



# Automatic Associations and Conscious Attitudes Predict Different Aspects of Men's Intimate Partner Violence and Sexual Harassment Proclivities

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## Abstract

Intimate partner violence against women (IPV) and sexual harassment are both widespread. Research on their causes and attitudinal correlates has rarely examined implicit, automatic cognitive associations related to the partner (in IPV aggressors) or to women (in sexual harassment offenders). The aim of the present research was to study these implicit associations in 129 male German students. Participants completed scales of hostile sexism (HS), masculine gender role stress (MGRS), short-term (STMO) and long-term mating orientation (LTMO), and proclivity to both IPV and sexual harassment. Next they performed a primed lexical decision task that measured whether concepts of violence, power, hostility, and sexuality were differentially associated with representations of women, men, and the participant's own intimate partner. Results showed that implicit associations of own partner with violence as well as hostility were generally high but did not correlate strongly with the proclivity measures. Furthermore, the proclivity measures were positively predicted by HS, MGRS, and STMO, whereas LTMO negatively predicted IPV proclivity. Practice implications point to the need to address early socialization processes that may shape men's negative associations with female partners. Some strategies to prevent and reduce these types of implicit associations are discussed.

**Keywords** Intimate partner violence · Implicit associations · Implicit measures · Lexical decision task · Semantic priming · Sexual harassment

Violence against women negatively affects women throughout the world in all countries and societies (Ellsberg et al. 2015). In the present article we address two common forms of such violence: Intimate Partner Violence (IPV) and

sexual harassment against women. The literature suggests that male IPV and sexual harassment offenders may have different mental associations than non-aggressive men do. However, it has not yet been explored whether the implicit associations in perpetrators of these two types of violence against women would be the same or if there would be specific implicit mental associations for each one of them. We first define both concepts and address related theorizing, and then we move on to outline research on their antecedents and attitudinal correlates.

IPV is both very common and severe in its dimensions and consequences (García-Moreno et al. 2013). It may be defined as any “behaviour within an intimate relationship that causes physical, sexual or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviours” (Butchart et al. 2010, p. 11). Regarding the causes of IPV, broadly accepted ecological models suggest an interplay among personal, situational, and sociocultural factors (Heise 1998). Research in psychology has consistently shown the relationship between certain personal variables (e.g., cognitive distortions and prejudicial

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attitudes) and the social perception, as well as perpetration, of IPV (Clements and Holtzworth-Munroe 2007; Dobash and Dobash 2011; Eckhardt and Dye 2000; Stith et al. 2004).

Sexual harassment targeting women also is widespread and has documented negative consequences on women's mental and physical health (Nielsen and Einarsen 2012; Rospenda et al. 2009). It may be defined as comprising a variety of verbal or nonverbal interpersonal behaviors that are unwanted and perceived negatively by the target; such behaviors may be of a sexual nature (ranging from unwanted sexual attention to sexual coercion) or may derogate a person based on her gender (gender harassment; e.g. the telling of sexist jokes) (for a detailed classification, see Gelfand et al. 1995). To explain the causes of sexual harassment, institutional factors (Stamarski and Hing 2015), as well as an interplay of personal and situational variables (Pryor 1987), have been suggested. Regarding personal dispositions, an evolutionary account emphasizes a sexual motive, which may be explained by men's evolved tendency to follow short-term mating strategies, whereas a sociocultural account emphasizes the motive of inter-gender hostility, whereby men strive to maintain dominance by disparaging and objectifying women (for an extended discussion, see Diehl et al. 2012).

However, a large proportion of research on both IPV and sexual harassment is based on explicit measures, usually self-reports using paper-and-pencil questionnaires (Eckhardt et al. 2012; Polaschek et al. 2009; Ward 2000). The explicit character of these methods makes them particularly vulnerable to response distortions and biases (Fazio and Olson 2003), especially in relation to these sensitive topics (Bennett et al. 2006). Furthermore, self-reports may capture only post hoc representations of what respondents believe they think, but not how they process information in specific interpersonal contexts (Eckhardt and Crane 2014). Assuming that such cognitive processes operate at a more implicit level and largely outside conscious awareness (Eckhardt and Dye 2000), it is important to include specific tasks in research that allow researchers to analyze their role in IPV (Nosek and Smyth 2007) and sexual harassment. To date, however, studies addressing automatic and implicit cognitive processes underlying attitudes and cognitions related to IPV and sexual harassment are still scarce, although such approaches are gaining attention (e.g., Pornari et al. 2018).

## Implicit Measures in Research on Violence Against Women

Although the use of implicit measures in IPV is still emerging, research on other forms of violence against women has used them to a greater extent. Two highly used latency-based computer tasks in the study of implicit attitudes and associations in social cognition (Greenwald and Banaji 1995; Ward 2000) are

the Lexical Decision Task (LDT; Meyer and Schvaneveldt 1971) and the Implicit Association Test (IAT, Greenwald et al. 1998). The LDT examines the time required for participants to respond to a target stimulus following a prime. When the target stimulus word appears, participants must decide if this stimulus is a real word or not (lexical decision). If the prime activates an associative network related to the concept of the target, participants' reaction times are faster than if the target word is unrelated to the prime. The shorter the reaction time to a particular target after a particular prime, the stronger the implicit association between these two concepts. The IAT measures the strength of cognitive associations between a bipolar target category (e.g., war vs. peace) and a bipolar evaluative attribute (e.g., negative vs. positive) by comparing reaction times to different pairings of concepts. Specifically, when two concepts that are strongly associated (e.g., war and negative) and share the same response key, reaction time is shorter than when less associated concepts share the same response key (e.g., war and positive).

These tasks have been used to analyze implicit mental associations in the area of sexual violence and sexual harassment against women, where it is well established that anti-victim attitudes may distort explicit judgments (Gerger et al. 2007) and where male offenders in particular are prone to denial and cognitive distortion of their offenses (Ward et al. 1995). For example, research using the IAT with German students has shown that participants' implicit associations of a rape victim (versus perpetrator) explained unique variance in their assessment of a case vignette (Süssenbach et al. 2017). Research using the LDT paradigm has further shown that the sexuality-power association is stronger in men who molest children than in non-sexual aggressors or students (Kamphuis et al. 2005) and that its strength predicts sexual aggression (Zurbriggen 2000). Also, experimental priming of sexuality facilitated men's aggression specifically toward a woman (and not toward another man) (Mussweiler and Förster 2000). Finally, a stronger implicit association between women and sexuality, as indicated by LDT scores, has been found in more sexually aggressive men (Leibold and McConnell 2004).

Because of explicit judgments' susceptibility to social desirability bias, researchers investigating the antecedents of sexual harassment have also used implicit measures. One important implicit association in this regard is the one between sexuality and power (Bargh et al. 1995). Bargh et al. (1995) found this association with a pronunciation sequential priming task in men with high proclivity toward either sexual harassment or sexual aggression, suggesting that these men would think automatically about sexuality in situations where they experience power. Indeed, men with higher (vs. lower) rape proclivity were more attracted to a female confederate, and expressed a greater interest in getting to know her, if they had been primed with the concept of power. Priming

techniques have also been used recently in research on the predictors of sexual harassment. In one study, where male participants could send harassing materials to a female chat partner, unobtrusive priming of male power increased the link between participants' hostile sexism and their perpetration of gender harassment, whereas unobtrusive priming of sexuality increased the link between participants' short-term mating orientation and their displays of unwanted sexual attention (Diehl et al. 2018).

