



What about the Male Victims? Exploring the Impact of Gender Stereotyping on Implicit Attitudes and Behavioural Intentions Associated with Intimate Partner Violence

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Abstract

Although intimate partner violence (IPV) is considered stereotypically as a gendered phenomenon, empirical evidence contradicts such gender asymmetry in reported rates of victimisation and perpetration. The current research explored the impact of stereotype priming on implicit attitudes associated with IPV victimisation (Study 1) and perpetration (Study 2), and further examined behavioural intentions associated with hypothetical gendered scenarios of IPV. Participants recruited in the United Kingdom were primed with either stereotype congruent, incongruent or no information about IPV victimisation (Study 1, $n = 122$) or perpetration rates (Study 2, $n = 101$). They then completed an Implicit Association Test and reported their subjective norms, self-efficacy, behavioural intentions, and outcome expectancies pertaining to different scenarios depicting gendered IPV. Findings indicate that priming an incongruent stereotype did not impact significantly on implicit or explicit attitudes toward IPV. Gendered scenarios were found to be influential on explicit attitudes, with IPV less likely to be identified toward male victims and considered more acceptable compared to when the victim was female. Moreover, individuals reported feeling more capable and likely to intervene in an act of IPV when the victim was female compared to male, were more likely to report such an incident, and anticipated greater outcomes. These findings highlight the need for an inclusive research approach that recognises men's victimisation.

Keywords Intimate partner violence · Stereotypes · Implicit association test · Gender · Behavioural intentions · Domestic violence

Traditionally, Intimate Partner Violence (IPV) has been considered a gendered phenomenon with the perception that most victims are women (Dobash and Dobash 1979; Scarduzio et al. 2017; see Dutton and Nicholls 2005 for a critical discussion). This is supported by crime statistics in the

United Kingdom indicating that 8.5% of women compared to 4.5% of men report having experienced some form of IPV within a period of a year, equivalent to 1.4 million and 700,000 victims, respectively (Office for National Statistics 2015). Consequently, research has been dedicated to understanding this gender asymmetry, focusing largely on the historically and socially constructed influence of patriarchy in allowing men to control and dominate their female partners (Fisher 2013; Sugarman and Frankel 1996; Walsh et al. 2015). Indeed, statistics gathered from clinical samples (e.g., men in prisons, women in shelters) indicate that most victims of IPV are women (Johnson 1995, 2006; Lövestad et al. 2017).

Crime surveys and clinical samples, however, may not be representative of true victimisation rates. It is well documented that men are reluctant to report assaults or seek medical help (Douglas and Hines 2011; Drijber et al. 2013; Felson and Paré 2005; Galdas et al. 2005), which may be attributable to the societal perception of masculine gender roles (e.g., self-reliance, emotional control and power; Addis and Mahalik

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2003). Moreover, the lack of available services dedicated to male victims of IPV means that there is no equivalent clinical victimisation sample (Bates et al. 2017). Overcoming such limitations, research utilising large-scale community samples and self-reports has revealed that women and men are equally aggressive and controlling in heterosexual intimate relationships (Archer 2000; Bates and Graham-Kevan 2016; Bates et al. 2014) and that this aggression is often bidirectional (Langhinrichsen-Rohling et al. 2012; Whitaker et al. 2007).

Although some research argues that men are more likely to perpetrate acts of IPV compared to women (Centers for Disease Control and Prevention 2011; Menard et al. 2009), others argue that women are more frequently violent toward men (Archer 2000; Dutton 2006) and engage in more coercion and control (Bates et al. 2014). The antecedents of IPV perpetration for men and women are clearly complex, particularly when considering the various forms of aggression used (see Archer 2000). Despite emerging reports of gender symmetry, negative gender role stereotypes pertaining to male IPV perpetration and female victimisation within heterosexual relationships prevail within Western society (Scarduzio et al. 2017; Seelau and Seelau 2005). Specifically, societal views appear to frame men as perpetrators and women as victims of IPV.

Gender stereotypes relating to IPV perpetration and victimisation are potentially harmful; if society deems women to be the targets of IPV, then this is likely to be related to lower societal concerns surrounding male victimisation (Felson and Feld 2009; Sorenson and Taylor 2005). Highlighting the significance of this issue, research employing hypothetical gendered IPV scenarios has shown that individuals view an act of violence as less serious in cases where the victim is male and the perpetrator is female (Erickson et al. 2017; Scarduzio et al. 2017; Sylaska and Walters 2014). Furthermore, women's violence is prone to be judged as contextually dependent, with individuals searching for wider, external explanations for such behaviour (Sorenson and Taylor 2005). In support of this pattern, recent research has found that mock jurors are more likely to convict a man relative to a woman in intimate homicide cases, providing explanations of self-defence and greater sympathy for women as reasons for their decisions (Hodell et al. 2014). These widely held societal views might contribute to a greater reluctance for men themselves to report acts of IPV and to seek help compared to women because they feel that they do not have the support to speak about their own experiences (Felson and Paré 2005). In turn, this under-reporting may result in male victimisation not being identified as a priority for increased funding or resource provision (Bates et al. 2017). This is a highly pertinent concern and calls for empirical evidence to identify the impact of stereotypical conceptions on others' intentions to recognise female perpetration and to report instances of male victimisation, and people's perceptions of this as a crime.

Although the literature examining the impact of negative societal stereotypes on attitudes and associated behaviours is plentiful (Macrae et al. 1996; Nelson 2009), little is known about the impact of stereotype priming in the context of IPV. *Stereotype priming* refers to conditions in which an individual's awareness of a known stereotype is activated (consciously or otherwise; Blair and Banaji 1996), leading to behaviours consistent with that stereotype (Ambady et al. 2004; Dijksterhuis and Bargh 2001; Wheeler et al. 2001; Wheeler and Petty 2000). From this perspective, it is plausible that attitudes and behaviours associated with acceptance of male victimisation may differ based on whether a prime adheres to (congruent) or is divergent from (incongruent) gender-related stereotypes. Specifically, it may be expected that stereotype congruent primes (e.g., "higher female victim rates") will lead to greater recognition of female relative to male victimisation. Conversely, incongruent-stereotype primes (e.g., "there are equal rates of female and male victimisation") may play a role in dissociating victimisation as a women-only concept and promote more egalitarian attitudes. In turn, those who receive information that challenges the stereotype (incongruent prime) might also be more motivated to report men's victimisation compared to those who receive a stereotype congruent prime.

