

Contextual Influences on Men's Perceptions of Women's Sexual Interest

Teresa A. Treat¹ · Richard J. Viken² · Sharday Summers²

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Abstract The current study evaluated whether the sexual relevance of the social environment potentiated men's judgments of women's sexual interest, particularly among men reporting more frequent misperception of a potential partner's sexual interest. Twenty-eight scenes were constructed depicting social environments that were either lower or higher in sexual relevance (e.g., office vs. bar). A full-body photograph of one of 14 college-aged women was inserted into each scene; the women all expressed neutral-to-positive affect and varied in provocativeness of dress and attractiveness. A total of 237 undergraduate males viewed each scene and judged how sexually interested and friendly each woman felt. Sexually relevant social environments potentiated men's judgments of women's sexual interest far more than their friendliness. This effect was stronger among more conservatively dressed women and among men reporting more frequent experiences of misperceiving a woman's sexual interest. The findings highlight the contextualized nature of emotional perception, whereby perception of emotion is potentiated in congruent, relative to incongruent, contexts.

Keywords Context · Affect · Social perception · Multilevel modeling · Sexual interest

Introduction

Decoding a potential partner's level of sexual interest is an important but challenging social skill for young men. At least three-quarters of college women self-report that their friendliness toward a man has been misperceived as sexual interest, and one-quarter to one-half of college men self-report having misperceived the friendliness of a woman as sexual interest (e.g., Abbey, 1987; Haselton, 2003; Jacques-Tiura, Abbey, Parkhill, & Zawacki, 2007). In a recent speed-dating study, college men also judged college women with whom they were matched to be more interested than the women reported feeling (Perilloux, Easton, & Buss, 2012). Much of the time, decoding difficulties result only in missed opportunities or social embarrassment, but theoretical models and empirical data suggest that affective processing difficulties may also increase the likelihood of sexually coercive and aggressive behavior (e.g., Abbey, Jacques-Tiura, & LeBreton, 2011; Farris, Treat, Viken, & McFall, 2008b).

Across a number of studies, we have examined young adults' processing of young women's nonverbal affective cues, as communicated in their facial expressions, use of hands, and posture in full-body photographs. The women varied not only in their dating-relevant affect (e.g., sexual interest, friendliness, sadness, rejection), but also in attractiveness and provocativeness-of-dress, as in the real-world social environment in which decoding occurs. Our reliance on judgments of photographs, rather than partners during speed dating or other interaction tasks, affords examination of men's processing of even "thinner" slices of information about women (Ambady & Rosenthal, 1992) and increases the standardization of our methods. The resulting body of work has linked altered processing of women's expression of nonverbal affective cues to participant-specific characteristics (gender, endorsement of rape-supportive attitudes among men), stimulus-specific characteristics (women's provocativeness of dress and physical attractiveness), and situational characteristics

✉ Teresa A. Treat
teresa-treat@uiowa.edu

¹ Department of Psychology, University of Iowa, Seashore Hall E11, Iowa City, IA 52242, USA

² Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN, USA

(manipulated level of alcohol consumption among men) (see Farris et al., 2006, 2008a, b, 2010a, b; Treat, Viken, Kruschke, & McFall, 2011; Treat et al., 2015a, b). For example, our most recent work documented that college men relied substantially not only on women's nonverbal affective cues when judging how sexually interested a woman feels, but also on women's attractiveness and provocativeness of dress. This normative effect was moderated by individual differences in endorsement of rape-supportive attitudes, such that men at higher risk of exhibiting sexually aggressive behavior, relative to their peers, relied significantly less on women's affective cues and more on women's attractiveness (Treat et al., 2015b).

The current study extended this body of work by evaluating whether the sexual relevance of the social environment in which women appear potentiated college men's judgments of the sexual interest of college-aged women communicating neutral-to-positive affect. This expectation is broadly consistent with extensive social psychological findings documenting the marked influence of context on social perceptual processes (e.g., the effect of race and contextual cues of dangerousness on decisions about whether to shoot in the first-person shooter task) (Correll, Wittenbrink, Park, Judd, & Goyle, 2011; Ma & Correll, 2011). More specifically, several recent studies have shown that emotional perception does not occur in a decontextualized manner. Rather, context typically is encoded along with emotion in faces, with relevant contextual information being provided in both the body and in the social environment (e.g., Barrett & Kensinger, 2010; de Gelder et al., 2006; Guéguen, 2013, 2014; Kret & de Gelder, 2010, 2012; Kret, Roelofs, Stekelenburg, & de Gelder, 2013; Van den Stock & de Gelder, 2012). Overall, consistent with a "congruence hypothesis," contexts that are more, rather than less, congruent with particular emotional interpretations facilitate and speed those interpretations (e.g., Aviezer, Hassin, Bentin, & Trope, 2008; Kret & de Gelder, 2010, 2012), making it critically important for researchers to examine emotional processing in a contextualized manner.

