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Are Orgasms in the Mind or the Body? Psychosocial Versus Physiological Correlates of Orgasmic Pleasure and Satisfaction

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*We investigated the hypothesis that the subjective experience of orgasmic pleasure and satisfaction depends more on psychological and psychosocial than on physical factors. Male and female participants rated adjectives to describe orgasm attained during either solitary masturbation (*n = *356) or sex with a partner (*n = *442). Orgasmic pleasure and satisfaction were related more to (a) the cognitive-affective than sensory aspects of the orgasm experience; (b) the overall physical and psychological intensity of orgasm but not to anatomical location of orgasm sensations; and (d) relationship satisfaction. These findings emphasize the importance of psychosocial determinants of the orgasm experience.*

Most of the vast psychosocial literature on human orgasm has focused on orgasmic responsiveness in women (e.g., presence or absence of orgasm, orgasm frequency and consistency) and its relationship to general sexual

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satisfaction (see Mah & Binik, 2001, for review). The subjective qualities of orgasmic pleasure and satisfaction and the factors influencing these qualities have received far less attention. Researchers and theorists have suggested that psychosocial factors are the primary determinants of the subjective orgasm experience in women, including pleasure and satisfaction (e.g., Levin, 1981; Masters & Johnson, 1966). Although the available research is unsystematic, women's orgasmic pleasure and satisfaction have been found to be related to numerous intrapersonal, interpersonal, and contextual factors (e.g., Fisher, 1973; Hite, 1976; Sholty et al., 1984; see Mah & Binik, 2001, for review). Men's experiences of orgasmic pleasure and satisfaction have received little consideration, but anecdotal evidence suggests that their experiences are subject to similar psychosocial influences (e.g., Dunn & Trost, 1989; Hite, 1981).

One set of factors hypothesized to influence orgasmic pleasure and satisfaction concerns the perceived intensity and anatomical location of orgasmic sensations—characteristics at the heart of the controversial typologies of female orgasm (e.g., clitoral versus vaginal orgasm). Orgasm attained through clitoral stimulation has been described in anecdotal reports as more localized within the pelvic area, more physically intense, and more physically satisfying, whereas orgasm attained through intercourse is more diffuse or "whole body," more psychologically intense, and more psychologically satisfying and fulfilling (e.g., Butler, 1976; Clifford, 1978; Davidson & Darling, 1989; Hite, 1976). Men have similarly reported that although masturbatory orgasm is more physically intense and localized than coital orgasm, the latter is more pleasurable and satisfying (e.g., Hite, 1981). These findings suggest that perceived anatomical location and subjective level of physical intensity of orgasmic sensations significantly influence degree of orgasmic pleasure and satisfaction. However, these findings have not been consistently observed across studies. Some investigators have consequently concluded that orgasmic satisfaction in women is not affected by either the method of orgasm induction, the anatomical location of orgasmic sensations, or the perceived physical intensity of orgasmic sensations (e.g., Butler, 1976; Clifford, 1978; Fisher, 1973; Sholty et al., 1984). Any ostensible relationship between the anatomical location of orgasmic sensations and orgasmic pleasure and satisfaction may in fact depend more on the perceived psychological intensity of the orgasm experience, as derived from the feelings and emotions experienced during or after orgasm. The same case might be hypothesized for any observed relationship between perceived physical intensity of orgasmic sensations and orgasmic pleasure and satisfaction.

The quality of the couple relationship also has been a consistent correlate of orgasm frequency and sexual satisfaction (see Mah & Binik, 2001, for review). Orgasmic pleasure and satisfaction as well as orgasmic responsiveness in women have been reliably linked with relationship happiness and satisfaction between partners and partner-related variables within the sexual

context (e.g., Darling, Davidson, & Cox, 1991; Davidson & Darling, 1989; Hurlbert & Apt, 1994; see Mah & Binik, 2001, for review). Some anecdotal evidence also emphasizes the importance of relationship quality to male orgasm experiences (e.g., Dunn & Trost, 1989; Hite, 1981). Although the underlying mechanisms are unclear, these findings suggest that relationship adjustment plays a critical role in orgasmic pleasure and satisfaction.

