

Maritally Aggressive Men: Angry, Egocentric, Impulsive, and/or Biased

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Abstract

This research explored the relationships between the language that 86 married men used to describe their marriages, other personal characteristics of the men, and the men's wife-directed aggression. Methods included linguistic inquiry word count analysis, temperament measures, an empathic accuracy-type paradigm, and signal detection analysis. Husbands' use of anger words and egocentric words in describing their marriages, along with husbands' impulsivity, critical/rejecting overattribution bias, and attentional disorder/impairment predicted the men's wife-directed aggression. Multiple regression and moderation analyses revealed that men's use of anger words and first-person pronouns in describing their own marriages were unique predictors of their wife-directed aggression. Also, men's critical/rejecting overattribution bias and impulsivity interacted to predict the men's wife-directed aggression. Results are discussed in terms different wife-abuser subtypes and their implications for the treatment of aggressive husbands.

Keywords

Linguistic Inquiry Word Count, wife abuse, wife-directed aggression, critical/rejecting overattribution bias, impulsivity, attention

Verbal communication is an essential component of satisfying and enduring relationships (Byers, 2005), and language is the medium through which people communicate much—if not most—of their relationship-relevant information (Slatcher & Pennebaker, 2006; Smith, Heaven, & Ciarrochi, 2008).

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In recent years, language use has been studied in relation to a variety of relationship-relevant variables, including psychopathology (Junghaenel, Smyth, & Santner, 2008), personality (Pennebaker & King, 1999), and emotion (Forgas & Tehani, 2005). Budd, Thorp, and Donohew (1967) foretold the role that computers would play in the study of how people use language and what people's language use can tell us about them. More recently, Pennebaker and his colleagues (e.g., Pennebaker & King, 1999; Slatcher & Pennebaker, 2006; Stirman & Pennebaker, 2001) have used computers to analyze the word content of peoples' communication to gain important insights about people's subjective experiences and overt responses from the way they express themselves.

Although language use might not seem like the most obvious predictor of men's partner-directed aggression, previous studies attest to its importance with regard to interactions in which one partner exploits the other's trust by lying. For example, Newman, Pennebaker, Berry, and Richards (2003) studied lying, and found that when individuals were asked to defend a viewpoint in which they did not believe, they used fewer first- and third-person pronouns and more negative emotion words. The authors interpreted these findings as showing that individuals try to "distance" themselves from lies through language, and that they feel some guilt about lying, which is reflected in their language use. In a more recent study of interpersonal deception, Hancock, Curry, Goorha, and Woodworth (2008) found that when one member of a dyad was lying, both members tended to talk more than when both dyad members were being truthful.

There is also considerable evidence that individuals with characterological and/or behavioral problems tend to "reveal themselves" through the language they use. For example, Stirman and Pennebaker (2001) found poetic word-use differences between suicidal and nonsuicidal poets. In addition, important aspects of personality and motive have been revealed in the content of the stories that clinical patients tell in response to the pictures presented in the Thematic Apperception Test (TAT; Langan-Fox & Grant, 2006; Winter, John, Stewart, Klohnen, & Duncan, 1998). Given these precedents, we expected to find that aspects of their personality and emotional life (e.g., anger, depression) would similarly be revealed in the language that maritally aggressive men use to describe their marriages.

This expectation is further supported by the results of previous applications of linguistic word count analyses to the study of the emotional differences that are found in written narratives and sampled conversation. For example, Cohn, Mehl, and Pennebaker (2004) analyzed the online diary entries of individuals following the September 11, 2001 terror attacks. They found that, immediately after September 11, the participants' language showed a decreased use of positive emotional words and an increase in cognitive process-related words and references to others. In a more recent study, Forgas and Tehani (2005) found that when "novice" communicators rated an employee's performance, they tended to use more negative emotion words when they were induced into a sad mood than when they were induced into a happy mood. This effect was not observed in more experienced counterparts, whose use of negative emotion words remained stable regardless of their mood induction condition. As a final example, Rellini and Meston (2007) analyzed the narratives of

sexually abused women and found that they used more negative language when describing a picture of a sexual interaction than did women who had not been sexually abused. In addition, women who had been sexually abused used fewer sex-related words in various narrative exercises than did women who had not been sexually abused. The results of these and other studies suggest that a linguistic analysis of narratives can yield useful information about an individual's attitudes, affect, and state of mind.

The Need to Study the Distinctive Characteristics of Maritally Aggressive Men

For decades, researchers have investigated how psychopathology, personality disorders, and insecure attachment styles are related to wife-directed aggression (cf. Babcock, Green, Webb, & Yerington, 2005; Dutton, 1998; Norlander & Eckhardt, 2005; Robertson & Murachver, 2006). To understand the risk factors, contributing causes, and psychological processes that are implicated in male aggression against intimate female partners, investigators should continue to explore the distinctive characteristics associated with men's marital aggression—and, we would argue, explore their language use as well. This approach will aid in identifying these men sooner and will assist professionals in designing successful intervention programs that are both meaningful and long-lasting (Holtzworth-Munroe & Meehan, 2003).

