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Running head: EMPATHY AND RELATIONSHIP AGGRESSION

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Abstract

This study examined links between intimate partner aggression and *empathic accuracy* – how accurately partners can read one another’s emotions – during highly affective moments from couples’ (N = 109) video recall of laboratory-based discussions of upsetting events. Less empathic accuracy between partners was generally related to higher levels of aggression by both partners. More specific patterns emerged based on the type of aggression and emotion being expressed. Women’s poorer ability to read their partners’ vulnerable and positive emotions was linked to both men’s and women’s greater physical and psychological aggression. Moreover, women’s inaccuracy in reading their partner’s hostility was linked to women’s greater psychological aggression towards the men. Men’s inaccuracy in reading their partner’s hostility was linked to women’s (not men’s) greater physical and psychological aggression. Findings suggest important nuances in the links between empathic inaccuracy and aggression, and implications for prevention and treatment of partner aggression are discussed.

Keywords: Couples, intimate partner aggression, empathy, empathic accuracy

Empathic accuracy and aggression in couples: Individual and dyadic links

Intimate partner aggression (IPA) has been recognized as a major public health problem with psychological aggression reported by 27% of couples and physical aggression reported by approximately 25% of couples in nationally representative samples (Archer, 2000). Contrary to predominant theories that have conceptualized IPA as a male-to-female phenomenon (Johnson, 1995; Johnson & Ferraro, 2000; Pence & Paymar, 1993), research shows that men and women perpetrate aggression with roughly equal frequency and severity (Archer, 2000; Caetano, Ramisetty-Mikler, & Field, 2005; Ehrensaft, Moffitt, & Caspi, 2004). In fact, couples most typically display bilateral low-level aggression, which has been labeled “common couple violence” and includes behaviors such as pushing and shoving (Marshall, Jones, & Feinberg, 2011). There is accumulating evidence that, for many couples, the precipitants of violence may be found in interpersonal dynamics at the dyadic level rather than solely the result of individual-level influences. For example, recent research indicates that the frequency of women’s IPA perpetration is related to unhealthy, chronic couples’ conflict (Marshall et al., 2011). In an effort to better characterize the dyadic-level deficits that exist within aggressive couples, the current study focuses on the extent to which empathic accuracy (EA; Ickes, 2003) during couples’ discussions of conflict is linked to levels of intimate partner aggression.

Empathic accuracy commonly refers to how accurately one person can infer the thoughts and feelings of another person. EA is a complex phenomenon that is likely shaped by individual attributes of both interaction partners and by dyadic processes between partners. Research on the intra-individual roots of empathic accuracy has explored its relationship with affect sharing and mentalizing abilities (Zaki, Bolger, & Ochsner, 2009). In order to infer another’s psychological state accurately, one must be able to both share or “mirror” that state (affect

sharing), and understand how to label that state (mentalizing). Neuroscience research has shown that brain activation associated with empathic accuracy includes regions thought to be responsible for affect sharing and mentalizing (Zaki, Weber, Bolger, & Ochsner, 2009), and empathy, emotion regulation, and aggression arise from common neural circuits (Decety, 2010). Within the context of relationships, empathic accuracy might be best viewed as a relational index of the degree to which one partner is in tune with the reported experience of the other partner. Such a dyadic conceptualization makes it clear that both the signaling ability of the emoter and the reading capacity of the perceiver, as well as patterns of couple interaction, might shape EA.

Both theory and prior research suggest that empathic failures or deficits may be linked to aggressive behavior. A lack of self-reported empathy has been found to relate to aggression in both men and women (Richardson, Hammock, Smith, Gardner, Signo, 1994). In a study of newly married couples by Kilpatrick, Bissonnette, & Rusbult (2002), higher empathic accuracy was associated with the inclination to avoid destructive reciprocity and the move toward reconciliation. These couples were found to reduce tension by inhibiting the impulse toward negative reciprocity. Given the well-documented association between affective dysregulation and intimate partner aggression (see Finkel, 2007, for a review), it has been postulated that partners are more prone to misreading one another's emotions in times of heightened emotional conflict and this leaves them more vulnerable to mutual escalation into aggressive ways of interacting.

Negative affect reciprocity, or the increased expression of distressing emotions in response to another's, is a behavioral hallmark of distressed, high conflict couples (Gottman, 1994). Numerous studies have shown that the induction of negative affect diminishes one's capacity to process information in times of distress, leading partners to default to generalized negative schemas about each other and the relationship (Tashiro & Frazier, 2007). Such negative attribution schemas have been implicated as a risk factor for partner violence (O'Leary, Slep, &

O'Leary, 2007). For example, violent husbands are more likely to attribute hostile intent to their wife's behaviors, and report stronger feelings of anger and aggressive behavioral intentions in association with those wife behaviors (Holtzworth-Munroe & Hutchinson, 1993; Holtzworth-Munroe & Smutzler, 1996). Intimate partners who rely on stereotyped cognitive attributions, as opposed to dynamic interpersonal understanding, seem to be at a particular disadvantage when attempting to resolve dyadic concerns (Hawkins, Carrere, & Gottman, 2002). It follows that couples' diminished perspective-taking and cognitive reasoning in the face of emotional arousal would undermine the ability to resolve conflict in more adaptive, less aggressive ways.

To the best of our knowledge, only three prior studies have specifically examined the association between empathic accuracy and aggression in couples (Schweinle & Ickes, 2007; Schweinle, Ickes, & Bernstein, 2002; Clements, Holzworth-Munroe, Schweinle, & Ickes, 2007). Schweinle et al. (2002, 2007) found that men's aggression towards their wives was related to the tendency to inaccurately infer the thoughts and feelings of women as critical or rejecting, reflecting an attribution bias that could be linked to aggressive tendencies. However, the potential generalizability of this link was likely limited by the small number of non-aggressive men in their sample (only three of 82 men reported being non-aggressive in verbal or physical ways). Moreover, female partners did not participate in the research, making it difficult to consider the role of partners and limiting the ability to verify men's reports of their own aggression (Browning & Dutton, 1986). Clements et al. (2007) found a negative correlation between empathic accuracy and aggression in men (i.e., violent men exhibited significantly less empathic accuracy than non-violent men), while empathic accuracy was not related to women's aggression. The study by Clements and colleagues set a standard for using dyadic perspectives and actual interactions between partners for assessment of the EA-IPA relationship.