Nevertheless, research addressing the implicit associations of men who sexually harass is not extensive. Based on the literature we have discussed (see also Leibold and McConnell 2004), it is plausible to assume that sexually harassing male perpetrators may hold implicit associations between the concepts of women and sexuality. Furthermore, given that sexually aggressive men and men who show gender harassment are more likely to hold hostile attitudes toward women than are non-aggressive men (Diehl et al. 2012, 2018; Lonsway and Fitzgerald 1995), these men may also hold stronger implicit associations between the concepts of women and hostility.

## Implicit Measures and Intimate Partner Violence

In the area of IPV, the literature of automatic cognitive associations with implicit measures is less abundant. For example, Eckhardt et al. (2012) used several IATs to compare attitudes toward women, attitudes toward violence, and associations between violence and gender (men/women) of men enrolled in an IPV treatment program with those of non-violent men. The offenders showed more positive implicit attitudes toward violence and stronger associations between violence and women. However, offenders and non-violent men did not differ in explicit measures of cognitive distortions (e.g., acceptance of interpersonal violence, beliefs about wife beating); this indicates that implicit measures could be more useful for understanding the cognitive processes involved in IPV. Indeed, explicit and implicit measures were correlated only in the offender sample.

Eckhardt and Crane (2014) used the same set of IATs to examine their relation to aggressive behavior shown by men attending anti-IPV interventions. The results showed that only implicit attitudes toward violence were related to pre- and post-intervention behaviors. In the pre-intervention phase, faster associations between violence words and positive words were related to greater IPV perpetration (but also to greater victimization), whereas in the post-intervention phase these associations were related to greater treatment non-compliance and criminal recidivism. However, the explicit measures were not clearly related to these behaviors. Finally, a recent study, which evaluated IPV-related offense-

supportive cognitions using several implicit tasks (IAT, go/no go association task, and a variant of the LDT), showed that compared with the non-violent group, the IPV group exhibited more stereotypical gender-role attitudes, more implicit positivity toward violence, more hostile attitudes toward women, a higher sense of relationship entitlement and general entitlement, as well as more approval of IPV (Pomari et al. 2018).

These results across studies suggest that IPV perpetrators hold automatic cognitions facilitating their aggressive behavior. We also note that, compared to sexual violence, the study of implicit associations in IPV aggressors has mostly relied on the IAT. Although the IAT is an empirically validated task, it is a relative measure that compares differences in associations between concept pairs. It thus has a more complex structure than the LDT and is difficult to implement when several different associations are to be measured (Cameron et al. 2012).

Therefore, the study of implicit associations in IPV has not been extensive, even though it is very relevant to understand how aggressors process information about their victims (Leibold and McConnell 2004). In this area, theoretical propositions indicate that IPV aggressors and non-aggressors may differ in the strength of their associations between the mental representation of their partner and concepts related to power, hostility, and violence. Regarding the possible association of partner with power, feminist approaches posit that IPV is motivated by the desire of men to maintain power and control over women (Yllö 1993). Some evidence from the perspective of implicit theories supports these hypotheses. Implicit theories may be defined as a network of beliefs and interpretations about the world that unconsciously influence thoughts, behaviors, and how one's own and others' behaviors are perceived (Ward 2000). It has been found that implicit theories of IPV offenders may contain associations between partner and power. Specifically, their implicit theories about gender roles in intimate relationships maintain that men are superior to women, strong, dominant, assertive, and aggressive, whereas women should be dependent, passive, and emotional (Pomari et al. 2013).

A mental association between partner and hostility would also be predicted from feminist theories that highlight misogynistic beliefs as facilitators of the initiation and maintenance of violence in intimate relationships (Yllö and Straus 1990). This association is also compatible with empirical evidence of the relation between hostile sexist attitudes and IPV (Valor-Segura et al. 2008, 2011) and the content of implicit theories in IPV offenders (Gilchrist 2009; Pomari et al. 2013, 2018; Weldon and Gilchrist 2012). Finally, a strong association between partner and violence would also be expected in IPV offenders based on the recent evidence that IPV aggressors showed more implicit positivity toward violence and more approval of IPV (Pomari et al. 2018). This association is consistent with the theories that maintain that this type of violence is intimately linked to processes of gender socialization that

support the use of violence to obtain and maintain male domination over the female partner (Yllö and Straus 1990).

In conclusion, IPV and sexual harassment offenders may have different mental associations than non-aggressive men. Nonetheless, there is not enough evidence to establish if perpetrators of these two types of violence against women would share the same implicit mental associations or if they would present specific implicit mental associations.

## Explicit Measures

In addition to implicit measures, we will explore the possible relations of some explicit measures with IPV and sexual harassment. Specifically, we will measure ambivalent sexism, masculine gender role stress, and sociosexual orientations. The two facets of ambivalent sexism—hostile sexism (negative attitudes toward women viewed as inferior or challenging for men, such as business women or feminists) and benevolent sexism (“a set of interrelated attitudes toward women that are sexist in terms of viewing women stereotypically and in restricted roles but that are subjectively positive in feeling tone”; Glick and Fiske 1996, p. 491)—have previously been studied in relation to IPV and sexual harassment. Several studies have revealed that individuals higher in hostile sexism showed more tolerant attitudes toward IPV and greater justification of the aggressor’s behavior (Valor-Segura et al. 2011). Hostile sexism is also an important predictor of sexual harassment (Diehl et al. 2012, 2018; Siebler et al. 2008). In addition, benevolent sexist beliefs are related to rape victim-blaming (Abrams et al. 2003; Durán et al. 2010) and less intention to help the victim (Lila et al. 2010).

Masculine gender role stress (MGRS; Eisler et al. 1988; Eisler and Skidmore 1987), defined as the psychological and physiological discomfort that men experience in situations that challenge their traditional male role, has also been shown to predict IPV (Baugher and Gazmararian 2015; Eisler et al. 2000; Jakupcak et al. 2002; Moore et al. 2010). For example, Eisler et al. (2000) found that participants high in MGRS attributed more negative intentions; expressed more irritation, anger, and jealousy toward their partners; and chose more aggressive responses to solve a partner conflict than did participants low in MGRS. In addition, MGRS is positively related to the perpetration of sexual harassment (Mellon 2013).

Sociosexual orientations comprise two relatively independent dimensions: short-term mating orientation (STMO) and long-term mating orientation (LTMO) (Jackson and Kirkpatrick 2007). Diehl and colleagues (Diehl et al. 2012, 2018) found that higher STMO in men (i.e., a tendency to enjoy uncommitted sexual encounters or short relationships without strong emotional bond; Buss and Schmitt 1993) was associated with the perpetration of sexual harassment against women. The relationship of STMO and IPV has not been

explored yet, but it seems worthwhile to examine if STMO also plays a role in this form of violence that not always includes a sexual component. Furthermore, although previous work has not addressed the relationship of IPV and LTMO, given that LTMO represents a tendency toward the establishment of intimate relationships with strong emotional links and long-term commitment (Buss and Schmitt 1993) and that commitment is associated with less IPV (Gaertner and Foshee 1999; Johnson et al. 2015), we will examine whether LTMO might have a protective effect against IPV.

