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# Empathic inaccuracy in husband to wife aggression: The overattribution bias

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## Abstract

Is husbands' wife-directed aggression related to unusual accuracy (hypersensitivity) or to bias (being likely to inappropriately infer criticism or rejection) when they infer women's critical/rejecting thoughts and feelings? Results of a study using the empathic accuracy paradigm and signal detection analyses revealed that the greater the husbands' bias to overattribute criticism and rejection to the thoughts and feelings of women they had never met, the more the husbands reported behaving in a verbally aggressive way toward their own wives. This finding discourages the conclusion that maritally aggressive men are uniquely provoked by their own female partners, and instead suggests that they are biased to overattribute criticism and rejection to women in general. The strength of this overattribution bias correlated negatively with the men's accuracy in inferring the actual content of the women's thoughts and feelings. On the other hand, the husbands' thematic accuracy (their ability to accurately specify which of the stimulus women's thoughts and feelings really were critical or rejecting) was associated with their self-reported marital satisfaction.

Conventional wisdom holds that verbally and physically aggressive husbands are insensitive bullies who have little insight into their female partners' thoughts and feelings. Is this true? Or could it be that, at least with respect to their inferences about women's critical and rejecting thoughts and feelings, maritally aggressive men are actually more sensitive and more accurate than nonabusive men are?

The present study was designed to test between these two opposing views—the conventional view that husbands' wife-directed aggression is related to bias and inaccuracy in inferring women's thoughts and feelings and the alternative view that such aggression is related to hypersensitivity and hyperaccuracy with respect to the critical/rejecting thoughts and feelings that women have about their male partners.

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## *The argument for bias*

The intuitive stance to take on this issue might be that the more maritally aggressive husbands are *biased* to infer that women are harboring critical or rejecting thoughts or feelings. In other words, more aggressive men are less empathically accurate than nonaggressive men because they inappropriately infer that women are having critical or rejecting thoughts and feelings even when they are not. Nelson (1997) has made an argument that is related to this point of view. She suggests that abusive men lack empathy and that this lack of understanding for their partners' thoughts

and feelings enables the abuse. Were these men able to infer the actual thoughts and feelings of their partner/victim, they would presumably understand the pain that their aggressive behavior causes and exercise more restraint.

Empirical data can be found that are consistent with these arguments. For example, Richardson, Hammock, Smith, Gardner, and Signo (1994) reported that empathy or perspective taking was related to the inhibition of aggression in both men and women. In a similar vein, Margolin (1988) reported that, in relationships with an aggressive male, both partners reported less emotional and intellectual intimacy, suggesting that such couples do not understand each other as well as other couples do. Taken together, these and similar findings (Anglin & Holtzworth-Munroe, 1997; Christopher, Madura, & Weaver, 1993; Davis & Oathout, 1987; Eckhardt, Barbour, & Davidson, 1998; Eckhardt & Kassino, 1998; Holtzworth-Munroe & Hutchinson, 1993; Holtzworth-Munroe & Smutzler, 1996; Richardson, Hammock, Smith, Gardner, & Signo, 1994) suggest that men who aggress against their female partners have impaired empathic accuracy with respect to their partners' thoughts and feelings (for a related theoretical perspective, see Holtzworth-Munroe, 1992). Although there is not yet any clear consensus about the possible reason(s) for this impairment, a parsimonious explanation for both the men's impaired understanding and their aggressive outbursts is a pervasive bias to "find" criticism and rejection in women's thoughts and feelings even when these sentiments are not present.

#### *The argument for accuracy or hyperaccuracy*

On the other hand, one can also make a plausible argument that when aggressive husbands find criticism and rejection in women's thoughts and feelings, it is because such sentiments are really there. Theoretically, there are at least two reasons why more aggressive men might be accurate in their inferences about women's critical and rejecting thoughts and feelings, even if they are less than accurate in their inferences about other types of thoughts and feelings that women

experience. First, because abusive men tend to relate to women in an intimidating, overbearing, or even hostile way (Barnett, Fagan, & Booker, 1991; Boyle & Vivian, 1996; Campbell, 1993; Dutton, 1995, 1998; Gelles, 1977; Jacobson & Gottman, 1998; Murphy & Hoover, 1999; Paymar, 1993; Thompson, Saltzman, & Bibel, 1999; Walker, 1979, 1984), their behavior could plausibly evoke a higher level of critical/rejecting thoughts and feelings in these women than would the behavior of less aggressive men. From this standpoint, the greater attribution of critical and rejecting thought/feeling content by more aggressive men could represent an accurate perception, not a biased one. Second, because husbands who are more prone to aggress against their wives may be exceptionally motivated to detect women's critical and rejecting thoughts and feelings as a potential threat to the men's sense of control, they may be unusually accurate in identifying at least this category of thought/feeling content, even if their accuracy does not extend to other types of thought or feelings.

It is important to note that the process implied by the first reason would result in more aggressive men being no less (but no more) accurate than less aggressive men in inferring women's critical/rejecting thoughts and feelings. In contrast, the process implied by the second reason could result in more aggressive men being hypervigilant and hyperaccurate with respect to such thoughts and feelings.

As we have already noted, there is considerable evidence that more aggressive husbands do indeed act in ways that might stimulate women to harbor more critical and rejecting thoughts and feelings. Is there any evidence, however, that such men are more motivated than other men to detect such thoughts and feelings when they really do occur? The answer appears to be yes. Although the available evidence is not conclusive, it lends at least some credence to the notion that more aggressive husbands are hypervigilant for signs of women's critical and rejecting thoughts and feelings—a hypervigilance that could possibly result in greater empathic accuracy for thoughts and feelings of this type.

Men who physically aggress against their partners appear to fear, anticipate, and be hypersensitive to the possibility of abandonment or rejection by their significant other (Barnard, Vera, Vera, & Newman, 1982; Deschner, 1984; Downey, Feldman, & Ayduk, 2000; Dutton, 1995, 1998; Dutton & Brown-ing, 1988; Dutton, Saunders, Starzomski, & Bartholomew, 1994; Jacobson & Gottman, 1998; Nelson, 1997; Walker 1979). Their "rejection sensitivity" (Downey & Feldman, 1996), combined with their anxious-insecure attachment style, appears to be strongly predictive of men's physical aggression against their intimate female partners (Downey et al., 2000). And, interestingly, Simpson, Ickes, and Grich (1999) recently reported evidence of a link between perceivers' anxious-insecure attachment style and the accuracy with which they inferred a partner's thoughts and feelings in a relationship-threatening situation.

