

Extracting implicit theories about the risk of coercive control in romantic relationships

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Abstract

People readily make attributions about the likely behavior of others, based on very limited information. We exploited this tendency to assess people's sensitivity to personological and social-circumstantial evidence of risk of coercive control in romantic relationships, by unobtrusively varying information about a fictitious couple in a between-groups design and asking viewers to make predictions about the feelings and behavior of the three characters—a man, his girlfriend, and his sister. Key features of the story were systematically altered to elicit attributions of the man's aggressive and jealous inclinations to see if people are sensitive to the psychological link between sexually proprietary inclinations and risk of violence. The story manipulations were effective in eliciting attributions of the man's aggressive inclinations, of the woman's polyandrous inclinations, and of the man's likely jealousy. As expected, people predicted that an aggressive and jealous man would be likely to use violence and other controlling actions against his girlfriend.

Perception of partner infidelity or desertion is a major provocation to men's violence against women, but do people "know" this? Do they recognize the kinds of social circumstances that arouse sexual jealousy and possessiveness? Will people react to cues of such risk as predictors of the increased likelihood of violence, or do they tend to react to evidence of a man's personality? Perhaps people react to cues of what's likely to provoke a man's violence only for those men who exhibit a relatively chronic violent disposition.

In this article, we address whether women and men are sensitive to "evidence" of risk of men's violence against wives or girlfriends. People may not be able to articulate (Nisbett & Ross, 1980; Nisbett & Wilson, 1977) what cues of risk prompt their vigilance, precaution, and concern, but they still behave as if the cues were salient and informative. Thus, instead of asking people to state whether they believe that certain personality traits or social circumstances elevate the risk of violence against women, we assessed sensitivity to cues about personality and social circumstance unobtrusively by varying them in a between-groups design and asking people to make predictions about the feelings and behavior of people portrayed in a story about a fictitious couple.

People readily make attributions about enduring personality characteristics of fictitious people or people of whom they have limited knowledge (Gilbert & Malone, 1995; Ross & Nisbett, 1991) even though they might not make such personological attribu-

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tions about themselves. This sort of projective task can reveal implicit a priori assumptions about others' likely behavior (e.g., Dweck, Hong & Chiu, 1993; Read & Miller, 1993). These assumptions may derive from personal experience, as well as stereotypes or scripts, and they may or may not be realistic (Ross & Nisbett, 1991). Nevertheless, one's assumptions or mental models of others' behavior affect the perceptions and processing of information that underlie our everyday decisions and actions (e.g., Trope & Liberman, 1993). By exploiting people's tendency to make attributions about others, we hope to reveal evidence of people's sensitivity to evidence of personological and social-circumstantial risk factors of violence against a girlfriend. In particular, the evidence we use to probe people's sensitivity includes potential cues of a man's likelihood of behaving aggressively, in combination with information about a woman that is likely to be expected to arouse sexual jealousy and possessiveness in her partner.

It is a widespread assumption that a man who is perceived as having an aggressive personality is likely to assault another person when provoked, and this assumption has much statistical validity (Dutton, 1998; Monahan & Splane, 1980; Nisbett & Cohen, 1996). Although jealousy¹ has been the subject of extensive research (e.g., Bringle & Buunk, 1985; Buss, 1995, 2000; Buss, Larsen, & Westen, 1996; Buss, Larsen, Westen, & Semmelroth, 1992; Buunk, Angleitner, Oubaid, & Buss, 1996), its connection with risk of violence has not been widely appreciated. The psychological links of jealousy and violence are amply illustrated in psychiatric, psychological, anthropological, sociological, legal, and historical research (e.g., Cusson &

Boisvert, 1994; Daly, Wilson, & Weghorst, 1982; Dell, 1984; Gagné, 1992; Guttmacher, 1955; Mowat, 1966; Mullen, 1991; Mullen & Martin, 1994; Shepherd, 1961; Vauhkonen, 1968; Wilson & Daly, 1992). The dominant motives and circumstances in cases of men killing wives and girlfriends include men's jealousy, possessiveness and unrequited love, and a woman's desertion (e.g., Browne, Williams & Dutton, 1999; Campbell, 1992; Chimbos, 1978, 1993; Crawford & Gartner, 1992; Daly & Wilson, 1988; Dawson & Gartner, 1998; Polk, 1994; Wilson & Daly, 1993a, 1997, 1998a, 1998b). These are also the dominant motives in nonlethal assaults against wives, especially if one interprets a diversity of "grievances" prompting the man's violence as expressions of proprietary entitlements and desire to limit the woman's personal autonomy (Wilson & Daly, 1992, 1993a, 1993b, 1996, 1998a, 1998b).

Violently proprietary men also engage in other kinds of controlling behaviors toward wives and girlfriends (Dobash & Dobash, 1979, 1998; Dutton, 1998; Wilson & Daly, 1992, 1996). A national survey of violence against Canadian women (Johnson & Sacco, 1995) revealed that wives whose husbands had used violence against them were especially likely to report that the men (i) were jealous, (ii) wanted to know her whereabouts at all times, (iii) attempted to limit her contact with friends and family, (iv) spoke to her in derogating terms, and (v) retained control of family income (Wilson, Johnson, & Daly, 1995). These characterizations of the men were associated with both the severity and the frequency of violence by husbands. Moreover, variations in a composite "autonomy-limiting" index of the sum of affirmations of these five characterizations paralleled the variations in assault rates found in relation to type of marital union (common-law vs. registered), age of wife, and difference in partners' ages; these are the same risk factors for lethal and nonlethal assaults against wives. These results suggest that there are common causal factor(s) or mediating variable(s), such as arousal of sexually proprietary inclinations, which affect both nonviolent autonomy-

1. Jealous is defined in *The American Heritage Dictionary* (Morris, 1976) as "fearful or wary of being supplanted; apprehensive of loss of position or affection," and thus is defined not by a behavior pattern but as a particular experiential state. For the purpose of the present article, jealousy may best be defined as "a state that is aroused by a perceived threat to a valued relationship or position and motivates behavior aimed at countering the threat" (Daly et al., 1982, p. 12). Jealousy is sexual if the valued relationship is a sexual relationship.

limiting behavior toward wives and wife assault (Wilson et al., 1995).

Male sexual proprietariness and violence against wives are ubiquitous (e.g., Wilson & Daly, 1992; Counts, Brown, & Campbell, 1992). Sex differences in the situational cues giving rise to possessiveness and jealousy and the patterning of risk of violence against mates and their links with sexually proprietary inclinations (e.g., Wilson & Daly, 1993b, 1997; Wilson et al., 1997) support the adaptationist hypothesis that sexual proprietariness is an aspect of male sexual psychology that has been shaped by a history of selection in response to cues of the intensity of male-male competition and cues of risk of parental investment in rivals' offspring.