A major difficulty in investigating orgasmic pleasure and satisfaction has been the lack of a standardized measure of the psychological characteristics of orgasm. Two multidimensional models of the subjective orgasm experience exist that depict two dimensions: physical sensations, such as localized and generalized muscular sensations; and affective changes, such as strong emotions and altered states of consciousness (Davidson, 1980; Warner, 1981). Neither model, though, appears to have received significant empirical attention. As far as we are aware, the only measure available, the Peak of Sexual Response Questionnaire (PSRQ; Davis, Yarber, Bauserman, Schreer, & Davis, 1998, pp. 256–257), was developed by Warner (1981) to measure the physical and affective aspects of female orgasm. Unfortunately, the measure has not been widely employed, is applicable only to women, and does not differentiate orgasm from arousal.

As a result, we developed a theoretically based psychometric instrument to evaluate the subjective experience of orgasm (Mah & Binik, 2002). This adjective-ratings questionnaire, the Orgasm Rating Scale (ORS), was based on Davidson's (1980) and Warner's (1981) two dimensions of the orgasm experience, which we refer to as the sensory and cognitive-affective dimensions. The sensory dimension encompasses sensations arising from the physiological events of orgasm, whereas the cognitive-affective dimension relates to the affective and evaluative experiences associated with orgasm experiences. Both dimensions also comprise empirically developed components (see Mah & Binik, 2002, for details on model development). The conceptual model of the subjective orgasm experience thus includes two overarching dimensions (cognitive-affective, sensory), four cognitive-affective components (pleasurable satisfaction, relaxation, emotional intimacy, ecstasy), six sensory components (building sensations, flooding sensations, flushing sensations, shooting sensations, throbbing sensations, general spasms), and 28 adjectives representing their respective components. Evaluation of this model indicated good-to-excellent model fit to data from a large sample of university students and also to data from an independent cross-validation sample of university students (Mah & Binik, 2002). Factorial invariance across gender was supported, suggesting that the two-dimensional factor structure provides an adequate model of the subjective orgasm experience for both men and women (Mah & Binik, 2002). As we hypothesized, mean scores for the pleasurable satisfaction component were significantly higher for both genders in the sex-with-partner context than in the solitary masturbation context (Mah & Binik, 2002).

The purpose of the present study was to test new hypotheses concerning the relative importance of psychological factors over physical factors to orgasmic pleasure and satisfaction. Using data from the cross-validation study (Mah & Binik, 2002) we tested the following hypotheses:

1. In both solitary and interpersonal sexual situations, the cognitive-affective characteristics of the orgasm experience will be more highly correlated with orgasmic pleasure and satisfaction than will the sensory characteristics of the orgasm experience.
2. In both solitary and interpersonal sexual situations, the overall psychological intensity of the orgasm experience will be more highly correlated with orgasmic pleasure and satisfaction than will the anatomical location of orgasmic sensations.
3. In both solitary and interpersonal sexual situations, the overall psychological intensity of the orgasm experience will be more highly correlated with orgasmic pleasure and satisfaction than will the overall physical intensity of the orgasm experience.
4. In interpersonal sexual situations, orgasmic pleasure and satisfaction will be positively correlated with relationship satisfaction.

METHODS

Participants

Participants were undergraduate and graduate students primarily recruited in class and from a psychology subject pool, through campus advertising, and from e-mail LISTSERVs likely to have primarily student members. Inclusion criteria included having experienced orgasm at least once within the sexual context to which the participant had been assigned (solitary masturbation versus sex with partner) and verbal and written fluency in English. A total of 876 individuals completed the ORS, including 269 women and 133 men in the solitary masturbation context ($n = 402$) and 301 women and 173 men in the sex-with-partner context ($n = 474$). The preponderance of women in the sample likely reflects gender differences in enrollment in psychology courses. Data from individuals who had 25% or more missing data in their responses to the ORS were excluded from the analyses. The remaining participants ($N = 798$, 91.1% of original sample) included 227 women and 129 men in the solitary-masturbation context ($n = 356$, 88.6% of original solitary masturbation sample) and 276 women and 166 men in the sex-with-partner context ($n = 442$, 93.2% of original sex-with-partner sample). A total of 93–95% of these participants across Gender × Sexual Context groups had no missing ratings. For those with missing adjective ratings, we replaced their missing ratings using each adjective's mean rating for the corresponding Gender × Sexual Context condition.