## The Present Study

The literature that we have reviewed suggests that men who perpetrate IPV may hold stronger cognitive associations between their partner on the one hand and violence, hostility, and power on the other hand. It also suggests that men who are more strongly prone to sexual harassment may show strong women–sexuality and women–hostility associations. With this in mind, the current study had two main aims: (a) to analyze if potential cognitive associations of men’s mental representations of their own partner and the concepts of power, violence, and hostility are related to their self-reported IPV proclivity and (b) to assess if potential implicit associations of men’s mental representations of women and the concepts of sexuality and hostility are related to their self-reported sexual harassment proclivity. Extending the work of Leibold and McConnell (2004), we designed a LDT to evaluate these associations. Instead of pictures (as used by Leibold and McConnell), we used first names of men and women that had been piloted to prime representations of men and women.

Thus, in the LDT participants completed a series of trials that each presented one of four primes: the name of their own partner, another female name, a male name, or a neutral prime (a string of asterisks) in order to activate the respective mental representations of your partner, women, men, or no particular concept. Subsequently, a target stimulus appeared and participants had to decide if this stimulus was a word or not (lexical decision). The categories of the target stimulus were selected to evaluate the concepts hypothesized to be associated with partner in IPV aggressors and with women in sexual harassment offenders.

Based on our discussion of the literature, we formulated three hypotheses. (a) Stronger associations between one’s partner and the concepts of power, violence, and hostility, as shown in the LDT, will be positively correlated with self-reported IPV proclivity as well as with explicit measures of sexism and MGRS (Hypothesis 1). (b) Stronger associations between women and the concepts of sexuality and hostility, as shown in the LDT, will be positively correlated with self-reported sexual harassment proclivity as well as with explicit measures of sexism and STMO (Hypothesis 2). (c) Finally,

regarding the relation between explicit measures, given that different forms of violence against women have common predictors (Malamuth 1983), we predicted that age and impression management will negatively predict IPV proclivity and sexual harassment (Hypothesis 3a), hostile sexism and MGRS will positively predict IPV proclivity and sexual harassment (Hypothesis 3b), STMO will positively predict sexual harassment proclivity (Diehl et al. 2012, 2018) (Hypothesis 3c), and LTMO will negatively predict IPV proclivity (Hypothesis 3d).

## Method

### Participants

We recruited a convenience sample of 129 German male students (age:  $M = 25.18$  years,  $SD = 3.69$ ; range 17–35) from the University of Bielefeld (Germany), who volunteered to participate and met the inclusion criteria of being (a) first-language speakers of German, (b) 35 years or younger, and (c) currently in a heterosexual intimate relationship. Inclusion criteria were stated on flyers used for recruitment on campus. Data from 26 additional participants were excluded from analyses because they either did not provide the name of their partner (which was needed for the LDT,  $n = 3$ ), had an LDT error rate of more than 20% ( $n = 8$ ), did not complete the LDT as instructed ( $n = 4$ ), or turned out to be older than 35 years ( $n = 11$ ). All measures were completed in German. The mean relationship duration was 2.84 years.

### Procedure and Materials

Potential volunteers were informed that we were investigating perceptions of the ideal partner and relationships between men and women in college men. When they arrived at the lab, participants first gave their informed consent for our IRB-approved study. Then they were asked to complete several questionnaires that contained the explicit predictor variables as well as the measures of IPV and harassment proclivity. Subsequently, they performed a primed LDT to assess the implicit associations of interest. At the end of the session participants were thoroughly debriefed and received 5 Euros. An additional section of the study in which we assessed differences in the perception of one's real and ideal partner is not reported in the present paper.

### Explicit Measures

Participants first reported some demographics: their age, whether they were first-language speakers of German, whether they were in a heterosexual relationship, and if so, for how long. Then they moved on to the questionnaires in the following order.

**Ambivalent Sexism Inventory** The ASI (Glick and Fiske 1996; German version by Eckes and Six-Materna 1999) comprises two 11-item subscales that measure hostile sexism (e.g., “Women are too easily offended”; “Feminists are seeking for women to have more power than men”) and benevolent sexism (e.g., “No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman”; “In a disaster, women ought to be rescued before men”). Participants rated each item on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Responses across items were averaged for each subscale so that higher scores indicated higher hostile sexism and higher benevolent sexism, respectively. Both subscales of the German ASI had shown satisfactory reliability in previous studies (Cronbach's  $\alpha s = .78$ –.87 for hostile sexism; Cronbach's  $\alpha s = .75$ –.87 for benevolent sexism; Eckes and Six-Materna 1999); in the current study Cronbach's alphas were .91 and .84, respectively. The two subscales' construct validity has been established extensively across cultures (Eckes and Six-Materna 1999; Expósito et al. 1998; Glick and Fiske 1996; Glick et al. 2000).

**Masculine Gender Role Stress** The Masculine Gender Role Stress scale (MGRS; Eisler and Skidmore 1987; short version based on Jörg Richter, as used in Arrindell et al. 2013) measures the extent to which men experience stress in situations that challenge traditionally defined cultural standards of masculinity (e.g., “Being with a woman who is more successful than you”). Participants rated each item on a scale from 1 (*not at all stressful*) to 7 (*extremely stressful*). Responses across 15 items were averaged so that higher scores indicated stronger experience of masculine gender role stress. The scale's internal consistency ( $\alpha$ ) in this study was .79, which is similar to the alphas found in other studies (in 13 countries between .74 and .87; Arrindell et al. 2013). The MGRS's construct validity has been supported by findings that men score higher on the MGRS than do women (Eisler and Skidmore 1987) and by its positive association with men's self-reports of anger and anxiety (Eisler et al. 1988).

**Ratings of Attractiveness of Female Names and Own partner's Name** As part of our cover story and to obtain the participant's partner's name for the LDT (see description in the following section on the Lexical Decision Task) without raising suspicion, participants were first asked to rate the attractiveness of five female names (selected from a pilot test) and then to write down and rate their own partner's name on a scale from 1 (*not attractive at all*) to 7 (*totally attractive*).

**Likelihood to Perpetrate Intimate Partner Violence against Women** The structure of the IPV proclivity scale (Megías et al. 2009) is similar to rape proclivity measures (cf. Bohner et al. 1998; Eyssel et al. 2009). Participants read six hypothetical scenarios featuring a man who perpetrates an act of aggression against his female partner (two scenarios depicted

psychological IPV, two physical IPV, and two sexual IPV). They are asked to imagine themselves in the role of the male protagonist and to answer three questions for each scenario: How aroused they would feel in this situation, whether they would behave like the protagonist, and whether they would enjoy getting their way in this situation, each on scales from 1 (*not at all aroused / likely*) to 7 (*very aroused / likely*). The final score was an average across the last two items per scenario, so that higher scores indicated a greater likelihood to perpetrate IPV. The scale's internal consistency ( $\alpha$ ) was .80, which is similar to previous studies ( $\alpha = .79$ ; Megías et al. 2009). The construct validity of the scale was shown by its positive correlation to hostile sexism, as well as by its positively correlated with self-reported perpetration of intimate partner violence (Megías et al. 2009). (All scenarios in both English and German are available in the [online supplement](#).)

