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Feeling Love and Lust: An Examination of Individualistic and Mutualistic Erotic Talk

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Abstract

While for some (maybe even most), the act of sex may be a rather silent affair, others may communicate their needs, fantasies, and pleasure to their partners. However, research on this topic has several methodological and conceptual shortcomings. In heterosexual participants ($N = 433$; $M_{Age} = 30.97$, SD = 9.22, range = 18–73), who spoke German (20%; 28 men), Italian (41%; 88 men), or English (39%; 118 men), we examined the expected amounts (i.e., affective forecasting) of feeling loved and sexually aroused in response to two kinds of erotic talk in men and women, in the context of committed (i.e., long-term) and casual (i.e., short-term) relationships, and in relation to love styles. While participants expected mutualistic talk (e.g., feedback) to generally be more enjoyable than individualistic (e.g., dominance) talk, it was especially appealing in the long-term, romantic relationship context, whereas arousal was expected to be more evocative in the short-term, casual sex than the long-term context, and men expected more enjoyment than women in response to individualistic than mutualistic talk. In addition, erotic talk appears to be part of a game-playing and manic love style, but much more about arousal than love responses in the short term than the long term. Our study provides new information about two classes of erotic talk, responses to that talk, and gender differences and contextual associations therein.

Keywords Communication · Erotic talk · Love styles · Gender differences · Relationships · Sex

Introduction

During sex, people may communicate important information. However, research on erotic talk is rather rare and limited. Its rarity likely stems from problems with the reliability (e.g., self-report biases) of capturing utterances and vocalization in the "heat of the moment" as opposed to abstract ones, difficulties in building a corpus of erotic talk messages that is broad enough to capture the full range of content offered and that can be understood in terms of within-person, across-context, and cross-national variance, and a reticence of researchers (i.e., dispositional, institutional, and cultural) to study verbal and sexual taboos (Jay, 1992; MacDougald, 1961; Murnen, 2000; Sanders, 1969). Research on the topic is limited because it tends to focus on sexual health (Byers, 2011; Crawford et al., 1994; Denes et al., 2017, 2020a, 2020b; Jones et al., 2017; Mallory et al., 2019) at the relative exclusion of other motives for sex, like enjoyment, bonding, or manipulation (Babin, 2013; Byers, 2001; Crawford et al., 1994; Merwin & Rosen, 2020), has been more correlational than experimental (Denes et al., 2017; Jonason et al., 2016), a failure to consider that not all relationships are the same like in terms of some being short-term and casual, whereas others may be long-term and serious (Buss & Schmitt, 1993, 2019), little consideration for the possibility that the effect of erotic talk may align with a person's mating psychology (e.g., love styles), and failure to consider that different kinds of erotic talk messages may generate different kinds of affective responses in receivers. Therefore, in this experimental study, we have participants—those who described themselves as men and women—forecast the degree to which they would feel aroused and loved (i.e., valence) if their heterosexual partners said two classes of erotic talk (i.e., content) in the context of short- and long-term relationships (i.e., context).

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Further, we examine how individual differences in love styles are correlated with expected enjoyment across content, context, valence, and participant's gender.

One of the grandest challenges in this area is simply where to start. There are so many things people could say when having sex, and unless researchers have a way to record people's sexual encounters (e.g., via some snooping smartphone application), the researchers must either focus on specific statements which will prove drastically limited in terms of a research program or build some approximation of what people say based on theory. In one attempt to the do the latter, researchers in Australia (Jonason et al., 2016) identified eight themes of what people say via a qualitative study and then showed how those eight themes may reflect two larger, well-established dimensions in personality psychology, the so-called "Big Two" (Allport, 1924; Trapnell & Paulhus, 2011) traits of agency and communion, or as the research team labeled them, individualistic talk (i.e., talk geared to arouse the individual) and mutualistic talk (i.e., talk geared to connect both parties).[1] In this study, we focus on people enjoyment in these two themes when imagining hearing each of the four themes (i.e., affective forecasting; Gilbert & Wilson, 2000; Wilson & Gilbert, 2005).

People's enjoyment is likely contingent on several differences in message content, relationship context, and individual characteristics. One of the most obvious factors to consider is whether there are gender differences in the reception of these messages given evolutionary and sociocultural models predict gender differences (Buss et al., 2020; Buss & Schmitt, 2019; Crawford et al., 1994; Lawrance et al., 1996; Petersen et al., 2010). Sociocultural researchers contend that gender differences—in general—are about different lived experiences with learning and modeling dynamics within one's lifetime playing a central role. That is, people will have learned what are the proper messages to enjoy or to say one enjoys based on rewards and punishments they have overtly or indirectly received over their lifetimes. Evolutionary models would point to the fact that sexual utterances are not only common in primates and other social species, but that erotic talk could be part of the evolved sexual communication systems that can encourage ejaculation and increase bonding. The former places enjoyment as the focal motivation of sex

and therefore any imagined erotic talk would be a product of this imagined enjoyment. In contrast, evolutionary models suggest that enjoyment is the proximal motivation; erotic talk may have deeper motivational underpinnings because pleasure systems evolved to increase reproductive fitness.[2]