#### *Additional considerations*

So far we have presented an overly simplified comparison of the alternatives, suggesting that more aggressive husbands may either be exceptionally biased or exceptionally accurate in their inferences about women's critical/rejecting thoughts and feelings. Some other possibilities deserve consideration, however. These possibilities require that we make a distinction between the men's thematic accuracy (how well they can distinguish the women's actual critical/rejecting thoughts and feelings from their noncritical/nonrejecting ones) and the men's empathic (i.e., content) accuracy (how well they can infer the *specific content* of the women's thoughts and feelings).

With regard to this distinction between thematic accuracy and content accuracy, a number of different outcomes could occur, depending on whether more aggressive men are relatively accurate or relatively biased in their inferences about women's critical/rejecting thoughts and feelings. If more aggressive husbands are more accurate, they could (a) be more accurate both in distinguishing the critical/rejecting (CR) thoughts and feelings

from the noncritical/nonrejecting (NCR) ones and in inferring the specific content of both types of thoughts and feelings (i.e., display both thematic and empathic accuracy). Alternatively, they may be (b) more accurate in distinguishing the CR from the NCR thoughts and feelings but not in inferring the specific content of these thoughts and feelings (i.e., display thematic accuracy but not empathic accuracy). On the other hand, if more aggressive men are relatively biased, such bias should impair both their thematic accuracy and their empathic accuracy, because any impairment of one type of accuracy should logically result in a corresponding impairment of the other.

To help us distinguish among these alternative outcomes in the present study, we applied the theory of signal detection (TSD; Green & Swets, 1974, Baird & Noma, 1978) to our thematic accuracy data. TSD, which has been widely applied outside its original context, can be used with data that can be arrayed in the  $2 \times 2$  fashion of Table 1. There are a number of different measures that use H, FA, and HFA to compute indices of sensitivity and bias. One popular measure of sensitivity<sup>1</sup> is  $d'$  and a popular measure of bias<sup>2</sup> is  $B''_D$ .

The crucial point is that the TSD measures derived in this study can be used to answer the question of whether aggressive husbands can more accurately distinguish women's critical/rejecting thoughts and feelings from their noncritical/nonrejecting ones, or whether these men display a general bias to overattribute critical/rejecting thoughts and feelings to women. Specifically, to the extent that an overattribution bias exists, more aggressive men should incorrectly infer critical or rejecting thoughts or feelings where there are none, and should therefore display a greater bias for categorizing the

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1. Sensitivity ( $d'$ ) =  $z(H) - z(FA)$ , where H = Hit rate and FA = False alarm rate (see Baird & Noma, 1978; Green & Swets, 1966).
  2. Bias ( $B''_D$ ) =  $[(1 - H)(1 - FA) - HFA] / [(1 - H)(1 - FA) + HFA]$ , where HFA = hit and false alarm rate (see Donaldson, 1992).

**Table 1.** *A signal detection view of the thematic accuracy measure*

	Reality	
	Criticism/rejection	No criticism/rejection
Judgment or perception		
Criticism/rejection	Hit	Miss
No criticism/rejection	False alarm	Correct rejection

Notes. Hit rate (H) = (# Hits) / (# Hits + # Misses).

False alarm rate (FA) = (# False alarms) / (# False alarms + # Correct rejections).

Hit and false alarm rate (HFA) = (# Hits + # False alarms) / (# Hits + # False alarms + # Misses + # Correct rejections).

women's thoughts and feelings as critical or rejecting.

### *The present study*

The present study was primarily exploratory in nature and used a correlational design to determine whether more aggressive men's hypervigilance for women's criticism or rejection does, in fact, reflect a perceptual bias or whether it instead reflects exceptionally accurate discrimination between women's critical/rejecting thoughts and feelings and their noncritical/nonrejecting ones. To test between these alternatives, we used as our stimulus materials standardized videotapes of three women, previously unknown to the participants, who discussed problems in their current or former marriage with the same male therapist. This procedure enabled us to draw valid correlational inferences across the entire set of participants because it avoided the problem, pointed out by Holtzworth-Munroe (1992), of confounding unique perceivers with unique targets (i.e., studying each man's responses to his own female partner).

The use of standardized stimulus tapes offered other advantages as well. First, by using standardized tapes, we could ensure that all of the participants experienced the same base rates of criticism and rejection in the thoughts and feelings reported by the three female targets. From an interpretive standpoint, this feature of the design is of major importance. Because dyadic, projective, or questionnaire measures of attribution style do not attempt to control the relevant

base rates, any evidence of abusive men's hyperreactivity to criticism and rejection on such measures might mistakenly be interpreted as a bias whenever the researcher ignores the plausible alternative interpretation that abusive men are really accurate in their perceptions because they elicit more actual criticism and rejection in their female partners' thoughts and feelings. Second, by using standardized stimulus tapes that depicted multiple female targets, we could potentially determine whether any exceptional bias or sensitivity displayed by the more aggressive husbands in our study was relatively general, as opposed to being specific to their own wives.

An important empirical precedent for the present investigation was a study by Dutton and Browning (1988). They found that, relative to nonabusive men, physically assaultive husbands reported greater anger and perceived more relationship threat when they viewed a standard videotape of a staged relationship conflict over the female partner's need for greater independence, even though the participants did not know either the male or female actors. These findings suggest that the hypervigilance and reactivity of physically aggressive husbands may indeed extend beyond their own relationships and characterize their reactions to women in general.

In the present study, we assessed two kinds of accuracy in thought/feeling inference: thematic accuracy and empathic accuracy. Thematic accuracy is a measure of the men's accuracy in identifying which of the women's thoughts and feelings really were critical/

rejecting versus those that were noncritical/nonrejecting. Consistent with the conventions of signal detection analyses, we will also use the term *discrimination* as a synonym for thematic accuracy. In contrast, empathic accuracy is a measure of the men's accuracy in inferring the specific content of each of the women's thoughts and feelings. Because both measures were informative about the processes of interest in the present investigation, we take care to distinguish them in the sections to follow.

## Method

### Participants

The participants were 86 married men<sup>3</sup> recruited from the Arlington, Texas community through local newspaper advertisements offering \$30 for their participation in a study of marital conflict. These men ranged in age from 19 to 72 years old ( $M = 42.0$ ,  $SD = 11.8$ ). At the time of testing they had been married from three months to 43 years ( $M = 12.6$ ,  $SD = 10.4$ ) and had from zero to six children ( $M = 1.81$ ,  $SD = 1.37$ ). Of the 86 participants, 57 were White, 15 African American, 11 Hispanic, 1 Asian, and 2 Other. Sixteen participants reported being in an ethnically mixed marriage; the remainder reported being married to women of the same racial or ethnic background.