**Likelihood to Sexually Harass Scale** The German LSH scale (Vanselow et al. 2010; based on Pryor 1987) comprises four critical scenarios in which a man has the opportunity to sexually harass a female subordinate with impunity, and five filler scenarios. (In the present study, we used only two of the filler scenarios to keep the length of the questionnaire manageable; specifically, the scenario about the head of the supermarket having problems with some employees and the one about the architect having disagreements with a colleague in a project.) Participants were asked to imagine themselves in the role of the protagonist in each scenario, and then to consider three behavioral alternatives: one neutral (e.g., to read a female acquaintance's manuscript), one representing severe sexual harassment (e.g., to read her manuscript in exchange for sexual favors), and one representing moderate sexual harassment (e.g., to read her manuscript if she agrees to a dinner date). Participants indicated their likelihood of engaging in each behavior on a scale from 1 (*not at all likely*) to 7 (*very likely*). The final score was an average of the two alternatives related to sexual harassment across the critical scenarios. The higher the score, the more likely an individual is to report a proclivity toward sexually exploitative behavior in these situations. The scale's internal consistency ( $\alpha$ ) in our study was .79, which is similar to the alphas found in other studies (between .72 and .79; Vanselow et al. 2010) and shows that dropping three of the filler items had no detrimental effect. In previous research, the scale's convergent validity has been established, for example, by showing high correlations with the acceptance of myths about sexual harassment ( $r = .59$ ) and adversarial sexual beliefs ( $r = .57$ ); discriminant validity from social desirability was also shown (Vanselow et al. 2010). Furthermore, LSH scores predicted harassing behavior in a realistic laboratory setting (Siebler et al. 2008).

**Subtle Measures of Aggression in Intimate Relationships and Sexual Harassment** To access social desirability bias as much

as possible, we asked participants how likely it would be for them to show certain emotional responses, behaviors, and behavioral preferences related to IPV and sexual harassment instead of frequency of perpetration. Given this content and the fact that we did not ask for past behaviors directly, we decided to call these measures "subtle." These items are available in the [online supplement](#). The subtle IPV scale ( $\alpha = .75$ ) consisted of six items. Four items (partly adapted from Hamby 1996) measured to what extent the participant would be angry in situations that challenged male dominance in the relationship (e.g., "My partner spends time with other men"); the response scale ranged from 1 (*not at all angry*) to 7 (*very angry*). On two further items (adapted from Díaz-Aguado Jalón et al. 2014), participants were asked to rate how much they would like to engage in controlling behaviors related to new technologies (e.g., "Control my partner through her mobile phone"); response scale from 1 (*not at all*) to 7 (*very much*). Responses across these six items were averaged so that higher scores indicated higher likelihood to perpetrate these acts of IPV.

For the subtle sexual harassment scale ( $\alpha = .71$ ), we adapted six items from the Sexual Experiences Questionnaires (SEQ-W; Fitzgerald et al. 1995) asking participants how likely it is that they would show certain harassing behaviors including gender harassment (e.g., "Making remarks like suggesting that women are not suited for some kinds of jobs") and unwanted sexual attention (e.g., "Looking at a woman's body"). The response scale went from 1 (*not likely at all*) to 7 (*very likely*). The final score was the mean across the six items, with higher scores representing a greater probability of showing subtle sexually harassing behaviors. (All items are available in the [online supplement](#).)

**Sociosexual Orientations** The Sociosexual Orientations Inventory (SOI, Jackson and Kirkpatrick 2007; short version and German translation by Diehl et al. 2012) measures psychological orientations toward short-term mating (STMO; e.g., "Sex without love is OK") and long-term mating (LTMO; e.g., "I hope to have a romantic relationship that lasts the rest of my life"; response scales from 1 (*totally disagree*) to 7 (*strongly agree*)). Responses across items were averaged so that higher scores indicated stronger adherence to each mating orientation. Internal consistencies ( $\alpha$ s) were .92 for STMO (6 items) and .81 for LTMO (6 items), which is similar to alphas reported in recent studies ( $\alpha_{STMO} = .85$  and  $\alpha_{LTMO} = .80$ ; Murray et al. 2013). Jackson and Kirkpatrick (2007) have established the validity of the measure by showing, for example, that STMO was positively correlated with self-perceived mate value and male preference for attractiveness in a mate, whereas LTMO was negatively correlated with both constructs. Furthermore, the German STMO scale has been shown to predict unwanted sexual attention behavior in a realistic setting (Diehl et al. 2012, 2018).

**Impression Management** The 10-item impression management subscale of the Balanced Inventory of Desirable Responding (Paulhus 1994; German version by Musch et al. 2002) is a measure of socially desirable responding. It addresses the conscious dissimulation of item responses with the aim of making a favorable impression (e.g., “I never take things that don’t belong to me”); its response scale ranges from 1 (*totally disagree*) to 7 (*strongly agree*). Because of low internal consistency of the 10-item scale, we selected four items that produced an acceptable internal consistency ( $\alpha$ ) of .68, which is similar to the alphas reported in three cross-validation studies (.65–.69) by Musch and colleagues (Musch et al. 2002). Responses across items were averaged so that higher scores indicated more social desirability. The scale has shown good convergent and discriminant validity, being highly correlated with other social desirability scales and uncorrelated with neuroticism and academic performance; also, the scale was sensitive to experimental instructions of making a good impression versus answering honestly (Musch et al. 2002).

### Lexical Decision Task (LDT)

A primed lexical decision task (designed with the computer programs Jarvis 2012) served to examine if the concepts of power, violence, hostility, and sexuality were differentially associated with representations of one’s own partner, women, men, and neutral.

**Primes** We used four types of primes: own partner’s name, a female name, a male name, and a string of asterisks (as a neutral prime). The male and female names (available in the [online supplement](#)) were matched for attractiveness and popularity.

**Target Words and Non-words** Sixteen target words (four per concept) represented the four concepts of interest: power, violence, hostility, and sexuality. These words were selected based on ratings by 29 pilot participants who had rated each word as strongly associated with the relevant concept but not with the other three concepts. We also used a set of four neutral target words that pretesting had shown to be unrelated to the four critical concepts, and we created 20 non-words that each resembled one of the critical words (see the [online supplement](#) for all target words and non-words). The LDT thus featured equal numbers of words and non-words as targets. Because of a spelling error in one of the words of the hostility category (“*ängerlich*” instead of “*ärgerlich*”), analysis for this category was finally based on three target words.

In each LDT trial, a prime was presented for 500 ms, and then a blank screen appeared for 135 ms, followed by a target word (or non-word) that was presented until the participant responded with a key press. Participants were instructed to

press a key marked “word” or a key marked “non-word” in response to the target stimulus; they were told to make their judgments as quickly as possible while remaining accurate. The computer measured the response latency between target onset and participant’s response. LDT trials were divided into five blocks: during an initial practice block, ten trials with neutral primes (e.g., a string of asterisks) and neutral targets not used in the critical blocks (e.g., building, shop) were presented, to ensure that participants understood the task. Then we presented four critical blocks, each with 40 trials, in which each target (16 critical words, 4 neutral words, and 20 matched non-words) was preceded once by own partner’s name, once by a female name, once by a male name, and once by the neutral prime. The order of presentation within each block was randomized.