These findings underscore the importance of looking at both partners in heterosexual relationships given the possibilities of dyadic influences and gender differences in the EA-IPA link. While gender differences have not consistently been found in prior studies of empathic accuracy, there is evidence to suggest that the experience and consequences of empathy may be different for men and women. For example, one study (Acitelli, Douvan, & Veroff, 1993) found that wives' but not husbands' marital satisfaction was related to their partners' empathy around hostility. Specifically, more satisfied wives had male partners who were more accurate in perceiving the women's hostility during conflict (Acitelli, Douvan, & Veroff, 1993). Similarly, previous work by Cohen, Schulz, Weiss, & Waldinger (2012) found differences in how empathic accuracy was linked to men's and women's relationship satisfaction depending on the type of emotion being expressed. Men's relationship satisfaction was related to the ability to read their partners' positive emotions accurately, whereas women's satisfaction was related to their ability to read their husbands' negative emotions accurately. Women's satisfaction was most strongly linked to how accurately their male partners could read their negative emotions.

Altogether, these findings suggest that accurate empathy of women's negative or hostile emotions by their male partners at times of conflict may be uniquely important in buffering some couples against aggressive behavior. For women, accurate empathy of their hostile emotions may reduce their aggressive behavior by generating a heightened sense of emotional engagement and understanding from their male partners at key moments, rather than the typical male pattern of avoidance or withdrawal that is known to affect women negatively (Eldridge & Christensen, 2002; Gottman, 1994; Johnson & Denton, 2002). Similarly, men's aggression toward their wives is related to a tendency by men to overattribute critical or rejecting meaning to their partners' thoughts and feelings. In contrast, if men were able to accurately read women's negative thoughts and feelings without overattributing criticism or hostility, this would limit the

tendency to take offense where none was intended and thereby reduce the potential for conflict escalation.

The present study extends work on EA and aggression in several important respects. Little is known about the relation of empathic accuracy to psychological aggression in addition to physical aggression. The examination of psychological aggression is particularly important for a number of reasons. Data from nationally representative samples indicate that this form of aggression is most prevalent among couples, affecting nearly 90% of relationships, and is perpetrated by both men and women with even higher perpetration rates reported by female partners (Taft, O'Farrell et al., 2006; Woodin & O'Leary, 2009). Psychological aggression has been linked to deficits in relationship functioning including marital distress, compromised problem-solving skills, and subsequent physical aggression (Schumacher & Leonard, 2005; Woodin & O'Leary, 2009). Moreover, research demonstrates that psychological victimization may be more damaging than physical victimization in non-battering community couples. In a longitudinal study of newlywed couples, Lawrence, Yoon, Langer, and Ro (2009) found that changes in psychological victimization were associated with changes in depression and anxiety symptoms, even after controlling for the effects of physical victimization. In another study, being the target of psychological aggression predicted psychological distress, anxiety, and physical health symptoms beyond the influence of physical aggression (Taft, O'Farrell et al., 2006). Psychological aggression victimization was also uniquely associated with higher levels of depression for women. These findings highlight the importance of the further study of psychological aggression in both women and men.

Two additional approaches in the current study may help further our understanding of links between empathy and aggression. The studies of empathic accuracy and aggression cited above examined aggression as a categorical variable. Yet in the case of common couples'

violence where levels of aggression can range from minor to severe, it may be more informative to measure IPA as a continuous variable (O'Leary, Slep, & O'Leary, 2007). In addition, previous work in this area suggests that one's accuracy in reading a partner's emotions may differ depending on the type of emotion being expressed (Cohen et al., 2012). We therefore examine the possibility that links between empathic accuracy and IPA may differ by the types of emotion.

Current Study

The present study aims to build on previous findings to broaden our understanding of the cross-sectional links between empathic accuracy and intimate partner aggression (IPA). Using a sample diverse in age, education, and income, we sought to examine the extent to which less accurate perception of a partner's feelings is linked with intimate partner aggression and whether this link differs by the type of emotion being expressed (hostile, vulnerable, or positive emotions) or by the type of partner aggression (psychological versus physical). We hypothesized that poorer empathic accuracy would be related to higher levels of aggression reported retrospectively for the previous 6-12 months. Using data from couples' discussions of their own conflicts, we were able to test these links using a dyadic approach that simultaneously models both within-person (individual) and between-partner (dyadic) effects of empathic accuracy. The ability to look at effects of the independent variables associated with each individual member of the dyad on IPV from both members of the dyad is particularly important in the study of violence between partners, as it is often bi-directional (Archer, 2000; Stith, Smith, Penn, Ward, & Tritt, 2004). The simultaneous examination of both individual and dyadic effects allows us to narrow the range of possible mechanisms linking IPV with empathic accuracy. For example, weak individual effects and strong dyadic partner effects would suggest that an individuals' violent behavior is more strongly influenced by the empathic accuracy of their partners than by that of the perpetrators.

Method

Participants

Community-based heterosexual couples ($n=109$) were recruited through advertisements from the Boston metropolitan area to participate in a study of relationships (see Waldinger & Schulz, 2006). Recruitment efforts focused on obtaining a diverse sample with respect to levels of functioning, relationship status and socioeconomic background, with an oversampling of couples with a history of partner aggression. Eligible couples had to be English-speaking and living together for a minimum of 12 months (but not necessarily married) prior to participating.

Recruitment efforts were successful in sampling a diverse population of couples. The mean age for men was 33.2 years ($SD = 8.8$) and 31.7 years for women ($SD = 8.5$). The median length of relationship for the couples was 1.9 years (range = 0.4-30), 33.3% were married, and 78.2% did not have children. The ethnic makeup of the sample was 58.4% Caucasian, 29.0% African American, 7.8% Hispanic, 3.0% Asian or Pacific Islander, and 2.0% Native American. The median family income per year was between \$30,000 and \$45,000, with 19.3% of subjects indicating that their family earned less than \$15,000 and 26.0% indicating that they earned more than \$60,000. Participants varied widely in their education experience: 45.0% had completed a bachelor's or more advanced degree, 17.0% had some post-high school education or less. 56% of men and 57% of women were physically violent towards their partners during the previous year. Violence was present in 68 of the 109 couples, (62.4%). In 55 of these 68 couples, violence was bilateral (both partners were violent toward the other). In six couples only the man was violent towards his partner, and in seven couples only the woman was violent towards her partner.