Even when gender stereotypes are not endorsed explicitly, they may still operate without conscious awareness (i.e., implicitly). As such, it is particularly important to assess the influence of stereotype priming on implicit attitudes toward victims and perpetrators of IPV. Implicit attitudes are automatically activated evaluations and are measured through implicit attitude measures, such as the Implicit Association Test (IAT; Greenwald et al. 1998). Such measures proffer a more reliable means of assessing automatic associations, such as gender stereotyping, compared to explicit reports that have greater susceptibility to social desirability (Rohmer and Louvet 2012). Furthermore, implicit biases have been found to strongly correlate with behaviour when assessing socially sensitive issues (Greenwald et al. 2009; Nosek et al. 2009), however, there is debate as to whether changes in implicit attitudes translate into similar changes in behaviour (see Forscher et al. 2018; Nosek et al. 2012 for debates).

Within this reasoning, we consider presentation of stereotypically congruent information to be a key factor in determining potential effects on attitudes. That is, implicit attitudes toward IPV may be reinforced by stereotype congruent information about IPV victimisation (e.g., women more likely to be victims than men). Conversely, stereotype incongruent information (e.g., equal rates of victimisation) may weaken these implicit associations. In line with this argument, recent research has shown that priming counter-stereotypical exemplars may be one of the most effective interventions in changing prejudicial implicit attitudes (Lai et al. 2014). Accordingly, the current research aims to establish whether

stereotype congruent or incongruent information can influence individuals' implicit endorsement of IPV victimisation and perpetration as a gendered phenomenon. Evidence of this nature would be highly relevant, particularly for enhancing societal acceptance of male victimisation and indeed female perpetration.

In addition to exploring implicit attitudes associated with gendered perceptions about IPV, the current research aims to investigate behavioural intentions associated with hypothetical gendered scenarios of IPV and the applicability of other key socio-cognitive factors in this context. The Theory of Planned Behaviour (TPB; Ajzen 1985, 1987, 1991; Ajzen and Madden 1986) proposes that a number of explicit attitudes guide behavioural intentions (see Armitage and Conner 2001, for a meta-analysis), such as perceptions of subjective norms, self-efficacy, and outcome expectancies. Subjective norms, in this case, refer to an individual's perception that others would endorse a given behaviour (Rhodes et al. 2002), such as deciding whether or not significant others would report an act of IPV. Self-efficacy relates to an individual's perception of their ability to accomplish a particular task (Terry and O'Leary 1995), such as feeling confident to report an act of IPV. Finally, outcome expectancies refer to the perception that a given behaviour will result in a desired outcome (Williams et al. 2005), which is particularly relevant when considering whether an individual's intention to report instances of IPV is underpinned by the belief that this would result in appropriate punitive action.

Underpinned by TPB and the widely held view of IPV as a gendered phenomenon, we predict that individuals may report higher subjective norms, self-efficacy, behavioural intentions, and outcome expectancies in instances of female victimisation and male perpetration. In addition to this hypothesis, we also obtained measures of identification and acceptability of IPV relating to hypothetical gendered scenarios. Here we expected individuals to identify male perpetration and female victimisation as more violent or harmful behaviour and, correspondingly, less acceptable compared to if the perpetrator was female and the victim male (de Groot and Steg 2006).

Finally, we explored whether individuals' endorsement of hostile or benevolent sexist beliefs correspond to their behavioural intentions associated with IPV. Hostile sexism reflects negative stereotypes and evaluations about women, implying they are inferior to men. In contrast, benevolent sexism reflects stereotypes that may appear more positive (e.g., women need to be protected) but are still broadly damaging (Glick and Fiske 1996). Societal patriarchy has been proffered as one of the most prominent theoretical accounts of understanding IPV (Fisher 2013; Sugarman and Frankel 1996; Walsh et al. 2015) and beliefs about traditional gender roles have been found to be linked to IPV behaviours, particularly in women (Bookwala et al. 1992; Santana et al. 2006). These beliefs are thus worthy of empirical investigation in the context of

implicit attitude endorsement and behavioural intentions associated with IPV.

In two experiments, we experimentally manipulated the presentation of congruent and incongruent gender stereotypes to examine their influence on implicit attitudes toward IPV victimisation (Study 1) and perpetration (Study 2). In addition, we examined behavioural intentions to report acts of IPV based on hypothetical gendered scenarios. Accordingly, both studies were underpinned by three research questions: (a) To what extent do congruent and incongruent stereotype primes impact upon implicit gendered attitudes relating to male victimisation (Study 1) and female perpetration (Study 2)?; (b) To what extent does an incongruent, relative to congruent, stereotype prime result in enhanced behavioural intentions to report instances of male victimisation (Study 1) and female perpetration (Study 2)?; and (c) To what extent do other socio-cognitive factors (i.e., self-efficacy, subjective norms, behavioural intentions, and outcome expectancies) vary in respect of scenarios depicting male versus female victimisation (Study 1) and male versus female perpetration (Study 2)?

Study 1: IPV Victimisation

In Study 1 we examined the impact of stereotype priming on acceptance of IPV male victimisation. Specifically, we aimed to establish the extent to which stereotype incongruent relative to congruent information could enhance acceptance toward male IPV victimisation. Within this, we assessed implicit attitudes toward male versus female victimisation, as well as behavioural intentions to report male victimisation, using hypothetical scenarios. In addition, we focused on how stereotype priming and gendered hypothetical scenarios impacted upon self-efficacy, subjective norms, behavioural intentions, and outcome expectancies associated with reporting IPV victimisation.

Method

Participants and Design

The study consisted of a 3 (Stereotype Condition: Stereotype Congruent, Incongruent, Control) \times 2 (Vignette Victim gender: Female Victim, Male Victim) mixed-design, with stereotype condition as a between-participants factor and vignette victim gender as a within-participants factor. A total of 149 participants were recruited initially through an online survey, examining ostensibly "attitudes toward aggression." A total of 27 participants (18.12%) were removed from the final analyses for partially completing the online study, with this attrition rate lower than most online surveys (see Welch and Barlau 2013). One participant was excluded subsequently from data analysis due to responding too quickly on the IAT (over 30%

of trials <300 ms; Greenwald et al. 2003). This resulted in a final sample of 122 participants ($M_{\text{age}} = 25.00$, $SD = 10.10$, range = 18–61); 90 (74%) women; 94 (77%) White British, 11 (9%) Other White, 4 (3.2%) Asian or Asian British, 3 (2.5%) Black British, 3 (2.4%) White Irish, 3 (2.4%) Other Mixed, with the remaining 4 (2.5%) preferring not to identify/missing. These participants were assigned randomly to the stereotype congruent ($n = 40$), stereotype incongruent ($n = 39$) or control condition ($n = 43$) by a computer algorithm.