## Results

### Implicit Measures: Lexical Decision Task

To test if, as predicted in Hypothesis 1, stronger associations between one’s partner and the concepts of violence, power, and hostility in the LDT were positively correlated with self-reported IPV proclivity, sexism, and MGRS, we had to follow two preliminary steps. In the first step, we calculated 20 means for each participant: the mean response latency for words from each of five target categories (Power, Violence, Hostility, Sexuality, Neutral) preceded by each of four primes (Partner’s name, Female name, Male name, String of asterisks). These 20 mean reaction times (RTs) of correct word trial responses as a function of type of prime and target are available in the [online supplement](#). Trials with reaction times below or above 2.5 standard deviations from a participant’s mean latency (2.52%) as well as trials in which participants made an incorrect lexical judgment (4.58%) were excluded from analyses. Thus, 95.42% (or 10,618 responses) of the responses were retained for analyses.

In the second step, we calculated Partner-prime facilitation scores separately for each target category relevant for Hypothesis 1 (Violence, Power, and Hostility). These were defined as mean response latency to trials with own partner’s name as prime subtracted from mean response latency to trials with any other prime. These relative *partner facilitation scores* represented how much a partner prime, relative to a female-name, male-name, or neutral prime (combined) facilitated judgments for each target concept.

After these first two steps, we tested Hypothesis 1 by computing bivariate correlations between the mean partner-facilitation scores for violence, power, and hostility target words and explicit measures of IPV, sexism, MGRS, and ratings of attractiveness of partner’s name (Table 1). As can be seen in Table 1, participants were generally faster recognizing

**Table 1** Correlations between partner facilitation scores derived from the lexical decision task and explicit measures related to intimate partner violence against women

Partner Facilitation Scores	<i>M</i>	<i>SD</i>	Correlations							
			Attractiveness Partner name	BS	HS	MGRS	IPV Proclivity	Subtle IPV	2.	3.
1. Violence target words	31**	125	-.19*	-.01	.09	.08	.17	-.00	-.05	.31**
2. Power target words	15	111	-.02	.06	-.12	-.05	-.04	-.09	–	-.11
3. Hostility target words	66**	231	-.05	.02	-.12	.09	.02	-.09	–	–

Facilitation scores compare partner versus other primes for violence, power, and hostility target concepts. BS, benevolent sexism; HS, hostile sexism; MGRS, masculine gender role stress; IPV, intimate partner violence against women. Sample of Male German University students ( $n = 129$ )

\*  $p < .05$ . \*\*  $p < .01$

violence-related and hostility-related targets when they had been primed with their partner's name, as indicated by facilitation scores that are greater than zero. However, in contrast with the predicted relations on Hypothesis 1, partner facilitation scores for violence, power and hostility words were not significantly correlated to IPV proclivity, sexism, or MGRS. Descriptively, the largest correlation among these was that of the Partner facilitation score with IPV proclivity ( $r = .17$ ), but it just failed to be significant ( $p = .051$ ).

Although Hypothesis 1 was not supported, we found other results that were consistent with the expected relations. The rating of partner's name's attractiveness was negatively correlated with the partner facilitation score for violence targets ( $r = -.19$ ,  $p = .029$ ). Thus, men who more strongly associated their partner's name with violence also rated their partner's name more negatively; such ratings might thus be considered as an indirect indicator of proclivity to IPV, given the negative bivariate correlation found between attractiveness of partner name and IPV proclivity ( $r = -.31$ ,  $p < .001$ ) (see the following section on explicit measures). Finally, the analysis of intercorrelations among the partner facilitation scores shows that men who exhibited stronger associations between partner and violence also showed stronger associations between partner and hostility, but not between partner and power.

To test if, as stated in Hypothesis 2, stronger associations between women and the concepts of sexuality and hostility were positively correlated with self-reported sexual harassment proclivity, sexism and STMO, we intended to follow the same steps as previously, but calculating female-prime facilitation scores, separately for sexuality and hostility target categories. These scores represented how much a female name, relative to own partner's name, male-name, or neutral prime (combined), facilitated judgments for each of these two target concepts. However, none of these female-prime facilitation scores were different from zero, indicating that the female prime (in comparison to the other primes) did not generally facilitate the judgments of sexuality and hostility related concepts. Also, correlations between these female-prime facilitation scores and likelihood of harassment as well as related

measures did not show a meaningful pattern, so Hypothesis 2 was not supported.

### Explicit Measures

Before testing the predicted relations in Hypothesis 3 between the explicit measures, we calculated their descriptive statistics and intercorrelations (see Table 2). In general, most of the variables were correlated in the predicted direction. Then, to evaluate if IPV proclivity and sexual harassment were negatively predicted by age and Impression Management (Hypothesis 3a) but positively predicted by Hostile Sexism and MGRS (Hypothesis 3b), and to test if STMO positively predicted sexual harassment proclivity (Hypothesis 3c) whereas LTMO negatively predicted IPV proclivity (Hypothesis 3d), we ran four hierarchical multiple regression analyses. Their dependent variables were IPV proclivity (see Table 3), subtle forms of IPV (see Table 4), Likelihood to Sexually Harass (LSH) (see Table 5), and Subtle forms of Sexual Harassment (see Table 6), respectively. As predictors in the first step, we included participant's age and Impression Management; in the second step we included the attitudinal variables: Hostile Sexism, Benevolent Sexism, and MGRS; and in the third step we included the Mating Orientation Scales. Based on the correlation coefficients, we did not expect major multicollinearity issues. Tolerance values between .72 and .99, and VIFs below 1.627 discarded this possible problem.

As can be seen in Tables 3, 4, 5, and 6, age was not a significant predictor of IPV proclivity, LSH, neither of the subtle forms of IPV, or sexual harassment. Impression Management was negatively related to IPV proclivity and to subtle forms of sexual harassment. This partially supported Hypothesis 3a, which stated that age and Impression Management would be predictors of both forms of gender violence. Furthermore, Hypothesis 3b was strongly supported: Hostile Sexism positively predicted IPV proclivity, subtle IPV, and subtle forms of sexual



**Table 2** Descriptive statistics and bivariate correlations of principal explicit measures

	<i>M</i>	<i>SD</i>	Correlations										
			2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Age	25.18	3.69	-.12	.03	-.17*	-.07	-.16	-.17	-.05	-.06	-.06	.04	.08
2. Attractiveness Partner name	5.81	1.19	–	.18*	.13	-.06	-.17	-.31***	-.06	-.10	-.10	-.27**	.24**
3. Impression management	4.05	1.28		–	-.00	-.13	-.21*	-.22*	.02	-.21*	-.24**	-.35***	.12
4. BS	4.15	1.09			–	.48***	.32***	.30**	.32***	.30**	.10	-.20*	.14
5. HS	3.58	1.22				–	.30**	.42***	.40***	.23**	.30***	.09	-.17
6. MGRS	3.88	.80					–	.37***	.35***	.35***	.17*	.23**	-.12
7. IPV	2.07	.79						–	.41***	.52***	.29**	.29**	-.30**
8. Subtle IPV	2.69	.95							–	.29***	.10	-.02	.07
9. LSH	2.50	1.08								–	.31***	.30***	-.16
10. Subtle SH	3.08	1.13									–	.47***	-.23**
11. STMO	4.31	1.72										–	-.28**
12. LTMO	6.25	.87											–

BS, benevolent sexism; HS, hostile sexism; MGRS, masculine gender role stress; IPV, intimate partner violence against women; LSH, likelihood to sexual harassment; Subtle SH, subtle forms of sexual harassment; STMO, short-term mating orientation; LTMO, long-term mating orientation. Sample of Male German University students (*n* = 129). The theoretical range for all scales (2–12) was from 1 to 7

\* *p* < .05. \*\* *p* < .01. \*\*\* *p* < .001

harassment, whereas MGRS also predicted IPV proclivity, subtle IPV, and LSH. As expressed in Hypothesis 3c, Short-term Mating Orientation was a significant predictor of LSH and subtle forms of sexual harassment; unexpectedly, it also showed a positive relation with IPV proclivity. Finally, in line with Hypothesis 3d, Long-Term Mating Orientation negatively predicted IPV proclivity, showing a protective effect.