The participants responded by telephone or by e-mail to the newspaper ads. When a potential participant first contacted the experimenter, he was given a brief description of the procedure and was invited to come to the Social Interaction Lab on campus to participate in the study in return for the \$30 subject payment. The experimenter then

asked whether the respondent was interested in participating and whether he would be willing to answer a few questions by phone. In only one instance did a respondent decline to continue. After agreeing to participate further, each respondent was asked to respond over the phone to each of the items on the Revised Dyadic Adjustment Scale (RDAS; Busby, Christensen, Crane, & Larson, 1995). These data were obtained to help verify that the respondent was indeed in a marriage or cohabitation relationship that was not entirely free of conflict. Following the completion of this measure, a convenient time was scheduled for each participant to come to the lab.

### Measures

In addition to obtaining the measures of empathic accuracy and bias to be described below, we asked each participant to complete a set of self-report measures. These included the Revised Dyadic Adjustment Scale, the Propensity for Abusiveness Scale (PAS; Dutton, 1995), the Conflict Tactics Scale (CTS; Straus, 1979), and the Marlowe-Crowne Social Desirability Scale (M-C 1[10], a measure of socially desirable response bias; Strahan and Gerbasi, 1972).

The RDAS (Busby et al., 1995) is a revised version of the dyadic adjustment scale (DAS; Spanier, 1976), and is also used to assess levels of relationship distress or satisfaction in the relationships of married or cohabiting couples. The RDAS is a shorter version of the DAS with good internal consistency ( $\alpha = .90$ ). Because we wanted to administer such a measure during our initial phone contact with the participants, we chose the shorter RDAS, with an average verbal administration time of about 5 min, over the longer DAS. As noted above, our telephone administration of the RDAS helped us to screen out nonmarried respondents.

The PAS was designed to nonreactively assess the partner-abuse propensity in men as a continuous index. Because the PAS was validated by Dutton (1995) against the Psychological Maltreatment of Women Inventory (Tolman, 1989) and correctly classified 82.2%

3. Eighty-nine participants were recruited; however, three participants appeared to be intoxicated when they appeared for the testing session. Two of these participants were unable to complete the procedure. The third did complete the procedure, but required about four hours—twice the normal time. All three were paid and thanked for their interest, but the data from these participants were excluded from any analyses reported here. Therefore, the results reported here reflect 86 participants.

men into either high or low abusiveness categories, the PAS appears to be a good measure of men's potential for marital aggression. It consists of 39 items drawn from five different scales that include a borderline personality measure, an anger inventory, a measure of childhood memories, some relationship style questions, and a measure of trauma symptoms. Because each of the 39 items exhibited a substantial correlation with abusiveness in a previous data collection, these items were combined by Dutton (1995) into a single self-report instrument with good internal reliability ( $\alpha = .92$ ).

The PAS is a non-face-valid measure composed of items drawn from several different scales. Although there is no information regarding the psychometric properties of the individual subscales, scores on items from a given subscale can offer insight into what characteristic(s) might account for husbands' aggression and thus guide future research. We were particularly interested in the portion of the PAS taken from the Relationship Styles Questionnaire (RSQ; Griffin & Bartholomew, 1992, as cited in Dutton, 1995), which assesses respondents' insecure attachment. Based on Dutton's (1995, 1998) model of an abusive personality and recent findings by Downey et al. (2000), this subscale should be especially related to hypervigilance for rejection.

The Conflict Tactics Scale—Form A (CTS; Straus, 1979) is a widely used index of conflict and violence within the family. It reliably measures self-reported aggression between marital partners (alphas  $> .80$ ; Avakame, 1998; Downey et al., 2000; Dutton, 1998; Ehrensaft & Vivian, 1999; Hanley & O'Neill, 1997; Ryan, 1998). According to Straus, responses on this measure can be aggregated to create three subscales: (a) reasoning tactics (CT-reasoning), (b) verbal aggression, and (c) physical aggression. For this study, we used the CTS to ask participants about their use of various tactics only for the year preceding their participation in the study.

We combined the verbal and the physical aggression scores into a single continuous measure of overall aggressiveness, which we call CT-aggression (the use of aggressive

tactics).<sup>4</sup> We created this combined measure to capture husband to wife aggression as a single continuous construct befitting the correlational design of this study. The reader should keep in mind, however, that this measure primarily reflects the men's *self-reported* verbal aggressiveness, as there were only 11 cases out of 86 in which the men reported any physical aggression toward their wives. Only 1 of these 11 men actually reported having hit his wife in the previous year. This was the most severe aggression reported by any participant.

There is a widely acknowledged problem with collecting such data only from husbands: the correlation between a husband's self-reported aggression and his wife's report of his aggression tends to be moderate at best (Browning & Dutton, 1986; Jouriles & O'Leary, 1985; Szinovacz, 1983). Although we had originally proposed to deal with this problem by using mailed surveys to collect complementary data from the female partners of the men in our study, the local granting agency that supported the project and the UTA Human Research Review Committee requested that we not do so in the event that it might result in any of these women being targeted for abuse. After accommodating this request, we decided that our best remaining alternative was to adjust the men's CT-aggression scores for socially desirable responding. Reports by Dutton and Hemphill (1992) and by Tolman (1989) suggest that men tend to underreport both emotional and physical abuse in relation to their scores on social desirable response measures. Therefore, using a computational method proposed by Saunders (1991), we adjusted participants'

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4. A single factor clearly emerged from a component analysis of the CT-Aggression items (eigenvalue 2.94), with all items loading greater than .30. The next factor accounted for about half as much variance (eigenvalue 1.66) and loaded heavily only on the items that clearly represent physical aggression. The second eigenvalue can be most parsimoniously explained as an artifact of item difficulty or reactivity and not an indication of separate factors. These results clearly support our choice to use the combined verbal and physical aggression scores as a measure of overall wife-directed aggression (CT-aggression; items *e* through *n* in Straus, 1979).

CT-aggression scores by using their scores on a shortened version of the Marlowe-Crowne measure of socially desirable responding (M-C 1[10]; Strahan & Gerbasi, 1972).

### *Stimulus materials*

The stimulus materials included an instructional videotape that explained the procedure and three stimulus videotapes. The three stimulus videotapes were edited versions of tapes originally developed by Marangoni, Garcia, Ickes, and Teng (1995). Each videotape depicts a different female client participating in a simulated individual psychotherapy session with a the same male therapist. The three female volunteers were White, college-educated, and from middle- to upper-middle-class backgrounds. They ranged in age from 24 to 32 years old. Each client had previously consented in writing to have her session videotaped and to permit the videotape to be used as stimulus material in subsequent research.