The main hypothesis of the present study is that women and men are sensitive (regardless of whether knowledge is overt) to this psychological connection between sexually proprietary inclinations and inclinations to use violence. More specifically, we anticipate that people will rate the likelihood of a man exhibiting both violent and controlling behaviors higher in response to cues of the man's aggressive and jealous inclinations. In the fictitious story used in the present study, we operationalized cues of the man's aggressivity by mentioning his skill in karate, his temper sometimes getting out of hand, and an incident in which he "got into a heated argument" with another man. Karate expertise or a heated argument would not be compelling evidence of aggressivity, but a statement about someone's temper "sometimes getting out of hand" when so few other temperament attributes are mentioned is likely to be interpreted as diagnostic of an aggressive person (Gidron, Koehler & Tversky, 1993). We chose to use information about the woman to facilitate an inference of the man's likelihood of being jealous and possessive because the state of sexual jealousy is most reliably cued by evidence of likely loss of a valued sexual relationship. In the fictitious story, the "jealousy-inducing" woman worked as a waitress in a topless bar one summer, and she showed interest in a man who approached flirta-

tiously at a bar when she was on a date with her boyfriend. These two pieces of evidence hardly warrant an inference that her boyfriend is likely to be jealous or possessive, but additional contextual information common to all versions of the story may support such an inference. If viewers perceive that the man in our story values his romantic relationship with the woman, and more than she does, as we intended, then they may feel there is adequate reason for the man to behave in a jealous and possessive manner.

The literature on violently proprietary men has appropriately addressed men's coercive, violent, and controlling behavior toward wives and girlfriends rather than other persons as these are the typical victims of such men (e.g., Dobash & Dobash, 1979; Wilson & Daly, 1992, 1998a, 1998b). For these reasons, we anticipate that cues of a man's aggressivity and jealousy will be more likely to evoke attributions about the man's likelihood of violence and controlling behavior with respect to a girlfriend and not with respect to his sister, who is a third party in the story.

We presented a brief photo-story of "Brad, Julie, and Amy" to test our hypotheses about people's implicit assumptions of male aggressiveness and possessive inclinations in relation to risk of violence and other controlling behaviors. The experiment entailed a between-subjects design where the written description of the story line was altered to convey the relevant evidence to elicit attributions about the story characters. Brad and Julie were portrayed as romantically involved, and Amy was the sister of Brad. After viewing the photo-story participants completed a number of questions soliciting their opinions and expectations about the fictitious persons.

We addressed several hypotheses:

1. "Evidence" of a man's likelihood of being angered or aggressive elicits greater subjective likelihood that the man would act aggressively.
2. Evidence of a woman's being interested in men other than her boyfriend (poly-

androus inclinations) elicits greater subjective likelihood of her boyfriend being jealous, controlling, and aggressive.

3. A combination of the two kinds of evidence would interact to elicit higher ratings than either kind of evidence alone, with respect to the risk of the boyfriend's aggressive, jealous, and controlling behavior toward his girlfriend. The combination of the two kinds of evidence will also have an interactive effect on expectations of aggression toward another man, provided the context is one that cues intrasexual competition and/or the presence of a potential rival (Wilson & Daly, 1998b).
4. Attributions about a man's abusive, jealous, or controlling behaviors would be more likely if a girlfriend rather than a sister is the source of the jealousy-inducing cues. Hence, it is expected that the combination of aggressivity cues and jealousy cues emanating from a girlfriend will result in higher estimates of abusive, jealous, or controlling behaviors toward her than would the same cues emanating from a sister. The rationale for this expectation is that sexual selection is likely to have designed male sexual psychology to be more proprietary toward a woman whose reproductive effort he aspires to monopolize (Daly et al., 1982; Daly & Wilson, 1988; Wilson & Daly, 1992; Buss, 1995).
5. We assumed that "normal" aggressive and jealous reactions are directed specifically toward relevant parties and not randomly deployed. In general, hostile aggressive action directed toward the relevant party who is the source of conflict (or the stimulus for some motivated course of action) has more utility than that directed at a random available person (Daly & Wilson, 1994; Frank, 1988). We therefore included a control story set where the girlfriend is the source of the jealousy-inducing cues, but attributions about the focal man's abusive and controlling behavior are requested of

the viewers with respect to the man's actions toward his sister.

6. We were interested in whether men and women would make similar attributions about the fictitious characters in the story. If men and women share a priori assumptions about the social dynamics of romantic and familial relationships, then they are likely to make similar attributions about the characters in the story.

In addition, there are three specific predictions about sex differences:

6. i. A sex difference in attributions about the likelihood of violence and other controlling behaviors against the girlfriend may occur because of sex differences in costs of failing to detect signals of the likely use of violence by men. Women may be more sensitive and alarmed by cues of a man's aggressivity because women are the more vulnerable targets.
6. ii. Men may be especially sensitive to cues that the man would act aggressively toward another man because men are more likely to be victims in same-sexed assaults.
6. iii. Men may rate the likelihood of the girlfriend "fooling around on Brad" higher than women because men are generally more concerned than women about the sexual fidelity of partners (Buss, 2000; Buss et al., 1992, 1996) and, on average, ancestral men probably suffered greater fitness costs than women when they failed to detect signals of sexual infidelity (e.g., Wilson & Daly, 1992).

Methods

Experimental manipulations

The fictitious story of Brad, Julie, and Amy was portrayed on a computer monitor in a series of still frames much like a photographic album with text. The goal was to por-

tray these people in a realistic manner, as might occur in the context of a friend telling another about these people. The fictitious story was introduced with an instruction that subjects will be asked questions at the end of the story about their impressions of the persons in the story. This kind of instruction was expected to facilitate the making of personological inferences (e.g., Reeder, 1993; Shoda & Mischel, 1993). The photographs were identical across conditions; only the text was altered to manipulate the viewers' perceptions of the three parties. Aggressivity cues were present or absent and jealousy-inducing cues were present or absent. Brad's potential for acting aggressively was cued by "sometimes his temper can get out of hand," "Brad is a black belt in karate," and "Brad got into a heated argument with him." Julie's potential for infidelity or desertion (and thus Brad's potential for being jealous and possessive) was cued by Julie working as a waitress at a "topless" bar, and her apparent "interest" in some guy "hitting on" her at the bar. This last phrase was perhaps unfortunately ambiguous, but undergraduates at McMaster University assured us it meant making a flirtatious approach. The third experimental variable concerned the two "control" conditions addressing the issue of the specificity of attributions about the man's behavior toward others, namely his girlfriend versus his sister. In one "control" photo-story set, viewers were either asked about Brad's likelihood of being abusive or controlling toward his sister even though his girlfriend was the focus of the story line. In a second "control" photo-story set, the same questions were asked but his sister was the focus of the story line. In total there were 12 different variants of the photo-story questionnaire: set 1 was created by the presence or absence of aggressivity cues and the presence or absence of jealousy-inducing cues associated with the girlfriend (target questions about Brad and his girlfriend Julie); set 2 was a control set created in the same manner but target questions concerned Brad and his sister; set 3 was another control set created in the same manner but the presence or absence of

jealousy-inducing cues was associated with the sister and the target questions concerned Brad and his sister (as in set 2). Each viewer saw only one of the 12 versions of the photo-story. In sum, the study entailed a 2 (aggression cues present or absent) \times 2 (jealousy cues present or absent) \times 2 (male or female viewer) \times 3 (photo-story sets 1, 2, and 3) experimental design.

All participants viewed 9 screens ("photo-album pages") at their own pace. The photos (identical in all conditions) were of people who would not be known by any viewers. The screen pages included all three characters (screens 2 and 6), Brad and his girlfriend (screens 3 and 4), Brad only (screen 5), and the girlfriend only (screen 7); there were no other person photos. "Brad," "Julie," and "Amy" (fictitious names) were in their mid-twenties when the photos were taken. They appeared happy in all the photos.