Manipulations and Measures

Participants received one of three priming manipulations that corresponded to the experimental conditions and pressed a computer key to confirm that they had read the prime. Specifically, participants assigned to the stereotype congruent condition read the following:

As you may know, figures show that it is more common for women to be victims of intimate partner violence compared to men. Among people subject to four or more incidents of domestic violence from the perpetrator of the worst incident (since age 16) 89% were women.

Participants in the stereotype incongruent condition were primed with the following information:

“Recent research has found that there is an equal victimisation rate between males and females. However, there is still a difference in people’s perceptions of males versus female victimisation of intimate partner violence.”

Finally, we employed a control condition in which participants were provided with general information about the nature of the study:

We are interested in researching factors which are related to perceptions of domestic violence victimisation, specifically intimate partner violence (IPV) towards an opposite sexed other. In particular, this study aims to assess factors which might be associated with IPV perceptions and associated actions.

Implicit Attitudes: IPV Victimisation After indicating that they had read the priming information, participants completed an Implicit Association Test (IAT; Greenwald et al. 1998) to measure their implicit attitudes toward IPV victimisation. This computerised task works on the premise that people should be quicker to match attributes with superordinate concepts when they are associated strongly in memory compared to concepts that are associated weakly (Greenwald et al. 1998). The IAT was completed via an online JAVA-based platform and required

participants to categorise various evaluative attributes (e.g., Strong/Weak, Dominant/Passive, Aggressive/Non-aggressive, Woman/Man, Female/Male) into four superordinate categories of “Female Victim”, “Male Victim”, “Strong” and “Weak.” Participants completed seven blocks of the IAT, undergoing 20 trials on practice blocks and 40 trials on critical blocks, with blocks counterbalanced between participants (Greenwald et al. 1998). IAT d -scores were computed in line with a recommended scoring algorithm (c.f., Greenwald et al. 2003; Nosek et al. 2005). Positive d -scores indicate that participants were quicker to associate “Male Victim – Strong” and “Female Victim – Weak” compared to the reversed mapping (negative d -scores), thus revealing a stronger implicit attitude to consider women as “weak” and men as “strong”. IAT scores are bound between -2.00 and $+2.00$, and in line with Cohen’s (1992) effect size guidelines, associations can be categorised as small (.20), medium (.50), and large (.80).

Socio-Cognitive Outcomes Upon completing the IAT, participants read two gendered scenarios in a vignette depicting the following heterosexual instance of IPV toward a male or female victim: “Your [male/female] friend comes to you extremely agitated and says [his/her] [girlfriend/boyfriend] hit [him/her] last night. You can see that your friend is very panicky.” After each gendered scenario, they completed an 8-item questionnaire to assess socio-cognitive outcomes (adapted from the existing literature on TPB; Terry et al. 1999). Specifically, they answered two items each on *subjective norms* (“My friends and peers would report if they witnessed this” and “Most of my friends and peers think that me reporting in this instance would be desirable”), *self-efficacy* (“I feel confident I would be able to report this” and “I would find it difficult to report this”), *behavioural intentions* (“I would report if I witnessed this” and “I would tell my friend to report this”), and *outcome expectancies* (“I would expect that if I was to report, this would result in appropriate action” and “I expect this situation could be easily resolved”). Participants responded to these items on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Each item for the four socio-cognitive subscales correlated significantly with its corresponding item for both the female (all $r > .37$, $p < .001$) and male (all $r > .42$, $p < .001$) vignette conditions. A mean score was computed for each subscale for analysis.

Identification and Acceptability of IPV Behaviours Based on each of the vignettes, participants were asked to complete one question each that assessed their identification of the behaviour as an act of IPV: “To what extent do you perceive that this scenario is referring to an act of intimate partner violence”, rated from 1 (*Not at all*) to 5 (*Definitely*). They also completed a second item to assess the perceived acceptableness of the behaviour: “Please indicate the extent to which you perceive

the act being referred to was acceptable,” rated from 1 (*Not at all acceptable*) to 5 (*Definitely acceptable*).

Beliefs about Sexism Sexist beliefs were measured using the Ambivalent Sexism Inventory (Glick and Fiske 1996). This 22-item measure consists of two subscales; benevolent sexism (e.g., “Women should be cherished and protected by men”) and hostile sexism (e.g., “Women are too easily offended”), with respondents answering on a 6-point scale from 0 (*strongly disagree*) to 5 (*strongly agree*). Two items were removed from the benevolent sexism subscale (items 3 and 6) to increase internal consistency (Cronbach’s $\alpha = .74$) and two items were removed from the hostile sexism sub-scale (items 7 and 18) to increase internal consistency ($\alpha = .80$). A mean score was computed for each subscale such that higher scores indicate greater sexism.

Procedure

Participant recruitment was undertaken through online advertising, and participants were instructed to complete the online experiment in a quiet location without distractions. After reading the briefing sheet and providing informed consent, participants were randomly assigned to one of three stereotype conditions in which they were primed with either stereotype congruent, incongruent or no information (control) regarding rates of IPV victimisation. They then indicated that they had read the priming information by pressing an assigned computer key, after which the IAT was presented automatically. The IAT was counterbalanced so that each participant started on a different trial-type, and stimulus items were presented quasi-randomly across blocks. Upon completing the IAT, participants received two hypothetical gendered vignettes, one depicting an instance of male IPV victimisation and another depicting female victimisation. These were not counterbalanced. Based on each of the vignettes, participants were asked to complete two questions that assessed their identification of the behaviour as an act of IPV and the acceptability of this behaviour. They were then asked to complete questions regarding subjective norms, self-efficacy, outcome expectancies, and their behavioural intentions to report this act of IPV. Finally, they completed a measure of benevolent and hostile sexism before being debriefed.