Although the therapy sessions were simulated with respect to being videotaped for use in subsequent research, they were genuine in nearly every other respect. Each of the women came prepared to discuss personal issues that were of real concern to them. The sessions were videotaped "live" from beginning to end without any prior rehearsal, and the genuineness and spontaneity of the sessions were evident in the range of emotional expressions that the clients displayed (e.g., one woman wept openly while discussing her divorce). The licensed male therapist, trained in the Rogerian tradition, used a nondirective approach in each case, helping the client to clarify and explore the implications of her own statements while refraining from giving advice.

The original therapy tapes from the Marangoni et al. (1995) study were later edited by Gesn and Ickes (1999) so that they each contained thirty 15-s excerpts, with 1-s intervals of blank tape inserted between each pair of excerpts. For a number of reasons, Gesn and Ickes (1999) concluded that the 15-s excerpts offered the best compromise between maintaining the tapes' narrative coherence and

external validity and keeping them short enough to avoid fatigue or boredom on the part of the participants. There were thirty 15-s excerpts on each of three tapes, for a total of 90 excerpts.

Each client was debriefed immediately after her therapy session and was asked to sign a second consent form in which she agreed to view the videotape of her therapy session and make a complete list of all the specific thoughts and feelings she remembered having had during the session. After signing this form (all clients gave their formal consent), the client was seated in a cubicle in the Social Interaction Lab. Her task was to (a) watch the videotape of her therapy session, (b) pause the tape at each point that she remembered having had a specific thought or feeling, (c) write down the time at which that thought or feeling occurred (using a running timer that appeared as an overlay on the video image), and then (d) write a sentence containing the actual content of that thought or feeling on a standardized thought/feeling reporting form. Each client was asked to be as honest and accurate as possible when reporting the actual thoughts or feelings she had had during her therapy session.

In two of the videotapes, the female clients discussed their recent (Divorce 1) or impending divorce (Divorce 2). In the third tape (Role Conflict), the female client discussed the stress she was experiencing in trying to maintain a career as an attorney while also fulfilling her perceived responsibilities as a wife and mother. These videotapes were judged to be ideal stimulus materials for testing our present hypotheses because each contained instances in which the client reported critical or rejecting thoughts or feelings about her husband or ex-husband as well as instances in which the client reported thoughts or feelings that were not critical or rejecting of her (current or ex-) husband. There were also instances in which the client's thought or feeling was ambiguous with respect to whether it was critical/rejecting or not critical/rejecting.

To determine whether each thought or feeling reported by the clients was critical/rejecting, ambiguous, or not critical/not

rejecting, two female undergraduate students and one female graduate student independently viewed unedited videotapes of each entire therapy session. Because the clients were women, we used female raters to determine the nature of the clients' thoughts and feelings in order to avoid any rating biases on the part of male raters. Our female raters were instructed to stop the videotape at each of the points at which each female client had reported a thought or feeling, and then read the client's actual reported thought or feeling from a prepared rating form. After considering the actual thought or feeling in the videotaped context in which it had occurred, the raters' task was to determine whether the thought or feeling was either critical or rejecting (CR), ambiguous (AMB), or noncritical/nonrejecting (NCR) of the client's male partner.

The Cronbach's alpha for these ratings was .76. Any disagreements among the raters were later resolved through further consideration and discussion of the particular thoughts and feelings at issue. In the end, 21 of the 90 thoughts and feelings were rated as clearly critical or rejecting, 54 as not critical or rejecting, and 15 as ambiguous.

Based on our review and discussion of these ratings, we decided to combine the critical/rejecting and the ambiguous thoughts and feelings into a single category. There were at least three reasons for this decision. First, an ambiguous rating implies that the thought or feelings could be critical or rejecting, depending on the eye of the beholder. Second, there were many instances in which the raters seemed to have inferred that a thought or feeling was somewhat critical or rejecting, and then responded as if the ambiguous category were part of a continuum or rating scale, rather than a discrete category. Third, combining the CR and AMB thoughts and feelings into a single category helped to simplify the data analyses and optimize the power of our statistical tests.

Table 2 shows the breakdown of this final thought/feeling categorization for each of the three stimulus tapes. The two types of thoughts and feelings (CR/AMB and NCR) were distributed throughout each tape as the clients actually experienced them rather than being segregated into clusters.

**Table 2.** Number of target thoughts and feelings by valence and type

Tape	CR/AMB	NCR	Total
Divorce 1	13	17	30
Divorce 2	16	14	30
Role conflict	7	23	30
Totals	36	54	90
Difficulty	2.22 <sup>a</sup>	2.19 <sup>a</sup>	

Note. CR/AMB = critical/rejecting and ambiguous thoughts and feelings; NCR = noncritical/nonrejecting thoughts and feelings.

<sup>a</sup> Mean inferential difficulty ratings by independent raters ( $F < 1$ , *ns*).

### Procedure

The experimenter met each participant at his scheduled time, usually on either a weekday evening or a weekend morning, and escorted him to a cubicle in the UTA Social Interaction Lab. Because the laboratory was equipped to run two participants simultaneously, several participants were scheduled with a 30-min interval between them so that they could be run somewhat concurrently and the experimenter could remain the only person having contact with them. The male experimenter was the only person with whom the participants had any contact, both during the telephone portion and the laboratory portion of the procedure.

Once the participant was seated in a cubicle, he read and signed an informed consent form. The experimenter then asked the participant to complete a questionnaire containing several demographic questions, the PAS, and the M-C 1(10). The participants were asked to complete this questionnaire privately with no time constraint, and to indicate when they were done by pushing a button to activate a signal light in the adjacent control room.

When each participant indicated that he was finished, the experimenter returned to the cubicle, collected the questionnaire, and gave the participant enough blank inference forms to write inferences for all three stimulus tapes. Participants were told that they would be watching an instructional videotape that would be followed by additional verbal

instructions from the experimenter. The videotaped instructions described the basic procedure, in which the participant would view a 15-s excerpt on videotape before the tape would be paused by the experimenter (or by an unseen assistant). The participant's task during each "tape stop" was to write down, in the form of a single, complete sentence, the inferred content of the thought or feeling that the female client had reported immediately before the tape was paused. The instructional tape also included information about the number of tapes the participant would be viewing, the number of pauses per tape, and correct use of the thought/feeling inference forms.