There is some debate in the relevant research literature surrounding the causal direction of intimate partner violence. For instance, do women aggress against or unduly provoke their male partners (cf. Straus, Gelles, & Steinmetz, 1980)? If they commonly did this, it would make the focus on men's aggressive and abusive behavior seem unfair and one-sided. In fact, this issue was addressed in a very recent special issue of the *Journal of Aggression, Maltreatment and Trauma* (Conradi & Geffner, 2009) in which several widely cited authors in the field of intimate partner aggression discuss this controversial issue and call for more research into wives' aggression toward their husbands. However, consistent with the bulk of the data, which indicate that husbands' aggression toward wives is the more serious social problem (see, e.g., Stets & Straus, 1990; Vivian & Langhinrichsen-Rohling, 1994), the present study focuses specifically on maritally aggressive men.

The Present Study

The goal of the present study was to bring together and analyze several sources of data that were available to us to gain insight into the personalities of maritally aggressive men. Of particular interest was a new, previously-unreported data set that enabled us to determine the distinctive word content of that maritally aggressive men used to describe their marriages. Using men's reported levels of aggression toward their own wives as our dependent variable, we entered the linguistic content measures, along with other potential predictor variables, into a multiple regression model and then let

the results inform us about what characteristics, if any, are most likely to predict husband's wife-directed aggression.

This was a targeted, rather than a random, search that was based on findings reported in the available research literature on maritally aggressive and abusive men. According to these findings, at least four characteristics should be of focal interest: expressions of *anger* in the men's descriptions of their own marriages, *impulsivity*, *inferential bias*, and *attentional disorder or impairment*.

Anger

Virtually all couples experience disputes, and most partners feel angry toward one another at times. However, aggressive and abusive husbands tend to respond more intensely in the midst of interpersonal conflict than nonaggressive men do (Holtzworth-Munroe, 2005; Jacobson, Gottman, & Waltz, 1994). A typical finding is that men's anger and hostility levels are correlated with the level of partner-aggression they display, with the most aggressive men expressing the most anger and hostility. Consistent with this finding, when Dutton (2007) investigated hundreds of violent men, he found that batterers fit a psychological profile in which anger is a salient trait.

Several studies have explored communication behavior by using language and narrative accounts of violent men and violent couples to better understand them. For example, Gottman and his colleagues have made perhaps the most extensive narrative study of the interactions in abusive relationships (see Jacobson & Gottman, 1998, for a review of these studies). Similarly, Robertson and Murachver (2006) found that more aggressive men and their partners are less likely to use facilitative and polite language in their conversations. Borochowitz (2008) found that violent men tend to describe their wives as shrewish, i.e., as not being the same woman they married. From these precedents, we expected to find that more aggressive husbands would use more anger words to describe the state of their own marriage.

Impulsivity

Anger alone does not appear to tell the whole story, however. Several findings suggest that more aggressive husbands have difficulty regulating their aggressive responses in conflict situations (Dutton, 2007; Eckhardt & Kassonove, 1998; Finkel, 2007; Holtzworth-Munroe, Rehman, & Herron, 2000; Schumacher, Feldbau-Kohn, Slep, & Heyman, 2001). The importance of impulsivity as a co-acting factor is illustrated in a recent study by Stanford, Conklin, and Helfritz (2007), who investigated a sample of convicted batterers using neuropsychological and psychophysiological instruments. Stanford et al. found that batterers demonstrated a high level of anger combined with a lack of impulse control (i.e., uncontrollable anger), when compared with a control group of nonviolent men.

Consistent with these observations, Finkel (2007) has proposed that, preceding maritally violent behavior, two forces are at play: the presence of impelling impulses

(anger) and the lack of inhibition. Many men may become angry but they inhibit their inappropriate actions and do not unleash their emotions on others. However, very aggressive men are more prone to express violent behaviors or impulses without constraint. Finkel theorizes that there is a positive relationship between the degree to which batterers fail to regulate their anger and the level of violence that men inflict on their partners.

Other researchers have also suggested that impulsivity may be a risk factor for marital aggression (Field, Caetano, & Nelson, 2004), and that impulsivity may be the primary risk factor that distinguishes perpetrators of intimate partner violence from other types of antisocial offenders (Swogger, Walsh, & Kosson, 2007). This view is consistent with Stuart and Holtzworth-Munroe's (2005) recent findings that impulsivity is broadly related to anger/hostility, substance abuse, and marital discord. Viewed as a pattern, these findings suggest the central role that impulsivity may play in the prediction of marital aggression.

Bias

An empirical link between men's biased social perception and men's partner-directed aggression has been clearly established in previous research. For example, Holtzworth-Munroe and Hutchinson (1993) found that violent husbands are more likely to attribute negative intent to women's behaviors than nonviolent husbands. Furthermore, Schweinle, Ickes, and Bernstein (2002) and Schweinle and Ickes (2007) demonstrated that the relationship between men's wife-directed aggression and the men's bias to infer women's criticism or rejection is indeed one of overattribution, rather than hyper-accuracy or sensitivity. Schweinle and colleagues call this phenomenon the critical/rejecting overattribution bias (C/R-O bias). Their findings suggest that men's CR-O bias plays a central role in the processes leading to wife-directed aggression and to men's private and public attempts to interpret such acts as being justified (Schweinle et al., 2002; Schweinle & Ickes, 2007).