Despite these theoretical discrepancies, most research agrees that men are more motivated and potentially forthcoming about their sexual motives, and we therefore, expect men to report more enjoyment than women do when considering all kinds of erotic talk (H1). However, unlike sociocultural models, evolutionary ones are specific about relationship context, especially in relation to the minimum obligation to offspring (Buss & Schmitt, 1993). When both sexes invest heavily in offspring (i.e., long-term, serious relationships), gender differences in the enjoyment of erotic talk should be weaker than in relationships where gender differences in minimal investment is wider (i.e., short-term casual relationships) because men are generally more sexually motivated (Buss et al., 2001; Petersen & Hyde, 2010) and that women may derive greater sexual pleasure in bonded relationships than men do (H1a). Similarly, if men are more sexually motivated than women are, we would also expect that they report more enjoyment of individualistic messages than mutualistic ones (H1b) because (1) the former messages are expressly about sexual enjoyment and (2) mutualistic messages may align with men's stronger tendency to be oriented around casual sex than women are and men and more individualistic than women are but they differ less in communal motivations (Jonason et al., 2015; Locke, 2018). And last, men's greater fixation on sexual pleasure and casual sex than women's may lead men to report greater arousal than feelings of loved (H1c) because their sexual motivation systems may be more shaped around erection and ejaculation than on bonding emotions and because they may not need to feel "loved" as much as women do in sexual contexts (Buhrke & Fuqua, 1987; Buss & Schmitt, 1993, 2019; Townsend et al., 1995). Despite these gender differences, however, people are more communal than they are agentic (Jonason et al., 2015; Locke, 2018) which leads us to predict that mutualistic messages will be more appealing than individualistic ones (H2), people are more interested in serious relationships than casual sex ones (Buss & Schmitt, 1993, 2019) which leads us to predict that more enjoyment will be derived in the former than the latter relationship context (H3), but given that erotic talk is expressly contained within the sexual context, we expect it to generate more arousal than feelings of being loved (H4).

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[1] Individualistic talk is characterized by sending/receiving messages about one's fantasies (e.g., "Tell me what you would do with that person"), feelings of sexual ownership (e.g., "Who's pussy is this"), conveying sexual dominance (e.g., "Who's your daddy"), and conveying sexual submission (e.g., "Fuck me good"). These messages are called "individualistic" because they are centered on the sexual arousal and enjoyment of one party in the sexual encounter. Mutualistic talk includes instructive statements (e.g., "Yeah, keep going like that"), positive feedback (e.g., "You are so good at that"), intimacy/emotional bonding messages (e.g., "You are so beautiful"), and reflexive calls (e.g., "Oh yes!").

[2] This is especially the case for men because orgasm is directly linked to reproductive fitness in men, whereas women do not need to have an orgasm to have get pregnant. The "puzzle" of the female orgasm is beyond the scope of this paper.

Do Love Styles Align with Erotic Talk Preferences?

People behave differently in relationships, in part, because they have different love styles (Hendrick & Hendrick, 1986; Lee, 1973, 1977). The *eros* love style is a highly passionate physical and emotional love style which tends to idealize the partner and choose her/him based on intuition and chemistry. A benefit of the eros love style is that it creates a strong connection both physical and romantic between the partners, but in excess, it can alienate the individual from reality, by locking her/him in a hopeless romantic and naive fantasy. The *ludus* love style is a playful love style based on flirting and teasing, such people are always looking for exciting, new activities, and aversive of commitment. Ludus relationships tend to be casual and focused on the conquest of new partners. The *storge* love style typically emerges slowly from friendships, and it is based on compatibility not on passion. Storge lovers tend to be loyal and responsible. The *mania* love style is a mix between ludus and eros, characterized by jealousy, possessiveness, and a need for constant reassurance from the partner. In excess, the mania love style could become a codependency or obsession. The *agape* love style is based on an unbreakable commitment and selfless love, it is characterized by the belief that love must be unconditional, and it is centered around the partner's needs. In its extreme and potentially unhealthy form, it can become martyrdom and generate feelings of guilt and incompetence in the partner. Lastly, the *pragma* love style is the most practical type of love, in which individuals choose their partner based on whether he/she could meet their needs (e.g., socially, financially, and emotionally), so it is delineated by rationality.