Procedure

The research protocol was approved by the Partners Health Care Human Subjects Review Committee (Brigham and Women's Hospital, Boston, MA). Couples completed questionnaires (including the CTS2) before participating in a laboratory couple interaction task and video recall procedure. Couples were paid \$250 (\$125 per person) for their participation. Before the interaction task, partners were asked in individual interviews to identify an incident in the past month or two in which their partner did something that frustrated, disappointed, upset, or angered them. Each participant recorded on audiotape a one-or-two sentence statement summarizing the incident and reaction. Partners were then brought together and, in counterbalanced order, discussed one incident identified by the man and one identified by the woman (in cases where both partners identified the same incident, a second incident identified by one of the partners was used). The audiotaped summary of each incident was played to initiate discussion, and participants were told to try to come to a better understanding of what occurred. Discussions lasted 8 minutes.

Following the discussion, participants viewed the videotape of their interaction and continuously rated their degree of emotional negativity and/or positivity during the interaction with an electronic rating device designed for this study. The device has a knob that moves across an 11-point scale that ranges from very negative to neutral to very positive. Past research has established the validity of this and similar video recall procedures for obtaining reports of affective experience (e.g., Gottman & Levenson, 1985; Schulz & Waldinger, 2004). Using participants' ratings, six high affect moments (HAMs) of 30-s duration were selected for each couple. These included the two 30-s segments from each discussion in which each partner reported being the most emotionally negative (yielding a total of four negative HAMs for the couple), and the 30-s segment identified by each partner as most emotionally positive (yielding two positive HAMs). In the second phase of the cued recall task, participants were shown the six

HAMs in order of occurrence during the discussion. After viewing each HAM, participants completed questionnaires about their own and their partner's feelings during that segment.

The video recall procedure employed in this study builds on the widely-used empathic accuracy paradigm pioneered by Ickes and colleagues (see Ickes, 2003, for a review) in which participants are asked to indicate what they believe their partners had reported thinking and feeling during moments of their own videotaped interaction. Independent coders then rate the amount of agreement in content between dyad members using a three-point scale from "essentially different content" to "essentially the same content" (Ickes, 2003). In the present study, we used direct comparison of the pattern of each partners' responses rather than judgment of similarity by an independent coder. Comparison of the two sets of responses independent of an evaluative judgment of similarity could provide a more informative gauge of empathy by using a more continuous and naturalistic measurement of accuracy. Accordingly, we operationalized empathic accuracy as the correlation between one person's self-reported feelings in a particular moment, and the partner's judgments about the person's feelings in the same moment. The choice to use Pearson correlations as opposed to other methods such as difference scores or intra-class correlations was based on our interest in obtaining an EA score that reflected perceivers' accuracy in rating a profile or an overall pattern of a sender's emotional ups and downs in a particular epoch. Our interest was less in how far apart spouses' ratings of the senders emotions were (as indexed by difference scores), but whether spouses were able to read the overall patterning of senders' scores – e.g., can a wife notice that her husband is feeling relatively high levels of anxiety and distress but relatively low levels of anger and disgust? Regardless of how individuals may differentially interpret or use a Likert-type reporting scale, of concern is whether husbands and wives track the overall pattern of a complex array of emotions.

Measures

Self and partner-reported emotion. The HAM emotion questionnaire (Schulz & Waldinger, 2004) lists 16 emotions that people may experience. Using a scale from one to seven (1=not at all and 7=very much), participants were asked to rate how much they felt each of the emotions during each of the six HAMs. Using the same list of items, participants were also asked to rate their partner's emotions during the HAMs. A principle components factor analysis (see Schulz & Waldinger, 2004 for a full description) suggests that the emotions on this questionnaire form three meaningful scales. The "hostile" scale consisted of the following emotion states: anger, irritated, disgusted, upset, hurt, critical, and defensive. The "vulnerable" scale was formed by collapsing two related factors into one to capture elements of both sadness and anxiety. The vulnerable scale was composed of the following emotions: sad, guilty, ashamed, afraid, nervous, and jittery. The emotion variables comprising the "positive" scale included: happy, close and supported. Good internal reliability (range of alpha coefficients = .74 to .80) was found across the three scales (Schulz & Waldinger, 2004).

Empathic accuracy. To measure the degree to which partners accurately read each other's emotions, a correlational methodology was used to compute empathic accuracy (EA) scores (see Cohen et al., 2012; Zaki, Bolger, & Ochsner, 2009). Each EA score is the correlation between an individual's self-rating of emotions experienced during the 30-s HAM and the partner's rating of his or her perception of the emotions expressed by the self-rating individual. This resulted in six correlations (one for each HAM) for each emotion scale, which were then aggregated into an overall EA score representing the average empathic accuracy for that emotion scale across all six moments. Higher positive scores (ranging to 1.0) reflect greater agreement between partners, or greater empathic accuracy by one partner in reading the other partner's emotions, whereas scores closer to zero indicate less empathic accuracy between partners, and more negative scores

(ranging to -1) indicate greater disagreement, or empathic inaccuracy. We aggregated measurements of empathic accuracy from the six high affect moments of the couple interaction to enhance the reliability of our index of EA. We found adequate internal reliability for the aggregated ratings of the six empathic accuracy scores for hostile, vulnerable, and positive emotions (respectively men's alphas = .55, .63, and .65; women's alphas = .63, .77, and .59).

Intimate partner aggression. Intimate partner aggression was assessed using the Conflict Tactics Scale, Version 2 (CTS-2; Straus et al., 1996). The CTS-2 is a 78-item self-report questionnaire asking about the frequency and severity of participants' behaviors during conflicts in the past year. It measures both psychological and physical aggression. The CTS-2 has demonstrated good reliability and good discriminant and construct validity (Straus, et al., 1996). To minimize under-reporting of aggression, we used the highest score reported by either partner on both the psychological and physical aggression subscales (Archer, 2000; Schafer, Caetano, & Clark, 2002). Cronbach's alphas on the psychological and physical aggression scales, respectively, were .94 and .92 for women and .93 and .90 for men.