Attentional Disorder or Impairment

Based on other findings reported by Schweinle and Ickes (2007), it appears that maritally aggressive men can sustain their own biased perceptions that women are critical and rejecting by simply not paying attention to them (i.e., "tuning them out"). It is still unclear, however, whether abusive/aggressive men's attentional disengagement is specific to women or whether a more general attentional deficit or impairment is characteristic of abusive men. In any event, attentional disengagement appears to play a central role in wife-directed aggression, as Schweinle and Ickes (2007) found it to be (a) negatively correlated with relationship satisfaction, (b) negatively correlated with the men's ability to discriminate between women's critical/rejecting versus non-critical/rejecting thoughts and feelings, and (c) positively correlated with the strength of the men's C/R-O bias.

Examining a Wide Range of Potential Predictors in the Present Study

In the present study, we obtained measures of all four of these potentially distinguishing characteristics of maritally aggressive men: anger, impulsivity, critical/rejecting inferential bias, and attentional disorder/impairment. However, to avoid limiting our investigation to only those four factors, we cast a wider net by using Linguistic Inquiry Word Count (LIWC; Pennebaker, Francis, & Booth, 2001) analyses to examine the content of paragraph-length narratives that each of the male participants wrote in response to our request that they describe the current state of their marriage.

Impulsivity was measured by four self-report items that were part of a larger measure of temperament dimensions. This measure was included in the study by Schweinle et al. (2002). Attention was measured by four other self-report items that were part of the same temperament measure. Finally, bias was measured using signal detection theory within the context of an empathic accuracy-type paradigm; a complete discussion of this method follows (Schweinle et al., 2002; Schweinle & Ickes, 2007).

In addition to measuring these four potential predictors, we used the standard output of the LIWC software to generate a wide range of other measures, some of which might also make a unique contribution to the prediction of men's marital aggression. For example, although the LIWC software generates many linguistic content measures that are unlikely to predict marital aggression (e.g., words related to eating, to grooming, and to numbers), some of LIWC's standard content measures appeared to be promising candidates in this regard (Pennebaker et al., 2001). For example, LIWC allows for the tabulation of words relating to the feeling of anger (e.g., *hate, kill*), swear words (e.g., *damn, piss*), and negations (e.g., *no, never, not*). In addition, LIWC allows researchers to create "custom dictionaries" of words that they theorize may be used in the expression of a particular emotional state, personality characteristic, or other psychological construct.

Hypotheses

Based on the theoretical and empirical precedents cited above, we proposed the following hypotheses:

Hypothesis 1: Men who use more "angry" language in their narratives about their marriages should be more likely to report engaging in wife-directed aggression.

Hypothesis 2: Men with higher self-reported impulsivity scores should be more likely to report engaging in wife-directed aggression than men with lower impulsivity scores. (Although this is not a new hypothesis, it was not tested in the original Schweinle et al. [2002] study, and findings supporting it may also provide convergent validity for the temperament measure of impulsivity used in the current study.)

Hypothesis 3: Men with higher scores on the attentional-problem subscale of our temperament measure should be more likely to report engaging in wife-directed aggression.

Hypothesis 4: Based on previous findings with this same data set, the strength of the men's C/R-O bias should make a unique contribution to the prediction of their self-reported marital aggression, even when controlling for the effects of the other three predictors.

Method

As part of a larger study that was supported by the Timberlawn Psychiatric Foundation, newspaper advertisements offering \$30 participation fees for a study of marital conflict were used to recruit 86 married men from the Arlington, Texas community. The participants were 19 to 72 years old ($M = 42.0$, $SD = 11.8$), had been married from 3 months to 43 years ($M = 12.6$, $SD = 10.4$), and had from zero to six children (median = 2, $SD = 1.37$). A total of 57 men were White, 15 were African American, 11 were Hispanic, 1 was Asian, and 2 belonged to the "Other" category. These demographic statistics are similar to those found in the larger Dallas-Fort Worth community. The participants reported a range of occupations, including being unemployed, a college professor, and a firefighter. This sample of 86 participants offered less than optimal statistical power for the planned analyses. Fortunately, however, it proved to be sufficient to test the effects described later in this article.

When a potential participant responded by telephone or by email to the newspaper ads, he was given a brief description of the procedure. The experimenter then asked each respondent to respond over the phone to the items on the Revised Dyadic Adjustment Scale (RDAS; Busby, Christensen, Crane, & Larson, 1995). Apart from providing data, this step helped verify that the respondent was indeed married. In fact, one telephone respondent did admit to not being married and to only being interested in learning about the study. He was thanked for his interest but was not scheduled for a lab session. After completing the RDAS, the experimenter scheduled a convenient time for the participant to come to the lab. Only eight of the telephone or email respondents failed to show up for their appointments. Their RDAS responses were immediately destroyed, because the respondents had not signed the informed consent.

Measures

Each participant was asked to complete a set of self-report measures. These included the RDAS mentioned previously (Busby et al., 1995), the Conflict Tactics Scale (CTS; Straus, 1979), a measure of socially desirable response bias (M-C 1(10); Strahan & Gerbasi, 1972), and a 16-item measure of four temperament facets.

The RDAS (Busby et al., 1995), a shorter version of the Dyadic Adjustment Scale (Spanier, 1976), reliably taps relationship satisfaction in married or cohabiting

respondents ($\alpha = .81$ in the current sample). Its brevity made the RDAS an ideal tool for telephone administration.