Although we know something about how personality traits may manifest in erotic talk (Jonason et al., 2016), we know less about love styles. Love styles have implications for relationship satisfaction and sexual satisfaction (Fricker & Moore, 2002; Mishra & Sharma, 2015) and seeing as we will assess the degree to which people will "enjoy" erotic talk, we explore how love styles are correlated with expected arousal and feelings of being loved. While love styles are like to be correlated with favorable responses to erotic talk (H5) because both capture favorable approaches to relationships, sex, and love, we expect that love styles will be aligned with expected enjoyment of erotic talk content in a way that demonstrates that people with specific love styles will have a context/content/valence match (H6). For instance, the correlations should be larger when responding to individualistic messages than the mutualistic ones because such messages are "sexier" and even provocative by nature (H6a), whereas the correlations should be larger for self-reports of feeling loved than feeling aroused and in the long-term context because of people's preference for long-term relationships (H6b). In particular, game-playing and manic love styles may correlate with responses to erotic talk because sexual communication may be part of the sexual dance and reassurance desired by those characterized by these love styles (Honari & Saremi, 2015; Lee, 1977), but given these biases to love, they may not be correlated with favorable responses to bonding messages in the long-term context because such people are disinclined toward the relationships (H6c; Jonason et al., 2019). In addition, the eros love style is linked to nurturing behaviors within relationships (Frazier & Esterly, 1990; Morrow et al., 1995) which may mean they enjoy receiving mutualistic messages if we assume that people's sent and received messages of love align (H6e). And last, these correlations *may* differ in men and women in a way that further suggests such an alignment where men's stronger interest in relationships in general may lead men of certain love styles responding more favorably to some messages in some contexts like men who are erotic may expect more arousal than women in response to mutualistic messages in the short-term context because of the hearing one's casual sex partner is enjoying the act may assuage that man of doubts of his sexual prowess whereas women who are likely to engage in short-term relationships actually would rather her partner not "catch feelings" as may be demonstrated by this kind of erotic talk (H6f) whereas men who are more oriented toward selfless love may be especially tuned into mutualistic messages because such erotic both are about the joint venture of sex (H6g).

In this study, we further the case that while there are many things that people can say in the bedroom, they may boil down to messages about one's own pleasure and messages about the pleasure of the couple (Jonason et al., 2016). By asking participants how loved or aroused they would feel when imagining hearing erotic talk within the context of short-term and long-term relationships, we hope to better understand the interplay of gender, content, context, and valence. In addition, by examining love styles, we assert that erotic talk—and its enjoyment—may be a downstream manifestation of people's approach to love such that certain people will enjoy certain kinds of erotic talk in certain contexts (i.e., an alignment hypothesis). By integrating experimental and correlational tests, we provide one of the most robust and methodologically advanced studies on erotic talk to date.

Method

Participants and Procedure

After excluding 19 self-described homosexual and 53 self-described bisexuals, we had 433 participants (234 identified themselves as men, 199 identified themselves as women) aged 18–73 years old ($M = 30.97$; $SD = 9.22$) who took an online survey in English, German, or Italian, who mostly identified as European (85%) from mostly Mechanical Turk

(36%),[3] Among the participants, 343 (78%) reported being in a committed relationship with an average relationship length of 4.96% years (SD = 3.32, range = 0–10 +). For our correlational analyses, the sample was over double the necessary amount based on the average effect size in personality psychology ($r \approx 0.20$; Gignac & Szodorai, 2016) and guidelines ($N \approx 250$) for reducing estimation error in personality psychology (Schönbrodt & Perugini, 2013) meaning that moderation by sex were also sufficiently well powered given equal numbers of men and women.[4] For our mixed model ANOVA, we estimated a need of 253 people for our weakest statistical tests (i.e., independent samples t-tests) which served as planned comparisons (i.e., α of 0.05, $1 - \beta$ of 0.80, Cohen's $d = 0.25$).[5] Participants were initially informed about the nature of the study, if they provided tick-box consent they proceeded through a series of self-report measures (randomized items within scales), reported demographic details, and were then thanked, debriefed, and paid when appropriate. Data for this study are available on the Open Science Foundation website.[6]

Measures

The appeal of erotic talk was assessed (within-subjects) by asking participants how "loved" and "turned on" they would feel (1 = *not at all*; 5 = *extremely*) if their "casual sex" or "serious relationship" partner expressed sentiments as captured in erotic talk categories of speaking fantasies (e.g., "tell me what you would do with that person"), sexual ownership (e.g., "you are mine now"), sexual dominance (e.g., "do what you want with my body"), sexual submission (e.g., "who is my fucktoy"), instructive statements (e.g., "yeah, keep going like that"), positive feedback (e.g., "you are so good at that"), intimacy/emotional bonding (e.g., "you are so beautiful, I'm so fucking lucky"), and reflexive calls (e.g., "oh yes, yea!") which are loosely based on the themes identified in prior work (Jonason et al., 2016) but were chosen as gender-neutral and culturally-neutral as well. To build measures in all three languages, standard forward–backward translation techniques were used (Behling & Law, 2000) and a native

speaker of each language supervised the translation process and verified intended meaning or optimized the translations. We averaged scores for anticipated arousal for individualistic messages in the short and long term (Cronbach's αs = 0.75 and 0.72) and mutualistic messages in the short and long term (αs = 0.73 and 0.81), and we averaged scores for anticipated feelings of love for individualistic messages in the short and long term (αs = 0.88 and 0.82) and mutualistic messages in the short and long term (αs = 0.88 and 0.84).

Individual differences in love styles were assessed with the love attitudes scale-short form in English (Hendrick et al., 1998), German (Bierhoff et al., 1993), and Italian (Agus et al., 2018) where participants were asked to imagine their current (or last if single) relationship and respond to the items as if they were in that relationship. The scale is composed of 24 items, four for each love style (i.e., eros, ludus, storge, pragma, mania, and agape). Individuals rated their agreement (1 = *strongly disagree*; 5 = *strongly agree*) with statements such as "I feel that my partner and I are meant for each other" (i.e., eros) and "I have sometimes had to keep my partner from finding out about other partners" (i.e., ludus). Items for *eros* ($\alpha = 0.74$), *ludus* ($\alpha = 0.70$), *storge* ($\alpha = 0.86$), *pragma* ($\alpha = 0.81$), *mania* ($\alpha = 0.70$), and *agape* ($\alpha = 0.83$) were averaged to create indexes of each.