Data Analysis

To test the links between empathic accuracy and one's own and one's partner's interpersonal aggression, we used the Actor-partner Interdependence Model (APIM; Kashy & Kenny, 2000), which analyzes data from both partners simultaneously and helps to distinguish between individual and dyadic, or cross-partner, associations between empathy and aggression. For example, a women's empathic accuracy may lead her to aggress more in the relationship (an individual or actor effect) and/or it may lead her husband to aggress in the relationship (a cross-partner effect). Figure 1 illustrates the proposed model with intimate partner aggression, measured by CTS scores, as the outcome. Individual, or actor, effects capture the influence of each individual's empathic accuracy on one's own perpetration of partner aggression. Paths a

and b represent, respectively, the influence of man's empathic accuracy for his partner's emotions on his physical or psychological aggression within the relationship as well as on his partner's physical or psychological aggression. In order for actor effects or cross-partner effects to be estimated accurately, they have to be estimated while controlling for the other effects; for example, to understand the influence of a men's empathic accuracy on their own aggression, the model must simultaneously account for the influence of men's empathic accuracy on their partners' use of aggression. APIM models were estimated using structural equation modeling (SEM) in AMOS (Version 17.0; Arbuckle, 2006). Because APIMs are fully saturated SEM models, traditional fit indices based on chi-square goodness of fit are not applicable (Cook & Kenny, 2005). To reduce the likelihood that a third variable might be driving any found associations between EA and IPA, we included a number of control variables in the model that are known from the literature and prior research to correlate with aggression and/or empathic accuracy: age, education and income, relationship satisfaction, depression, alcohol use, and childhood abuse/neglect.

Results

Means and standard deviations for the empathic accuracy scales and the psychological and physical aggression subscales of the CTS-2 are presented in Table 1. For both men and women, levels of psychological and physical aggression ranged from mild to moderate on average. No psychological or physical aggression at all was reported by 48 men and 52 women (44% and 48% of the total sample, respectively). Compared to nationally-representative estimates that physical aggression occurs in 1 out of every 4 couples (e.g., Caetano et al., 2005), physical aggression in this study was reported by half of the couples, with roughly equal rates of female (51%) and male (49%) perpetration that is consistent with larger samples (e.g., Archer, 2000). The doubled rate of physical IPA in our sample was by design – that is, recruitment was

targeted at oversampling physically aggressive couples. In contrast, the rate of psychological aggression in our sample (94%) was consistent with the rate of occurrence reported from other samples (90%), as was the equal frequency of perpetration by both sexes. All variables except for physical aggression (skew of 2.38 for men and 2.92 for women) were roughly normally distributed. A square root transformation was used to normalize the physical aggression scores, resulting in more acceptable skew statistics (0.95 for men and 1.26 for women).

Consistent with other studies of IPA (e.g., Taft, O'Farrell et al., 2006), paired-samples *t*-tests showed that women were significantly more psychologically aggressive than the men ($t = 3.47$, $df = 108$; $p = .001$). There was a near significant trend indicating that women's levels of physical aggression was higher on average than the men's ($t = 1.88$, $df = 108$; $p = .06$). Men and women did not significantly differ on any of the empathic accuracy scales. Moreover, men's empathic accuracies across the three emotion types were not significantly correlated. For women, a significant correlation was present only between empathic accuracy for men's hostile emotions and accuracy for men's vulnerable emotions ($r = .29$, $p = .008$). As expected, all of the correlations between psychological and physical aggression, both within gender and between gender, were found to be highly significant. That is, men's psychological and physical aggression scores were moderately correlated ($r = .54$, $p < .001$) as were women's psychological and physical aggression scores ($r = .59$, $p < .001$). Similarly, men's aggression scores on both scales were moderately to strongly correlated with women's aggression scores on both scales (men's psychological with women's psychological: $r = .79$, $p < .001$; men's physical with women's physical: $r = .31$, $p = .001$; men's psychological with women's physical: $r = .37$, $p < .001$; and men's physical with women's psychological: $r = .42$, $p < .001$).

APIM Analyses of Actor and Partner Effects

Separate SEMs were estimated for empathic accuracy for hostile, vulnerable, and positive emotions. In all of the SEMs, control variables (e.g., age, education, income) were included such that the models specified bi-directional (covariances) paths between empathic accuracy and control variables and unidirectional paths from control variable to the aggression variables. Figure 1 displays results of the APIM examining empathic accuracy for *hostile* emotions linked to psychological and physical aggression. The models accounted for 17.4% and 11.0% of the total variance in women's psychological and physical aggression, respectively, and for 10.0% and 9.5% of the total variance in men's psychological and physical aggression, respectively. Significant partner effects were found for men's EA for women's hostile emotions and women's aggression. Specifically, men's poorer accuracy in reading their partners' hostile emotions was linked to women's greater psychological ($\beta = -0.29$, $p = .002$) and physical aggression ($\beta = -0.25$, $p = .01$), indicating that for every 1 standard deviation increase in men's empathic accuracy for hostile emotions, women's psychological and physical aggression is .29 and .25 standard deviations lower, respectively. While men's inaccuracy was not linked to their own aggressive behavior, women's inaccuracy in reading their partner's hostility was also negatively linked to their own psychological aggression ($\beta = -0.19$, $p = .05$).

Figure 2 displays results of the APIM analyses examining links between empathic accuracy for *vulnerable* emotions and psychological and physical aggression. The models accounted for 7.2% and 12.0% of the total variance in women's psychological and physical aggression, respectively, and for 8.2% and 12.0% of the total variance in men's psychological and physical aggression, respectively. Significant actor and partner effects were found for women's EA and physical aggression, such that women's poorer accuracy in reading their partners' vulnerability was linked to greater physical aggression by both the women ($\beta = -0.30$, $p = .008$) and their male partners ($\beta = -0.22$, $p = .05$). This indicates that for every 1 standard

deviation increase in women's empathic accuracy for men's vulnerable emotions, women's and men's levels of physical aggression are lower by .30 and .22 standard deviations, respectively. No actor or partner effects were found to be significant for EA for vulnerable emotions and either partner's perpetration of psychological aggression (however, the link between women's EA and women's psychological aggression approached significance).

Figure 3 displays results of the APIM analyses examining links between empathic accuracy for *positive* emotions and psychological and physical aggression. This model accounted for 13.1% and 14.5% of the total variance in women's psychological and physical aggression, respectively, and for 15.0% and 12.2% of the total variance in men's psychological and physical aggression, respectively. Women's poorer accuracy in reading their partners' positive emotions was linked to more psychological aggression by both partners ($\beta = -0.29$, $p = .003$ for actor effect, and $\beta = -0.27$, $p = .006$ for partner effect) and more physical aggression by both partners ($\beta = -0.31$, $p = .002$ for actor effect, and $\beta = -0.19$, $p = .05$ for partner effect). Men's EA for their partners' positive emotions was not linked to either partner's aggression.