The Conflict Tactics Scale–Form A (CTS; Straus, 1979) is a reliable, widely used self-report index of interpartner aggression in the preceding year ($\alpha > .80$; Avakame, 1998; Downey, Feldman, & Ayduk, 2000; Dutton, 1998; Ehrensaft & Vivian, 1999; Hanley & O’Neill, 1997; Ryan, 1998).

Straus (1979) suggested that CTS responses can be broken into three subscales: (a) reasoning tactics, (b) verbal aggression, and (c) physical aggression. We created a single continuous measure of overall aggressiveness by combining the verbal and the physical aggression scores into a single, continuous scale, which we call CT-Aggression, and which fit the correlational design of this study.

The CTS is face-valid and can, therefore, evoke reactive responses. This is apparent by its significant correlation with M-C 1(10) scores in the present sample ($r = -.25$, $p < .05$). We removed the effect of socially desirable responding from the CT-Aggression scores by using the M-C 1(10) scores (see Saunders, 1991, for the computational details).

The Temperament Scale is a 16-item measure developed specifically for this study.¹ It includes four, 4-item subscales: impulsivity, emotionality, attention, and energy. Of the four subscales, two exhibited acceptable internal reliability in the present sample: the impulsivity subscale, $\alpha = .88$, and the attention subscale, $\alpha = .77$. The alpha coefficients for the emotionality and energy subscales were .59, and .67, respectively. Because these alphas did not meet our predetermined benchmark of .70, the emotionality and energy subscales were not included in any of the data analyses presented below.

Inferential Bias Measure

We measured the men’s bias to attribute criticism or rejection to women by using a modified version of the empathic accuracy paradigm. Participants in an empathic accuracy method view videotapes of people and make inferences about the thoughts and feelings reported by the people in the videotapes. Participants’ inferences are then compared to the actual thoughts and feelings reported by the people in the video, and rated for the similarity of their content (for methodological details, see Ickes, 2001). This procedure results in an aggregated (i.e., global) empathic accuracy measure for each participant.

The three stimulus videotapes used in this study were edited versions of tapes originally developed by Marangoni, Garcia, Ickes, and Teng (1995) and used in Schweinle et al. (2002). Each videotape depicts a different female client participating in a simulated individual psychotherapy session with 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. 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.

Each of the women came prepared to discuss with a licensed, male, Rogerian therapist personal issues that were of real concern to them. The genuineness and spontaneity of the sessions was evident in the range of emotional expressions that the clients displayed (e.g., one woman wept openly while discussing her divorce).

The three therapy tapes were later edited by Gesn and Ickes (1999) so that they each contained thirty 15-second excerpts, with 1-second intervals of blank tape inserted between each pair of excerpts. There were thirty 15-second excerpts on each of three tapes, for a total of 90 excerpts.

Each client was debriefed immediately after her therapy session and asked to sign a second consent form. The client was then seated in a cubicle in the Social Interaction Lab and asked 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 discuss their recent (Divorce 1) or impending divorce (Divorce 2). In the third tape (Role Conflict), the female client discusses the stress she is 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 they each contain instances in which the client reported critical or rejecting thoughts or feelings about her husband or ex-husband and instances in which the client reported thoughts or feelings that were not critical or rejecting of her (current or ex-) husband. There were, in addition, 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 therapy clients were women, we asked only 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.

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.

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 University of Texas–Arlington Social Interaction Lab. 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, some measures that are not considered in this article, and the M-C 1(10).

When each participant indicated with a signal light 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-second 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), 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-second excerpt, the experimenter (or his assistant) paused the videotape in the 1-second blank portion. During each of these pauses or "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 rejecting 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 and made inferences for all 90 thoughts and feelings.

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 respond to an 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-hour 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 had finished writing about the state of his marriage, the experimenter returned to the cubicle and thoroughly debriefed him while encouraging him to ask any relevant questions. 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.

Wife-Directed Aggression Reported by the Men in the Sample

Among the participants, 11 reported mild to moderate physical aggression against their wives, 72 reported verbal aggression only, and 3 reported no verbal or physical aggression. None of the participants reported physical aggression against their wives without verbal aggression. The 11 participants who reported some physical aggression reported "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.

Participants' Narratives Describing the Current State of their Relationship

Relationship stability information was assessed by means of the open-ended question placed at the end of the CTS, "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 transcribed into typeface and all identifying information was

removed. 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 indicated 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 participants' adjusted CT-Aggression scores ($r = -.48$). 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, $ps < .01$), but was not significantly correlated with the number of children the couple had ($r = -.10$, nonsignificant [*ns*]).

Language Analyses

Each participant's narrative description of the state of his marriage was transcribed into a text file and prepared for analysis using the LIWC software program (Pennebaker et al., 2001). The LIWC software counted each of the words that appeared in the narrative and computed the percentage of words that were found in each of 74 categories. Examples of these 74 categories include negations, first-person singular pronouns, inhibition, family, body states and symptoms, death and dying, sex and sexuality, and swear words. Of particular interest in the present investigation was the category of anger words, but we also checked to see if the percentage of words used in any other categories was significantly correlated with self-reported marital aggression.

Results

Descriptive Statistics

Means, standard deviations, reliability coefficients (where applicable), and correlations are summarized in Table 1.

Signal Detection Theory Analyses

For the signal detection analyses we combined the critical/rejecting and the ambiguous thoughts and feelings into a single category for three reasons. First, an ambiguous rating implies that the thought or feelings could be critical or rejecting. 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.