After playing the instructional tape for the participant, the experimenter entered the cubicle and gave a further instruction. The experimenter began by noting that the inference forms contained a column at the right containing the labels CR, AMB, and NCR beside each thought/feeling inference. He instructed the participant to rate each inferred thought or feeling as CR (critical/rejecting) or AMB (ambiguous) or NCR (not critical/not rejecting) of the stimulus client's current or former husband by circling the appropriate letter combination on the specially prepared inference forms. The participants were asked to make this judgment only after they had already written down the inferred content of the particular thought or feeling being rated. A written instruction to the same effect appeared on a placard that was placed in front of the participant and left there throughout the entire inference procedure.

The participants were then shown the three stimulus tapes. Following each 15-s excerpt, the experimenter (or his assistant) paused the videotape in the 1-s blank portion. During each of these tape stops, the participant made a checkmark to indicate whether, in his opinion, the client was having a thought or feeling at the point at which the tape was stopped. The participant then wrote in sentence form the inferred content of that specific thought or feeling and, following that, circled a label (CR, AMB, or NCR) to indicate whether the thought or feeling was critical/rejecting, ambiguous, or not critical/not reject-

ing of the client's current or former husband. The participant then restarted the tape by means of a remote control that was available in each cubicle. This process of pausing, writing, rating, and restarting continued until the participant had viewed all three videotapes.

When the participant had completed the empathic inference part of the procedure, the experimenter entered the cubicle, collected the inference forms, and asked the participant to complete the CTS and an additional, open-ended question. The question "In your own words, please briefly describe the current state of your marital relationship. Do you think it will work out or not? Why (briefly)?" was appended to the CTS scale with several blank lines for the participant's handwritten answer. The experimenter left the participant alone to complete these items in private, returning to the cubicle only when the participant had turned on the signal light.

During the entire 2-hr procedure the experimenter was kept blind to all information on any of the scales and questionnaires the participant had filled out during the session. On the other hand, because the experimenter was the person who had recorded the participants' RDAS responses during the initial telephone contact, there were a few cases in which he retained some memory of the responses that certain participants had given to certain items on this measure.

When the participant signaled that he had completed the CTS and the question about the state of his marriage, the experimenter returned to the cubicle. After thoroughly and completely debriefing the participant, the experimenter encouraged the participant to ask any relevant questions and then provided any needed clarification. The participants were also given a debriefing form to take with them. This form summarized the information they had received in the oral debriefing and included the experimenters' telephone numbers. The participants were encouraged to call for further information or assistance should they have any questions in the future. During the debriefings, no participant reported being aware of the nature of the study, of knowing any of the stimulus targets, or of having

known any of the debriefing information beforehand.

### *Empathic accuracy scores*

The participants' written inferences were transcribed into specially formatted MS Excel (Microsoft Excel, 1999) spreadsheets. These spreadsheets enabled independent raters to view on a computer screen each actual thought or feeling paired with a participant's corresponding inference of that thought or feeling. Viewing and evaluating one thought/feeling and inference pair at a time, the raters' task was to rate the similarity between the content of each actual thought or feeling and the content of the corresponding inference made by each participant in the study. From a functional standpoint, this MS Excel approach to rating the empathic accuracy of the participants' inferences is identical to that of previous software programs developed for this purpose (see Ickes, 2001; Ickes, Bissonnette, Garcia, & Stinson, 1990; Ickes & Trued, 1985).

In the present study, eight raters independently viewed each thought/feeling and inference pair and rated the similarity between the content of the actual thought or feeling and the content of the inferred thought or feeling. These ratings were made on a 3-point scale (0 = *essentially different content*; 1 = *similar, but not the same, content*; 2 = *essentially the same content*), and the Excel spreadsheet kept track of the ratings in a form that facilitated subsequent data management.

The interrater reliability (Cronbach's alpha) for these empathic accuracy (EA) ratings was .87. The inter-item reliability for the 90

thought/feeling stimuli was .92. Because both forms of reliability were high, a final accuracy score for each inference by each participant was calculated as the mean of all eight raters' similarity ratings, divided by 2 (the highest possible EA score per item) and then multiplied by 100. This last computational step resulted in empathic accuracy scores with a theoretical range from 0 to 100, which are easy to interpret as a percentage-analogue measure.

## **Results**

### *Wife-directed aggression reported by men in the sample*

Among the participants, 11 reported mild to moderate physical aggression against their wives, 72 reported verbal aggression only, and three reported no verbal or physical aggression. None of the participants reported physical aggression against their wives without verbal aggression. Although 11 participants reported some physical aggression (e.g., "throwing things but not at their wives," "pushing, grabbing or shoving," or "hitting but not with anything"), none of the participants reported "throwing anything at his wife" or "hitting his wife with something hard" in the previous year. Table 3 shows the correlations between scores on the subscales of the CTS (Straus, 1979).

### *Self-reported personality, relationship, and abusiveness measures*

Table 4 presents means, standard deviations, reliability coefficients, and intercorrelations for the personality, relationship, and behavioral self-report measures collected in this study.

**Table 3.** *Correlations between Conflict Tactics Scale subscale scores*

Conflict resolution tactic	Reasoning	Verbal aggression	Physical aggression	CT-aggression
Reasoning	—	.38***	.19 <sup>‡</sup>	.39***
Verbal		—	.28**	.99***
Physical			—	.44***

<sup>‡</sup>  $p < .085$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table 4.** Personality/behavior measures, bias, discrimination, and empathic accuracy interrelationships

	PAS	PAS-RSQ	M-C 1 (10)	RDAS	Stability	CT-reasoning	CT-aggression	CR/AMB Theme detection		Empathic or Content Accuracy		
								Bias $B''_D$	Sensitivity ( $d'$ )	CR/AMB T/Fs	Non-CR T/Fs	All T/Fs
<i>M</i>	61.4	7.06	4.3	43.4	18.9	11.4	11.9	.74	.34	20.82	16.55	18.27
( <i>SD</i> )	(15.1)	(3.0)	(2.0)	(8.3)	(6.2)	(3.9)	(5.12)	(.29)	(.71)	(7.49)	(6.35)	(6.55)
$\sqrt{a}$	.89	.80	.81	.80	.94 <sup>b</sup>	.68	.71			.87 <sup>b</sup>	.87 <sup>b</sup>	.87 <sup>b</sup>
PAS		.67***	-.28**	-.29**	-.24*	.22*	.34**	.19 <sup>‡c</sup>	-.05 <sup>c</sup>	-.08 <sup>c</sup>	-.09 <sup>c</sup>	-.09 <sup>c</sup>
PAS-RSQ			-.10	-.34**	-.23*	.11	.15	.24* <sup>c</sup>	.04 <sup>c</sup>	-.08 <sup>c</sup>	.01 <sup>c</sup>	-.03 <sup>c</sup>
M-C 1(10)				.18 <sup>†</sup>	.16	.00 <sup>a</sup>	.00 <sup>a</sup>	-.01	-.08	-.08	-.02	-.05
RDAS					.51***	-.07	-.40***	.03	.08	.00	-.01	-.01
Stability						-.31**	-.48***	-.02	.13	-.11	-.14	-.13
CT-reasoning							.37***	-.15 <sup>c</sup>	.22* <sup>c</sup>	.10 <sup>c</sup>	.11 <sup>c</sup>	.11 <sup>c</sup>
CT-aggression								.23* <sup>c</sup>	.00 <sup>c</sup>	-.13 <sup>c</sup>	-.19 <sup>‡c</sup>	-.17 <sup>c</sup>
Bias ( $B''_D$ )									-.26*	-.35**	-.34**	-.36***
Sensitivity ( $d'$ )										.16	.23*	.19 <sup>‡</sup>