Analytic Strategy

A one-way between-subjects Analysis of Variance (ANOVA) was first conducted to examine the influence of stereotype condition on implicit attitudes toward IPV, with a follow-up one-sample *t*-test conducted to assess participants’ implicit attitudes against a test value of zero (neutral stereotype endorsement). A series of 3 (Stereotype Condition: Stereotype Congruent, Incongruent, Control) \times 2 (Victim gender: Female

Victim, Male Victim) ANOVAs were conducted to explore the impact of stereotype condition and gendered vignette condition on subjective norms, self-efficacy, behavioural intentions, and outcome expectancies. Bonferroni corrections were used to address possible Type I error. We then assessed non-significant effects for pairwise comparisons of focal interest using equivalence tests (see Lakens 2017; Lakens et al. 2018; for theory; McCarthy et al. 2018 for working example). Here we specified a moderate effect size ($d \Delta L = -.50$, $\Delta U = +.50$; Cohen 1992) as our smallest effect size of interest (SESOI) in line with prior studies showing that counter-stereotypic exemplars reduce implicit associations (Lai et al. 2014). A significant TOST result indicates that the comparison was statistically within the equivalence bounds and we did not detect our SOSOI. Conversely, a non-significant equivalence test indicates that the data are inconclusive (i.e., the confidence interval encroaches the equivalence bounds on one side of the test; see Ialongo 2017). Supplementary File 1 in the online supplement provides detailed analyses.

Results

Implicit Attitudes

There was no significant main effect of stereotype condition on implicit attitudes toward IPV, $F(2, 119) = .09$, $p = .915$, $\eta_p^2 = .001$. Specifically, priming stereotype congruent, incongruent or no information pertaining to IPV victimisation rates did not appear to influence implicit attitudes. Equivalence tests indicated that the observed effect sizes were statistically within the equivalence bounds and smaller than our SESOI, $p < .05$. A one-sample *t*-test (with a test value of zero denoting a neutral preference) indicated that participants’ displayed a weak stereotype endorsement ($M = .19$, $SD = .33$) that males victims were strong and females victims weak, $t(121) = 6.38$, $p < .001$.

Socio-Cognitive Outcomes

There was a significant main effect of victim gender on subjective norms, $F(1, 119) = 134.39$, $p < .001$, $\eta_p^2 = .53$. Pairwise comparisons indicated that participants reported significantly higher subjective norms for the female victim relative to the male victim condition (see Table 1 for means). There was no significant main effect of stereotype condition, $F(2, 119) = 2.90$, $p = .087$, $\eta_p^2 = .04$, and no interaction between stereotype condition and victim gender, $F(2, 119) = 1.90$, $p = .154$, $\eta_p^2 = .03$. The observed effect sizes between the stereotype incongruent and congruent condition, as well as the stereotype incongruent and control condition, for the male victim vignette were not significantly within the equivalent bounds ($p > .05$), suggesting that the data are inconclusive.

Table 1 Descriptive statistics by stereotype condition and gender of the IPV victim, Study 1

Measure	IPV victim	Stereotype Condition			Gender main effect <i>M (SD)</i>
		Stereotype congruent <i>M (SD)</i>	Stereotype incongruent <i>M (SD)</i>	Control <i>M (SD)</i>	
IAT score	–	.17 (.27)	.20 (.33)	.20 (.39)	.19 (.33)
Subjective norms	Male	3.00 (.82)	2.73 (.80)	3.26 (.93)	3.00 (.88) _a
	Female	4.08 (.68)	4.06 (.62)	4.14 (.90)	4.09 (.74) _b
Self-efficacy	Male	3.34 (.85)	2.92 (1.03)	3.38 (1.01)	3.22 (.98) _a
	Female	3.73 (.82)	3.71 (1.06)	3.95 (.89)	3.80 (.92) _b
Behavioural intentions	Male	3.59 (.85)	3.47 (1.00)	3.59 (.97)	3.55 (.94) _a
	Female	3.96 (.65)	3.89 (.93)	3.97 (.97)	3.94 (.86-) _b
Outcome expectancies	Male	2.98 (1.14)	2.42 (1.01)	2.85 (1.27)	2.75 (1.16) _a
	Female	3.76 (.73) ^a	3.90 (.95)	3.73 (1.04)	3.80 (.92) _b

Different subscripts comparing male and female victims within each measure indicate that all gender main effects were significant (Bonferroni corrected $p < .0125$)

^a Significant interaction, $F(2, 119) = 3.10, p = .049, \eta_p^2 = .05$

Similarly, there was a significant main effect of victim gender on self-efficacy, $F(1, 119) = 47.33, p < .001, \eta_p^2 = .29$, with participants reporting that they felt more capable of intervening in an act of IPV toward a female relative to male victim (see Table 1). There was no significant main effect of stereotype condition, $F(2, 119) = 1.92, p = .152, \eta_p^2 = .03$, and no interaction between stereotype condition and victim gender, $F(2, 119) = .178, p = .173, \eta_p^2 = .03$. The observed effect sizes between the stereotype incongruent and congruent condition, and the stereotype incongruent and control condition for the male victim vignette were not significantly within the equivalent bounds ($p > .05$) and the data are inconclusive.

There was also a significant main effect of victim gender on behavioural intentions, $F(1, 119) = 36.04, p < .001, \eta_p^2 = .23$, with participants indicating that they would feel more likely to report an incident of IPV when the victim was female compared to male (see Table 1). There was no significant main effect of stereotype condition, $F(2, 119) = .16, p = .852, \eta_p^2 = .003$, and no significant interaction between stereotype condition and victim gender, $F(2, 119) = .06, p = .938, \eta_p^2 = .001$. The observed effect size between the incongruent and control condition for the male victim vignette was significantly within the equivalent bounds ($p < .05$). However, the effect size between the incongruent and congruent condition for the male vignette was not significantly within these equivalence bounds ($p > .05$). Overall, this suggests that stereotype incongruent information may not increase behavioural intentions to report an act of IPV against a male victimisation compared to stereotype congruent information.