TABLE 1. Demographic Characteristics of Sample

	Participants			
	Solitary masturbation		Sex with partner	
Sociodemographics	Women ($n = 227$)	Men ($n = 129$)	Women ($n = 276$)	Men ($n = 166$)
Age, years (M [SD])	23.0 (7.3)	23.0 (6.5)[a]	22.2 (5.6)[a]	24.5 (8.1)[b]
Student status (%)				
Undergraduate	77.5	72.1	76.8	71.1
Graduate	9.3	15.5	10.5	15.1
Religion (%)				
Catholicism	32.2	28.7	32.6	31.3
Protestantism	16.7	10.1	13.8	12.0
Judaism	13.7	17.1	15.2	17.5
Islam	0.9	4.7	0.7	4.8
Other/no religion	25.6	29.5	29.3	28.3
Primary sexual orientation (%)				
Heterosexual	79.7	81.4	83.0	86.1
Homosexual	3.1	5.4	2.5	4.8
Bisexual	4.9	3.1	6.2	3.0
Relationship Status (%)				
Single	30.4	46.5	29.3	44.0
With partner, not living together	36.6	31.0	47.1	33.7
Living together/married	14.5	9.3	12.7	13.9
Other	7.5	3.1	2.9	2.4

Note: Cases where the percentages of participants do not add up to 100% are due to missing data. For Age, the [b]beside the mean age for the Men/Sex-With-Partner group indicates that this group differs significantly in age from those groups with the [a]beside their mean age (the Men/Solitary-Masturbation and Women/Sex-With-Partner groups), $p < .05$.

Table 1 summarizes the sample characteristics; the majority of participants were young, unmarried heterosexual undergraduate students. A two-way Gender × Sexual Context analysis of variance (ANOVA) yielded a significant Gender × Sexual Context interaction effect on age, $F(1, 721) = 4.85$, $p = .03$. Simple effects tests revealed a significant effect of gender within the sex-with-partner context, $F(1, 721) = 11.48$, $p = .001$: As indicated in Table 1, in this context, the men were significantly older than the women. Simple effects tests also indicated a significant effect of sexual context for men, $F(1, 721) = 4.49$, $p = .04$: As indicated in Table 1, the men in the sex-with-partner context were significantly older than the men in the solitary masturbation context. We observed no significant group differences in student status, religion, sexual orientation, or relationship status.

Materials

The ORS consists of 28 adjectives forming the two-dimensional model of the subjective orgasm experience (Mah & Binik, 2002). Individuals are asked to rate each adjective on a 0–5 scale (0 = does not describe it at all, 5 = describes

it perfectly) according to how well it describes their most-recent orgasm experienced within the sexual-context condition to which they were assigned. We derived component scores for the cognitive-affective and sensory components by summing the ratings for the adjectives associated with each component. We employed the ORS for both the solitary masturbation and sex-with-partner sexual contexts. Participants in the sex-with-partner context were asked to indicate how their orgasm was achieved (through intercourse, oral or manual stimulation from partner, manual stimulation from self, other). The ORS is applicable to both male and female orgasm.

Details of scale development have been published in a previous article (Mah & Binik, 2002). Briefly, adjectives were compiled from the self-report literature in which subjects had described their orgasm experiences. Two large-scale studies were conducted in which university students rated the adjectives according to how well each one described their orgasm experiences attained through solitary masturbation or sex with a partner. In the first study, reliable, coherent components (and the most-reliable adjectives to represent each component) were empirically developed for hypothesis testing. Each component was then allocated to represent one of the two a priori defined dimensions, the sensory and the cognitive-affective, whose definition it best matched. The two-dimensional conceptual model of the subjective orgasm experience described earlier reflects the final factor structure. As indicated earlier, we observed good-to-excellent model fit of this factor structure. The components demonstrated adequate internal consistency (Cronbach's α's = .84–.87 in first study and .77–.84 in cross-validation study; Mah & Binik, 2002). For each of the Gender × Sexual Context groups, intercorrelations among the components were generally small to moderate: male solitary masturbation, r's = .08 to .63; male sex with partner, r's = .02 to .59; female solitary masturbation, r's = .01 to .59; female sex with partner, r's = .06 to .55.

We included the following new items in the current study for hypothesis testing.