Notes:  $n = 86$ . PAS = Propensity for Abusiveness Scale (Dutton, 1995); PAS-RSQ = Relationship Style Questionnaire in PAS (Dutton, 1995); M-C 1(10) = edited Marlow-Crowne Scale; RDAS = Revised Dyadic Adjustment Scale (Busby et al., 1995); Stability = relationship stability; CT-reasoning = use of nonabusive (reasoning) conflict resolution tactics (adjusted for socially desirable responding); CT-Aggression = use of coercive/abusive conflict resolution tactics (adjusted for socially desirable responding); Bias = bias to infer possible critical or rejecting valence; Sensitivity = discrimination between critical/rejecting versus noncritical/rejecting themes; T/Fs = thoughts and feelings.

<sup>a</sup> Cronbach; <sup>b</sup> interrater reliability; <sup>c</sup> partial correlation controlling for a factor drawn from dyadic adjustment, stability, and length of relationship.

<sup>†</sup>  $p < .10$ . <sup>‡</sup>  $p < .085$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

*Comparisons with previous samples.* The participants' average score on the Propensity for Abusiveness Scale,  $M = 61.4$ , was significantly higher than the average score of 49.2 reported by Dutton (1995, 1998),  $t(248) = 6.92$ ,  $p < .001$ . Moreover, the respondents' mean score in this study did not significantly differ from that of a sample of assaultive men tested by Dutton (1995),  $t(204) < 1$ , *ns*. These comparisons provide evidence of the effectiveness of our screening procedure. Although this procedure may have resulted in a modest attenuation of the range of PAS scores in our study, it was essential to ensure that any findings we obtained could reasonably be generalized to the target population of more aggressive husbands.

On the other hand, the participants' average score of 4.3 on the edited Marlow-Crowne Social Desirability Scale (M-C 1[10]; Strahan & Gerbasi, 1972) did not differ significantly from the average score for men of 4.5 reported by Strahan and Gerbasi in their original validation study,  $t(260) < 1$ , *ns*. Scores on the M-C 1(10) had a modest negative correlation with scores on the PAS,  $r = -.28$ ,  $p < .01$ , and because this correlation closely approximates that reported by Dutton (1995), we followed his precedent in regarding it as slight enough to not warrant making statistical adjustments in the PAS scores.

The participants' average score of 43.4 on the Revised (Spanier) Dyadic Adjustment Scale (RDAS; Busby et al., 1995) was higher than the average score of 41.6 reported by the distressed couples in Busby et al.'s (1995) sample,  $t(267) = 1.70$ ,  $p < .05$ , but was significantly lower than the overall mean RDAS score for both distressed and nondistressed couples,  $t(538) = 4.63$ ,  $p < .01$ . This difference might be attributed to our having collected data from only male partners, whose assessments of relationship satisfaction could well have been more positive than those of their female partners would have been, particularly in the relationships of the more aggressive men. This difference might be also be attributed in part to the difference in method (giving RDAS responses to an interviewer on the telephone vs. completing a paper-and-pencil scale).

*Correlations of the personality, relationship, and abusiveness measures.* The correlations in Table 4 reveal that dyadic adjustment (i.e., relationship satisfaction) related to other measures in the present study in intuitively predictable ways. As the participants' self-reported abuse propensity (PAS) and wife-directed aggression (CT-aggression) increased, their self-reported dyadic adjustment decreased significantly ( $r_s = -.29$  and  $-.40$ , respectively). On the other hand, as their self-reported relationship stability increased, their relationship satisfaction increased as well ( $r = .51$ ). Some null results were also evident, however. Specifically, the participants' scores on the RDAS were not significantly correlated with their scores on the M-C 1(10) or with the participants' age, length of relationship, or number of children.

Recall that relationship stability information was assessed by means of an open-ended question placed at the end of the Conflict Tactics Scale. The participants were given as much time as they needed to respond to the question, "In your own words, please briefly describe the current state of your relationship. Do you think it will work out or not? Why (briefly)?" Their written replies were later transcribed into typeface and all identifying information was removed. Later, seven graduate student raters read each statement and rated on a 6-point scale the perceived likelihood that the participant's marriage would end in divorce (interrater  $\alpha = .94$ ). Relationship stability scores were then computed as the sum of all seven raters' responses, such that higher scores indicate a lower perceived likelihood for divorce—or, in other words, greater relationship stability. As one might expect, these relationship stability scores were negatively related to self-reported abuse propensity and behavioral aggression ( $r_s = -.24$  and  $-.48$ , respectively). On the other hand, relationship stability was positively correlated with the length of the relationship and with dyadic adjustment ( $r_s = .30$  and  $.51$ , respectively), but was not significantly correlated with the number of children the couple had ( $r = -.10$ , *ns*).

Because the Conflict Tactics Scale (CTS) is face-valid, it can evoke reactive responses, as evidenced in the present study by its  $-.25$

( $p < .05$ ) correlation with the M-C 1(10). To control for this problem, we adjusted the participants' CTS scores by removing the effect of socially desirable responding as measured by the M-C 1(10) (see Saunders, 1991, for the computational details). As we noted above, the participants' reported use of aggressive conflict resolution tactics was negatively related to their reports of dyadic adjustment and relationship stability.

#### *Exceptional bias or exceptional accuracy*

*Signal detection analyses of the thematic accuracy data.* The major goal of our study was to determine whether husbands' aggression relates to exceptional bias or exceptional accuracy in identifying and inferring women's critical/rejecting thoughts and feelings. To accomplish this goal, we used signal detection analysis to test for evidence that more aggressive men display an overattribution bias that leads them to infer more critical and rejecting thoughts and feelings than actually occur. This technique also enabled us to compute a measure of the men's thematic accuracy—how accurately they could discriminate between the women's critical/rejecting thoughts and feelings and their noncritical/norejecting ones.