We computed each participant's CR or AMB versus NCR bias as B''_D , a parametric bias measure (see Donaldson, 1992). B''_D scores range from +1 to -1, with the

Table 1. Correlations Between Variables of Interest

	M	SD	α^a	2.	3.	4.	5.	6.	7.	8.	9.
1. Wife-directed aggression ^b	11.9	5.1	.71	.28**	.31**	.29**	.22*	.20 [†]	-.33**	-.48**	-.40**
2. Anger references	0.51%	1.2			.19	.03	.14	.04	-.21*	.04	.09
3. Self-references	11.8%	4.4				.19	.20 [†]	.04	-.16	-.03	.08
4. Impulsivity score	-.19	.83	.88				.35**	.05	-.18	-.11	-.02
5. Attention score	-.16	.74	.77					.11	-.16	-.02	.04
6. Critical/rejecting inferential bias	.74	.29							-.01	.02	-.03
7. Years married	12.6	10.4								.29**	.09
8. Relationship stability	18.9	6.1	.94								.51**
9. Dyadic adjustment ^c	43.4	8.3	.80								

a. Interrater or interrater reliability (Cronbach).

b. Measured with the Conflict Tactics Scale (Straus, 1979) and adjusted for reporting bias with scores from the MC-1(10), which is a shortened version of the Marlowe-Crowne scale (Crowne & Marlowe, 1960) for biased responding (Strahan & Gerbasi, 1972).

c. Measured with the Revised Dyadic Adjustment Scale (Busby et al., 1995).

[†] $p < .07$. * $p < .05$. ** $p < .01$. *** $p < .001$.

extremes representing absolute biases toward or against inferring CR or AMB. In the present sample, the average bias score was 0.74 ($SD = 0.29$), which is somewhat skewed toward a CR or AMB bias. This skew most likely arises from the highly edited stimulus tapes we used, which, in their abbreviated form, seem more negative than the full-length version. Schweinle and Ickes (2007) used a full-length version of one of these stimulus tapes in a similar design and found an average bias very close to zero with a very symmetric distribution. Furthermore, the correlation between this bias measure and the men's scores on the MC-1(10) (Strahan & Gerbasi, 1972) was non-significant and negligible ($r = .01$, *ns*), suggesting that the men's responses were not biased by a socially desirable response set.

Text Analysis Findings

Two correlations between LIWC statistics from the men's marriage descriptions and wife-directed aggression emerged as significant. The men's tendency to make self-references (*I, me, my, mine, we, us, our*, etc.) was significantly related to the men's wife-directed aggression, $r = .31$, $p < .01$. Interestingly, neither first-person singular nor first-person plural references were, by themselves, significantly correlated with wife-directed aggression ($r_s = .13$ and $.16$, respectively; $p_s > .10$; more on this below). In addition, and as predicted by Hypothesis 1, the men's references to anger in their marital descriptions was significantly related to the men's wife-directed aggression, $r = .27$, $p < .01$. Interestingly, these two variables—self-references and anger references—were not significantly correlated with each other, $r = .19$, *ns*, a finding which suggests that these two linguistic characteristics are independent predictors of men's wife-directed aggression.

Temperament-Related Findings

The four-item impulsivity subscale of the temperament measure exhibited good internal reliability, $\alpha = .88$. And, consistent with Hypothesis 2, the men's impulsivity scores were significantly related to the men's wife-directed aggression, $r = .29$, $p < .01$, indicating that higher impulsivity is associated with greater wife-directed aggression. This finding supports Barnett and Hamberger's (1992) conclusion about the importance of impulsivity as a unique predictor of wife-directed aggression.

The four items in the attentional-problem subscale exhibited acceptable internal consistency, $\alpha = .77$. Consistent with Hypothesis 3, the men's attentional-problem scores were significantly correlated with the men's wife-directed aggression, $r = .22$, $p < .05$, indicating that men with lower attention spans tend to report more wife-directed aggression. This finding conceptually replicates a finding previously reported by Schweinle and Ickes (2007), who found that a behavioral measure of the degree to which men attended to the woman in their stimulus videotape was inversely related to the level of the men's reported aggression toward their own wives.

Findings for the Inferential Bias Measure

Hypothesis 4 proposed that men's C/R-O bias would make a unique contribution to the prediction of their self-reported marital aggression, even after controlling for the effects of the men's anger, impulsivity and attention problems. We tested this hypothesis with a four-predictor regression model in which the men's C/R-O bias, anger words, impulsivity scores, and attentional-problems scores predicted the men's wife-directed aggression. Although this four-predictor model was significant, $F(4, 81) = 4.93$, $p < .01$, $R^2 = .20$, Hypothesis 4 was not supported. The men's C/R-O bias was not a significant unique predictor, $\beta = .17$, $F(1, 81) = 2.90$, *ns*, of the men's wife-directed aggression when controlling for the men's anger, impulsivity, and attention problems. The men's C/R-O bias did, however, play a role in a significant interaction effect that we report below.