Overall physical and psychological intensity of orgasm experience

Participants were asked to rate two single items using a 0–5 rating scale (0 = very weak, 5 = very strong). The first was overall physical intensity: "During this orgasm, you may have experienced physical sensations throughout your body (e.g., spasms, throbbing, tension). How intense were these physical sensations overall?." The second was overall psychological intensity: "During or after orgasm, you may have experienced other feelings that were more psychological rather than physical (e.g., satisfaction, feelings of peacefulness or relaxation, ecstasy, love). How intense were these non-physical feelings overall?" Across the Gender × Sexual Context groups, the correlations between these two intensity ratings were small, r's = .21 (male solitary masturbation) to .34 (female solitary masturbation).

Anatomical location of orgasm sensations

A list of possible anatomical locations of orgasm sensation, ranging from the genitopelvic area to the whole body, was given to participants along with the ORS. We asked participants to endorse items that best described the bodily location of their orgasm sensations. For the purpose of the analyses, we examined items that did not reflect a gender bias (e.g., sensation perceived to be located in vagina or in penis) but that both men and women could endorse. We then grouped these items to form three general categories of anatomical location of orgasm sensations: (a) "the genitals" ("centered around outer genitals" item); (b) "the pelvic area" ("started in outer genitals but then spread deeper," "centered deep inside/centered in whole pelvic area," and "spread to whole pelvic area" items); and (c) "beyond the pelvic area" ("centered in other parts of body/centered in whole body," and "spread to other parts of body/spread to whole body" items).

Current relationship satisfaction

Participants in a current relationship were asked to rate three items using a 0–5 scale (0 = very low/very little, 5 = very high/very much): (a) "How would you rate your happiness with your current relationship?"; (b) "How would you rate your satisfaction with your current relationship?"; and (c) "How would you rate how emotionally close you are to your current partner (i.e., how much do you love your current partner)?" Internal consistency of the three items was adequate for women and men, Cronbach's α's = .83 to .84, respectively.

Procedure

For in-class and individual recruitment, the primary investigator or a research assistant verbally described the study and also gave a sheet with the same information to the students. To ensure anonymity of responses, no consent forms requiring identifying information were used; informed consent was assumed if an individual completed the ORS. Participants were randomly assigned to one of the two sexual contexts (solitary masturbation, sex with partner) to form four Gender × Sexual Context groups. They were asked to rate the adjectives on the ORS according to how well each adjective described their most-recent orgasm experience attained within the assigned sexual context and then to return their completed questionnaire to the investigator. Those responding to LISTSERV ads were sent a questionnaire package, including instructions, and were asked to mail the complete questionnaires back using the self-addressed stamped envelope provided.

RESULTS

Unless indicated, all of the following results were derived from multiple regression analyses conducted separately for each sexual-context condition, with pleasurable satisfaction as the criterion variable. The predictor variables entered into the regression analysis are specified in each section. All analyses were initially performed with gender, age, and time since the described orgasm experience included as covariates. To evaluate the impact of the third covariate, we restricted the analyses to those participants who described an orgasm that had occurred 14 days ago or less, *n*'s = 61.5% (sex-with-partner context) and 80.6% (solitary masturbation context) of the total number of participants. Within this subsample, most participants reported on an orgasm that had occurred 7 days ago or less, *n*'s = 83.1% (sex-with-partner context) and 89.2% (solitary masturbation context) of the participants who had described an orgasm occurring 14 days ago or less. For all analyses, however, the inclusion or exclusion of the covariates in the analyses did not change the patterns of results. Hence, the results detailed below were obtained without the inclusion of covariates.

Relationship between Orgasmic Pleasure and Satisfaction and the Cognitive-Affective versus Sensory Characteristics of Orgasm

We simultaneously entered all of the sensory components (building sensations, flooding sensations, flushing sensations, shooting sensations, throbbing sensations, general spasms) and the remaining cognitive-affective components (relaxation, emotional intimacy, ecstasy) measured by the ORS into the regression equation as predictor variables.

Solitary-masturbation context

The regression equation explained a significant proportion of variance in pleasurable satisfaction scores, adjusted $R^2 = .37$, $F(9, 346) = 24.28$, $p < .001$. The following components were significantly related in a positive direction to pleasurable satisfaction: ecstasy, standardized $\beta = .43$, $t = 7.43$, $p < .001$, and relaxation, standardized $\beta = .26$, $t = 5.78$, $p < .001$.