### Discussion

The current study tried to address two gaps in the literature of violence against women related to the lack of studies using implicit measures and investigating cognitive associations of potential aggressors related to their targets (the partner, in the case of IPV; women, in the case of sexual harassment). Specifically, the present research

**Table 3** Hierarchical linear regression analysis predicting proclivity to intimate partner violence against women (IPV)

Variables	Step 1			Step 2			Step 3		
	$\beta$	<i>b</i>	<i>t</i>	$\beta$	<i>b</i>	<i>t</i>	$\beta$	<i>b</i>	<i>t</i>
Constant		3.48	6.86***		1.18	1.83		1.77	2.28*
Age	-.16	-.03	-1.88	-.09	-.02	-1.19	-.08	-.02	-1.10
IM	-.22	-.14	-2.56*	-.14	-.08	-1.72	-.07	-.04	-.84
BS				.08	.05	.84	.22	.16	2.31*
HS				.29	.19	3.29**	.20	.13	2.32*
MGRS				.22	.21	2.54*	.14	.14	1.70
STMO							.21	.09	2.46*
LTMO							-.20	-.19	-2.59*
<i>F</i>	5.19**			9.20***			9.51***		
<i>df</i>	2			5			7		
<i>df</i> <sub>error</sub>	126			123			121		
<i>R</i> <sup>2</sup>	.08**			.27***			.36***		
$\Delta R^2$				.19***			.08**		

IM, impression management; BS, benevolent sexism; HS, hostile sexism; MGRS, masculine gender role stress; STMO, short-term mating orientation; LTMO, long-term mating orientation; *df*, degrees of freedom. Sample of Male German University students (*n* = 129)

\* *p* < .05. \*\* *p* < .01. \*\*\* *p* < .001

**Table 4** Hierarchical linear regression analysis predicting proclivity to subtle forms of intimate partner violence against women (subtle IPV)

Variables	Step 1			Step 2			Step 3		
	$\beta$	<i>b</i>	<i>t</i>	$\beta$	<i>b</i>	<i>t</i>	$\beta$	<i>b</i>	<i>t</i>
Constant		3.06	4.82***		-.08	-.09		-.70	-.70
Age	-.05	-.01	-.53	.03	.01	-.40	.02	-.00	.29
IM	-.02	-.02	-.25	.07	.05	.81	.04	.03	.51
BS				.12	.11	1.30	.06	.05	.61
HS				.28	.22	3.00**	.32	.25	3.36**
MGRS				.25	.30	2.89**	.28	.33	3.12**
STMO							-.05	-.03	-.60
LTMO							.12	.14	1.45
<i>F</i>	.17			7.50***			5.81***		
<i>df</i>	2			5			7		
<i>df</i> <sub>error</sub>	126			123			121		
<i>R</i> <sup>2</sup>	.00			.23***			.25***		
$\Delta R^2$				.23***			.02		

IM, impression management; BS, benevolent sexism; HS, hostile sexism; MGRS, masculine gender role stress; STMO, short-term mating orientation; LTMO, long-term mating orientation; *df*, degrees of freedom. Sample of Male German University students (*n* = 129)

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

had two main aims: (a) to analyze if potential cognitive associations of men's mental representations of their own partner and the concepts of power, violence, and hostility were related to their self-reported IPV proclivity and (b) to assess if potential implicit associations of men's mental representations of women and the concepts of sexuality and hostility were related to their self-reported sexual harassment proclivity.

In general, our results did not clearly support the expected relations in Hypothesis 1 (correlations between implicit associations of partner–violence, partner–power, and partner–hostility with proclivity to IPV) and Hypothesis 2 (correlations of implicit associations of women–sexuality and women–hostility with likelihood of sexual harassment). However, we did find some patterns that fitted with the expected relations of the first hypothesis. On the other hand, in

**Table 5** Hierarchical linear regression analysis predicting likelihood to sexual harassment (LSH)

Variables	Step 1			Step 2			Step 3		
	$\beta$	<i>b</i>	<i>t</i>	$\beta$	<i>b</i>	<i>t</i>	$\beta$	<i>b</i>	<i>t</i>
Constant		3.66	5.84***		1.07	1.29		1.00	.99
Age	-.06	-.01	-.67	.02	.00	-.19	.02	.00	.19
IM	-.21	-.16	-2.39*	-.15	-.12	-1.82	-.07	-.05	-.80
BS				.21	.18	2.13*	.34	.30	3.41**
HS				.05	.04	.49	-.03	-.02	-.30
MGRS				.23	.27	2.53*	.15	.18	1.66
STMO							.29	.16	3.14**
LTMO							-.11	-.12	-1.32
<i>F</i>	3.13*			5.40***			6.14***		
<i>df</i>	2			5			7		
<i>df</i> <sub>error</sub>	126			123			121		
<i>R</i> <sup>2</sup>	.05*			.18***			.26***		
$\Delta R^2$				.13***			.08**		

IM, impression management; BS, benevolent sexism; HS, hostile sexism; MGRS, masculine gender role stress; STMO, short-term mating orientation; LTMO, long-term mating orientation; *df*, degrees of freedom. Sample of Male German University students (*n* = 129)

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

**Table 6** Hierarchical linear regression analysis predicting subtle sexual harassment

Variables	Step 1			Step 2			Step 3		
	$\beta$	<i>b</i>	<i>t</i>	$\beta$	<i>b</i>	<i>t</i>	$\beta$	<i>b</i>	<i>t</i>
Constant		4.35	5.97***		2.99	2.99**		2.19	1.91
Age	-.06	-.02	-.65	-.04	-.01	-.42	-.05	-.01	-.60
IM	-.24	-.21	-2.77**	-.19	-.17	-2.20*	-.06	-.05	-.75
BS				-.06	-.06	-.61	.12	.12	1.23
HS				.29	.27	2.95**	.20	.18	2.14*
MGRS				.06	.09	.68	-.05	-.07	-.62
STMO							.44	.29	5.04***
LTMO							-.08	-.11	-.99
<i>F</i>	4.09*			3.99**			7.64***		
<i>df</i>	2			5			7		
<i>df</i> <sub>error</sub>	126			123			121		
<i>R</i> <sup>2</sup>	.06*			.14**			.31***		
$\Delta R^2$				.08*			.17***		

IM, impression management; BS, benevolent sexism; HS, hostile sexism; MGRS, masculine gender role stress; STMO, short-term mating orientation; LTMO, long-term mating orientation; *df*, degrees of freedom. Sample of Male German University students (N = 129)

line with our Hypothesis 3, our findings with explicit measures underlined that different forms of violence against women shared not only ideological predictors but also others such as mating orientations. In the following, we discuss these results in more detail.