Results

To begin, we ran a 2 (participant's gender) × 2 (mating context) × 2 (valence: loved/aroused) × 2 (message content: individualistic/mutualistic) × 3 (user's language) mixed model ANOVA where all but participant's gender and user's language were within-subjects variables. This resulted in a total of 13 out of 29 tests being significant (44%). We found two four-way interactions of mating context, gender, valence, and gender ($F[2, 420] = 3.44$, $p < 0.05$, $\eta_p^2 < 0.02$) and of valence, message content, language, and gender ($F[2, 420] = 4.01$, $p < 0.05$, $\eta_p^2 < 0.02$) which reflected two three-way interactions and five two-way interactions.

Mating context, valence, and message content interacted ($F[1, 420] = 24.12$, $p < 0.01$, $\eta_p^2 < 0.05$) suggesting (Fig. 1) that while all differences were highly unlikely ($ps < 0.001$), (1) mutualistic talk generated more expected enjoyment than individualistic talk, (2) mutualistic talk generated the least expected enjoyment in the short-term mating context, (3) individualistic talk was expected to generate less love and more arousal but especially in the short-term mating context, and (4) while mutualistic talk was expected to generate the most enjoyment in the long-term mating context, it was expected to generate more arousal than feelings of love.

Mating context, message content, and language interacted ($F[2, 420] = 3.64$, $p < 0.05$, $\eta_p^2 < 0.02$) suggesting (1) no differences between languages when imagining responses

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[3] Only one German speaking participant was paid, thus we could not include the distinction between being paid or not in the omnibus ANOVA. However, when we replaced language spoken with whether participants were paid, we found five unique (η_p^2's < .05) effects detailed on the Open Science Foundation for this project.

[4] Pearson bivariate correlations were used along with Fisher's z-tests and Steiger's z-tests to compare independent and dependent correlations.

[5] A mixed model ANOVA of mating context (short-term/long-term), valence (aroused/feeling loved), erotic messages (individualistic/mutualistic), and language (Italian, English, German).

[6] https://osf.io/tq8f9/?view_only=40ecec086c374f20a92c1594bb7d9237; this study was not preregistered.
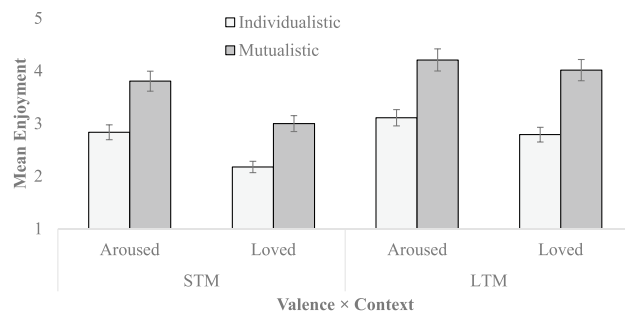
Fig. 1 Three-way interaction of message content, mating context, and valence of expected enjoyment to erotic talk. *Note*: Bars are 95% error bars

to mutualistic content in the long-term mating context (2) several differences existed when considering responses to individualistic content in the short-term mating context. The absolute grand mean difference was always larger in the long-term mating ($M_{Grand} = 0.46$, $p < 0.02$) than short-term mating ($M_{Grand} = 0.40$, $p < 0.02$) context when comparing between the three languages, but the discrepancies between English speakers and Italian speakers were about 0.30, between Italian speakers and German speakers were about 0.33, and the between English speakers and German speakers was (nearly twice as large) greater than 0.59. This suggests that any linguistic differences in the reception of erotic talk are calibrated on not just the content but also the relationship context as well. However, we see this as a rather weak effect that may not likely replicate. It is likely that this effect is sampling error given how small it is in relation to the other three-way interactions and because we have no a priori reasons to expect let alone explain such effects.

As to the two-way interactions, we found that message content and gender interacted ($F[1, 420] = 5.03$, $p < 0.05$, $\eta_p^2 < 0.01$) suggesting (Fig. 2a) that while both genders expected to enjoy mutualistic content more than individualistic content and men expected more enjoyment to both, this gender difference was larger for individualistic talk ($p < 0.001$) compared to mutualistic talk ($p < 0.02$), in part because men expected much less enjoyment of mutualistic talk than women did. Message content and language interacted ($F[2, 420] = 14.29$, $p < 0.01$, $\eta_p^2 < 0.06$) suggesting (Fig. 2b) that while erotic talk was received similarly in each language, the differences between expected enjoyment of both kinds of erotic talk varied from p of 0.02 (i.e., German) to 0.001 (i.e., English). Mating context and valence interacted ($F[1, 420] = 108.22$, $p < 0.01$, $\eta_p^2 < 0.21$) suggesting (Fig. 2c) that while erotic talk was expected to generate more feelings of arousal than being loved in both contexts, it was especially different in the short-term context where expected of feelings of being loved were lowest. Mating context and message content interacted ($F[1, 420] = 52.70$, $p < 0.01$, $\eta_p^2 < 0.11$) suggesting (see Fig. 2d) that while individualistic talk was expected to be less enjoyable in both contexts, the difference was especially pronounced in the long-term context than

the short-term. And last, gender and mating context interacted ($F[1, 420] = 19.48$, $p < 0.01$, $\eta_p^2 < 0.04$) such that men ($M = 3.17$; $SE = 0.60$) responded more favorably to imagined erotic talk than women ($M = 2.73$; $SE = 0.60$) in the short-term ($p < 0.001$) but not the long-term ($p = 0.10$) context; an effect quite similar to that in Fig. 2a.