Sex-with-partner context

The regression equation explained a significant proportion of variance in pleasurable satisfaction scores, adjusted $R^2 = .32$, $F(9, 432) = 23.97$, $p < .001$. The following components were significantly related in a positive direction to pleasurable satisfaction: ecstasy, standardized $\beta = .42$, $t = 8.47$, $p < .001$; relaxation, standardized $\beta = .16$, $t = 3.52$, $p < .001$; emotional intimacy, standardized $\beta = .16$, $t = 3.29$, $p = .001$; throbbing sensations,

standardized $\beta = .14$, $t = 2.95$, $p = .003$; and flushing sensations, standardized $\beta = .10$, $t = 1.97$, $p = .05$.

Relationship between Orgasmic Pleasure and Satisfaction and the Intensity of Orgasm versus the Anatomical Location of Orgasm Sensations

For these analyses, we categorized each participant according to the most-pervasive level of anatomical location endorsed. For example, an individual was coded as perceiving orgasm sensations within the pelvic area if she or he endorsed "centered around outer genitals" and at least one of the items reflecting orgasm sensations within the pelvic area but none of the items reflecting orgasm sensations beyond the pelvic area. We conducted hierarchical multiple regression analyses with overall physical intensity of orgasm, overall psychological intensity of orgasm, and perceived anatomical location of orgasm sensations as the predictor variables. To evaluate the hypothesis concerning anatomical location of orgasmic sensations, we first entered perceived anatomical location of orgasm sensations (step 1) to examine its individual relationship with pleasurable satisfaction. We then entered overall psychological intensity of orgasm (step 2) to examine its concurrent influence with anatomical location on pleasurable satisfaction. We conducted a similar regression to evaluate the hypothesis concerning overall physical intensity of orgasm. To do this, we first entered overall physical intensity of orgasm (step 1), then entered the overall psychological intensity of orgasm (step 2).

Anatomical location of orgasmic sensations

The pattern of results for anatomical location of orgasmic sensations was similar for both sexual contexts. The regression equation including anatomical location of orgasmic sensations alone (step 1) explained a significant proportion of variance in pleasurable satisfaction scores, adjusted $R^2_{\text{solitary masturbation}} = .02$, $F(1, 343) = 6.32$, $p = .01$, and adjusted $R^2_{\text{sex with partner}} = .01$, $F(1, 427) = 3.78$, $p = .05$. The positive standardized β's summarized in Table 2 indicate that a more-diffuse anatomical location was significantly associated with greater pleasurable satisfaction. Adding overall psychological intensity of orgasm at step 2 resulted in significant gains, $\Delta R^2_{\text{solitary masturbation}} = .12$, $\Delta F(1, 342) = 49.04$, $p < .001$, and $\Delta R^2_{\text{sex with partner}} = .08$, $\Delta F(1, 426) = 35.14$, $p < .001$. The positive standardized β's associated with overall psychological intensity of orgasmic sensations (see Table 2) indicate that greater psychological intensity of orgasmic sensations was significantly related to greater pleasurable satisfaction. However, the impact of anatomical location of orgasm sensations became nonsignificant (see Table 2).

TABLE 2. The Relationship between Orgasmic Pleasure and Satisfaction and Anatomical Location of Orgasmic Sensations and Intensity of Orgasmic Sensations: Results of Hierarchical Multiple Regression Analyses

Variable-Block Entry into Regression Equation	Standardized β	t-test, significance
Anatomical Location of Orgasmic Sensations		
Solitary masturbation context		
Step 1		
Anatomical location of orgasmic sensations	.13	$t = 2.51$, $p = .01$
Step 2		
Anatomical location of orgasmic sensations	.08	$t = 1.59$, $p = .11$
Overall psychological intensity of orgasmic sensations	.36	$t = 7.00$, $p < .001$
Sex with partner context		
Step 1		
Anatomical location of orgasmic sensations	.09	$t = 1.94$, $p = .05$
Step 2		
Anatomical location of orgasmic sensations	.07	$t = 1.47$, $p = .14$
Overall physical intensity of orgasmic sensations	.28	$t = 5.93$, $p < .001$
Overall Physical Intensity of Orgasmic Sensations		
Solitary masturbation context		
Step 1		
Overall physical intensity of orgasmic sensations	.36	$t = 7.09$, $p < .001$
Step 2		
Overall physical intensity of orgasmic sensations	.26	$t = 5.28$, $p < .001$
Overall psychological intensity of orgasmic sensations	.30	$t = 5.99$, $p < .001$
Sex with partner context		
Step 1		
Overall physical intensity of orgasmic sensations	.26	$t = 5.67$, $p < .001$
Step 2		
Overall physical intensity of orgasmic sensations	.20	$t = 4.32$, $p < .001$
Overall psychological intensity of orgasmic sensations	.21	$t = 4.54$, $p < .001$