Discussion

Viewing intimate partner aggression from a dyadic perspective, the aim of this research was to better understand how empathic accuracy between partners during emotionally-charged couple interactions might be linked to the perpetration of psychological and physical aggression. Our objectives were twofold: (a) to examine the extent to which less accurate perception of a partner's feelings is linked with intimate partner aggression (IPA), and (b) to investigate whether this link varies depending on the type of emotion being considered (hostile, vulnerable, or positive). Consistent with our overall hypothesis and with findings from two prior studies on empathic accuracy and IPA (Clements et al., 2007; Schweinle et al., 2002), we found that less

empathic accuracy between partners is related to higher levels of psychological and physical aggression by both men and women – that is, the more difficulty partners had in being able to accurately read the others' emotions, the more likely they were to aggress in their relationship.

The use of a dyadic modeling approach allowed us to examine the degree to which the links between empathic inaccuracy and aggression reflect actor or partner effects, providing a more nuanced understanding of these links. The specific pattern of actor and partner effects that emerged depended on the nature of the EA and the type of aggression. Notably, we observed that women's empathic accuracy was negatively linked with their own aggressive behavior, whereas men's empathic accuracy was not linked with their own aggression. Consistent with theory about gender differences in the etiology of aggression (Woodin & O'Leary, 2009), this gendered pattern might reflect the idea that women who misread emotions are somehow more likely to aggress perhaps because they feel less "on top" of the interaction (and thereby more vulnerable), or perhaps this kind of empathic (emotional) dullness also impacts their ability to regulate their emotions in order to prevent escalation. In addition, we observed distinct patterns of partner effects, with men's EA significantly linked to women's aggression only in the case of reading hostile emotions, while women's EA was linked to men's aggression when reading vulnerable and positive emotions. This suggests that aggressive responses in relationships can be driven by feeling emotionally misunderstood by a partner.

One possible broad explanation for the linkages found between empathic accuracy and IPA is that emotional arousal can diminish empathic accuracy (Weiss, Waldinger, & Schulz, 2008) and it can be a catalyst for violence (Finkel, 2007). Numerous studies have shown that the induction of negative affect produces a narrowing of cognitive and behavioral responses see Aspinwall, 1998; Frederickson & Branigan, 2005). Relationships characterized by stereotyped and rigid cognitive reasoning, as opposed to more dynamic interpersonal understanding

reflective of EA, seem to be at a particular disadvantage when attempting to resolve relationship conflict (Hawkins, Carrere, & Gottman, 2002). Emotional arousal may diminish perspective-taking and cognitive reasoning and thereby undermine the ability to resolve conflict in a more adaptive, less aggressive way. Given the association between affective dysregulation and intimate partner aggression (see Finkel, 2007, for a review), it seems plausible that the observed links between empathic inaccuracy and higher levels of aggression could be explained by the greater difficulty that such individuals have in managing difficult affective states during couple conflict. For certain couples, it is also possible that aggressive behaviors may be easier to enact if they are not empathically in tune with a partner's emotions. Striking out against a loved one is easier when you do not imagine how it will feel to them (Schweinle & Ickes, 2007).

Dyadic Links between EA and IPA by Emotion Valence, Type of Aggression, and Gender

The second aim of our study was to investigate whether and how the links between EA and IPA may vary by the nature of the emotion that partners are expressing, by the type of aggression, and by the gender of the aggressor. It is important to note that EA for the 3 types of emotion were not significantly intercorrelated; that is, accuracy in reading each type of emotion is independent to some extent of accuracy in reading other types of emotion, so it is worth thinking about each separately.

Links for vulnerable emotions. Both male and female aggression was linked to women's difficulty reading their partners' vulnerable emotions. These findings are consistent with previous work (Cordova, Gee, & Warren, 2005). Cordova et al. found support for a model of intimacy formation in which partners' ability to emotionally attend to and successfully handle one another's interpersonal vulnerability plays a key role in creating relationship safety. Such intimate safety might buffer against conflict escalation and reduce the likelihood of partners

becoming aggressive with one another when having difficult conversations (Mansfield, Addis, Cordova, & Dowd, 2009). Limited attunement to vulnerable emotions may lead to emotional conflict that then escalates into aggression (Cordova et al., 2005; Mansfield et al., 2009). For example, if a male partner is in a vulnerable state that his wife or girlfriend is not recognizing, we might expect him to self-protect in response by becoming defensive, and this may initiate a cycle of defensive reciprocity. The importance of this pattern in which both partners mutually escalate in response to misattuned vulnerability has been highlighted in the clinical literature on emotion-focused therapy for couples (Johnson & Denton, 2002).

Links for positive emotions. Similar to the pattern for vulnerable emotions, greater attunement by women to their male partners' positive feelings was associated with lower levels of psychological and physical aggression by both partners. This findings parallel past research connecting women's higher empathic accuracy for male partners' positive emotions to greater relationship satisfaction (Cohen et al., 2012). It seems plausible that women's attunement to men's positive feelings may engender a mutual positive emotion that reduces the likelihood of either partner becoming hostile and aggressive in times of conflict.

Links for hostile emotions. One notable finding was that men's inaccuracy in reading their partner's hostility is linked to women's greater aggression towards the men, both physically and psychologically, and this was the only significant link found for men's EA and their partner's aggressive behavior. Women's inaccuracy in reading their partner's hostility was also linked to their own psychological aggression; however, there were no similar findings for links between men's empathic inaccuracy and men's aggression. These findings highlight the particular role of empathic attunement for hostile emotions in women's use of aggression. It suggests that when a woman's expression of hostility is not accurately perceived or understood by her male partner, she is more likely to engage in aggressive behavior towards him. Moreover,

women's propensity for psychological aggression is also related to the degree to which they can read their partners' hostility. These findings are supported by a large body of work in the adult attachment and couples therapy literature highlighting the challenge of safe emotional engagement between partners when their interaction cycles are characterized by high levels of criticism and angry complaints that are met with a partner's distancing and defensiveness rather than empathic attunement (Johnson & Greenman, 2006). This literature suggests that when one's partner does not recognize and respond to angry protest in reaction to disconnection and one's relationships needs not being met, then patterns of emotion dysregulation ensue that perpetuate interaction cycles in which conflict escalates and the angry partner becomes increasingly angry in an effort to be heard and responded to. This communication mode is often referred to as the demand position in a demand-withdraw interaction pattern that is commonly observed in distressed couples, and findings show that the demanding role is more typically seen in women than men (see Eldridge & Christensen, 2002, for a review). This tendency for women to feel increasingly frustrated when their male partners do not understand and acknowledge their angry emotions has been noted in previous work on empathic accuracy (Cohen et al., 2012) and might help to explain the present findings that for women, though not for men, perpetration of aggression is linked to less empathic accuracy by their partners around hostile emotions.