Dependent measures

Twenty-one questions addressed the viewers' opinions and expectations about Brad, his girlfriend Julie, and his sister Amy with respect to: (a) how Julie (Amy in set 3) felt the next morning after the bar scene, (b) the attractiveness of the three parties, (c) how much Brad and his girlfriend were in love with each other, (d) the likelihood of Brad acting aggressively toward Julie (or Amy) and toward another man, (e) whether the girlfriend was likely to "fool around on Brad," (f) how likely that Brad would be jealous, and (g) whether his sister was likely to "fool around on her boyfriend." In addition, we included slightly modified versions of the five "autonomy-limiting" items listed in the introduction from the 1993 Canadian national survey of violence against wives (Wilson et al., 1995). The modifications of these items entailed changing to references to Brad and Julie (or Amy) from what had been references to an interviewee's husband in the national survey. For two control sets of the photo-story (sets 2 and 3), viewers were asked to make attributions about four of these five items that could plausibly

be applied to a brother-sister relationship. For these autonomy-limiting items, people were to indicate their response on a 7-point Likert scale, where 1 was defined as "not very likely" and 7 as "very likely." We also asked everyone to indicate "what would upset or distress Brad more? If Julie (a) shared a deep emotional bond with another man, or (b) had passionate sex with another man" (cf. Buss et al., 1992).

Two additional items were included to see if viewers who rated Brad as aggressive and/or controlling would also make other negative aspersions about Brad's character. We asked, "In your opinion, how likely is Brad to retaliate after being cut off by an aggressive driver?" and "In your opinion, how likely is Brad to be asked to organize his high school reunion?" to assess whether viewers would make negative aspersions about Brad.

After all these questions were completed, participants indicated their age and "relationship status" from a menu of options. They also answered three questions about personal experiences that might be relevant to one's views about violent and controlling relationships: (1) "Have you ever been in a sexual relationship that you valued greatly?"; (2) "Have you ever been in a romantic relationship where you were very much in love?"; and (3) "Have you ever experienced or witnessed any physical abuse in a marital or romantic relationship?"

Participants

Three hundred and one undergraduates, enrolled in an introductory psychology course, participated in this study in exchange for course credit. Their participation was solicited with a notice eliciting volunteers for a study of "Choices and Perceptions." The 137 men and 164 women were 19.7 ± 2.8 and 19.4 ± 2.1 years of age, respectively. Of the participants, 48.5% were romantically unattached, 11% had been dating a particular person for less than 3 months, 30% had been dating for more than 3 months, 11% were living together, and one was divorced.

Sixty-two percent indicated that they had been in a romantic relationship in which they were very much in love, and 48% indicated that they had been in a sexual relationship that they had valued greatly. Thirty-two percent had "experienced or witnessed physical abuse in a marital or romantic relationship."

Statistical analyses

The statistical significance of the experimental manipulations (aggressivity and jealousy-inducing cues), the sex of the viewer, and the version of the story set were assessed with general linear model (GLM) multivariate regression (SPSS 10) using the default Type III sums of squares for handling correlated predictors. Two-tailed tests are used throughout. Covariates included viewers' abusive, romantic, and sexual experiences. Statistical significance of the effects of story sets 2 and 3 were contrasted with those of set 1. Differences in the ratings of men and women for two of the questionnaire items about the man's aggression toward a woman and toward another man were assessed with a GLM-repeated measures analysis. Chi Square statistics were used for dichotomous tabulations.

Results

Attributions about a man's aggressivity

The basic paradigm concerned peoples' attributions about the man in the photo-story, his girlfriend, and his sister in relation to the presence or absence of information relevant to possible inferences about his aggressivity and his jealousy.

We had hypothesized that the "aggressivity" cues and the "jealousy" cues would elicit attributions of greater likelihood that the man would act aggressively toward his girlfriend and toward the man at the bar than if such evidence were absent, and this was so for the first story where the girlfriend was the source of "jealousy" cues (Table 1).

In addition to our predictions of main

Table 1. The average ratings by men and women about the likely aggressive behavior of the focal man in story set one in relation to cues of aggressivity and jealousy, and sex of viewer

Aggression	Jealousy	Sex	A16*	A17*	A18*	A19*
			In your opinion, how likely is Brad to be threatening or abusive toward Julie?	In your opinion, how likely is Brad to act aggressively toward another man who provoked him?	In your opinion, how likely is Brad to retaliate after being cut off by an aggressive driver?	In your opinion, how likely is Brad to be asked to organize his high school reunion?
Absent	Absent	M	3.2±1.3	4.5±0.9	3.7±1.3	3.4±1.4
		F	3.0±1.9	2.9±1.8	3.7±1.5	4.0±2.2
Present	Present	M	3.9±1.5	5.6±1.3	4.9±1.2	3.1±1.2
		F	3.7±1.6	5.2±1.5	4.9±1.3	2.9±1.7
Present	Absent	M	4.1±1.4	6.4±0.7	5.5±1.7	1.9±1.0
		F	4.1±1.7	5.6±1.4	5.5±1.5	2.6±2.1
Present	Present	M	4.7±1.6	6.4±1.2	5.8±1.1	2.5±1.3
		F	5.6±1.8	6.3±0.8	5.8±1.2	3.2±2.2

*Rating scale: 1 = "not very likely"; 7 = "very likely."

Summary of significant (two-tailed) main effects and interactions from the GLM full factorial analysis using all measures with a 5-point rating scale

	df	A16	A17	A18	A19
Aggression	1,89	F=12.2, P=.001	F=37.4, P<.001	F=23.6, P<.001	F=5.0, P=.028
Jealousy	1,89	F=7.1, P=.009	F=14.2, P<.001	F=7.8, P=.006	
Sex	1,89		F=7.1, P=.009		
Ag × Jeal	1,89		F=6.0, P=.017		
Ag × Sex	1,89				
Jeal × Sex	1,89		F=3.5, P=.064		

effects of the presence of cues of "aggressivity" and "jealousy" on attributions of the man's greater likelihood of behaving in an aggressive manner, we had hypothesized that the combined presence of aggressivity and jealousy cues would elicit higher ratings of aggressivity.

The interaction of aggressivity and jealousy cues was not statistically significant with respect to attributions about Brad acting abusively toward his girlfriend, but there was a significant interaction effect on viewers' ratings as to Brad's likelihood of acting "aggressively toward another man who provoked him" (Table 1, $P = .017$). In this case, the addition of jealousy cues had a bigger impact on estimates of this likelihood in the absence of aggressivity cues (from a mean of 3.8 ± 1.6 to 5.4 ± 1.4 , a difference of 1.6 on a 7-point scale) than in their presence (from 5.9 ± 1.2 to 6.3 ± 1.0 , a difference of 0.4). This interaction of aggressivity and jealousy cues appears to be specific to the context of intrasexual competition, as the "provocation" in the story was the man speaking to Brad's girlfriend at the bar.

The question about how likely Brad would be to retaliate against an aggressive driver did not result in a significant interaction of aggressivity and jealousy cues.