Note. At all steps, the constant was significant, $p < .001$.

Overall physical intensity of orgasm

The pattern of results of overall physical intensity of orgasm was similar for both sexual contexts. The regression equation with overall physical intensity of orgasm alone (step 1) explained a significant proportion of variance in pleasurable satisfaction scores, adjusted $R^2_{\text{solitary masturbation}} = .13$, $F(1, 349) = 50.21$, $p < .001$, and adjusted $R^2_{\text{sex with partner}} = .07$, $F(1, 433) = 32.19$, $p < .001$. The positive standardized β's in Table 2 indicate that greater overall physical intensity of orgasm was associated with greater pleasurable satisfaction. Adding overall psychological intensity of orgasm at Step 2 resulted in significant gains, $\Delta R^2_{\text{solitary masturbation}} = .08$, $\Delta F(1, 348) = 35.87$, $p < .001$, and $\Delta R^2_{\text{sex with partner}} = .04$, $\Delta F(1, 432) = 20.58$, $p < .001$. The positive standardized β's in Table 2 indicate that both overall intensity variables were significantly associated in a positive direction with pleasurable satisfaction.

Relationship between Orgasmic Pleasure and Satisfaction and Relationship Satisfaction

For the purpose of these analyses, we limited the sample to the 74 men and 161 women in the sex-with-partner context who had a partner or spouse and who provided ratings on all three relationship-satisfaction items. To test the hypothesis, we computed the mean rating across the three relationship-satisfaction items and examined the correlation between pleasurable satisfaction scores and the mean relationship-satisfaction rating using Pearson's correlation coefficient. The positive correlation between the mean relationship-satisfaction rating and pleasurable satisfaction scores was significant, $r = .18$, $p = .01$.

DISCUSSION

The pattern of results generally supported the hypothesized primacy of psychological and psychosocial factors in the subjective orgasm experience (Levin, 1981; Masters & Johnson, 1966). As hypothesized, orgasmic pleasure and satisfaction were more consistently related to the cognitive-affective characteristics of the subjective orgasm experience than were the sensory characteristics. In fact, no sensory characteristics were associated with pleasure and satisfaction experienced with masturbatory orgasm. For both the solitary and interpersonal sexual contexts, increased relaxation and greater ecstasy were related to heightened orgasmic pleasure and satisfaction. Not surprisingly, orgasmic pleasure and satisfaction experienced during sex with a partner were further linked with heightened emotional intimacy as part of the orgasm or post-orgasm experience. Along with a previously reported increase in emotional intimacy during or after orgasm within the sex-with-partner context as compared with the solitary masturbation context (Mah & Binik, 2002), this finding lends evidence to the importance of the interpersonal-affective qualities of the orgasm experience (see Mah & Binik, 2001, for review). Orgasmic pleasure and satisfaction within the interpersonal sexual context were also related to the presence of throbbing sensations and, to a lesser degree, flushing sensations, both of which are sensory characteristics within the two-dimensional model. Even in this context, however, the relationships between the cognitive-affective characteristics of the orgasm experience and orgasmic pleasure and satisfaction were more robust overall.