We also found four main effects. Erotic talk in the context of short-term relationship ($M = 2.95$; $SE = 0.04$) was less favorably rated ($F[1, 420] = 276.20$, $p < 0.01$, $\eta_p^2 < 0.40$) than in the context of long-term relationship ($M = 3.53$; $SE = 0.04$) (Table 1). People expected to feel more aroused ($M = 3.49$; $SE = 0.04$) than loved ($M = 3.00$; $SE = 0.04$) when all else was equal ($F[1, 420] = 205.91$, $p < 0.01$, $\eta_p^2 < 0.33$). Men ($M = 3.38$; $SE = 0.06$) were generally more favorable toward any message ($F[1, 420] = 14.57$ $p < 0.01$, $\eta_p^2 < 0.03$) than women were ($M = 3.01$; $SE = 0.05$). English speakers ($M = 3.40$; $SE = 0.06$) were more favorable toward erotic talk ($F[2, 420] = 5.60$, $p < 0.01$, $\eta_p^2 < 0.03$) than Italian speakers ($M = 3.25$; $SE = 0.05$; $p < 0.05$) and German speakers ($M = 3.08$; $SE = 0.08$; $p < 0.01$), with no difference between the latter ($p < 0.08$).

Next, we examined the correlations between love styles and expected responses (i.e., valence) to messages of different content across mating context (Table 2). Expectations of enjoyment—arousal or feelings of love—were correlated with higher rates of all love styles. For example, the pragma love style correlated with greater expectancies of feeling loved and aroused in each mating context. The mania and ludus love styles were only uncorrelated with expectations of feeling arousal and loved in response to mutualistic messages in the long-term context, whereas the storge love style was uncorrelated with feeling aroused by mutualistic messages in the short-term context, and the agape love style was uncorrelated with feeling of love in response to mutualistic messages in the short-term context. The eros love style was slightly more complex with expected feelings of arousal to mutualistic messages in both mating contexts and expected feelings of being loved toward either kind of erotic talk only in the long-term context. On average, these correlations were larger in the loved compared to the aroused valence, in response to
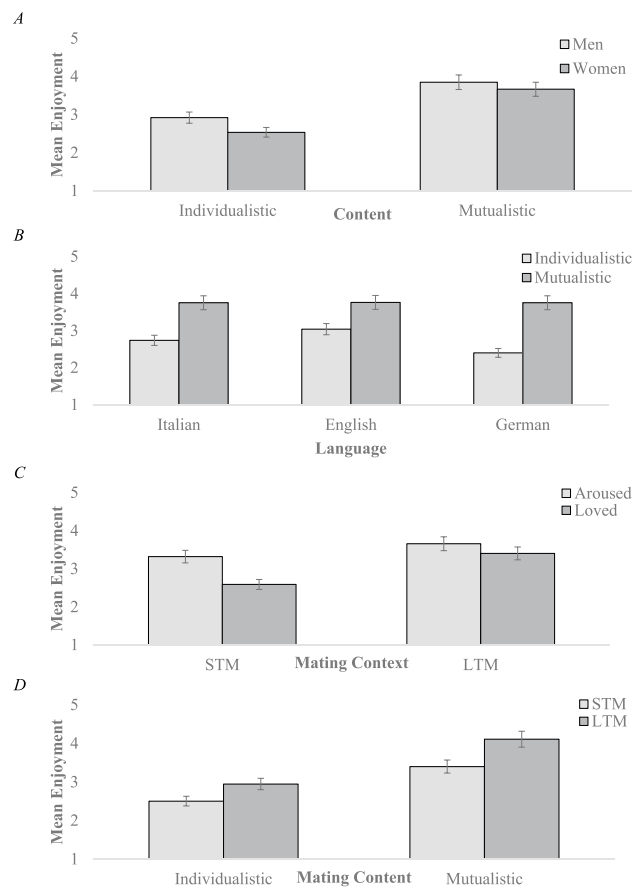
Fig. 2 Two-way interactions predicting mean enjoyment of erotic talk. *Note*: Bars are 95% error bars; STM, short-term mating; LTM, long-term mating

the individualistic erotic talk more than the mutualistic, and in the long-term compared to the short-term context.