The aggressivity cues inspired attributions that Brad was more likely to "retaliate after getting cut off by an aggressive driver," and less likely to "be asked to organize his high school reunion," suggesting that the aggressivity attributions were extended to other contexts. The jealousy cues affected attributions with respect to retaliation against an aggressive driver but not with respect to Brad's likely popularity with the high school alumni (Table 1). There were no statistically significant interaction effects on these two dependent measures nor were there any significant sex differences in the ratings.

In addition to the set of four stories about a man and his girlfriend, a second set of four stories was tested. This second set was exactly the same as the first except that four "autonomy-limiting" questions and

one abuse question were asked about his sister instead of his girlfriend. In a third set of four stories, the sister was the source of the "jealousy" cues instead of the girlfriend, and, as in the second set, the "autonomy-limiting" and abuse questions were asked about the sister rather than the girlfriend. The results of a multivariate full factorial analysis revealed that there were significant main effects of aggressivity cues and jealousy cues, affecting attributions about the man's "threatening and abusive" behavior toward a woman, aggressivity "toward another man who provoked him," and retaliation for being "cut off by an aggressive driver" (Table 2).

There was also a significant main effect of story set (1, 2, or 3) on being "threatening or abusive" to a woman and retaliating against an aggressive driver. The first set of stories (girlfriend source of jealousy cues) elicited the highest rating for likelihood of Brad being "threatening or abusive" toward the woman (Contrasts: Set 1 > 2, $P < .001$, Set 1 > 3, $P = .003$). Indeed, there was a significant 3-way interaction (Table 2: $P = .026$) of aggressivity cues, jealousy cues, and story set on ratings of Brad acting in a threatening or abusive manner toward the woman. Recall that this abuse question was directed toward his sister in set 2 even though his girlfriend was the source of the jealousy cues, so the significant difference for story sets 1 and 2 suggests that viewers rated him as more likely to direct his abusive behavior to the woman who "inspired" the jealousy than another woman similarly accessible (indicating that mere opportunity does not determine the expected target of "victimization"). In story set 3, his sister was both the source of the jealousy cues and the target of the question about his being abusive or threatening. This story set was included to see if the behavior of a sister would inspire attributions similar to those about a girlfriend. The significant difference between set 1 and set 3 supports the idea that people think that men would be more "abusive and threatening" toward a girlfriend than toward a sister for equivalent actions.

Table 2. *The average ratings by men and women about the likely aggressive behavior of the focal man in relation to cues of aggressivity and jealousy, and story set*

Aggression	Jealousy	Set	A16* In your opinion, how likely is Brad to be threatening or abusive toward Julie?	A17* In your opinion, how likely is Brad to act aggressively toward another man who provoked him?	A18* In your opinion, how likely is Brad to retaliate after being cut off by an aggressive driver?	A19* In your opinion, how likely is Brad to be asked to organize his high school reunion?
Absent	Absent	1	3.1±1.6	3.8±1.6	3.7±1.4	3.7±1.8
		2	2.3±1.5	4.2±1.7	3.8±1.6	3.3±1.8
		3	2.0±1.2	4.1±1.8	3.2±1.7	3.1±1.5
Present	Present	1	3.8±1.5	5.4±1.4	4.9±1.2	3.0±1.4
		2	2.9±1.4	4.8±1.6	4.2±1.6	3.4±1.5
		3	3.6±1.7	5.4±0.9	4.6±1.2	3.2±1.5
Present	Absent	1	4.1±1.5	5.9±1.2	5.5±1.5	2.3±1.7
		2	2.8±1.5	5.3±1.3	4.6±1.3	2.6±1.5
		3	3.8±2.0	5.6±1.1	4.9±1.3	3.2±1.4
Present	Present	1	5.2±1.7	6.3±1.0	5.8±1.1	2.9±1.8
		2	3.8±1.8	5.9±1.8	5.3±1.7	2.2±1.5
		3	3.7±1.6	5.8±1.5	5.3±1.4	2.6±1.5

	A16	A17	A18	A19
Aggression	F=24.9, P<.001	F=47.6, P<.001	F=45.4, P<.001	F=11.7, P=.001
Jealousy	F=15.7, P<.001	F=22.8, P<.001	F=18.2, P<.001	
Set	F=11.4, P<.001		F=3.4, P=.035	
Sex		F=6.4, P=.012		
Sex × Ag		F=8.9, P=.003		
Ag × Jeal		F=4.9, P=.027		
Ag × Jeal × Set	F=3.7, P=.026			

*Rating scale: 1 = "not very likely"; 7 = "very likely."

Summary of significant (two-tailed) main effects and interactions

The story set also affected estimates for retaliating “after being cut off by an aggressive driver” (Table 2: $P = .035$). Again, the first story about the girlfriend elicited the highest ratings (Contrasts: Set 1 > 2, $P = .021$, Set 1 > 3, $P = .028$).

The only significant effect of sex of viewer was on attributions about how likely the man would be to “act aggressively toward another man who provoked him,” with men making significantly higher estimates (M: 5.4 ± 1.4 , F: 5.1 ± 1.8 , $P = .012$). This supports the expectation (hypothesis 6.ii) that men, on average, are more sensitive to the likelihood of male-male aggression regardless of assumptions about Brad’s aggressive temperament. Moreover, there was a significant interaction (Table 2: $P = .003$) of sex of viewer and aggressivity cues for this item: Men and women were consensual (mean of 5.8 ± 1.4) in their estimates when aggressivity cues were present but women’s ratings were much lower in the absence of such cues (M: 5.1 ± 1.3 , F: 4.3 ± 1.8).

There was an interesting difference in the attributions of men and women with respect to aggression toward a woman versus a man (Table 3). In the absence of aggressivity cues, women were less different in their ratings of his aggressivity toward a woman versus a man (Difference of 1.4 on the 7-point scale) than in the presence of aggressivity cues (Diff = 2.0), whereas men differentiated the target sex similarly when aggressivity cues were absent or present (Diff = 2.0 and 1.9, respectively); this is a significant interaction of “item” by sex by aggressivity condition

($F(1,277) = 6.7$, $P = .01$ based on a within-subjects repeated measures full factorial GLM analysis testing the significance of item \times sex \times aggression cues). This result supports our expectation that men are more alert than women to the possibility of a “nonaggressive” man behaving aggressively to a provocation by another man. However, these data do not support the idea (hypothesis 6.i) that women would rate the risk of Brad acting abusively toward the woman higher than would male raters.

Attributions about a man’s controlling and possessive behavior

We had hypothesized that “evidence” of a man’s anger or aggression would elicit attributions of a greater likelihood of his also being controlling and possessive toward his girlfriend, and that was so for 4 of the 5 “autonomy-limiting” items in the story set focusing on his girlfriend (Table 4). Aggressivity cues were consistently likely to elicit attributions about Brad’s controlling and possessive behavior toward his girlfriend. A composite of the 5 items, the “autonomy-limiting index,” was also significantly higher when aggressivity cues were present.