Prior work typically has examined the contextualized nature of emotional perception either by mixing and matching otherwise decontextualized heads and bodies that are communicating different emotions or by superimposing only heads expressing emotions onto naturalistic scenes conveying emotions. This work has been highly informative, but the artificiality of the stimuli potentially constrains the ecological validity of the findings. For example, Kret and de Gelder (2010, 2012) examined emotional perception by inserting full bodies communicating emotion into naturalistic scenes (e.g., a happy or threatening man in a fight or in a dance scene; a frightened or happy woman at a party). These two studies provided strong support for the congruence hypothesis, but to keep the focus on bodily expression they intentionally obscured facial expression of affect, and the stimuli reflected pairings of figures and backgrounds rather than the integration of the person into a representative social context. Because of our interest in the day-to-day decision making of

undergraduate men, we sought to embed representative full-body photographs of women naturally into settings familiar to undergraduates, with a goal of enhancing the ecological validity of our findings.

In the current study, the same women appeared in contexts that were either more relevant to sexual activity and its pursuit (e.g., bar, house party, or bedroom) or less relevant (e.g., sidewalk, class, office reception area). Given our interest in men's perceptions of women's sexual interest, we did not obscure facial expressions. Participants judged how sexually interested and how friendly each woman felt. The friendliness ratings provided a control for positive social reactions to the contexts that are not specific to sexuality. This approach also held attractiveness and provocativeness of dress constant across rating dimension and context, while allowing them to vary across the depicted women.

We hypothesized that sexually relevant contexts would potentiate judgments of women's sexual interest to a far greater degree than judgments of women's friendliness. Because this hypothesis is based on the congruence between sexually relevant contexts and judgments of sexual interest, as opposed to friendliness, we will refer to it as the congruence effect. We also examined two potential moderators of this effect—one specific to the women being perceived and one specific to the male perceivers. First, because provocativeness of dress varied across the depicted women, we evaluated whether this characteristic altered the magnitude of the congruence effect. To the extent that clothing style significantly influenced men's judgments, as we have seen in past research (Farris et al., 2006, 2010a, b), we anticipated that the congruence effect would be stronger when women's clothing style was more conservative, because in past work the effects of non-affective influences have been stronger there. Second, we anticipated that the congruence effect would be stronger among men reporting more frequent misperception of a potential partner's sexual interest (Abbey, 1987), as overinterpretation of the relevance of the social environment to a woman's affect at a particular point in time could foster such misperceptions.

Method

Participants

Participants were 237 heterosexual or bisexual undergraduate males between 18 and 25 years who received partial course credit for completing the study. This sample size was selected because it afforded sufficient power to detect small-to-moderate-magnitude predictors in our multilevel modeling analyses. Average age was 19.41 years ($SD = 1.18$); 82.3 % were Caucasian, 9.3 % were Asian-American/Asian, 1.3 % were Mexican-American/Chicano, 3.0 % were African-American, and 4.2 % endorsed other ethnicities. At least one serious or casual dating relationship was reported by 95.7 % of the sample. Approximately one-fifth of the sample (19.8 %) reported having never misperceived a

woman's friendliness as sexual interest, whereas 60.4 % reported between one and four misperception experiences, and 19.8 % reported more than four such experiences.

Measures and Procedure

Twenty-eight scenes were constructed for use in this study. Scene backgrounds were selected from the internet and depicted social environments that undergraduate research assistants in the lab indicated were places in which young women realistically might interact with young men. Selected scenes contained a vacant central location in which a woman could be placed and were either lower in sexual relevance or higher in sexual relevance. A full-body photograph of one of 14 college-aged women was inserted into each of two scenes (one higher and one lower in sexual relevance). The women all expressed neutral-to-positive affect and varied in provocativeness of dress and attractiveness (see Farris et al., 2006, for details on the larger photo stimulus set from which the current stimuli were drawn). Photoshop was used to extract each of the 14 women from the original context in which they were photographed, to insert each woman into two scenes apiece, and to modify visual characteristics of the woman and the scene to reduce artificiality (e.g., brightness, contrast, saturation, resolution).

Affect Rating Task

Participants viewed 28 scenes for 2 s apiece and then judged how sexually interested and how friendly each woman felt on 9-point scales (e.g., 1 = not at all sexually interested, 9 = extremely sexually interested). All ratings were completed for one attribute and then for the other attribute, in a counterbalanced order. The presentation order of the stimuli within attribute was random.