Given small sample sizes in disaggregated data by language, we omitted this variable for moderation tests. We did, however, explore whether these correlations differed in (self-described) men and women (Table 2). For moderation to exist, the correlations needed to differ by |.16|; we found six cases where the correlations differed by this much ($p < 0.05$). In all cases of moderation, the correlations were stronger in men than in women. Half of these moderation effects were for individual differences in the pragma love style, suggesting that in men compared to women, pragma better predicted expected feelings of love in response to individualistic messages regardless of mating context, and expected greater arousal in response to individualistic messages in the long-term context. Two further moderation effects were for individual differences in the agape love styles suggesting that in men more than women, greater arousal was expected in response to mutualistic messages in either mating context. And last, individual differences in the erotic love style were correlated with expected arousal in response to mutualistic

messages in the short-term context. Despite these six effects, we think the love styles may not strongly differentiate men and women's expected responses to erotic talk because this analysis was (1) exploratory and (2) likely subject to family-wise error inflation.

Discussion

Sex and sexual enjoyment are central concerns for most people, and researchers have followed suit and studied both extensively. One understudied area is the volitional utterances—erotic talk or "talking dirty"—that people make when having sex. Although erotic talk plays an important role in sexual satisfaction and well-being (Leavitt et al., 2019; Lee et al., 2016), to date only a few studies have examined the associations between sexual communication patterns and sexual health and relationship functioning. While mutualistic communication and sexual health research is common (Byers, 2011; Crawford et al., 1994; Denes et al., 2017, 2020a, 2020b), it is less common that researchers consider

Table 1 Correlations between anticipated feelings of arousal and love within relationship context for individualistic and mutualistic messages

Eros	STM			LTM			Ind STM-LTM	Mut STM-LTM
	Ind	Mut	z	Ind	Mut	z		
-Arousal	< −.01	.16**	−3.33**	.09	.35**	−4.84**	−3.07**	1.62
-Loved	−.04	.05	−2.34**	.11*	.27**	−3.35**	−3.85**	−4.38**
z	−1.13	2.28**		−0.60	1.44			
Ludus								
-Arousal	.29**	.14**	3.02**	.21**	−.05	4.70**	2.54**	−1.64
-Loved	.44**	.35**	2.59**	.27**	.02	4.13**	4.74**	6.69**
	−3.73**	−4.53**		−1.86*	−1.17			
Storge								
-Arousal	.14**	.08	1.18	.18**	.11*	1.26	−1.24	−0.69
-Loved	.25**	.17**	2.13*	.22**	.13**	1.87*	0.79	0.79
z	−2.56*	−1.87*		−1.23	−0.68			
Pragma								
-Arousal	.24**	.17**	1.40	.26**	.11*	2.74**	−0.63	1.39
-Loved	.42**	.27**	4.22**	.32**	.14**	3.81**	2.79**	2.60**
z	−4.41**	−2.12*		−1.89*	−0.51			
Mania								
-Arousal	.23**	.10*	2.58**	.23**	.06	3.08**	<0.01	0.92
-Loved	.34**	.22**	3.28**	.24**	.06	3.77**	2.70**	3.16**
z	−2.63**	−2.51**		−0.31	<0.01			
Agape								
-Arousal	.21**	.14**	1.39	.20**	.16**	0.73	0.31	−0.46
-Loved	.18**	.07	2.88**	.21**	.12*	1.87*	−0.78	−0.98
z	0.70	1.45		−0.31	0.68			

STM, short-term mating, LTM, long-term mating, Ind, individualistic, Mut, mutualistic; z is Steiger's z (http://quantpsy.org/corrtest/corrtest2.htm); correlations between the love styles are in Appendix A and the correlations between expected responses to erotic talk are in Appendix B

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

the more individualistic side of erotic talk alone or in tandem with mutualistic manifestations. Some initial work (Jonason et al., 2016) suggests there may be two classes of erotic talk, one focused on individual enjoyment (e.g., sharing fantasies) and the other focused on mutual enjoyment for the couple (e.g., feedback). However, this work was limited by a failure to (1) consider relationship context, (2) that erotic messages may make people feel sexual arousal but also emotional closeness, and (3) of a consideration of individual differences in consistent patterns in people's approaches to love—which are more topically relevant—instead of general personality traits. In this study, we addressed these points, trying to understand the distinction between mutualistic and individualistic talk and how it is calibrated by these message, context, and valence factors along with an examination of individual differences in love styles. In addition, and as is common in sex research, most research on erotic talk of any kind is not merely W.E.I.R.D. in nature but, English-specific. Therefore, linguistic heterogeneity (i.e., English, Italian, or German) is called for, albeit in an exploratory way.

Overall, people expected greater enjoyment in response to (imagined) mutualistic talk than individualistic talk. This is likely because people are more orientated to (or report more) motivations to be communal than selfish that tracks with the Big Two distinctions like agency and communion and individualistic and collectivistic (Allport, 1924; Trapnell & Paulhus, 2011). In addition, this may also track with people's generalized bias toward sex within the context of relationships and their long-term mating biases (Buss & Schmitt, 1993, 2019; Buss et al., 2000, 2020). Indeed, we also found that mutualistic messages were more desirable than individualistic messages in the long-term context than the short-term and erotic talk in general was more likely to generate feelings of arousal than love in either context, but the discrepancy was stronger in the short-term where sexual arousal may be more important/likely than feeling loved. However, the expected emotional effect of these messages was calibrated by emotional valence and language as well. For instance, while mutualistic talk was always expected to have a larger effect on people's emotions than individualistic talk, people