We also hypothesized that “jealousy” cues would elicit attributions of the greater likelihood of Brad being jealous and controlling. Jealousy cues significantly affected 2 of the 5 items as well as the autonomy-limiting index (Table 4), but the question about the degree to which Brad would be “jealous and not want Julie to talk to other

Table 3. Average ratings by men and women of the likelihood of the focal man acting aggressively toward a woman versus a man

Brad	Sex	A16	A17
		In your opinion, how likely is Brad to be threatening or abusive toward Julie?	In your opinion, how likely is Brad to act aggressively toward another man who provoked him?
Absent	Men	3.1 ± 1.6	5.1 ± 1.3
	Women	2.9 ± 1.7	4.3 ± 1.8
Present	Men	3.9 ± 1.7	5.8 ± 1.4
	Women	3.8 ± 1.9	5.8 ± 1.4

Table 4. The average ratings by men and women about the likely proprietary behavior of the focal man in story set one in relation to cues of aggressivity and jealousy, and sex of viewer

Aggression Cues	Absent				Present				
	Absent		Present		Absent		Present		
	M	F	M	F	M	F	M	F	
Jealousy Cues									
Sex of Viewer									
A8 Brad would become jealous and not want Julie to talk to other men?	5.5±1.4	5.0±1.6	5.3±1.3	5.1±1.5	4.9±2.0	5.5±1.2	6.1±1.0	6.7±0.5	
A9 Brad would try to limit Julie's contacts with family and friends?	4.5±1.6	4.0±1.2	4.1±1.7	4.2±1.5	4.3±1.7	4.7±1.5	4.6±1.6	5.8±1.4	
A10 Brad would insist on knowing whom Julie is with and where she is at all times?	4.6±1.6	3.9±1.4	4.8±1.4	4.8±1.5	4.4±1.8	4.7±1.7	5.0±1.3	6.2±1.4	
A11 Brad would call Julie names to put her down or make her feel bad?	3.4±1.6	2.0±1.1	2.9±1.1	3.2±1.4	2.9±1.5	3.7±1.7	3.5±1.5	4.9±2.0	
A12 Brad would prevent Julie from knowing about or having access to the family income, even if she asked?	2.8±1.7	1.8±1.1	2.4±1.1	3.1±1.5	3.3±1.8	3.3±2.0	2.9±1.2	4.7±1.9	
Ai(4) Autonomy-limiting Index	4.2±1.3	3.3±0.9	3.9±1.1	4.1±1.2	3.9±1.5	4.4±1.4	4.4±1.1	5.7±1.2	
A14 In your opinion, how likely is Brad to fool around on Julie?	4.0±1.8	2.8±1.7	3.4±1.5	3.5±1.5	3.1±1.1	3.9±1.8	3.8±1.3	4.4±2.3	
A15 In your opinion, how likely is Julie to fool around on Brad	3.7±1.8	4.0±1.7	4.8±1.6	4.6±1.5	4.1±1.7	3.8±1.7	4.6±1.5	4.9±1.8	
A20 In your opinion, how likely is Amy to fool around on her boyfriend?	4.5±1.3	3.9±1.3	4.1±0.9	4.0±1.2	3.1±1.1	3.5±1.9	3.1±1.1	4.3±2.1	

*Rating scale: 1 = "not very likely"; 7 = "very likely."

Summary of significant (two-tailed) main effects and interactions

df	A8	A9	A10	A11	A12	Ai(4)	A14	A15	A20
Aggression	1.89	F=4.0, P=.048	F=3.8, P=.053	F=7.6, P=.007	F=9.7, P=.002	F=8.2, P=.005	F=5.6, P=.02	F=5.0, P=.028	
Jealousy	1.89	F=3.7, P=.057	F=6.0, P=.016	F=4.1, P=.045		F=4.8, P=.031			
Ag × Jeal	1.89	F=5.0, P=.028							
Ag × Sex	1.89			F=6.8, P=.011	F=7.2, P=.009	F=5.3, P=.024			F=3.7, P=.056
Jeal × Sex	1.89								

Note: Only those predictor variables and interactions that resulted in statistically significant effects are presented.

men" just missed our alpha level ($P = .057$, two-tailed test).

There was a significant (Table 4: $P = .028$) interaction effect of jealousy and aggressivity cues on the jealousy ratings. In the absence of jealousy and aggression cues the addition of either jealousy or aggressivity cues changed the estimates of his being "jealous" by only a fraction or not at all (from 5.3 ± 1.5 to 5.3 ± 1.6 or 5.2 ± 1.4 , respectively), but the presence of both jealousy and aggressivity cues raised the estimates by more than one point on the 7-point scale to 6.4 ± 0.8 .

Another item which was expected to reflect the presence or absence of jealousy cues was ". . . what would upset or distress Brad more? If Julie (a) shared a deep emotional bond with another man, or (b) had passionate sex with another man." This kind of choice elicits reliable and significant sex differences (Buss et al., 1992, 1996; Buunk et al., 1996) so the sexes were distinguished here as well. Whether the jealousy cues were present or absent had no effect on men's attributions (89% chose "passionate sex" in both conditions), but women were significantly more likely to choose "passionate sex" for what would distress Brad in the jealousy condition (jealousy cues present: 93%, absent: 68%; $X^2 = 5.3$, $P = .02$). This result is consistent with the idea that men may be more sensitive than women to the costs of sexual infidelity of a partner (hypothesis 6.iii).

The effects of the "jealousy-inducing" cues in forming a coherent impression of Brad and his likely actions may have been affected by subjects' simultaneous impressions of each person's attractiveness. Overall, viewers rated Julie's attractiveness 4.4 ± 1.4 on a scale from 1 to 7 where 1 was defined as "not very attractive" and 7 as "very attractive." Brad's attractiveness was rated as 3.1 ± 1.5 . Furthermore, viewers thought that Brad was more "in love with Julie" (4.7 ± 1.7) than Julie was "in love with Brad" (4.1 ± 1.5). There was a statistically significant reduction in viewers' estimates of Julie's love for Brad with the presence of jealousy cues ($F(1,289) = 17.1$, $P < .001$).

We had anticipated that the jealousy cues would evoke thoughts that Julie would be more likely to "fool around on Brad" if the experimental manipulations were effective, and this proved to be so (Table 4: $P = .02$). Moreover, when aggressivity cues were present but jealousy cues were absent, the estimates of Brad's likelihood of being "jealous and not wanting Julie to talk to other men" were significantly correlated with viewers' perceptions of Julie's likelihood of "fooling around" on Brad ($r = +.47$, $P = .03$). This association was not statistically significant in the other three experimental combinations of the presence and absence of jealousy and aggressivity cues. It would seem that in the absence of our textual "jealousy-inducing" cues the variation in viewers' perceptions about a girlfriend fooling around affected their estimates of his jealousy.