A Comprehensive Model

Although we did not originally propose any interaction hypotheses, we were interested in possible moderators of the relationship between men's C/R-O bias and the men's wife-directed aggression. To this end, we tested a comprehensive model predicting the men's marital aggression. This model included the four important main effects—self-references, anger references, impulsivity, and attention—along with the interactions between each of these main effects and the strength of the men's bias to infer women's criticism or rejection. We also added three control covariates: the length of the men's marriages, the stability of the men's relationships, and the men's reported dyadic adjustment. These covariates were used by Schweinle et al. (2002) to control for the possibility that more aggressive husbands' biased inferential style may stem from greater criticism and rejection in their own marriages (see Table 2).

Prior to fitting the comprehensive model, all variables of interest were standardized to z-scores in order to avoid unnecessary collinearity between any main effects and the interaction terms (Aiken & West, 1991). We also examined the tolerance statistics and found no evidence that any two of the predictors were correlated to the extent of being statistically redundant. We therefore fit the comprehensive model and reported the resulting regression coefficients as standardized coefficients (β s).

We started by testing a regression model predicting men's wife-directed aggression with only the control predictors: years married, marital stability, and the men's dyadic adjustment scores. This model was significant, $F(3, 82) = 12.07$, $p < .01$, $R^2 = .31$.

We then tested the main effects only model, which included the three control predictors along with the addition of impulsivity, attentional-problems, self-references, and the men's C/R-O bias as predictors. This model was also significant, $F(8, 77) = 9.08$, $p < .01$, $R^2 = .48$, and the improvement in fit over the previous "control predictor only" model was significant, $\Delta R^2 = .17$, $F(5, 77) = 5.03$, $p < .01$.

Table 2. Model Predicting Men's Wife-Directed Aggression^a From LIWC Statistics, Impulsivity, Men's Critical/Rejecting Overattribution Bias and Related Interactions

Effect	<i>F</i>	β^b
Overall model fit ($R^2 = .53$)	7.01***	
Main effects		
Anger references	4.34*	.19
Self-references	7.62**	.24
Impulsivity	2.79	.15
Attention	1.03	.09
Critical/rejecting overattribution bias (C/R-O bias)	<1.00	.08
Interaction effects		
Anger references \times C/R-O bias	<1.00	-.04
Self-references \times C/R-O bias	1.42	-.15
Impulsivity \times C/R-O bias	4.00*	-.22
Attention \times C/R-O bias	<1.00	.004
Control effects		
Years married	1.31	-.10
Relationship stability	12.04***	-.35
Dyadic adjustment	5.00*	-.22

a. Wife-directed aggression was measured with the Conflict Tactics Scale (Straus, 1979) and adjusted for socially desirable responding.

b. β is the standardized regression coefficient.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Finally, we tested a comprehensive regression model with the control predictors, the main effect predictors and the interaction predictors of interest. The data revealed that the comprehensive model significantly predicted the men's wife-directed aggression with a fairly large (Cohen, 1988) effect size, $F(10, 75) = 7.01, p < .01, R^2 = .53$. The comprehensive model also accounted for significantly more variance in the men's wife-directed aggression than the main effects and control effects only model, $\Delta R^2 = .17, F(4, 73) = 2.38, p < .06$.

Among the main effects of interest, only the effects for the two linguistic predictors—anger references and self-references—emerged as significant (see Table 2). The only significant interaction effect was the one between the men's impulsivity and the men's C/R-O bias, $F(1, 72) = 4.16, p < .05$. This interaction effect, depicted in Figure 1, indicates that the relationship between the men's C/R-O bias and the men's wife-directed aggression was much stronger for low-impulsivity men than for highly impulsive men.

The form of this interaction reveals that, overall, highly impulsive men are the most maritally aggressive ones, and their behavior appears to be relatively unaffected by the level of the C/R-O bias that they possess. This finding is consistent with Holtzworth-Munroe's (2000) assertion that there might be two different types of

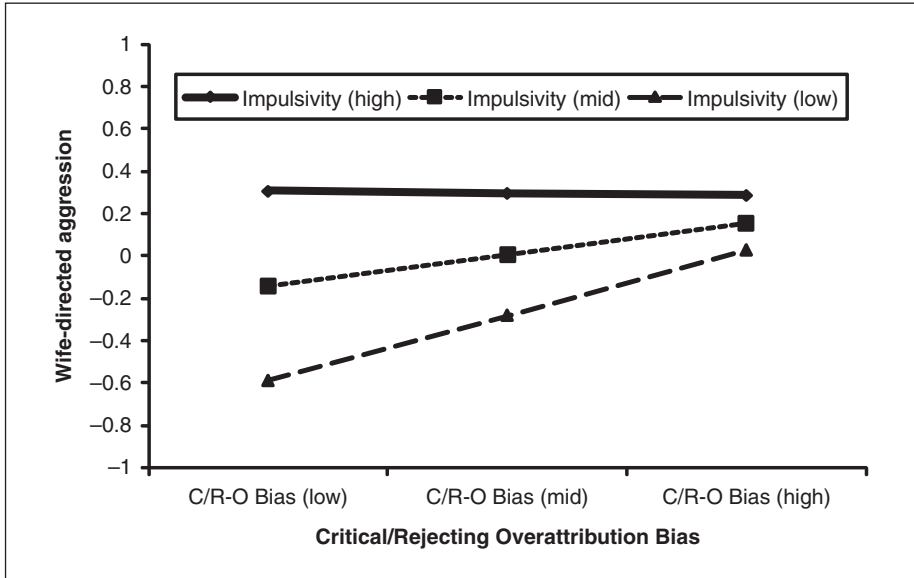


Figure 1. The interaction between men’s impulsivity and their critical/rejecting overattribution bias in predicting the men’s-directed aggression

wife-abusers: the antisocial impulsive type and the dysphoric type. According to the present findings, the dysphoric abusers are the ones whose wife-directed aggression requires the presence of a substantial C/R-O bias; the aggression of the impulsive/antisocial abusers does not.