Table 2 Correlations between anticipated feelings of arousal and love within relationship context for individualistic and mutualistic messages in men and women (M/W)

Eros	STM		LTM	
	Ind	Mut	Ind	Mut
-Arousal	.09/ − .09	**.31**/.03**	.14**/.04	.38**/.32**
-Loved	.03/ − .10	.15**/ − .05	.15*/.10	.34**/.19**
Ludus				
-Arousal	.30**/.23**	.13*/.12	.25**/.12	− .09/ − .02
-Loved	.46**/.37**	.32**/.35**	.31*/.17*	.01/.03
Storge				
-Arousal	.12/.10	.11/<.01	.16*/.16*	.14*/.06
-Loved	.27*//17*	.19**/.10	.22*/.19**	.20**/.18
Pragma				
-Arousal	.27**/.17*	.14*/.18*	**.33**/.12**	.04/.19**
-Loved	**.50**/.28***	.28**/.23**	**.39**/.19***	.11/.18*
Mania				
-Arousal	.23**/.24**	.06/.14*	.25**/.20**	.03/.09
-Loved	.38**/.34**	.21**/.24**	.30**/.16*	.06/.06
Agape				
-Arousal	.15*/.16*	**.20**/.02**	.15*/.17*	**.24**/.06**
-Loved	.12/.11	.06/ − .03	.15*/.21**	.14*/.11

STM, short-term mating; LTM, long-term mating; Ind, individualistic; Mut, mutualistic; bolded correlations differed *p* < .05 via a Fisher's *z*-test (http://quantpsy.org/corrtest/corrtest.htm)

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

expected similar feelings to both kinds of erotic talk in the long-term mating context, and feeling loved in the short-term context was diminished. Alternatively, the differences in expected effect of these messages were uniform in Italian and English and Italian and German speakers but differed more in German than English speakers such that Germans expected much less enjoyment in response to individualistic messages. However, in the larger context of the study, this effect was rather weak and given the sampling differences in the latter two groups, we take a dim view of this effect. Either way, our results substantiate the assertion of the centrality of this two-dimensional model of erotic talk (Denes et al., 2017, 2020a, 2020b; Jonason et al., 2016).

Collectively, love styles were not particularly useful in differentiating expected effects of these erotic messages. Indeed, most of the correlations between expected arousal and feelings of love were weak-to-modest in nature and positive. Indeed, it is remarkable to note that we did not detect a single negative correlation, suggesting some potential responses biases in our data. That is, people may be inclined to report more positive affect to any positive information because both forms of erotic talk may themselves be desirable, but they differ quantitatively in terms of other factors like valence, content, and context. It could also be that erotic talk of any kind is part of love so much that it captures similar variance with all adjacent individual differences in love. Either way, take the love styles of ludus, mania, and pragma. The love styles of game-playing, emotional volatility, and utilitarian approaches were more likely to feel loved than aroused, more for the individualistic than mutualistic messages, and in the short-term context. There may be alignment between love styles with preferred erotic content, but the effect of the content is strongest when it is fine-tuned to context and valence. Unlike the other love styles, there was more differentiation for individual differences in eros. The primary hub of the links between eros and the expected effect of erotic talk was in response to mutualistic messages in the long-term context. These bonding messages, delivered in the right context, seem to activate erotic minded people to love and arousal.

The mutualistic-erotic-talk bias also was further calibrated by participant's gender and their love styles. Consistent with sexual strategies theory, we found that men expected more arousal than feelings of love to individualistic messages—message about their own pleasure—and mutualistic message—message about joint pleasure—but this this effect was twofold. First, men reported less expected enjoyment in response to individualistic than mutualistic messages, and second, women expected the least pleasure to individualistic messages. This suggests that women's preferred erotic talk messages may be more about bonding than pleasure, but men may simply be biased toward more enjoyment in response to any erotic talk. This may have implications for relationships and sexual communication in that men may enjoy erotic talk in a way that could bore or even repulse their female partners. In fact, this might be further seen in the responses men and women had toward different erotic messages as a function of their love styles. While most love styles had positive associations with enjoyment, in all cases, the correlations were slightly—and some were significantly—larger in men than in women. For instance, men with an erotic love style, expected more arousal in response to mutualistic messages in the short-term. That is, men who have a bias toward love for pleasure, appear to enjoy messages of bonding in the context where bonding is less likely. Perhaps when a man of this love style hears his (female) partner utter such messages, he gets some sort of ego gratification or a sense that she is enjoying herself. Alternatively, men characterized by the pragma love style were especially sensitive in terms of feelings of love to individualistic and mutualistic messages in either context or feelings of arousal in response individualistic messages in the long-term. Those with a pragma love style are "manipulators" or love to get something. Men characterized by this love style expressed a particularly strong expectation of feeling loved if they heard individualistic messages in the short-term context. Such men may be getting what they want in terms of feeling powerful, dominant, and effective as a lover. And last, men who were more agapic in their love styles expected

greater arousal toward mutualistic messages in either context. Again, this may reflect an alignment whereby those who are more likely to hold "grand" or "service" views of love may derive the most sexual enjoyment from hearing messages that align with their disposition.