When all three story sets are included in a multivariate full factorial analysis assessing aggressivity and jealousy cues, sex of viewer, and story set, three of the four autonomy-limiting measures and the average of these four items were significantly affected by the presence of aggressivity cues (Table 5). All four of these measures and the average of them were significantly affected by jealousy cues. The version of the story significantly affected three of the four measures as well as the autonomy-limiting index. Contrasting the second and third story sets with the first set in which the girlfriend is the source of the jealousy cues and the object of these autonomy-limiting items indicates that the ratings for set 1 were significantly higher than the ratings for sets 2 or 3 for limiting contact with friends (set 1: 4.5 ± 1.6 , set 2: 2.9 ± 1.6 , set 3: 3.7 ± 1.8 ; $1 > 2$, $P < .001$, $1 > 3$, $P < .001$), knowing the woman's whereabouts at all times (set 1: 4.8 ± 1.6 , set 2: 3.2 ± 1.7 , set 3: 4.0 ± 1.8 ; $1 > 2$, $P = .001$, $1 > 3$, $P < .001$), and the autonomy-limiting index (set 1: 3.9 ± 1.4 , set 2: 2.9 ± 1.3 , set 3: 3.5 ± 1.4 ; $1 > 2$, $P = .015$, $1 > 3$, $P < .001$). Derogating and calling the woman names was rated more likely where the girlfriend was the source of jealousy cues and she was the target of this item (set 1) than in set 2 where the sister

Table 5. Average ratings by men and women about the likely proprietary behavior of the focal man in relation to cues of aggressivity and jealousy, and story set

Item	Aggression Cues						Present					
	Jealousy Cues			Absent			Absent			Present		
	1	2	3	1	2	3	1	2	3	1	2	3
A9	4.3±1.4	2.8±1.8	2.9±2.0	4.2±1.6	2.9±1.3	4.4±1.8	4.5±1.5	2.6±1.5	3.3±1.7	5.3±1.6	3.3±1.7	4.0±1.4
A10	4.3±1.5	3.0±1.8	3.0±2.0	4.8±1.4	2.8±1.5	4.6±1.7	4.6±1.7	2.8±1.7	3.8±1.4	5.6±1.5	3.8±1.4	4.4±1.7
A11	2.8±1.5	1.9±0.9	2.0±1.3	3.1±1.3	2.4±1.5	3.4±1.6	3.4±1.6	2.7±1.3	3.2±1.5	4.2±1.9	3.0±1.7	3.7±1.3
A12	2.4±1.5	2.3±1.2	2.6±1.5	2.8±1.3	2.9±1.3	2.8±1.5	3.3±1.9	2.5±1.2	3.1±1.5	3.8±1.8	3.6±1.7	3.9±1.5
Ai (4)	3.4±1.3	2.5±1.1	2.6±1.4	3.7±1.2	2.8±1.2	3.8±1.4	3.9±1.4	2.6±1.2	3.3±1.2	4.7±1.5	3.4±1.5	4.0±1.1
A14	3.5±1.8	2.9±1.8	2.8±1.5	3.5±1.5	2.8±1.4	3.1±1.7	3.6±1.6	2.6±1.4	3.2±1.5	4.1±1.9	3.8±2.2	3.7±1.6
A15	3.9±1.7	3.1±1.4	3.1±1.4	4.7±1.5	4.4±1.8	3.8±1.1	4.0±1.7	3.2±1.3	3.4±1.1	4.8±1.6	4.8±1.9	3.6±1.4
A20	4.3±1.3	2.9±1.4	3.0±1.5	4.1±1.0	3.2±1.2	4.6±1.0	3.3±1.7	3.2±1.1	3.3±1.3	3.7±1.7	3.3±1.6	4.4±1.4

Rating scale: 1 = "not very likely" to 7 = "very likely."

Summary of significant main effects and interactions

df	A9	A10	A11	A12	Ai(4)	A14	A15	A20
Aggression	1,277	F=4.6, P=.032	F=19.9, P<.001	F=17.4, P<.001	F=12.3, P<.001	F=4.7, P=.031	F=24.9, P<.001	F=9.9, P=.002
Jealousy	1,277	F=9.7, P=.002	F=14.1, P<.001	F=14.7, P<.001	F=18.5, P<.001	F=3.9, P=.049	F=7.4, P=.001	F=7.7, P=.001
Set	2,277	F=24.6, P<.001	F=7.5, P=.001	F=7.5, P=.001	F=16.7, P<.001		F=2.9, P=.059	F=5.9, P=.003
Jeal × Set	2,277							
Ag × Sex	1,277		F=4.7, P=.031					F=6.4, P=.012
Jeal × Sex	1,277							
Ag × Jeal × Set	2,277	F=3.1, P=.046		F=3.6, P=.028				
Jeal × Set × Sex	2,277							

was the target of the item (set 1: 3.3 ± 1.6 , set 2: 2.5 ± 1.4 ; $1 > 2$, $P < .001$). It is not surprising that estimates of the likelihood of the girlfriend fooling around were not different for sets 1 and 2 because both sets portrayed her as the source of the jealousy-inducing cues, but set 1 ratings were higher than set 3 where the sister was the source of jealousy cues (set 1: 4.4 ± 1.6 , set 3: 3.5 ± 1.3 ; $1 > 3$, $P < .001$). Estimates of the likelihood of the sister fooling around on her boyfriend were higher in set 3, where she was the source of the jealousy-inducing cues, than in set 2 where the girlfriend was (set 3: 3.9 ± 1.5 , set 2: 3.1 ± 1.4 ; $3 > 1$, $P = .001$). Interestingly, viewers' estimates of how much the girlfriend was in love with Brad were affected by the presence of the jealousy cues (jealousy cues Present: 4.5 ± 1.4 , Absent: 3.8 ± 1.5 ; $F_{(1,277)} = 17.2$, $P < .001$). Their average ratings were affected by the presence of the jealousy cues only in the first two stories where the girlfriend was the source of the jealousy. Moreover, these attributions about how much the girlfriend loved Brad were directionally consistent with the attributions about how likely she was to fool around on Brad.

The hypothesis we were testing with the different versions of the story with respect to the relationship-specificity (people's implicit theories about the social dynamics expected in romantic relationships versus sibling relationships) of the combined impact of aggressivity and jealousy cues (hypothesis 4) requires a three-way interaction of aggressivity and jealousy cues with story set. This three-way interaction was statistically significant ($P = .046$, two-tailed) for "Brad would insist on knowing who Julie/Amy is with and where she is at all times" (Table 5). In the absence of jealousy cues, this item was not significantly correlated with variations in viewers' attributions about the likelihood of his sister fooling around on her boyfriend for set 3 (questions pertained to the sister) when aggressivity cues were present as was the case when his girlfriend was the source of the jealousy cues and the question pertained to her (set 1; see above). This result suggests that some viewers have

a low threshold for inferring the likelihood of a girlfriend inspiring a man's vigilance in the absence of very compelling evidence but it seems less likely that people have a similarly low threshold for vigilance with respect to a sister.

The full factorial analysis on all three story sets indicated there were no statistically significant two-way interaction effects of aggressivity and jealousy cues, nor either of these with version of the story, on the autonomy-limiting items. There was a significant two-way interaction of story set and jealousy cues on people's estimates of the likelihood of the sister fooling around on her boyfriend ($P = .003$, Table 5): in story set 3 the source of the jealousy-inducing cues was the sister, and not surprisingly, viewers' estimates of the likelihood of her fooling around on her boyfriend were much higher than in the other two story sets. This two-way interaction just missed statistical significance for estimates of the girlfriend fooling around on Brad ($P = .059$, two-tailed): in story sets 1 and 2 where the girlfriend was the source of the jealousy-inducing cues there were higher estimates of the girlfriend fooling around on Brad than in the third story.

Sex of viewer had no statistically significant impacts as a main effect. There was a significant two-way interaction ($P = .031$, Table 5) for sex of viewer and aggressivity cues for Brad derogating the woman: when aggressivity cues were present the ratings were similar for men and women viewers (3.3 ± 1.5 and 3.4 ± 1.7 , respectively) but when aggressivity cues were absent men had higher ratings than women (2.9 ± 1.5 and 2.4 ± 1.3 , respectively). It is as if men are more inclined than women to expect a man to derogate a woman in the absence of situational or temperament cues. This result is contrary to our expectation that women would be more sensitive than men to men's mistreatment of women (hypothesis 6.i).