Discussion

Basing our predictions on previous research findings, we identified four potentially distinguishing characteristics of maritally aggressive men: anger, impulsivity, C/R-O bias, and attentional disorder/impairment. We then examined the unique ability of these four variables to predict self-reports of marital aggressiveness in a community sample of 86 married men. To avoid limiting our investigation to only those four factors, we cast a wider net by using linguistic word count analyses to analyze the content of paragraph-length narratives that each of our male participants wrote in response to our request that they describe the current state of their marriage, and then tested to see which of the other LIWC variables (apart from anger) were related to wife-directed aggression.

As zero-order predictors, anger, impulsivity, C/R-O bias, and attentional impairment were all found to be correlated with reported wife-directed aggression. In addition to these four variables, the number of self-references that the men included in the current state-of-their-marriage accounts was also found to be a significant zero-order

predictor of their self-reported marital aggression. These findings add to the empirically based psychological description of aggressive husbands by characterizing them as angry, impulsive, biased, inattentive, and egocentric (i.e., self-focused). However, these findings are also somewhat exploratory and bear replication in a design that better accounts for possible Type I error inflation. Furthermore, there does not appear to be any evidence for a direct association between men's attention to their own wives and men's level of marital aggression. Our finding could represent a general attention deficit on the part of aggressive men or could be an attentional deficit that is specific to women only.

It was important to see if—and how—this empirical description of maritally aggressive men would change when all of the zero-order predictors were entered into a comprehensive multiple regression model. In this model, we included the four significant zero-order predictors—anger references, self-references, self-rated impulsivity, self-rated attentional impairment, and C/R-O bias—along with the interactions between each of these “main-effect” predictors and the strength of the men's C/R-O bias. We also added three control covariates: the length of the men's marriages, the stability of the men's relationships, and the men's reported dyadic adjustment.

The comprehensive model yielded a relatively large overall effect size, $R^2 = .53$, which should, of course, be expected to be somewhat smaller if tested in a replication sample. It is of particular interest, however, that of the twelve predictor terms included in the comprehensive model, only five were uniquely predictive of self-reported marital aggression when the effects of all other predictors were controlled, and two of these five were “control” variables.

As “main effects,” only the linguistic measures of anger references and self-references emerged as statistically unique predictors in the comprehensive model. Their effects were additive, such that angry and “egocentric” men reported the greatest level of wife-directed aggression, whereas nonangry and nonegocentric men reported the least. The effect for anger was expected, based on previous research findings, but the effect for self-references was unexpected and, to the best of our knowledge, has not been documented in any previous studies.

Although it makes sense in retrospect that the more aggressive husbands would place greater emphasis on themselves when describing the current state of their marriage, the present study appears to be the first to identify this predictor variable, which was important not only as a zero-order predictor but also as one that made a significant unique contribution in the comprehensive model. This is one of the most novel findings to emerge in this study, and it is an effect that we could not have identified without a linguistic content analysis of the words the men used to describe the current state of their marriage.

On the other hand, first-person singular self-references were not a significant predictor of men's marital aggression. Instead, singular and plural self-references, *taken together*, were associated with marital aggression. Intuitively, it would seem that only first-person singular references would be indicative of the sort of narcissism or self-centeredness that one would expect an aggressive husband to have.

However, as Ickes, Reidhead, and Patterson (1986, pp. 71-72) have noted, the use of third-personal singular pronouns in the context of a dyadic relationship is positively correlated with Machiavellianism, and these pronouns can be used in the service of manipulating one's partner in at least three ways.

For example, the high-Mach person may use the pronouns "we," "us," "our," and so on in such a way as to suggest (a) the implicit agreement of the interaction partner ("He's not the kind of person *we* want as our congressman"); (b) the right to speak for the interaction partner ("It looks like *we*'ll just have to sit here and be bored until the experimenter gets back"); or (c) an implicit consensus of people in addition to the high-Mach person that his or her opinions, proposed action, and the like are correct ("*We* athletes don't have much use for computer freaks on campus").

In addition, the tendency to use both singular and plural first-person pronouns in reference to the self may reflect a tendency on the part of maritally aggressive men toward borderline personality and identity diffusion, which is an inability to distinguish one's own perceptions from the perceptions of one's interaction partners (Dutton, 1995). Furthermore, depression is common to people with borderline personality disorder (Skodol et al., 1999), and it has previously been linked to the use of first-person pronouns in studies by Andreasen and Pfohl (1976), Groom and Pennebaker (2002), and Pennebaker and Stone (2004). Accordingly, maritally aggressive men's greater use of first-person pronouns may stem from either depression or borderline personality organization or both.

As a final consideration, a recent study by Slatcher, Vazire, and Pennebaker (2008) revealed that men's use of first-person pronouns (specifically, "we," "I," and "me") in students' instant messages was negatively associated with relationship stability, though these correlations were not statistically significant. So we may tentatively conclude that men's use of first person-pronouns—plural and singular together—is linked to negative relationship outcomes.