It is worth commenting on the absence of links between men's EA and their aggression. In this study, men's aggression is not linked with how well they are able to read their partner's feelings, but is linked to how well female partners understand the husbands' feelings. It is important to note that these findings are not consistent with those of Clements and colleagues (2007) and by Schweinle and colleagues (2002, 2007). However, if replicated, the finding of a partner effect between female EA and male aggression, and the absence of an actor effect between male EA and male aggression, might reflect the particular importance for men of having

their partners be attuned to their hostility in minimizing the risk of those men becoming aggressive in heated moments of conflict.

Contributions and Clinical Implications

The current study adds to the literature on partner aggression and empathy in several ways. First, levels of aggression were assessed on an ordinal scale as opposed to categorically, which allowed for analysis of these links on a continuum of frequency and severity of aggressive behavior. Second, in contrast to most studies of IPA that focus on male-to-female aggression (e.g., Schweinle et al., 2002), this study examined aggression by both male and female partners in a sample in which both men and women were aggressive in the majority of cases. This bilateral “common couple” violence (Archer, 2000; Marshall, Jones, & Feinberg, 2011) is most common type in the general population. Finally, the application of APIM to provide a new window and the relative degree of individual and cross-partner contributions of EA on IPA helps provide important information about potential mechanisms underlying these connections.

The findings of the current study may have important implications for the field of IPA prevention and treatment. Traditional treatments for IPA have involved splitting partners into gender-specific groups, usually for male perpetrators and female victims. However, many perpetrators participating in anger management groups continue to engage in abusive interactions with their partners (Murphy, Meis, & Eckhart, 2009). Although separation of perpetrators and victims may be necessary to ensure safety in severe cases of physical abuse, couples experiencing mild-to-moderate psychological and/or physical abuse may benefit from couple therapy (see O’Leary & Cohen, 2007, for discussion). Conjoint treatment provides the optimal context, when deemed safe, to intervene in the couple’s interactions that are contributing to abusive behavior, while holding individuals fully responsible for their own aggression (Stith,

Rosen, & McCollum, 2003; Stith & McCollum, 2009). Concerns that dyadic treatment of aggression would place victims at risk for further abuse have been countered by the realization that gender-specific treatments have limited effectiveness (Murphy, Meis, & Eckhart, 2009), and that leaving aggressive couples untreated who have poor conflict resolution skills may be inappropriate and risky. Studies of couple therapy and violence already support the important role of targeting emotion expression in order to create desired positive change in relationship behaviors and communication patterns (e.g., Hrapczynski, Epstein, Werlinich, & LaTaillade, 2012; LaTaillade, Epstein, & Werlinich, 2006). Emotionally-focused couple therapy has been shown to change partners' abilities to empathize with one another's difficult emotions (Johnson & Denton, 2002). The present findings lend further support to the importance of intervening with aggressive couples by focusing on such misreads as a potential precursor to escalating conflict.

The distinct pattern of findings in this study for partner aggression in relation to the type of emotion being attended to suggests the potential for more focused targets of intervention. It may be particularly important to focus on how partners read each other's vulnerability and positivity, though these emotions are generally under-emphasized in the partner aggression literature. Studies typically focus on aggressive hostility, as this is the more obvious correlate of IPA, but in fact these other emotions might be as important and informative for intervention. For example, our findings suggest that couple therapists may want to pay particular attention to enhancing women's ability to read male partners' vulnerability and positivity, as inaccuracy in reading these emotions is related to their own and their partners' aggression.

Limitations and Future Directions

In addition to these strengths, the study has several limitations worth noting. The relatively low alphas of our EA measures may have constrained associations with other variables

including aggression. Related to this, the effect sizes in this study are generally small to medium; however, they are similar to the effect sizes reported in previous research on EA-aggression links (Schweinle et al., 2002, 2007), suggesting that these effects are robust across sample variations and methods. Given that the sample was weighted toward participants with recent partner physical aggression, this may limit the generalizability of the results to the general population. Similarly, this study relied on laboratory-based interactions that may not be representative of the spontaneous experiences that these couples have in everyday life.

Given the cross-sectional nature of this study, we cannot establish the direction of influence underlying the associations between EA and partner aggression. It is plausible that aggression in one's relationship might influence empathic processes during interactions, and it would be valuable to investigate this alternative directionality in future studies using a longitudinal design. Moreover, the present study does not allow one to discern the exact source or nature of the empathic inaccuracies (e.g., the extent to which one person fails to communicate an emotion or a communicated emotion is misread by the partner). Finally, it would be interesting to conduct more fine-grained examination of the nature of the discrepancies that occur between partners in their ratings of the senders emotions, particularly depending on the type of emotion expressed. For example, if partners were attempting to minimize perceived threat as Ickes et al suggests, we might expect perceivers to systematically underestimate how angry and distressed their partners were. Alternatively, we might expect an overestimation of partner negativity if perceivers' were either relying on negative schemas (such as negative sentiment override; e.g. Hawkins, Carrere, & Gottman, 2002; Waldinger & Schulz, 2006) or blaming partners (engaging in maladaptive attributions; e.g., Tashiro & Frazier, 2007). A fuller understanding of the mechanisms linking empathic accuracy and intimate partner aggression carries great potential for improving treatment and prevention of this relational problem.