Questionnaires

Participants indicated how frequently they “misperceived a person's friendliness as a sexual advance (i.e., the person was being friendly but you assumed the person was sexually attracted to you).” Participants could respond either never, once, twice, 3 times, 4 times, 5–10 times, 11–30 times, or more than 30 times (Abbey, 1987); these responses received conservative scores of 0–7 for analysis. Participants also reported their dating history. Regarding serious relationships, they were asked “How many serious dating relationships have you had? In other words, with how many persons have you had a relationship that lasted 1 month or longer OR in which you mutually referred to one another as partner, spouse, or boyfriend/girlfriend?” Regarding casual relationships, they were asked “How many casual dating relationships have you had? These are relationships which you saw the person for at least one casual or formal date, but you did not consider the person to be your partner, spouse or boyfriend/girlfriend.” Finally participants reported their demographic

characteristics (i.e., age, race/ethnicity, marital status, and sexual orientation).

After completing an informed-consent statement, each participant completed the Affect Rating Task and questionnaires on a computer in a private room. All experimenters were female.

Results

Hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002) with robust SEs was used to analyze men's ratings. Table 1 presents descriptive statistics for sexual-interest and friendliness ratings for scenes either high or low in sexual relevance. A 3-level regression analysis was conducted: participants' four repeated ratings at Level 1 (two affect ratings in two scenes) were nested within 14 women at Level 2, which were nested within 237 participants at Level 3. Two dummy-coded dichotomous predictors and their interaction were included at Level 1: Attribute (1 = sexual interest, 0 = friendliness) and Sexual Relevance (1 = higher, 0 = lower). Note that the interaction term captures the hypothesized congruence effect, as it contrasts sexual-interest ratings in a sexually relevant context with the other three ratings. At Level 2 of the model, Provocativeness of Dress (centered) was examined as a predictor of the intercept, the Attribute effect, the Sexual Relevance effect, and the interactive effect. All but one Level 2 effects were treated as random; the manipulation effect was treated as fixed for identifiability purposes. At Level 3 of the model, Misperception of Sexual Interest (centered) was a continuous predictor of the intercept, the Attribute effect, the Sexual Relevance effect, and the interactive effect; Misperception of Sexual Interest also was included as a moderator of the Provocativeness of Dress effects on these parameters. All Level 3 effects were treated as random. There were no missing data and statistical assumptions were examined and upheld.

Attribute exerted a substantial effect on ratings, $t(235) = -22.19, p < .001, d = -2.90$; friendliness ratings were markedly higher than sexual-interest ratings. Sexual Relevance also weakly to moderately influenced ratings, $t(235) = 2.54, p < .05, d = 0.33$, with women depicted in contexts that were high in sexual relevance receiving higher friendliness and sexual-interest ratings. Most relevant to our theoretical predictions, Attribute interacted strongly with Sexual Relevance, $t(235) = 10.97, p < .001, d = 1.43$. Consistent with our congruence hypothesis, Sexual Relevance exerted a stronger influence on sexual-interest ratings, $t(235) = 13.45, p < .001, d = 1.75$, than on friendliness ratings, $t(235) = 2.55, p < .05, d = .33$.

Provocativeness of dress strongly and positively influenced average ratings, $t(235) = 11.68, p < .001, d = 1.52$, indicating that participants relied heavily on clothing style when judging women's friendliness and sexual interest. Provocativeness of dress interacted with the Attribute effect, $t(235) = 15.53, p < .001, d = 2.023$; the Attribute effect was much stronger

Table 1 Descriptive statistics for sexual interest and friendliness ratings for scenes high and low in sexual relevance

Sexual relevance	Sexual interest		Friendliness	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
High	4.74	2.07	6.09	1.81
Low	3.95	1.99	6.00	1.83

For both variables, absolute range 1–9

when Provocativeness of Dress was 2 SDs below the mean, $t(235) = -24.87, p < .001, d = -3.24$, rather than 2 SDs above the mean, $t(235) = -8.30, p < .001, d = -1.08$. Provocativeness of Dress also moderated the interaction between Attribute and Sexual Relevance, $t(235) = -3.73, p < .001, d = -.49$. The congruence effect was much larger in magnitude when Provocativeness of Dress was 2 SDs below the mean, $t(235) = 8.31, p < .001, d = 1.08$, rather than 2 SDs above the mean, $t(235) = 4.02, p < .001, d = .52$. Thus, the context-related potentiation of sexual interest ratings relative to friendliness ratings was much stronger when women were dressed conservatively.