Signal detection analysis offered some distinct advantages over other analytic techniques. First, it appropriately controlled for the base rate at which each type of thought or feeling (critical/rejecting vs. noncritical/norejecting) actually occurred, as judged by our independent raters. Second, it could be applied to compute both  $B''_D$ , a parametric bias measure (see Donaldson, 1992), and  $d'$ , a standard TSD index of perceptual discrimination accuracy. In the present study, we reversed the sign of  $B''_D$  so that a larger positive value would indicate greater overattribution—that is, a more liberal bias to infer that the women's thoughts and feelings were critical/rejecting or ambiguous.

*Correlates of the signal detection measures.* To control for differences in the overall stability/instability of the participants' own relationships (and thereby also help control for

differences in the base rates of criticism and rejection in these relationships), we partialled out an overall stability/instability factor when estimating the partial correlations between our empathic accuracy measures (thematic and content accuracy) and other measures of interest. Given the high intercorrelation of the relationship stability, dyadic adjustment, and length of the relationship measures (Heywood case), we derived a relationship stability/instability factor as a principal component with an eigenvalue of 1.63. (No other factors emerged with eigenvalues greater than one.) Final communality estimates for the constituent variables were .60, .75, and .27, respectively.

Statistically controlling for this stability/instability factor, the partial correlations in Table 4 reveal that as the participants' abuse propensity (PAS) increased, so did their bias toward *over* attributing critical/rejecting or ambiguous (CR/AMB bias) thoughts and feelings to the stimulus targets. However, this trend only approached significance ( $r = .19, p < .085$ ). On the other hand, there was a null relationship between abuse propensity and  $d'$ —the ability to accurately distinguish the women's actual critical/rejecting thoughts and feelings from their noncritical/norejecting ones.

Although this pattern of data was not, in itself, as definitive as we might have hoped, it was still theoretically diagnostic in two important respects. First, it indicated that, in terms of our parametric bias measure ( $B''_D$ ), the hypersensitivity of more aggressive husbands represents a perceptual bias. Second, it clearly shows that, in terms of our sensitivity measure ( $d'$ ), the hypersensitivity of more abuse-prone men does *not* reflect an enhanced ability to correctly identify and infer the content of women's critical/rejecting thoughts and feelings. Fortunately, the case for bias on the part of more aggressive men does not rest on these data alone; it is corroborated by several other findings that are reported below.

To determine what part of an abusive personality might drive this overattribution bias effect, we tested the relationships between each of the PAS subscales and the strength of the CR/AMB overattribution bias. The only PAS subscale that related significantly to the

degree of bias was the PAS-RSQ measure of insecure attachment ( $r = .24, p < .05$ ). Correlations between other PAS subscales and the bias measure ranged from .06 to .17 (all *ns*). From these data it appears that insecure attachment is the best predictor of men's overattribution of critical or rejecting thoughts and feelings to women. It should be noted, however, that insecure attachment was not itself correlated with self-reported aggression.

Of much greater importance with respect to the goals of the present study are the relationships between our signal detection measures and the participants' self-reported conflict resolution tactics (see Table 4). When we controlled for the overall stability/instability of the participants' own relationships, we found a significant positive correlation between the magnitude of their overattribution bias and their self-reported aggression ( $r = .23, p < .05$ ). This correlation indicates that men who overattribute critical and rejecting thoughts and feelings to women in general are particularly likely to report aggressing against their own female partners. In contrast, the men's self-reported aggression was completely uncorrelated with  $d'$ —our measure of their ability to accurately distinguish the women's actual critical/rejecting thoughts and feelings from their noncritical/nonrejecting ones ( $r < .01$ ).<sup>5</sup> Thus, we see the same kind of data pattern we saw earlier: the men's aggressive behavior is related to a general perceptual bias (i.e., a tendency to overattribute critical and rejecting thoughts and feelings to women) and is *not* related to the accuracy with which men can distinguish women's actual critical/rejecting thoughts and feelings from their noncritical/norejecting ones.

On the other hand, the men's ability to discriminate between women's critical/rejecting and noncritical/nonrejecting thoughts and

feelings ( $d'$ ) was significantly and positively correlated with the men's self-reported use of *reasoning* tactics to resolve conflict in their relationships ( $r = .22, p < .05$ ). Moreover, the men who more accurately discriminated between CR versus AMB/NCR also tended to report a higher level of marital satisfaction ( $r = .22, p < .05$ ).

These findings are obviously consistent with the overall picture that has emerged from our data: The men with the greatest perceptual *bias* are the ones who are most likely to aggress against their own wives, whereas the men with the greatest *accuracy* in determining when women's thoughts and feelings really are critical and rejecting are the ones who are most likely to (a) use reasonable (i.e., nonaggressive) methods for dealing with conflict in their relationship, and (b) report the highest levels of marital satisfaction. In summary, the data indicate that men's propensity to aggress against their wives is linked to a general bias to overattribute critical and rejecting thoughts and feelings to women, and is not linked to the ability to accurately identify such thoughts and feelings.

*Analyses of the content accuracy measures.* The mean content accuracy score for CR/AMB thoughts and feelings was significantly higher than for NCR thoughts and feelings. This appears to be an artifact of the stimulus material we used, not a priming effect for theme selection. Two other data sets collected from both male and female participants, using the same stimulus tapes, and without having participants choose themes (Hillman & Ickes, 2000; Renshaw, 1998) revealed essentially the same significant effect: greater content accuracy for CR/AMB thoughts and feelings among both male and female participants.

Of greater relevance to our theoretical concerns, we found that the magnitude of the participants' overattribution bias was negatively correlated with their accuracy in inferring the specific content of women's thoughts and feelings (see Table 4). The correlations between the bias measure and the content accuracy measures were  $-.35$ ,  $-.34$ , and  $-.36$ , respectively, for the CR/AMB thoughts and feelings, the NCR thoughts and feelings,

5. The correlation between unadjusted CT-aggression scores and bias was negligibly different from the correlation using adjusted aggression scores ( $r = .23, p < .05$ ). Similarly, the correlation between unadjusted CT-aggression scores and discrimination ( $r = .04, ns$ ) did not differ significantly from the similar correlation using CT-aggression scores that were adjusted for a socially desirable response bias.

and for all thoughts and feelings combined. In contrast, the men's ability to discriminate between women's actual critical/rejecting versus noncritical/nonrejecting thoughts and feelings ( $d'$ ) was positively correlated with their accuracy in inferring the specific content of the women's noncritical/nonrejecting thoughts and feelings,  $r = .23, p < .05$ .