There was also a significant two-way interaction for sex of viewer and jealousy cues ($P = .012$, Table 5) with respect to the sister's "fidelity": When jealousy cues were present, men and women were similar in

their ratings of the likelihood of the sister fooling around on her boyfriend (3.8 ± 1.3 and 4.0 ± 1.6 , respectively), but when jealousy cues were absent men had higher ratings than women (3.7 ± 1.3 and 3.0 ± 1.5 , respectively), again supporting the idea that men have a lower threshold for vigilance than women in the absence of situational evidence.

There was a significant three-way interaction ($P = .028$, Table 5) of sex and jealousy cues and story set with respect to knowing about or having access to household income. In story set 2, where this question was directed at the sister, men and women were alike in the change in their ratings when jealousy cues from the girlfriend were added (difference of 1.0). In story set 3, men and women were also similar in the change in their ratings when jealousy cues from the sister were added (difference of 0.8 for men and 0.4 for women). However, in story set 1, the sexes differed markedly in the changes in their estimates when jealousy cues from the girlfriend were added (difference of -0.4 for men and 1.1 for women). Perhaps, women are more sensitive than men about the contexts in which men are likely to vary in their inclination to control family income.

Effects of viewers' own experiences with love, sex and abuse

We asked everyone, "Have you ever experienced or witnessed any physical abuse in a marital or romantic relationship?" to see if such experiences might alter viewers' perceptions or attributions of risk of abuse or threats by Brad toward Julie as well as his "autonomy-limiting" behaviors. Thirty-two percent of all viewers reported having experienced or witnessed physical abuse. In a multivariate full-factorial GLM analysis, assessing the main effects of aggressivity and jealousy cues, sex, and version of the story with reports of having experienced or witnessed abuse (as well as having had a valued romantic relationship and sexual relationship; see below) as covariates there were only suggestive effects of the abuse

question. Estimates on the likelihood of Brad limiting the woman's contacts with friends ($P = .056$, two-tailed) and insisting on knowing the woman's whereabouts ($P = .07$, two-tailed) were higher if the viewer had ever experienced or witnessed abuse, but they were not statistically significant.

We also asked people about romantic and sexual relationships that they had valued. Sixty-two percent of participants said yes in response to "Have you ever been in a romantic relationship where you were very much in love?" and 48% of people answered yes to "Have you ever been in a sexual relationship that you valued greatly?" Involvement in a sexual relationship had no significant impacts on any of the scaled dependent measures. Involvement in a romantic relationship had a statistically significant impact on ratings about Brad insisting on knowing the whereabouts of the woman at all times ($P = .015$): prior involvement elevated their estimates (Yes: 4.1 ± 1.8 ; No: 3.8 ± 1.9).

When the abuse, romantic and sexual experience questions were added as covariates in the multivariate analyses described above with respect to the effects of the aggressivity and jealousy cues on the ratings about the man's aggression or his controlling behaviors and inclinations, none of the statistical outcomes were altered.

Discussion

The experimental alterations of a photostory about a man, his girlfriend, and his sister elicited socially coherent attributions about the likely behavior and feelings of the parties. Aggressivity cues were effective in eliciting viewers' attributions about the likelihood of "Brad" being threatening or abusive toward his girlfriend and acting aggressively toward another man who provoked him. It is not surprising that viewers assumed Brad would act aggressively toward another man after having just learned that he was in a heated argument with a man. However, there was no hint in the story that Brad might be threatening or abusive to his girlfriend, and yet viewers thought he was likely to behave in such a

manner. This raises the question of whether viewers have an intuitive understanding of various aspects of the dynamics of coercive control in romantic relationships.

Aggressivity cues elevated viewers' estimates of the likelihood of Brad engaging in a number of behaviors that might best be described as controlling or autonomy-limiting actions directed toward his girlfriend. In the aggressivity condition viewers expected him to call his girlfriend names, to keep her ignorant of family income, to monitor her whereabouts and limit her social network. These same items were found to be associated with past violence by husbands against wives in the 1993 Canadian national survey of violence against women (Wilson et al., 1995; Wilson & Daly, 1996). In that survey, it was wives making attributions about their husbands' behavior. Reports by persons other than the victim with respect to fatal and near-fatal assaults identify actual or suspected infidelity or a woman's decision to terminate the relationship as prominent motivational contexts (e.g., Chimbos, 1978; Daly & Wilson, 1988; Dell, 1984; Dobash & Dobash, 1979, 1998; Dutton, 1998; Guttmacher, 1955; Mahoney, 1991), as well as less specific breaches of domestic duties that bespeak the man's attempts at coercive control (e.g., Browne, 1987; Dobash & Dobash, 1979, 1998; Figueredo & McCloskey, 1993). Because sexual jealousy and possessiveness characterize many men who exhibit controlling and abusive behavior toward the sexual partner, and because such behavior is an effective means of controlling someone in general (Clutton-Brock & Parker, 1995a, 1995b), it follows that threats and abuse are very likely to be effective in deterring a woman from leaving temporarily or permanently (Dobash & Dobash, 1998; Wilson & Daly, 1993a).

The main goal of this study was not just to demonstrate that certain information about a man would elicit attributions about his likelihood of acting in an aggressive or abusive manner, but to see if information about his girlfriend would elicit more specific attributions about jealous controlling actions. Information that the girlfriend Julie

had worked as a waitress in a topless bar in a previous summer and that she had seemed "interested" in the man in the bar elicited significantly higher expectations about the likelihood of her "fooling around" on her boyfriend, but "being jealous" missed our alpha level ($P = .057$, two-tailed). These results confirm that the cues were effective.

Because Julie was deemed more attractive than Brad, viewers may have surmised that Brad may be at some risk of losing her to another man more similar to her in relative attractiveness even though there was no picture of the man at the bar or any other man in the photo-story. Couples tend to assort on relative attractiveness among many other attributes in common (e.g., Thiessen, 1999). In the presence of aggression cues but in the absence of jealousy, viewers' ratings of the likelihood of "her fooling around" were significantly correlated with their estimates of his jealousy.

The choice of cues in the present study was based on the findings from research on conflict and violence in dating and marital relationships. This is a domain of social affairs that is relevant and potentially costly to people. This kind of social situation is likely to reveal complex functionally inter-related information processing even if violent outcomes are relatively rare. Assessment of the risk of harm by the aggressive acts of others is a perennial problem and a domain in which we may expect sophisticated psychological adaptations to respond to information on the costs of certain actions (e.g., Oliveira, McGregor, & Latruffe, 1997). Moreover, sexual infidelity imposes asymmetrical costs on men versus women (at least in the absence of reliable contraception, as must have been the case throughout our evolutionary history). Masculine psychologies associated with sexual and intimate relationships have been designed by sexual selection. The two relevant adaptive contexts (Wilson & Daly, 1992) resulting in psychological processes enabling contingently responsive modulation of sexually proprietary behavior in men are (1) cues of risk of being cuckolded (emotional and material investment in another man's child),

and (2) cues of the intensity of intrasexual competition (variance in reproductive success or proxies thereof).