Finally, there was a significant main effect of victim gender on outcome expectancies, $F(1, 119) = 75.75, p < .001, \eta_p^2 = .39$, with participants anticipating greater expectancies

of action being taken when reporting a female compared to male IPV victim (see Table 1). There was no significant main effect of stereotype condition for outcome expectancies, $F(2, 119) = .68, p = .509, \eta_p^2 = .01$, but there was a significant interaction between stereotype condition and victim gender, $F(2, 119) = 3.10, p = .049, \eta_p^2 = .05$. Pairwise comparisons indicated that participants in the stereotype congruent, incongruent, and control conditions all reported that they would anticipate greater outcomes for female compared to male victims. This difference was significantly greater for the stereotype incongruent condition ($p < .001, d = 1.08$) compared to both the control ($p < .001, d = .58$) and stereotype congruent conditions ($p < .001, d = .82$). The observed effect sizes between experimental conditions for the male vignette, however, suggest that the data are inconclusive ($p > .05$).

In respect of the additional measures of identification and acceptability of the behaviour depicted in the vignette, two paired sample *t*-tests were performed between vignette conditions (i.e., victim gender). These analyses revealed that participants accurately identified the act as IPV, but they were more likely to identify this act toward a female ($M = 4.51, SD = .75$) compared to a male victim ($M = 4.18, SD = .90$), $t(121) = 4.38, p < .001, d = .39$. Similarly, although participants indicated the behaviour in the vignette was not acceptable, it was seen as significantly less so when the victim was female ($M = 1.12, SD = .40$) compared to when the victim was male ($M = 1.34, SD = .61$), $t(121) = -3.72, p < .001, d = .43$.

Finally, correlation analyses explored the relationship between implicit attitudes and explicit socio-cognitive outcomes with hostile and benevolent sexist attitudes. Findings indicated that there was a weak, negative relationship between both benevolent and hostile sexism and perceived behavioural

intentions in the male vignette condition (see Table 2). In addition, there was a weak, negative relationship between hostile sexism and self-efficacy in the male vignette condition. This suggests that as benevolent and hostile sexism increased, there was less anticipated intention to act when the victim was male. Moreover, as hostile sexism increased, individuals felt they were less able to act when the victim was male. Furthermore, there was a weak, positive relationship between the IAT scores and hostile sexism, for both the male victim and female victim vignette; this suggests their implicit attitudes were consistent with these perceptions of traditional gender roles for either victim type. There were no other significant relationships between benevolent or hostile sexism and the other socio-cognitive outcomes for the female and male vignettes ($ps > .05$).

Discussion

Study 1 explored the impact of stereotype priming on both implicit attitudes and perceptions associated with hypothetical instances of male and female IPV victimisation. The findings indicate that priming either congruent or incongruent stereotypes pertaining to IPV victimisation did not impact significantly on implicit attitudes or socio-cognitive factors. The only significant pattern was that participants were quicker to associate female victims with “weak” and male victims with “strong.” This finding suggests that priming participants with information that similar numbers of men and women experience IPV may not be effective in dissociating implicit endorsements of gendered victimisation. Further, these stereotype primes did not appear to significantly influence explicit attitudes regarding intentions to act, the ability to intervene, or perceptions of subjective norms surrounding male IPV

victimisation, with equivalence tests indicating the data are inconclusive.

Nevertheless, gendered scenarios depicting IPV had a significant impact on socio-cognitive attitudes with participants reporting higher subjective norms, self-efficacy, behavioural intentions, and outcome expectancies when the victim depicted in the vignette was female compared to male. Additionally, although participants identified the behaviour as IPV and generally rated it as unacceptable, they were significantly more likely to identify this behaviour as an act of IPV and less likely to see it as acceptable when the victim was female relative to male. Finally, both benevolent and hostile sexism were negatively associated with behavioural intentions for the male vignette, and hostile sexism was negatively associated with self-efficacy. That is, higher sexism endorsement was related to lower perceptions of feeling able to intervene and act, but only in cases where the victim was male.

Study 2: IPV Perpetration

The findings of Study 1 indicate that presenting incongruent stereotypes may not be effective in reducing both implicit and explicit attitudes toward IPV victimisation, with attitudes toward male victims appearing to be particularly unfavourable. Specifically, individuals are much less likely to identify IPV toward a man and, worryingly, view it as more acceptable compared to the same behaviour shown toward a woman. Correspondingly, they may be less likely to intervene and feel that any preventative actions may not result in appropriate action being taken. Study 2 aimed to extend these findings, focusing on IPV perpetration to establish whether attitudes surrounding gendered IPV are isolated solely to victimisation

Table 2 Correlations between implicit attitudes, socio-cognitive variables, and hostile and benevolent sexism, Study 1

Variables	Correlations								
	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. IAT score	–	–.07	.03	–.02	–.14	.05	.18*	.00	–.00
2. Subjective norms	–.08	–	.38***	.47***	.42***	.10	–.09	–.03	–.10
3. Self-efficacy	–.03	.34***	–	.61***	.31**	–.16	–.19*	.03	–.00
4. Behavioural intentions	.04	.46***	.50***	–	.32***	–.22*	–.20*	.03	–.13
5. Outcome expectancies	.06	.35***	.19*	.32***	–	.15	.06	–.02	.03
6. Benevolent sexism	.05	.13	–.02	–.10	.03	–	.38***	–.16	.16
7. Hostile sexism	.18*	.03	–.17	–.12	.04	.38***	–	–.10	.13
8. Identification of IPV	–.10	.10	.06	.03	.05	–.11	–.06	–	–.31**
9. Acceptability of behaviour	–.03	–.15	–.19*	–.15	.04	.07	.16	–.35***	–

Correlations above the diagonal are for the vignette with a male victim; below the diagonal, for the vignette with a female victim

IAT, Implicit Association Test; IPV, Intimate Partner Violence

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

or also reside in attitudes toward perpetration. Specifically, it is not entirely clear whether the stigma associated with male victims is in respect of men themselves being victims or toward women as perpetrators. Accordingly, Study 2 aimed to examine the influence of stereotype priming on attitudes toward IPV perpetration and whether the gender of the perpetrator influenced behavioural intentions to report instances of IPV.

Method

Participants

The study consisted of a 3 (Stereotype Condition: Stereotype Congruent, Incongruent, Control) \times 2 (Vignette Perpetrator Gender: Female Victim, Male Victim) mixed-design. A total of 153 UK participants were recruited initially through an online survey, with a total of 43 (28.10%) removed for not completing the study fully and nine for completing the IAT too quickly. This resulted in a final sample of 101 UK participants ($M_{\text{age}} = 26.48$, $SD = 9.24$, range = 18–62); 59 (58%) women; 76 (75.2%) White British, 10 (9.9%) Other White, 3 (4%) Other Mixed, 4 (4%) Asian British, 2 (2%) Black British, 2 (2%) Chinese, 2 (2%) Other Asian, with the remaining 2 (2%) preferring not to identify. Participants were randomly assigned to the stereotype congruent ($n = 34$), incongruent ($n = 35$) or control condition ($n = 32$) by a computer algorithm.