Although implicit associations of partner–violence, partner–power and partner–hostility were not clearly related to self-reported proclivity to IPV, sexism, and MGRS (Hypothesis 1), we found other indicators in line with our predictions. First of all, in congruence with feminist theories (Dobash and Dobash 1979; Yllö and Straus 1990) and assumptions about implicit theories in IPV aggressors (Gilchrist 2009; Pornari et al. 2013, 2018; Weldon and Gilchrist 2012), we found significantly positive facilitation scores for partner–violence and partner–hostility (but not for partner–power), which indicated that the name of a man’s own partner facilitated his recognition of violence and hostility words in comparison with other primes. The first association (partner–violence) also seemed to be positively related to greater proclivity to IPV, at a descriptive level (although non-significant,  $p = .051$ ), and it was negatively related to explicit perception of attractiveness of the partner’s name. Although our results do not allow us to make strong inferences, this finding at the descriptive level fit with our proposition that men with a tendency to exert IPV may have a stronger association in memory between partner and violence, in line with theories holding that IPV is intimately related to the approval of using violence to get/maintain domination over the partner (Yllö and Straus 1990) and with previous research in which IPV offenders presented a pattern of

attitudinal activation that indicated stronger implicit associations between female gender and violent concepts (Eckhardt et al. 2012). Furthermore, it would also be consistent with recent evidence showing that IPV offenders (compared with a non-violent group) exhibited more implicit positivity toward violence and more approval of IPV (Pornari et al. 2018).

In addition, a more negative explicit evaluation of one’s own partner’s name appears to reflect a strong implicit association between partner and violence; in turn, the explicit evaluation of the attractiveness of the one’s own partner’s name was negatively associated with IPV proclivity in correlational analyses. This seems to suggest a use for evaluations of own partner’s name as a subtle indicator of tendencies toward IPV. Furthermore, the attractiveness of participant’s own partner’s name was also significantly related to their mating orientations: The more attractive the participants considered their own partner’s names, the higher the Long Term Mating Orientation and the lower the Short Term Mating Orientation they reported.

On the other hand, although we did not find a relation between partner–hostility and behavioral tendencies to IPV, we wonder if the strong association in memory between these two concepts that appeared in the whole sample could represent a precursor of the cognitive distortions of hostility toward women shown by IPV offenders (Pornari et al. 2018). Cárdenas et al. (2009), using a task to assess implicit attitudes toward men and women, reported that male university students showed significantly more negative implicit attitudes toward women than did female students, supporting somehow our results (although they evaluated attitudes toward gender

and not specifically towards the partner). From a sociocultural feminist perspective, the partner–hostility association could reflect gender socialization in patriarchal societies, where gender roles socially defined and taught since childhood could result in unconscious learning of these types of associations by promoting a hegemonic traditional masculinity based on anti-femininity and violence (Cantera and Blanch 2010). In this sense, we wonder if it is possible that rigid and dysfunctional learned gender schemata facilitate the establishment of negative implicit associations about women and intimate relations such as the ones found in our study. Additionally, findings where traditional roles emphasizing masculine superiority and hostility toward women encourage IPV (e.g., Leonard and Senchak 1996; Smith 1990) and where female objectification in videogames could prime sexual concepts and drive men to inappropriate behavior toward women in real life (Yao et al. 2010) make us wonder if the partner–hostility implicit association would facilitate the perpetration of IPV. However, the evidence from the current study is not enough to make strong inferences, so further research is required.

Hypothesis 2 was not supported. We did not find significant facilitation scores for women–sexuality or women–hostility, indicating that the female prime did not seem to facilitate the recognition of hostility- or sexuality-related words. In addition, we did not find a meaningful pattern of correlations between these female facilitation scores and the hypothesized explicit related measures (likelihood to sexual harassment, hostile sexism, or short term mating orientation). When discussing this lack of effects, the type of priming that we used should be considered: Whereas other studies that found these types of associations used pictures (Leibold and McConnell 2004) or posters (Diehl et al. 2018), we used first names, whose impact could have been weaker than that of the pictorial stimuli.

The lack of support regarding the relations between implicit and explicit measures as proposed in Hypotheses 1 and 2 could be due to the fact that we used a convenience sample of university students, most of whom were probably non-violent. Other studies found significant relations between implicit and explicit measures in IPV offenders, but not in non-violent samples (Eckhardt et al. 2012). Along those lines, recent research using a university sample found a significant disparity between explicit and implicit measures assessing attitudes toward IPV (Sanchez-Prada et al. 2018). However, it is also necessary to underline that the non-violent character of our sample is an assumption, given that we did not collect information about previous history of IPV. Other possible explanations for why we found only few relations between implicit and explicit measures could be related to the problem that self-reports provide a distorted image in socially sensitive topics, as shown in our own data, where IPV proclivity and other measures were negatively correlated with impression management. This bias is also suggested by previous research

showing that delinquents presented lower empathy scores in implicit measures but higher scores in explicit measures than did non-delinquents (Kämpfe et al. 2009). This possible distortion in self-reports makes it reasonable to expect null or negative correlations with implicit measures in this kind of content (e.g., racial attitudes; Fazio et al. 1995) but high correlations in neutral topics (e.g., consumer preferences).

In terms of explicit measures, our results mostly supported the predictions of Hypothesis 3. Specifically, Hypothesis 3a was partially confirmed: Although age was not significantly related to IPV proclivity (in contrast with previous findings; Stith et al. 2004) or sexual harassment (cf. Fineran and Bolen 2006), perhaps because of the restricted age range of the sample, impression management negatively predicted subtle sexual harassment and IPV proclivity as expected.

Hypothesis 3b was also partially supported. As expected, Hostile Sexism and MGRS positively predicted IPV (proclivity and subtle forms), Hostile Sexism predicted subtle sexual harassment (but not LSH), and MGRS predicted LSH (but not subtle forms). The relation among Hostile Sexism, MGRS, and IPV proclivity was in line with previous research in which this type of sexism was related to perpetration of psychological (Forbes et al. 2004) and sexual coercion against the partner (Lisco et al. 2012), as well as studies that showed a relation between MGRS and IPV (Baugher and Gazmararian 2015; Moore et al. 2010). Furthermore, consistent with the literature asserting that different forms of violence against women share predictors (Malamuth 1983), Hostile Sexism and MGRS were also related to sexual harassment. These results reinforce previous findings that relate this type of sexism to sexual harassment perpetration (Diehl et al. 2012, 2018) and tolerance thereof (Russell and Trigg 2004). They are also consistent with sociocultural theory, which affirms that misogynistic ideologies like hostile sexism predict sexual harassment because it is a phenomenon caused by hostility toward women as a group that serves to maintain male domination through discrimination of women (Samuels 2004; for discussion, see Diehl et al. 2012, 2018). The finding that MGRS predicted sexual harassment proclivity was expected according to this theory and previous evidence (Mellon 2013).

