 2012), it is possible that all of these serve functions across relationships. There is likely no clear and clean division despite the compelling indications from the factor analyses, as suggested by the association between the two higher order factors. What may be more reasonable is that each theme plays a role in

Table 4 Correlations between the frequency of use, enjoyment in saying, and enjoyment in hearing erotic talk and individual difference measure

	SOI	RS	SS	O	C	E	A	N
Sexual dominance								
Frequency of use	.19**	.09	.04	.11	.02	.17**	.04	−.06
Excitement in saying	.18**	.17*	.07	.11	.01	.16*	.06	−.08
Excitement in hearing	.24**	.04	.00	.03	.05	.10	.04	−.06
Sexual submission								
Frequency of use	.12	.12	−.01	.07	−.06	.10	−.00	.07
Excitement in saying	.02	.12	−.04	.04	−.01	.15*	.18**	.09
Excitement in hearing	.17**	.07	.02	.10	−.06	.09	−.06	−.06
Sexual ownership								
Frequency of use	.02	.13	.01	.06	−.08	.12	.03	−.06
Excitement in saying	−.00	.20**	.10	.02	−.09	.09	−.05	−.08
Excitement in hearing	.07	.00	−.10	−.05	−.07	.07	−.00	.05
Sexual fantasies								
Frequency of use	.13	.04	−.04	.13	−.04	.06	.04	.03
Excitement in saying	.06	.08	.00	.11	−.05	.05	−.04	−.03
Excitement in hearing	.14*	.03	−.02	.13	−.04	.05	−.03	.03
Instructional								
Frequency of use	−.01	.11	.05	.13*	−.05	.05	.16*	.01
Excitement in saying	−.07	.11	.11	.10	.05	.08	.24**	−.07
Excitement in hearing	−.05	.08	.08	.01	.08	−.05	.05	−.06
Feedback								
Frequency of use	.00	.25**	.08	.12	.08	.14*	.25**	−.03
Excitement in saying	−.12	.25**	.14*	.06	.07	.20**	.15*	−.10
Excitement in hearing	−.03	.11	.03	.02	.01	.10	.14*	.05
Intimacy/bonding								
Frequency of use	−.15*	.21**	.24**	−.05	.05	.10	.16*	−.15*
Excitement in saying	−.25**	.29**	.23**	−.04	.13*	.17*	.16*	−.06
Excitement in hearing	−.27**	.19**	.12	−.03	.09	.10	.14*	.06
Reflexive								
Frequency of use	.22**	.03	−.01	.12	−.09	.10	.17*	.05
Excitement in saying	−.05	.18**	.09	.04	.02	.13*	.22**	−.00
Excitement in hearing	.03	.05	−.01	.20**	−.00	.02	.10	.03

SOI sociosexuality, *RS* relationship satisfaction, *SS* sexual satisfaction, *O* openness, *C* conscientiousness, *E* extraversion, *A* agreeableness, *N* neuroticism

* $p < .05$, ** $p < .01$

different relationships to various degrees. Indeed, what might be worth pursuing in the future is an examination of the erotic talk in long-term and short-term relationship contexts (Buss & Schmitt, 1993; Trivers, 1972).

There was scant evidence for sex differences in erotic talk. It is possible that men and women have learned to say what the other sex likes and derives pleasure from pleasing their partners. As we did not account for source of pleasure or pornography consumption, we cannot say much about this. Individuals might just be parroting what they hear men and women say in pornography. However, given that our results were largely consistent when we examined use and enjoyment saying, and hearing, this seems like a minor concern. This problem will have been reduced

by looking for themes as we did in Study 1 and following them up with Study 2. In addition, the nature of our questions was about what men and women say in general. If individuals were heavy consumers of pornography, they should still be able to differentiate between what men and women say in the videos they have seen.

Nevertheless, the lack of sex differences is not all that surprising in that the sexes are more alike than they are different (Oliver & Hyde, 1993; Petersen & Hyde, 2010). We did find some sex differences as predicted. Women preferred messages of intimacy, whereas men preferred messages of power. Such results are consistent with social script (Lawrance, Taylor, & Byers, 1996; Simon & Gagnon, 1986; Wiederman, 2005) and

evolutionary models (Buss, Shackelford, Choe, Buunk, & Dijkstra, 2000). Unfortunately, our data do not say anything about which model is better in accounting for individual differences in erotic talk; it was not designed to do so. It is likely that both provide complimentary and overlapping information about erotic talk. The evolutionary approach creates a parsimonious model with the work on sexual vocalizations in nonhuman primates (e.g., Hamilton & Arrowood, 1978) and offers a priori reasons to expect sex differences and even particular content. A sociocultural/social script model takes those evolved tendencies and preferences and reinforces or punishes them, providing context-specific variance in the content of erotic talk and potential sex differences in the use and enjoyment of erotic talk.