Manipulations and Measures

All measures and procedures were equivalent to those employed in Study 1. The only exception was that the stereotype primes and the IAT target categories referred to IPV perpetration rather than victimisation. Two items were removed from the benevolent sexism scale (items 6 and 13; $\alpha = .71$) and one from the hostile sexism scale (item 1; $\alpha = .67$) of the ASI to increase internal consistency. Consistent with Study 1, inter-item correlations were all significant for both the female (all $r > .59$, $p < .001$) and male vignettes (all $r > .51$, $p < .001$).

Stereotype Priming Manipulation Participants assigned to the stereotype congruent condition were primed with the following information:

“As you may know, figures show that it is more common for men to perpetrate acts of intimate partner violence compared to women. There is also a difference in people’s perceptions of males versus female perpetration of intimate partner violence.”

Participants in the stereotype incongruent condition were primed with the following information:

“Recent research has found that there are no differences between men and women in rates of intimate partner violence perpetration. However, there is still a difference in people’s perceptions of males versus female perpetration of intimate partner violence.”

In line with Study 1, a control condition was utilised in which participants were briefed with general information about the nature of the study. Upon reading these stereotype primes and completing the IAT, participants read two gendered scenarios in a vignette depicting a heterosexual instance of IPV toward a male or female perpetrator: “Your [male/female] friend comes to you and tells you that [he/she] hit [his/her] [girlfriend/boyfriend] last night.” Participants then went on to complete measures of outcome expectancies, subjective norm, self-efficacy, and behavioural intentions.

Results

Implicit Attitudes

A one-way between-subjects ANOVA revealed no significant impact of stereotype condition on implicit attitudes toward IPV perpetration, $F(2, 98) = 2.13$, $p = .124$, $\eta_p^2 = .04$. The effects observed between the stereotype incongruent and control condition, as well as the stereotype incongruent and congruent condition, were not significantly within the equivalent bounds, suggesting the data are inconclusive. A follow-up one sample t -test revealed that, consistent with Study 1, participants showed a weak stereotype endorsement ($M = .18$, $SD = .32$) that male perpetrators were strong and females weak, $t(100) = 5.64$, $p < .001$.

Socio-Cognitive Outcomes

A series of 3 (Stereotype Condition: Stereotype congruent, Incongruent, Control) \times 2 (Vignette Perpetrator Gender: Female Perpetrator, Male Perpetrator) ANOVAs were conducted to explore the impact of stereotype condition and perpetrator gender on subjective norms, self-efficacy, behavioural intentions, and outcome expectancies. Bonferroni corrections were applied to reduce familywise error. For subjective norms, a significant main effect of perpetrators gender was found, $F(1, 98) = 99.43$, $p < .001$, $\eta_p^2 = .50$, with participants reporting significantly higher subjective norms for the male perpetrator vignette (see Table 3). There was no significant main effect of stereotype condition, $F(2, 98) = .94$, $p = .395$, $\eta_p^2 = .02$, and no interaction between stereotype condition and perpetrator gender, $F(2, 98) = 1.52$, $p = .224$, $\eta_p^2 = .03$. The observed effects between the stereotype incongruent and control condition, as well as the stereotype incongruent and congruent condition, for the female perpetrator vignette was not significantly within the specified equivalence bounds, suggesting the data are inconclusive.

Table 3 Descriptive statistics by stereotype condition and gender of the IPV perpetrator, Study 2

Measure	IPV Perpetrator	Stereotype Condition			Gender main effect <i>M (SD)</i>
		Stereotype congruent <i>M (SD)</i>	Stereotype incongruent <i>M (SD)</i>	Control <i>M (SD)</i>	
IAT score	–	.16 (.28)	.26 (.27)	.11 (.39)	.18 (.32)
Subjective norms	Male	3.98 (.87)	3.84 (.88)	3.64 (1.03)	3.83 (.93) _a
	Female	2.75 (1.21)	3.02 (1.01)	2.67 (.97)	2.82 (1.07) _b
Self-efficacy	Male	3.47 (1.07)	3.53 (1.02)	3.25 (1.19)	3.42 (1.09) _a
	Female	3.06 (1.16)	3.25 (1.05)	2.97 (1.08)	3.10 (1.09) _b
Behavioural intentions	Male	4.15 (.63)	3.94 (.91)	3.84 (1.02)	3.98 (.87) _a
	Female	3.43 (.99)	3.34 (1.20)	3.14 (1.14)	3.31 (1.11) _b
Outcome expectancies	Male	3.71 (.99)	3.33 (1.06)	3.17 (1.05)	3.41 (1.05) _a
	Female	2.59 (1.16)	2.66 (1.35)	2.56 (1.01)	2.60 (1.18) _b

Different subscripts comparing male and female perpetrators within each measure indicate that all gender main effects were significant (Bonferroni corrected $ps < .0125$)

Similarly, there was a significant main effect of perpetrators gender on self-efficacy, $F(1, 98) = 13.03$, $p < .001$, $\eta_p^2 = .12$, with participants reporting they felt more capable of intervening in the instance of a male compared to female perpetrator (see Table 3). No significant main effects of stereotype condition were found, $F(2, 98) = .67$, $p = .513$, $\eta_p^2 = .01$, and there was no interaction between stereotype condition and perpetrator gender, $F(2, 98) = .26$, $p = .771$, $\eta_p^2 = .01$. The observed effects between the stereotype incongruent and control condition, as well as the stereotype incongruent and congruent condition, for the female perpetrator vignette were not significantly within the equivalent bounds, suggesting the data are inconclusive.

There was also a significant main effect of perpetrator gender on behavioural intentions, $F(1, 98) = 58.47$, $p < .001$, $\eta_p^2 = .37$, with participants indicating they would be more likely to report an incident of IPV if the perpetrator was male compared to female (see Table 3). However, there was no significant main effect of stereotype condition, $F(2, 98) = .90$, $p = .412$, $\eta_p^2 = .02$, and no interaction between stereotype condition and perpetrator gender, $F(2, 98) = .19$, $p = .830$, $\eta_p^2 = .004$. The observed effect between the stereotype incongruent and control condition for the female perpetrator vignette was not significantly within the specified equivalence bounds; however, the effect between the congruent and incongruent condition for the female vignette was significantly equivalent. As such, stereotype incongruent information regarding IPV perpetration did not appear to enhance behavioural intentions to report a female perpetrator of IPV compared to stereotype congruent information.