As predicted in Hypothesis 3c, STMO positively predicted sexual harassment (proclivity and subtle forms). This is in line with other studies (Diehl et al. 2012, 2018) and evolutionary theory (Buss and Schmitt 1993; Schmitt 2005), which holds that men exhibit more STMO and initiate more behaviors aimed at initiating sexual contacts that are perceived as transgressions by women. In addition, STMO was also surprisingly related to more IPV proclivity, showing its role in forms of violence against women beyond sexual aggression. This was a novel result that had not been observed in previous research. Finally, higher LTMO predicted lower IPV proclivity, as predicted in Hypothesis 3d, which revealed a possible protective effect of a mating strategy based on commitment and long-

term emotional ties. This was also a novel result because previous studies had not related both constructs, although it aligns well with data showing that commitment and satisfaction in intimate relationships goes along with less IPV (Gaertner and Foshee 1999; Johnson et al. 2015).

### Limitations and Future Research Directions

Some limitations of the present research need to be mentioned. Our participants were university students, so we should be cautious extrapolating conclusions to general populations. Although the use of a convenience sample is a common and economical method, it often suffers from a number of biases such as the risk of obtaining a non-representative sample of the population being studied or the under-representation or over-representation of particular groups within the sample. In order to obtain more conclusive results, future studies should therefore use probability-sampling techniques to get more diverse and heterogeneous samples of men (in terms of their composition by age, level of education, and status). In addition, the choices of having employed a sample of university students and not of offenders to explore implicit associations related to IPV and sexual harassment, and of using proclivity measures instead of actual violent behavior, may have contributed to the lack of support for some hypotheses. The use of names instead of visual stimuli could also have decreased their impact in activating related concepts. These aspects should be addressed in future research by studying samples of men with police records of partner violence/sexual harassment, or by a selection of men who self-reported previous violent behaviors. It would also be important to conduct studies with pictures or other visual material that may improve the mental activation of related concepts.

On the other hand, although we think that a priming effect of the explicit measures on LTD scores is highly unlikely, the design of the present study does not allow for ruling out this possibility. This aspect should be also addressed in future studies, where the explicit measures could be administered after the implicit task. Finally, although descriptively, data suggested a tendency consistent with the idea that men with IPV proclivity could have stronger associations in memory between partner and violence, this association did not reach statistical significance in our study.

### Practice Implications

In IPV literature, as we stated earlier, the majority of research has used explicit measures (Eckhardt et al. 2012; Gracia et al. 2015). Our results may encourage researchers to develop implicit measures in order to overcome the potential biases associated with self-reported measures. Implicit measures may also have a place in therapy as a potential tool to assess cognitive associations that are difficult to identify with explicit

measures. Combining the use of explicit and implicit assessment could potentially lead to a more accurate understanding of the cognitive processes of IPV aggressors. Especially in a sensitive topic as IPV, respondents do not wish to report extreme and socially undesirable behaviors; furthermore, they could be even unaware of their own beliefs and attitudes, being thus unable to accurately report them (Greenwald and Banaji 1995; Nisbett and Wilson 1977). Indeed, evidence shows that even in male and female university students, implicit assessment was useful in detecting associations that were not observed explicitly (Cárdenas et al. 2009). The importance of developing such implicit measurement for research and practical reasons is reflected in recent studies (Gracia et al. 2015; Pornari et al. 2018; Sanchez-Prada et al. 2018).

On the other hand, the strong associations found between partner–violence and partner–hostility across the whole sample of male university students suggests that we, as a society, should take a deeper look into early socialization processes. According to theorizing about subjective implicit theories, men could have developed negative schemata of women and their role in intimate relationships from an early age. Through repeated use, such implicit schemata would become well established, making the processing of information largely automatic and giving rise to cognitive distortions (Beck 1996; Ward 2000). Given that these types of associations forged in memory could influence perception, encoding, and behavior (e.g., Bruner 1957), early education should avoid promoting these contents in traditional gender role socialization. It would be also important to take care of the representation of women/female partners in mass media because of its impact on the general population.

In this sense, activists should continue advocating the reduction of media stimuli that reinforce negative cognitive associations of women. Such advocacy could aim at the removal of advertisements representing stereotyped female partners (e.g., where the woman of the couple is represented as someone unbearable who makes a thousand requests). At the same time, it would be worthwhile to promote more positive media contents. In this regard, recent studies have demonstrated that media portrayals of gendered aggression can indeed have a prosocial effect. Specifically, watching a film that depicted persistent pursuit as scary decreased levels of stalking myth endorsement (Lippman 2018; see also Diehl et al. 2014). In a similar line of prevention, policymakers should also take actions to regulate the display of videogames with violent contents against women because of the impact that these content could have on mental representations of partner or women. For example, research has demonstrated that men exposed to stereotypical content made more tolerant judgments of a real-life situations of sexual harassment

(compared to controls), while long-term exposure to video game violence was correlated with greater tolerance of sexual harassment and greater rape myth acceptance (Dill et al. 2008).

## Conclusions

The current study presents some advancement in the use of implicit measures for the analysis of cognitions potentially underlying IPV, which had previously been addressed mainly through explicit measures. An implicit approach is important because these measures could predict violent behavior (Todorov and Bargh 2002), having been related to behavioral consequences in IPV (Eckhardt and Crane 2014) and sexual aggression (Mussweiler and Förster 2000; Zurbriggen 2000), as well as influencing judgments about rape cases (Süssenbach et al. 2017). In addition, we used a LDT that is not known to have been used before in studies about IPV in men, and we explored cognitive associations related to partner and women. These were innovative contents because most of the literature on IPV has focused on implicit attitudes toward violence (Gracia et al. 2015; Sanchez-Prada et al. 2018), gender, and gender–violence associations (Eckhardt et al. 2012; Eckhardt and Crane 2014), whereas studies in sexual violence have focused on implicit associations between sexuality and power (Bargh et al. 1995; Kamphuis et al. 2005; Zurbriggen 2000). Studying how potentially aggressive men process and organize information is crucial for understanding their attitudes, beliefs, emotions, and behaviors toward women (Leibold and McConnell 2004). A better understanding of men's cognitive biases will be essential for the development of evidence-based, effective interventions (Pornari et al. 2013). Our results also suggested that different forms of violence against women shared common predictors and revealed that the subjective attractiveness of the partner's name may be a subtle indicator of IPV.

In summary, our study takes a step to address the gaps in the literature of IPV characterized for the need of research using implicit measurement, especially in the investigation of implicit cognitive associations related to the mental representation of the intimate partner. Although our findings were not conclusive in establishing a link between these cognitive associations and explicit measures of IPV proclivity, we have introduced an implicit assessment task that provided an approach to test theoretical concepts associated to IPV and sexual harassment, and we revealed some patterns that fit with our proposed predictions. In this sense, the present work represent a first step in the study of implicit cognitive associations related to the targets of violence (female partner, women in general) in potential aggressors.

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**Conflict of Interest** The authors declare that they have no conflict of interest.

**Research Involving Human Participants** All procedures performed in studies involving human participants were in accordance with the ethical standards of the Ethics Committee of Bielefeld University and the ethical guidelines of the German Association of Psychology.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

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