Misperception of Sexual Interest interacted with Provocativeness of Dress to predict average ratings at a small-to-moderate level, $t(235) = 2.88, p < .001, d = .38$. Reliance on Provocativeness of Dress when making ratings was weaker among those reporting no misperception experiences, $t(235) = 5.08, p < .001, d = .66$, than among those reporting five misperception experiences, $t(235) = 9.96, p < .001, d = 1.30$. Finally, Misperception of Sexual Interest moderated the interaction of Attribute with Sexual Relevance (i.e., the congruence effect), $t(235) = 2.33, p < .05, d = .30$. As predicted, the congruence effect was markedly stronger among those reporting five misperception experiences, $t(235) = 8.43, p < .001, d = 1.10$, than no misperception experiences, $t(235) = 4.83, p < .001, d = .63$, such that the potentiation of sexual interest ratings by sexually relevant contexts was substantially greater for men with self-reported histories of misperception.

Discussion

As predicted, college men judged young women to feel substantially more sexually interested when the women were depicted in social environments that were more sexually relevant or proximal to sexual activity. This congruence effect did not simply reflect greater positivity being accorded to more sexually relevant contexts, because judgments of the same young women's friendliness were far less affected by the social environment in which they appeared. Because we have previously shown the importance of person-specific contextual cues (e.g., body posture, attractiveness, clothing style) in judgments of sexual interest, these factors were fully controlled, strengthening our

inference regarding a specific potentiating effect of environment-specific context on judgments of sexual interest, relative to friendliness.

Our prior work has demonstrated that college men rely on women's attractiveness and provocativeness-of-dress when evaluating how sexually interested women are feeling, such that more attractive and provocatively dressed women are perceived to feel more sexually interested (Farris et al., 2006, 2010a, b; Treat et al., 2015a, b). The current work replicates and extends these findings by documenting that women's provocativeness of dress strongly potentiated men's judgments of women's sexual interest and friendliness and that this effect was more pronounced for sexual-interest than for friendliness judgments. Moreover, the potentiating effect of sexually relevant contexts was far stronger when women were dressed conservatively, rather than provocatively.

The current findings suggest that the sexual relevance of the environmental context may be another cue on which college-aged men rely when evaluating what women are feeling. Like clothing style and attractiveness—which also can be construed as part of the “context” in which emotional perception occurs (e.g., Guéguen, 2013, 2014; Van den Stock et al., 2007)—environmental context is available universally to those in the social environment. These “omnidirectional” cues presumably are less diagnostic than the more “unidirectional” nonverbal affective cues when determining how sexually interested a woman is feeling about a particular man at a particular point in time, which is the task faced by a young man attempting to determine whether to pursue a particular woman at a particular point in time. Thus, we would anticipate that greater reliance on social environmental indicators of a woman's sexual interest would be associated with more frequent misreading of potential partners' level of sexual interest. Consistent with this expectation, men who reported more commonly misperceiving a woman's friendliness as sexual interest, relative to their peers, showed a potentiation of the normative influence of the social context on affective judgments. Thus, overreliance on environmental contextual cues may represent one possible component of the process of sexual misperception. We have observed similar moderation of normative context effects by individual differences characteristics in past research. For example, men at greater risk of exhibiting sexually aggressive behavior rely more than their peers on women's attractiveness when judging how a woman is feeling (Treat et al., 2015b).

The current findings were highly consistent with a burgeoning literature that documents the contextualized nature of emotional perception (e.g., Barrett & Kensinger, 2010; Van den Stock & de Gelder, 2012), whereby perception of emotion is potentiated in congruent, relative to incongruent, bodily and environmental contexts (e.g., Aviezer et al., 2008; de Gelder et al., 2006; Kret & de Gelder, 2010, 2012). From this perspective, the relevance of a social environment to sexual behavior and its pursuit is far more

associated with judgments of sexual interest than friendliness, accounting for the specificity of the findings in the current study.

Future research profitably could examine whether judgments of dating-relevant negative affect (rejection and sadness) are also contextualized, as well as whether woman-specific characteristics, such as attractiveness and clothing style, moderate environmental context effects. The extent to which the sexual relevance of the social environment is integrated in emotional processing in a more automatic manner also warrants further attention (Aviezer, Bentin, Dudarev, & Hassin, 2011). For example, it would be of interest to know the effectiveness of explicit instructions to ignore the social environment in which a woman appears and to focus only on her facial expression and body language while judging her sexual interest. To the extent that contextual influences show characteristics of automaticity, the provision of trial-by-trial feedback on sexual-interest judgments may be necessary to enhance men's focus on the more diagnostic, unidirectional, affective cues when judging how a woman feels about a particular man at a particular point in time (Treat et al., 2015b).

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