There was a significant main effect of perpetrator gender on outcome expectancies, $F(1, 98) = 56.22$, $p < .001$, $\eta_p^2 = .37$,

with participants feeling that action would more likely be taken against a male compared to female perpetrator of IPV (see Table 3). There was, however, no significant main effect of stereotype condition, $F(2, 98) = .68$, $p = .510$, $\eta_p^2 = .01$, and no interaction between stereotype condition and perpetrator gender, $F(2, 98) = 2.26$, $p = .110$, $\eta_p^2 = .04$. The observed effect between the stereotype incongruent and control condition for the female perpetrator vignette was not significantly within the equivalent bounds. However, the effect between the congruent and incongruent condition for the female perpetrator vignette was significantly equivalent. This suggests that stereotype incongruent information regarding IPV perpetration did not appear to enhance perceived outcomes that reporting a female perpetrator of IPV would result in a desired outcome, compared to stereotype congruent information.

In respect of the additional measures of identification and acceptability of the behaviour depicted in the vignette, two paired sample *t*-tests were performed. These analyses revealed that although participants accurately identified the act as IPV, they were more likely to identify this act when it was perpetrated by a man ($M = 4.66$, $SD = .64$) compared to a woman ($M = 4.26$, $SD = .99$), $t(100) = 4.34$, $p < .001$, $d = .47$. Similarly, although participants indicated the behaviour in the vignette was not acceptable, it was seen as significantly less so when the perpetrator was male ($M = 1.22$, $SD = .58$) compared to when the perpetrator was female ($M = 1.63$, $SD = 1.01$), $t(100) = -4.39$, $p < .001$, $d = .50$.

Finally, correlation analysis examined whether implicit attitudes or socio-cognitive outcomes correlated with hostile and benevolent sexist attitudes (see Table 4). There was a weak, negative relationship between hostile sexism and

Table 4 Correlations between implicit attitudes, socio-cognitive variables, and hostile and benevolent sexism, Study 2

Variables	Correlations								
	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. IAT score	–	.01	–.09	–.17	–.08	.09	.12	.08	.08
2. Subjective norms	.01	–	.59***	.56***	.33**	.16	–.15	.04	–.02
3. Self-efficacy	–.02	.52***	–	.69***	.41***	.01	–.16	.16	–.07
4. Behavioural intentions	–.11	.59***	.68***	–	.36***	–.00	–.20*	.18	–.25*
5. Outcome expectancies	–.06	.55***	.36***	.40***	–	.01	–.10	.07	–.07
6. Benevolent sexism	.09	.07	–.11	–.15	–.03	–	.40***	.07	–.07
7. Hostile sexism	.12	–.08	–.12	–.34**	–.12	.40***	–	–.03	.07
8. Identification of IPV	.11	.40***	.45***	.40***	.24*	–.22*	–.14	–	–.26**
9. Acceptability of behaviour	–.17	–.22*	–.28**	–.36***	–.23*	.17	.18	–.50***	–

Correlations above the diagonal are for the vignette with a male victim; below the diagonal, for the vignette with a female victim

IAT, Implicit Association Test; IPV, Intimate Partner Violence

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

behavioural intentions in both the male and female victim vignette. This suggests that those scoring higher on the hostile sexism scale were less likely to anticipate intervening in either gendered scenario. Additionally, there was a moderate negative relationship between benevolent sexism and identification of IPV in the vignette with a female perpetrator. This suggests that as benevolent sexism increases, individuals are less likely to identify a violent act by a woman as an instance of IPV. There were no other significant relationships between benevolent and hostile sexism and the implicit and socio-cognitive outcomes for the female and male vignette ($ps > .05$).

Discussion

Study 2 explored the impact of stereotype priming on both implicit and explicit perceptions associated with male and female perpetration of IPV. Findings indicate that priming stereotype congruent or incongruent information did not significantly influence participants' implicit endorsement of gendered IPV perpetration or their behavioural intentions associated with reporting IPV. However, it is important to note that equivalence testing indicated that the data are inconclusive, suggesting that future studies are required with larger sample sizes to elucidate the impact of stereotype priming on implicit and explicit attitudes toward IPV perpetration and to provide reliable estimates of effect size.

Consistent with Study 1, participants revealed a weak implicit stereotype endorsement, perceiving male perpetrators as “strong” and female perpetrators as “weak.” In contrast, the gender of the perpetrator depicted in the hypothetical vignettes was found to be impactful upon explicit attitudes toward IPV. Specifically, subjective norms, self-efficacy, behavioural intentions, and outcome expectancies were significantly higher during instances of male compared to female perpetration. Although

participants identified the behaviour as IPV and generally rated it as unacceptable, they were significantly more likely to identify the behaviour in this vignette as IPV and less likely to see it as acceptable when the perpetrator was male compared to female. Indeed, this pattern shows the opposite direction of effects compared to Study 1 whereby victimisation was depicted, highlighting the worrying indication that participants perceive female victimisation and male perpetration as more unacceptable when compared to male victimisation and female perpetration.

General Discussion

The studies presented here explored both implicit and explicit attitudes associated with hypothetical instances of IPV. These were framed in respect of victimisation (Study 1) and perpetration (Study 2) to assess whether priming congruent or incongruent stereotypes would strengthen or lessen gendered attitudes toward IPV. Across both studies, the findings indicated that there was no significant impact of gender stereotype priming on implicit or explicit attitudes toward IPV victimisation or perpetration, with equivalence tests indicating that the data are inconclusive. Rather, the findings indicate that participants implicitly held stereotypical beliefs of women being perceived as “weak” and men as “strong” regarding IPV perpetration and victimisation. Furthermore, although participants identified IPV behaviour in both vignettes and rated it as unacceptable, there was a clear perception that violence between partners involving a male perpetrator and female victim was more readily identified as IPV and judged as more unacceptable compared to when the perpetrator was female and the victim male. Furthermore, these characterisations are associated with participants' perceptions about their ability to intervene and their intentions to report male victimisation (Study 1) and female perpetration (Study 2).