These data support Nelson's (1997) claim that assaultive husbands generally lack empathy and therefore fail to understand women's thoughts and feelings. Taken together with the previously reported findings regarding thematic accuracy, these data provide consistent and mutually corroborating support for the conclusion that aggressive men's sensitivity to rejection should be interpreted as reflecting an inferential bias rather than an exceptional degree of thematic or content accuracy with respect to women's critical and rejecting thoughts and feelings.

## Discussion

In our discussion of the data, we first consider the theoretical insights that the present findings offer, focusing in particular on four issues: (a) whether men's partner-directed aggression is related to exceptional accuracy or exceptional bias in their inferences about other women's critical/rejecting thoughts and feelings; (b) the link between an insecure attachment style in these men and the strength of their overattribution bias; (c) the relationship between the men's overattribution bias and their empathic accuracy; and (d) the link between the men's self-reported marital satisfaction and their ability to distinguish women's actual critical/rejecting thoughts and feelings from their noncritical/rejecting ones. We then consider both the methodological contributions and the limitations of our study before suggesting some directions for future research.

### *Discrimination versus bias*

In their overall pattern, the present findings offer converging support for the view that aggression-prone men are exceptionally biased, rather than exceptionally accurate, in

their perception of women's critical/rejecting thoughts and feelings. These findings are consistent with previous findings that have also related men's hypervigilance for rejection to their propensity for partner-directed aggression (Barnard et al., 1982; Browne, 1988; Downey et al., 2000; Dutton, 1998; Holtzworth-Munroe & Hutchinson, 1993; Walker, 1979). They extend our knowledge beyond these previous findings, however, in identifying more aggressive men's biased *overattribution* of critical/rejecting thoughts and feelings to women as a significant correlate of self-reported aggression.

Another unique contribution of the present study is its demonstration that the overattribution of female criticism and rejection by more aggressive or abuse-prone men is not restricted to their relationship with their own female partners and reveals that men's wife-directed aggression is not simply a matter of their having been uniquely provoked by their own female partners. Instead, it suggests that more aggressive men, being biased to overattribute criticism and rejection to women in general, are exceptionally thin-skinned and inclined to take offense toward women even when no offense is intended.

### *Insecure attachment and the overattribution bias*

The results of exploratory analyses indicate that the overattribution bias is related to the fearful or anxious attachment characteristics of maritally aggressive men. Specifically, the data suggest that insecure attachment—both anxious and avoidant—is related to the biased overattribution of criticism and rejection, which in turn is related to self-reported aggression. These findings support some aspects of the model of partner aggression proposed by Downey et al. (2000). This support must be regarded as provisional, however, given that there is no information about whether the attachment-related items on the PAS retain the measurement properties of the full individual scales. Although our results implicate an insecure attachment style in the overattribution bias, they do not differentiate between an anxious and an avoidant style in

this regard. Clearly, additional research on this issue is needed.

#### *The overattribution bias and empathic accuracy*

Not surprisingly, perhaps, the more biased the men were to overattribute criticism or rejection to the women on the tapes, the less accurately they inferred the actual content of the women's thoughts and feelings. This relationship is logically implied, in that a failure to accurately identify the overall theme of a target person's thoughts and feelings (critical/rejecting vs. noncritical/nonrejecting) should result in a corresponding failure to accurately infer the specific content of those thoughts and feelings. In view of the relationship between thematic accuracy and use of reasoning tactics on the CTS, the finding is still an important one, however. It not only supports Deschner's (1984) claim that maritally aggressive men tend to lack empathy (i.e., the ability to understand the thoughts and feelings of their partners), but also suggests that this impairment in empathic (i.e., content) accuracy derives from a more basic impairment in thematic accuracy.

#### *Thematic accuracy and self-reported marital satisfaction*

Another important finding to emerge in this study is the positive relationship between the men's thematic accuracy (their ability to distinguish women's actual critical/rejecting thoughts and feelings from their noncritical/nonrejecting ones) and the men's self-reported marital satisfaction. This finding suggests that men who are good at making such a discrimination may be able to use the resulting knowledge constructively, to avert or de-escalate developing conflicts in their relationships by recognizing when their own behaviors are eliciting negative reactions in their female partners. Whether more aggressive or violent men could be trained to use this insight in a similarly constructive way remains to be determined.

The distinction between thematic accuracy and empathic (i.e., content) accuracy has more general implications for research using the

empathic accuracy paradigm. At least two previous studies (Buysse & Ickes, 1999; Marangoni et al., 1995) have reported findings for separate measures of thematic and content accuracy without sufficiently accounting for the relationships between these measures. The present data suggest that future inferential accuracy research should pay close attention to the theoretical and statistical relationships between such measures and their unique contributions to the prediction of more distal outcome variables.

#### *Methodological contributions*

Beyond the novel theoretical contributions that we have noted above, the present study offers some novel methodological contributions as well. Following the suggestion of Holtzworth-Munroe and Hutchinson (1993), we attempted to improve the attribution-assessment methods found in most questionnaire studies of relationship violence or aggression. To this end, we used standardized videotapes of women discussing their actual marital problems and asked our participants to view these tapes while making inferences about the valence and content of the stimulus women's thoughts and feelings.

There are two important differences between this approach and the more traditional questionnaire approaches. First, our participants made their inferences and attributions about events occurring during an unfolding interaction sequence at the exact moments when the female target persons had actually reported having had a specific thought or feeling. Second, we were able to take into account the base rate occurrence of the female targets' critical/rejecting versus noncritical/nonrejecting thoughts and feelings. These features help to overcome certain base-rate limitations to more traditional methods such as questionnaires (Downey et al., 2000), vignettes (Holtzworth-Munroe & Hutchinson, 1993), or the Thematic Apperception Test (Pollack & Gilligan, 1982).

#### *Summary*

These findings clearly demonstrate that men's aggression against their wives is

related to the men's bias to inaccurately infer (i.e., make inappropriate overattributions) that women's thoughts and feelings are critical or rejecting of their male partners. This overattribution bias appears to be related to the men's insecure attachment style, which has also been linked to marital aggression.

To the extent that men exhibit this overattribution bias, they are less accurate when they infer the specific content of women's thoughts and feelings. On the other hand, men who more accurately infer when women really *are* having critical or rejecting thoughts and

feelings report having happier, more satisfying marriages.

Future research should explore the antecedents of this overattribution bias and the possibility that it can be attenuated. If this bias can be reduced through appropriate interventions, then there are important implications for the treatment of maritally violent or aggressive men. Specifically, our analysis suggests that increasing men's accuracy regarding women's thoughts and feelings will reduce their overattribution bias, limit their tendency to take offense where none was intended, and improve their marital satisfaction.

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