Limitations, Future Directions, and Conclusions

Although this study was a major advance in the documentation and measurement of individual differences in erotic talk, it was, nonetheless, characterized by a number of limitations. First, although our samples were meaningfully older than the standard college student samples of sex and relationship research, our samples could still be described as W.E.I.R.D. (i.e., Western, educated, industrialized, rich, and democratic; Henrich, Heine, & Norenzayan, 2010). This might be exacerbated in online samples although we feel the anonymity and sample size provided by such methods are important tools in sex research. Moreover, the reliance on an older sample provides for a greater and more varied sexual history than college students are likely to have; something that may be essential in understanding erotic talk. It is likely that young, relatively inexperienced undergrads may not have the sexual range or confidence to use erotic talk as those who are a bit older. Nevertheless, the possibility remains that erotic talk could differ in content and structure from society to society; however, how and why those differences would exist is unclear to us.

Second, the degrees of freedom varied by about 20 in places because of some confusion in participants regarding how to complete the measures of erotic talk. Nevertheless, as our analyses relied on maximum likelihood estimation, there were few missing data points, and there is every expectation that they were missing at random, we feel confident in our conclusions. This problem, however, reinforces the utility of large samples when examining sensitive and provocative topics (see Jonason, Li, & Cason, 2009). By the law of averages alone, having a large sample will offset and minimize problems with missing data. Nevertheless, why people refused to answer a given question is an important, albeit tangential psychometric question for sex researchers, but beyond the scope of this project.

Third, as we transitioned from higher order analyses to more specific item analyses, we did reveal some asymmetries suggesting that while the factor analyses are both theoretically and psychometrically justifiable, there may be nuances future research should attend to as we have (e.g., the distinction between saying and hearing). For instance, more detail may be offered if future research were to disentangle some contextual effects. Erotic talk content might differ when compared in one-night stands as compared to committed relationships. Two possibilities exist. The range of erotic talk content might be greater in long-term relationships than short-term relationships as people have developed enough intimacy to explore their sexuality (Jonason, Li, & Richardson, 2010). Alternatively, individualistic talk might be more used in the short-term than long-term domain. As short-term relationships have sexual gratification at their core (Jonason, 2013), such erotic talk might be used to enhance participant's sexual pleasure.

Fourth, in some cases we may have had an inflated alpha but we (1) feel this is tolerable given the novelty of our study and (2) that we conceptually did omnibus tests in our higher order analyses. Subsequent analyses acted as *de facto* simple effects tests. Doing so allowed us to squeeze every ounce of information possible out of the data. There are surely many more questions to follow about this understudied topic. We hope to have provided both depth and breadth of insight into erotic talk for future research to follow up on.

Fifth, as Study 2 relied on responses from Study 1, Study 2 could be criticized as limited in that we must trust the statements provided by that sample. To offset this, we did not rely on the actual responses for Study 2, but, instead, assessed individual differences in the themes allowing us to, *ad hoc*, ignore apparent noise created by such qualitative designs (Jonason & Buss, 2012). Future research might compliment this approach by doing a content analysis of what men and women say in pornographic films and daily diary studies that ask people to report on what they said in their last sexual episode to triangulate on more precision.

Collectively, our studies provide exciting new material to drive further research. We have, in effect, created a multivariate, multilevel, multicontent measure of individual differences in erotic talk. This measure will provide insights into erotic talk from various levels of analysis, and we encourage future researchers to treat erotic talk as we have. Future work may reveal more sex differences by examining context specificity in what people in say in short-term and long-term relationships (Buss & Schmitt, 1993). Alternatively, future research might examine how sexual orientation and participants' sex interact to predict preferred erotic talk themes.

In conclusion, it makes the most sense to us to think of erotic talk as being composed of themes that individuals orient towards differently while retaining strong theoretical currents running underneath. Indeed, we have shown there are two main types of erotic talk that are composed of eight different themes that have a reasonably orthogonal structure and nomological network. For the first time, the science of sex research can claim to have fully documented what people say in the bedroom.

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