Our "self-reference finding," along with the effect for the men's use of anger words, reveals that linguistic content analysis can illuminate processes and phenomena that other methods might fail to detect. Our finding that more aggressive husbands are more self-centered suggests a reason why such men might find it difficult to describe or perceive their marriage through their wives' eyes. It may also help to explain Clements, Holtzworth-Munroe, Schweinle, & Ickes's (2007) finding that abusive men are less accurate when they infer the specific content of their partners' thoughts and feelings. Further study of this important linguistic variable is clearly warranted.

The only significant interaction effect we found in the present study was the one between the men's impulsivity and the men's C/R-O bias. This interaction effect, depicted in Figure 1, indicated that the positive relationship between the men's C/R-O bias and the men's wife-directed aggression was significant for low-impulsivity men but not for high-impulsivity men (with the moderate-impulsivity men intermediate). The form of this interaction further revealed that highly impulsive men report uniformly high levels of marital aggression regardless of the strength of their C/R-O bias,

whereas low-impulsive men report a high level of marital aggression only when their level of C/R-O bias is high.

These findings from the comprehensive model reveal that the preliminary sketch of the typical maritally aggressive man that emerged from the zero-order correlations was too simplistic, and suggest that there are at least two distinct types of maritally aggressive men. The first type is the highly impulsive man, whose impulsivity is fueled in an additive way by his level of anger and his degree of egocentric self-focus. This type seems to correspond to the antisocial impulsive type identified by Holtzworth-Munroe (2000)—an impulsive, angry, and egocentric person whose marital aggression can erupt quickly and in a way that is not dependent on the biased perception that the woman's thoughts and feelings are critical and rejecting of her male partner.

The second type of maritally aggressive husband seems to correspond to the more dysphoric type identified by Holtzworth-Munroe (2000). This type must feel highly aggrieved in order to behave aggressively, and this sense of aggrievement seems to derive from the strength of his bias to over-attribute critical and rejecting thoughts to his female partner. If this attributional bias is strong, the second type of maritally aggressive man is likely to be stung by the unfairness of her perceived high level of criticism and rejection. He is likely to act aggressively in retaliation to his perception of having been "injured" by his partner's criticism or rejection, particularly in those cases in which the man is also highly angry and egocentric.

To use a temperature metaphor to characterize the difference between the two types, the first type (Holtzworth-Munroe's antisocial impulsive type) may have an emotional "temperature" that is typically just below the boiling point. These men, to use a different metaphor, may be the "Cobras" described by Jacobson and Gottman (1998): abusive husbands whose aggression can be characterized as "explosive and dangerous" or "unnerving and frightening," (p. 85). They are prone to quick, aggressive escalation in instances of relationship conflict, and a little extra "heat" is all that is needed to make an antisocial wife-abuser "boil over." In contrast, the second type of maritally aggressive man (Holtzworth-Munroe's dysphoric type or Jacobson and Gottman's "Pit Bull" type) may have an emotional "temperature" that can be described instead as a "slow cumulative burn." A long slow-burn period of accumulating perceived injury and resentment may be needed to bring the second type of man to his "boil-over" point.

Although this metaphorical distinction currently relies more on speculation than on fact, it may nonetheless have some heuristic value its implication that aggressive outbursts may be more frequent and less foreshadowed by earlier events in the antisocial impulsive type than in the dysphoric type. These potential differences should be explored in future research.

There are several batterer treatment programs that are currently in use, including the Duluth Model of Coordinated Community Response (Pence & Paymar, 1993), the cognitive-behavioral program developed by Dutton (1998), and psychiatric drug therapies (see review, Maiuro & Avery, 1996). The Duluth treatment model includes a component that addresses the batterer's sense of retaliation for perceived harm by his

wife. Dutton's program includes group therapy for anger and anxiety management. And, psychotherapeutic drug therapies involve the use of selective serotonin reuptake inhibitors to reduce the batterer's impulsivity. The importance of each of these treatment foci is clearly supported in our present findings. In fact, these findings argue for the development of a comprehensive, integrated treatment model in which aggressive husbands' C/R-O bias, egocentrism and anger are treated with cognitive therapy and the men's anxiety and impulsivity are treated pharmacologically.

Finally, we should remind the reader of an important limitation of the present study. The findings we report here do not speak to women's aggression against men or to the notion of "common couple violence" versus "patriarchal terrorism" (Johnson, 1995). It is possible that maritally aggressive wives may possess many of the same personality attributes and the same type of inferential bias that maritally aggressive husbands do. Future research is needed to explore this possibility.

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Note

1. Please contact the first author to obtain a copy of the temperament scale or for other questions about this measure. Because the present data were collected in the study by Schweinle et al. (2002) and not in the more recent study by Schweinle and Ickes (2007), we were constrained to measure attention only by self-report, as an aspect of the temperament scale. In contrast, Schweinle and Ickes were able to obtain a behavioral measure of the degree to which the men in their study looked away from a video image of a woman who was describing her marital problems to a male, client-centered therapist. Accordingly, if an attentional

deficit or disorder does not emerge as a salient characteristic of maritally aggressive men in the present study, the reason for that might lie in the different ways that attention was operationally defined in these two studies.

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