Our results support the hypothesized salience of the overall psychological intensity of the orgasm experience over the perceived anatomical location of orgasmic sensations to orgasmic gratification. Across both sexual contexts, anatomical location of orgasm sensations by itself was associated with orgasmic pleasure and satisfaction. Orgasmic sensations that extend beyond the genitopelvic region were evaluated as more pleasurable and satisfying than those that remain localized within the genitopelvic area. This is consistent

with general findings reported by other investigators studying female orgasm typologies (e.g., Butler, 1976; Clifford, 1978; Davidson & Darling, 1989; Hite, 1976), as well as anecdotal findings on masturbatory and coital orgasm in men (e.g., Hite, 1981). As hypothesized, however, this relationship disappeared when the overall psychological intensity of orgasm was taken into account. This supports the contention by some that anatomical location of orgasm sensations does not directly contribute to orgasmic pleasure and satisfaction (e.g., Butler, 1976; Clifford, 1978; Fisher, 1973). Instead, any observed link between orgasm typologies and orgasmic gratification may be better explained by the subjective intensity of the psychological facets of the orgasm experience. Regardless of whether the sensations are felt within the genitopelvic region only or throughout the body, the stronger the affective intensity of the orgasm experience, the more pleasurable and satisfying the orgasm.

Our third hypothesis concerning the salience of the psychological intensity of the orgasm experience over its physical intensity was not entirely supported. As noted above, greater overall psychological intensity of the orgasm experience was found to be associated with greater orgasmic pleasure and satisfaction. This corroborates the previously mentioned finding that the cognitive-affective components of the subjective orgasm experience were more reliably associated with orgasmic pleasure and satisfaction than were the sensory components. However, overall physical intensity of the orgasm experience also uniquely contributed to orgasmic pleasure and satisfaction by itself and, contrary to the hypothesis, when we took overall psychological intensity of orgasm into account. Hence, orgasms that feel physically intense (e.g., intense throbbing sensations) are likely to be experienced as highly pleasurable and satisfying. This conflicts with the finding reported by some subjects that orgasms felt to be more physically intense (e.g., "clitoral" orgasms, male masturbatory orgasms) are nonetheless less psychologically satisfying than less physically intense orgasms (e.g., coital orgasms; see Butler, 1976; Clifford, 1978; Davidson & Darling, 1989; Hite, 1976, 1981). It is possible that this latter finding can be attributed to a "comparison" effect. When subjects are asked to describe orgasms attained through both masturbation and intercourse, they may consider coital orgasm more desirable than masturbatory orgasm, and their relative ratings between the two types of orgasms may reflect this bias.

Finally, within the interpersonal sexual situation, orgasmic pleasure and satisfaction were associated with relationship satisfaction, as hypothesized. This finding is consistent with the observed relationship between orgasmic pleasure and satisfaction and the emotional-intimacy component of our two-dimensional model of the subjective orgasm experience. At the same time, emotional intimacy experienced with orgasm should be considered distinct from relationship satisfaction; the emotional-intimacy component of the orgasm experience reflects a product of the sexual engagement between

partners, whereas the relationship-satisfaction variable concerns the overall level of emotional attachment between couple members. The two may serve to enhance one another, however. One issue that requires further attention is why the observed correlation between relationship satisfaction and orgasmic pleasure and satisfaction overall was relatively small. The single-item ratings of relationship satisfaction, although internally consistent, may not have presented adequate measures of relationship adjustment. Future replication with standardized, psychometrically validated self-report measures of relationship adjustment should be conducted.

Other methodological limitations of the study must be mentioned. Our sample was primarily composed of young university students who likely have had limited sexual and relationship histories. This likely constrained some of the results, particularly those concerning relationship satisfaction. Future developmentally based studies should include healthy and clinical nonstudent samples spanning a range of age and sexual and relationship experiences. The study involved retrospective ratings, which may contain distortions because of memory, demand characteristics, and other biasing influences. Laboratory observation, where subjects are requested induce orgasm (e.g., Laan & van Lunsen, 2002) and then complete the ORS immediately afterward, would provide useful comparison data. Moreover, employing corroborating objective and subjective measures in this design would help to assess further the validity of the constructs that the ORS purports to measure. Finally, the observed relationships between the predictor variables and orgasmic pleasure and satisfaction are correlational, so we cannot specify the causal nature of these relationships.

The findings overall offer further evidence for the concurrent validity of the cognitive-affective constructs measured by the ORS, particularly the pleasurable satisfaction component. Further evaluation studies might specifically target the sensory components. For example, one approach would be to apply the ORS to clinical populations that have suffered genitopelvic or neurological impairments (e.g., through neuropathic processes, spinal injury, or surgery). The ORS also may be applied in the future to assess orgasm difficulties in clinical populations or to evaluate the efficacy of medical or psychotherapeutic interventions targeting such difficulties by identifying postintervention changes in the orgasm experience.

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