Limitations and Conclusions

While our study serves as an improvement on several shortcomings of work on erotic talk (i.e., linguistic heterogeneity, consideration of two larger categories of erotic talk, experimental methods, the integration of love styles, the consideration of relationship context, asking about love and lust responses) our study is limited in several ways. First, there are sampling limitations in terms of (1) including only heterosexuals, (2) a relatively small number of German speakers, (3) an opportunistic sampling schema, and (4) a reliance on W.E.I.R.D. data which could provide an incomplete or biased view of erotic talk. For instance, those who identify as "homosexual" (i.e., gay men or lesbian women) could place a greater emphasis on individualistic than mutualistic talk if we consider the possibility that they may be more narcissistic than those who identify as "heterosexual" (Jonason & Luoto, 2021). Alternatively, differences detected by language could be sampling error or reveal genuine cultural or linguistic differences, but we cannot tell here, and our goal was not to test cross-national variance specifically. Either way, a broader/larger sample could provide better tests and new information about erotic talk cross-nationally which has rarely been done.

Second, our study had several methodological shortcomings like the reliance on affective forecasting (Gilbert & Wilson, 2000; Wilson & Gilbert, 2005) which may not track fully with what makes people "happy," the assessment of "cold" not "hot" judgments which could create social desirability effects, we did not sample utterances as opposed to hypothetical responses to hypothetical messages, inquiring only about short-term and long-term relationships which may be a false dichotomy when we consider relationships like friends with benefits and polyamory, and relying on a sample of erotic statements based on data from a W.E.I.R.D. and English-speaking sample (Jonason et al., 2016). We assume that people have some sense of what turns them on or makes them feel loved, but people may lack insights into this and their responses to these statements may "feel" artificial if (1) they lacked much experience with erotic talk and (2) the statements (e.g., who's you daddy) do not translate well across languages. This means future work could (1) use audio clips, (2) sample content from pornography distributors like PornHub or 4Tube, (3) engage in more qualitative work to build a larger corpus of erotic statements that can subsequently be factor analyzed, (4) not rely on declared affective responses but, instead, capture data from physiological and neurological responses (e.g., pupil dilation, amygdala activation), and examine individual differences beyond love styles which proved to be not all that useless at differentiate expected responses to erotic talk like they may be to understand other aspects of people's romantic and sexual lives (Fricker & Moore, 2002; Mishra & Sharma, 2015). In fact, our very reliance on the two larger categories of erotic talk may undermine the nuance that can be learned about erotic talk. For instance, we can say nothing about the appeal or effect of statements like "I love you" or "Who's pussy is this" which may be more relevant to people's lives because people do not likely think about their own erotic talk in terms of individualistic and mutualistic motives. This may mean that highly focused experimental studies are called for if one wants to learn more about specific content.

There is so much variation in what people could say, that it can be quite hard to study what they do say and this is likely a pronounced problem in taboo topics where "foul language" (Jay, 1992) may be common like in erotic talk. Based on a simple, dichotomous model derived from personality psychology, we advanced the case that (1) there are two main classes of erotic talk and (2) people's enjoyment of them can be in terms of feeling loved and turned on, (3) calibrated by the relationship context, and (4) sensitive to gender differences in sexual psychologies. Several key revelations suggest that there is alignment between all these factors suggesting that the enjoyment people derive from erotic talk may be content-, context-, gender-, and love style-specific. While mutualistic talk was generally expected to be more enjoyable than individualistic talk, it was especially appealing in the long-term context, whereas arousal was expected more in the short-term than the long-term context, and men expected more enjoyment than women in response to (imagined) individualistic than mutualistic talk. In addition, erotic talk appears to be part of a game-playing and manic love style (predominantly), but much more about arousal than love responses in the short-term than the long-term. If we consider erotic talk as part of either mate manipulation tactics, bonding efforts, or sexual vocalizations like in the animal kingdom, it may have broader implications than previously considered. We are only scratching the surface in our work, and we encourage others to take up the mantle.

APPENDICES

Appendix A. Correlations Between Love Styles

	1	2	3	4	5
1. Eros	–				
2. Ludus	− .03	–			
3. Storge	.24**	.29**	–		
4. Pragma	.17**	.49**	.40**	–	
5. Mania	− .01	.43**	.13**	.38**	–
6. Agape	.31**	.12*	.22**	.27**	.29**

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

Appendix B. Correlations Among Expected Responses to Erotic Talk

	1	2	3	4	5	6	7
1. STARind	–						
2. STARmut	.43**	–					
3. LTARind	.77**	.33**	–				
4. LTARmut	.19**	.59**	.32**	–			
5. STLOind	.58**	.31**	.53**	.04	–		
6. STLOmut	.33**	.49**	.23**	.23**	.68**	–	
7. LTLOind	.67**	.31**	.76**	.29**	.67**	.39**	–
8. LTLOmut	.23**	.43**	.29**	.67**	.19**	.43**	.48**

ST, short-term mating context; LT, long-term mating context; AR, arousal; LO, love; ind, individualistic; mut, mutualistic

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

Declarations

Conflict of interest The authors have no competing interests.

Ethical approval This study was approved by the ethics committee at the Department of General Psychology at the University of Padua.

Informed consent Informed consent was obtained from all individual participants included in the study.

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