We assume that people's perceptions and inferences exhibit sensitivity to evidence of the likelihood of someone else behaving in a manner that predicts costly outcomes for self or others. In such cases, people would attend more to information that reliably cues costly outcomes. For example, in a memory task people were more likely to correctly identify persons who had been previously labeled by their potential for harming others, in comparison to other kinds of labels (Mealey, Daood, & Krage, 1996; see also Broadbent & Broadbent, 1988; Constans & Mathews, 1993; Lundh & Öst, 1996; Mogg & Bradley, 1999). For this reason, we thought women might be more likely than men to infer that Brad would be more threatening or abusive to his girlfriend (hypothesis 6.i), but this was not the case. Our specific reason for expecting such a sex difference derived from the fact that women are at greater risk of being assaulted and injured by a boyfriend than the converse (Dobash, Dobash, Wilson, & Daly, 1992). We also hypothesized (6.ii) that men would be more likely than women to assume that a man would act aggressively toward another man, and this was the case when aggressivity cues were absent. The sexes rated the risks similarly when aggressivity cues were evident. We also thought that men might be more inclined to infer that the girlfriend would be likely to "fool around" on Brad (hypothesis 6.iii), and in the absence of textual "jealousy-inducing" cues men's estimates were higher than those of women. It would seem that the men had a lower threshold for this presumption in the absence of explicit evidence. Our specific reasoning for this prediction derives from the sexual asymmetry in the costs of sexual infidelity of one's marital or romantic partner; only men can mistakenly invest in a rival's offspring. Because men and women were asked about Brad and his girlfriend and not about themselves, it is not too surprising that there were few sex differences in ratings. Men

and women probably have fairly extensive knowledge about how aggressive, jealous men are likely to feel and behave.

When forming first impressions of others, especially with limited information as was the case in the photo-story, people tend to construct a socially coherent narrative (Read & Miller, 1993). People also understand the underlying social dynamics of classic dramas even when minimal information is provided (Cooke, 1995). And of course, it was the goal of the present study to see if we could experimentally identify important elements of peoples' implicit mental models about certain aspects of the social dynamics in romantic relationships. Much of the research addressing systematic biases or inference rules in making attributions about the behavior, tastes, or attitudes of others has addressed personological factors and information packaging (e.g., Bell-Dolan & Anderson, 1999; Darley & Cooper, 1998); little has focused on the relationship-specificity of mental models of social interactions (Wilson & Daly, 1997).

In the first story set, information about the girlfriend was the source of any inferences about Brad's being jealous, and so we assumed that attributions about his potential for controlling and threatening behavior would not generalize to someone else, such as his sister. Hence, the control condition (story set 2) was the same as set 1 except for four questions about the man's behavior that were altered so they applied to his sister rather than his girlfriend; everything else about the photo-story remained the same including information about the girlfriend and the sister. Viewers' ratings indicated that they assumed the man would behave in a controlling and threatening manner toward his girlfriend, and did not assume he would behave similarly toward his sister.

Because our study asked whether people are sensitive to cues of men's sexual jealousy and possessiveness and accompanying risk of violence against a romantic partner, we assumed that the viewers' mental model appropriate to a story of an aggressive proprietary man and his girlfriend would be

limited to the romantic relationship. We hypothesized that the same mental model would not be "consulted" for another kind of relationship such as that of brother and sister even if the sister exhibited the kind of behavior that would inspire jealousy attributions for a sexual relationship. To test whether viewers would make attributions about controlling and abusive behavior toward a sister if she was alleged to have polyandrous inclinations, we prepared a control photo-story (set 3) where the sister was the "topless waitress" and seemed interested in some guy who had been "hitting on her" on a recent visit to a nightclub. This experimental manipulation was effective in elevating viewers' estimates of the likelihood of the sister "fooling around on her boyfriend." There was a significant story set \times jealousy interaction effect for this measure: When the sister was the source of cues of polyandrous inclinations, viewers rated the sister as more likely to fool around on her boyfriend but not when the girlfriend was identified as the source of jealousy cues. Similarly, when the girlfriend was the jealousy source she was rated as more likely to fool around on Brad but not when the sister was depicted as polyandrously inclined.

There were statistically significant effects of story set on derogation of the woman, limiting the woman's contact with friends, and insisting on knowing her whereabouts at all times. Moreover, the story about the girlfriend (set 1) elicited significantly higher ratings than sets 2 and 3 for limiting contacts with friends, insisting on knowing her whereabouts, and the autonomy-limiting index. Story set 1 also elicited higher ratings for the likelihood of Brad being "threatening or abusive" toward the woman than story sets 2 and 3. These statistically significant effects of story set on proprietary and coercive behavior supports the notion that people consult different mental models for girlfriends and sisters.

Linking the cues of polyandrous inclinations to the sister did elevate viewers' perceptions of the likelihood of the sister fooling around on her boyfriend. If this study had been conducted with people from

"honor" cultures we may have found that these cues would have elicited more attributions of the brother's proprietary and controlling behavior of the sister. "Honor" societies (e.g., Peristiany, 1965) are characterized by a suite of traits associated with men defending the chaste and virtuous reputation of daughters and sisters as well as their wives. It is deemed acceptable to protect these women from unwanted sexual attention and to use violence against any man who has sullied a woman's reputation (e.g., Bresse, 1989; Chimbos, 1978, 1993; Cohen, Nisbett, Bowdle, & Schwarz, 1996; Nisbett & Cohen, 1996). In certain circumstances, it is also deemed acceptable to "punish" a woman for dishonoring her family (Kressel, 1981; Safilios-Rothschild, 1969). The men's sentiments and inclinations to protect their female relatives other than wives may be derived, at least in part, from a concern for the best interests of the women, but could also be derived from a concern about familial interests other than those of the women (e.g., Dickemann, 1981). In such cultures one might very well expect that people would assume that brothers might be as vigilant and controlling with respect to their sisters as with respect to their girlfriends and wives. Honor cultures are historically associated with certain geographic regions of the world (e.g., Mediterranean), but more importantly wherever a man must rely on his reputation for not tolerating insult, trespass, damage, or expropriation of his property, or his family, to protect his interests (Nisbett & Cohen, 1996). A cultural proscription valuing a woman's unsullied reputation is a common correlate of these honor cultures as is male sexual proprietariness (Daly & Wilson, 1988; Wilson & Daly, 1992).

It's unlikely that viewers of the photo-story would assume a man would behave similarly toward any woman who revealed polyandrous inclinations; presumably, a man would be expected to exhibit possessive and controlling behavior only toward those women with whom he would have appropriate entitlement. And whether a man has been imbued with the values and sentiments of an "honor culture" tradition or

not, violently sexually proprietary inclinations are more likely focussed on one's wife or girlfriend than on one's daughter or sister because only the wife and girlfriend are sexual relationships. If those features of male sexual psychology concerned with sexual monopolization are the outcome of selection pressures arising in the context of male-male competition for mates and risk of unwitting investment in another man's offspring, then the fitness costs for men, on average, would have been greater in our evo-

lutionary past for the equivalent behavior of wives than for sisters or daughters.

This study was limited to girlfriends and sisters in elucidating relationship-specificities of people's mental models about men's jealous, controlling, and abusive behavior, but the photo-story format is a very promising method to use in extracting the kinds of cues and prioritization of information people implicitly utilize in making inferences about the behavior of others in various social contexts.

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