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Table 1

Means and Standard Deviations of Empathic Accuracy (EA) and Aggression Scales

Scale	M	SD	Range
EA – Hostile emotions			
Women	0.29	0.27	-.67 to -.88
Men	0.25	0.28	-.41 to .80
EA – Vulnerable emotions			
Women	0.25	0.35	-.66 to 1.00
Men	0.24	0.32	-.35 to 1.00
EA – Positive emotions			
Women	0.28	0.46	-.94 to 1.00
Men	0.20	0.48	-1.00 to 1.00
Psychological aggression			
Women	47.52	34.44	0 to 125.0
Men	40.42	31.37	0 to 125.0
Physical aggression			
Women	15.04	27.74	0 to 140.0
Men	10.49	16.89	0 to 89.0

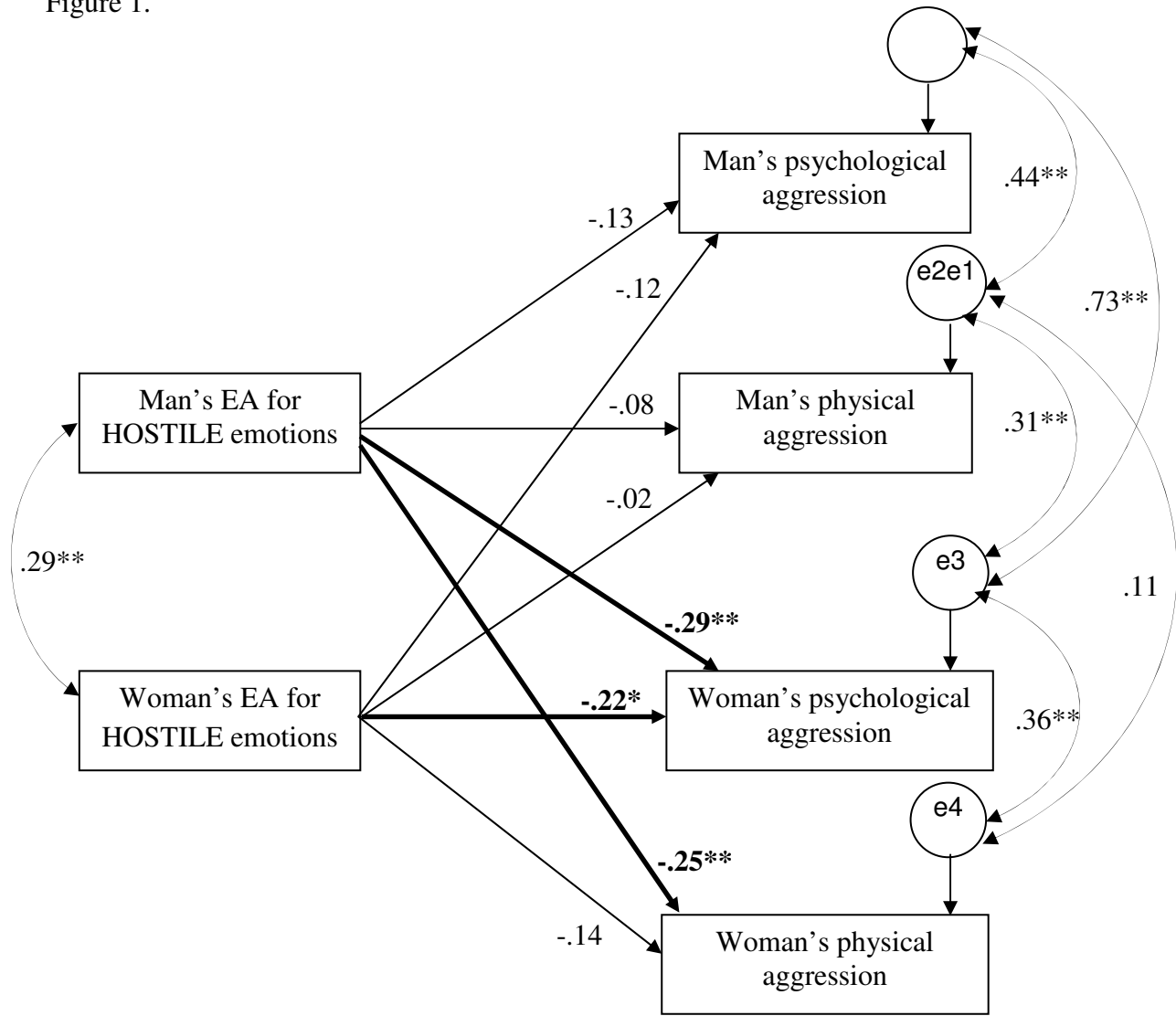
Figure Captions

Figure 1. Actor and partner effects for dyadic model of empathic accuracy for hostile emotions and intimate partner aggression.

Figure 2. Actor and partner effects for dyadic model of empathic accuracy for vulnerable emotions and intimate partner aggression.

Figure 3. Actor and partner effects for dyadic model of empathic accuracy for positive emotions and intimate partner aggression.

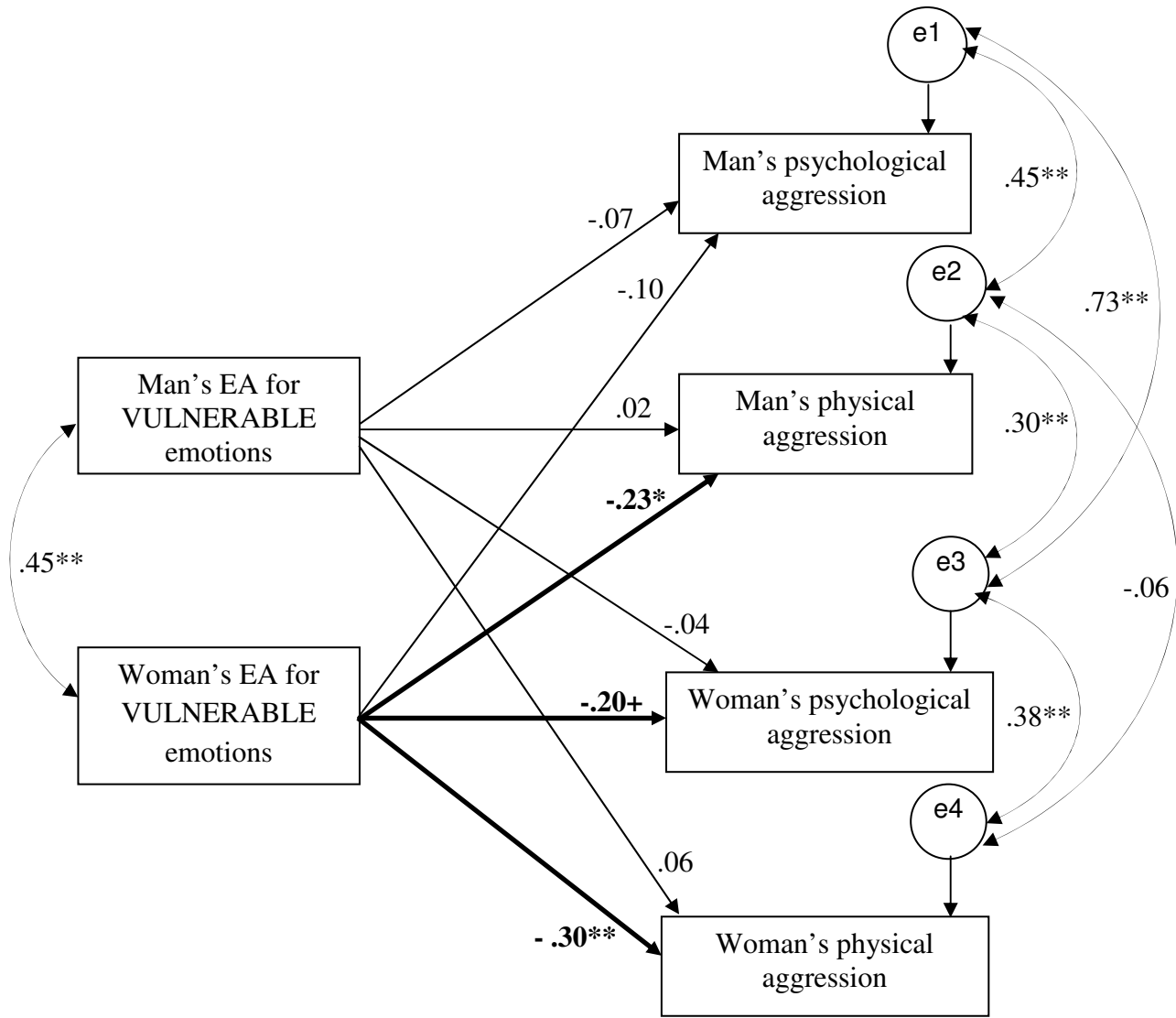
Figure 1.



Note: Path coefficients represent standardized regression coefficients (β s); model controls for age, education and income, relationship satisfaction, depression, alcohol use, and childhood abuse/neglect; therefore, the path scores provided in these diagrams are adjusted for these control variables.

[†] $p < .10$; * $p < .05$; ** $p < .01$.

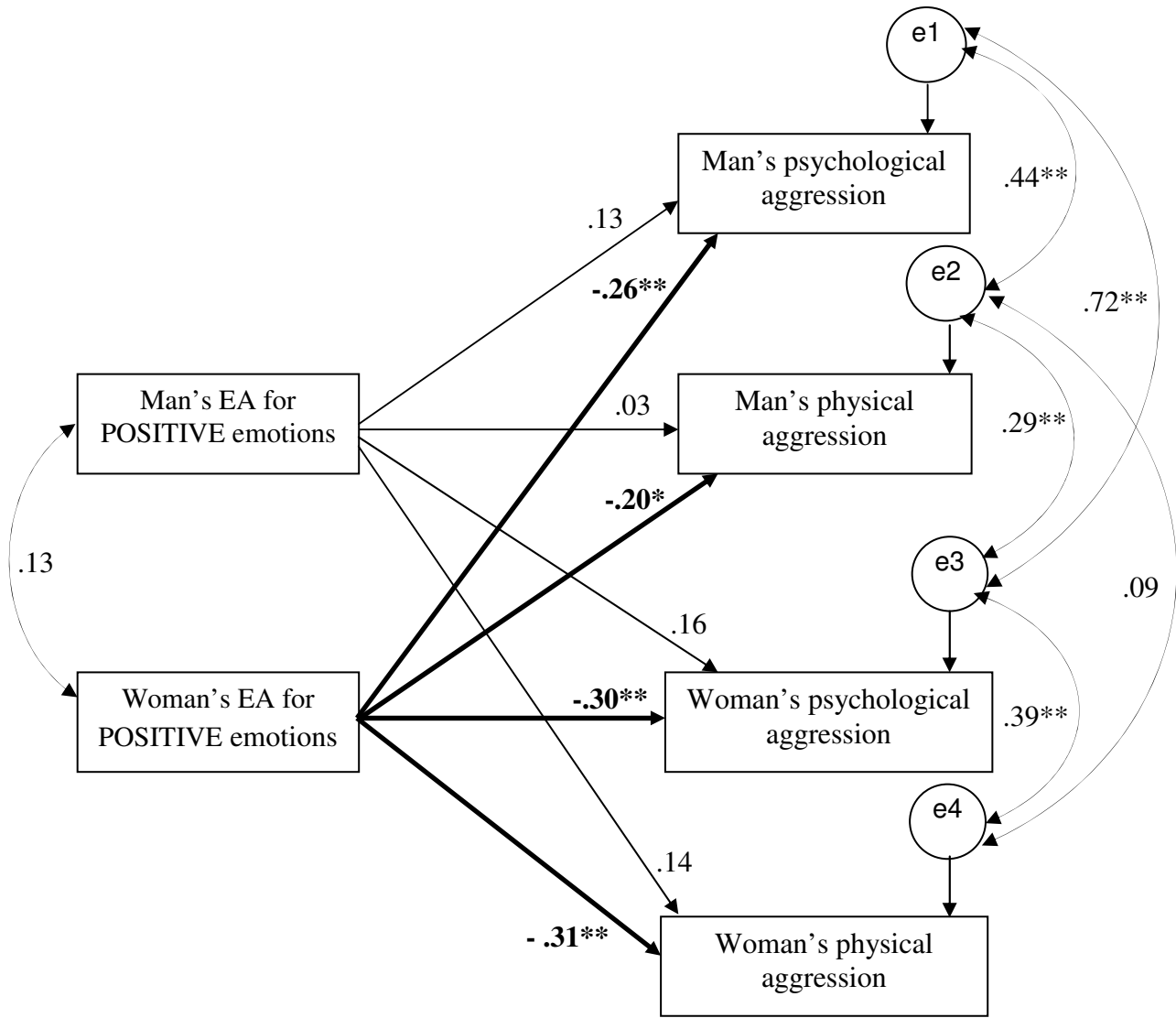
Figure 2.



Note: Path coefficients represent standardized regression coefficients (β s); model controls for age, education and income, relationship satisfaction, depression, alcohol use, and childhood abuse/neglect; therefore, the path scores provided in these diagrams are adjusted for these control variables.

⁺ $p < .10$; * $p < .05$; ** $p < .01$.

Figure 3.



Note: Path coefficients represent standardized regression coefficients (β s); model controls for age, education and income, relationship satisfaction, depression, alcohol use, and childhood abuse/neglect; therefore, the path scores provided in these diagrams are adjusted for these control variables.

[†] $p < .10$; * $p < .05$; ** $p < .01$.