It could be argued that gender stereotypes relating to IPV victimisation and perpetration are deeply ingrained within societies, and it is therefore not surprising that incongruent stereotypes did not have a significant influence on implicit attitudes or self-reported perceptions associated with IPV. This explanation is supported by the finding that across both studies, participants showed an implicit endorsement for perceiving women as “weak” and men as “strong” regarding IPV, regardless of stereotype condition. This pattern is indicative of how normative societal perceptions are, and it highlights the need for research to investigate and remedy these issues.

The issues presented around attitudes toward male victims are apparent, but what is less clear is whether the stigma and stereotypes stem from the dissonance of men as victims or women as perpetrators. As such, Study 2 helped elucidate this issue and found equivalent outcomes for depictions of male victimisation and female perpetration. This is perturbing because campaigns which aim to increase acknowledgement of men’s victimisation may not benefit from presenting information regarding equal victimisation and perpetration rates between men and women. Indeed, research within the social psychological literature suggests that the development of gender roles and norms around gender-appropriate behaviour develop early in childhood and are then socially reinforced throughout adulthood (Bussey and Bandura 1999). This may influence the endorsement of stereotypes about gender, violence, and victimisation and highlights the significant challenge of changing and reducing such perceptions. Simply raising awareness of the diversity of IPV victims may not be impactful enough in addressing the inherent nature of these stereotypes, which suggests that gender norms need tackling earlier in socialisation before they become too rigid. This is supported by research which suggests that men may be unlikely to report instances of IPV because they feel embarrassed for not confirming to dominant societal expectations (Hogan 2016). One way of tackling these ingrained stereotypes and reducing the stigma associated with male victimisation might be to encourage men to share their stories and experiences of IPV.

It could be argued that the inconclusive influence of stereotype primes on implicit and explicit attitudes may be that the primes employed were not personalised or emotive enough to change attitudes. Further, the context of priming plays an important role in the effectiveness of their messages (Kindermann 2017). As such the current study may have benefited from using more personalised primes, such as encouraging the person to imagine their friends in a stereotype congruent or incongruent situation and how they would feel, or to show a video vignette depicting a male/female perpetrator and victim in an instance of IPV. From a practical perspective, this suggests that the usual informational or factual campaigns may best capitalise on a more personalised or emotive approach to be more effective in awareness-raising and in encouraging behaviour-change.

Across both studies, participants were also more likely to perceive instances involving male victimisation (Study 1) and female perpetration (Study 2) as more acceptable and less likely to be identified as acts of IPV than female victimisation and male perpetration. This perception supports previous research which has found that people perceive violence against women as being more serious than toward men and that they will search for external attributions for women’s violence (Erickson et al. 2017; Harris and Cook 1994; Hodell et al. 2014; Sorenson and Taylor 2005). Further, research has demonstrated that individuals are more likely to condemn and report men’s assaults on women compared to any other gender combination, regardless of the level of violence that may have been committed by a woman (Felson and Feld 2009). These findings, coupled with those from the current study, indicate there is a need to address perceptions of women’s aggression and ensure it is taken as seriously as men’s.

It is disappointing to see that efforts of awareness training within the last decade may not have impacted considerably on how we generally perceive male victims of IPV, with negative stereotypes still prevailing (Scarduzio et al. 2017). This failure creates lower societal concern surrounding male victims, and thus compounds the stigma that they experience and the likelihood of them reporting IPV (e.g., Felson and Feld 2009). When outside the home, men are more likely to be involved in same-sex non-intimate aggression (Archer 2004), which impacts on the stereotype of them being the more aggressive sex, and consequently means their motives around aggression are often not explored. In contrast, people often seek to understand women’s motivations when they are aggressive (e.g., self-defence, psychopathology) because it creates dissonance with what we understand as socially appropriate behaviour for women (Bates 2018). This can be impactful when we do consider women’s violence in the criminal justice system, with some studies suggesting jurors may have more sympathy for women and be more lenient with them (Hodell et al. 2014).

Some feminist models suggest patriarchy is the social norm that is most influential to IPV (e.g., Dobash and Dobash 1979). Indeed, although we found that hostile and benevolent sexism were related to behavioural intentions, these did not correlate with the other socio-cognitive attitudes or implicit perceptions. Felson (2002) suggests that chivalry is in fact more prominent in inhibiting men’s violence toward women. Chivalry dictates that men (and other women) should protect women from harm, and it means that there is a greater moral condemnation of violence when the victim is a woman and also more serious punishments for the offenders. This notion is supported by studies showing women are consistently more likely to receive help from men, with men being more likely to give help than women (Eagly and Crowley 1986). These gender differences have been found to be more pronounced when there were audiences present (Eagly and Crowley 1986), suggesting that this chivalrous effect is normative.

Limitations and Future Research Directions

The current research has several limitations that warrant acknowledgement. The first is that we only explored perceptions of IPV associated with heterosexual relationships. Less research has been conducted more generally to investigate perceptions of LGBTQ+ relationship violence, and this is an issue that needs to be addressed in future research. This fuller coverage can be achieved by using fully gender-crossed designs, which acknowledge both the gender of the victim and the gender of the perpetrator when examining the impact of stereotype priming, such as 2 (victim gender: female, male) \times 2 (perpetrator gender: female, male) designs (see Erickson et al. 2017).

Findings from Study 1 indicate that incongruent stereotype information did not significantly influence implicit attitudes toward IPV victimisation, and equivalence tests allowed us to statistically reject effects larger than our SESOI (see Lakens 2017; Lakens et al. 2018). However, equivalence tests also indicated that the data are inconclusive when examining the impact of stereotype priming on implicit attitudes toward IPV perpetration in Study 2. Furthermore, the data investigating the impact of these primes on self-efficacy and subjective norms (Study 1 & 2) and outcome expectancies (Study 1) were inconclusive. These tests indicated that the confidence intervals around the observed effect sizes were wide, and therefore we recommend future studies with larger sample sizes to reliably examine the effect of stereotype-incongruent information on implicit attitudes and explicit socio-cognitive IPV attitudes.

Given the unbalanced gender ratio within Study 1, and small sample of men recruited, we were unable to explore whether participants' own gender had an impact on attitudes toward IPV victimisation due to concerns of statistical power. Exploratory analyses indicate that there were no significant differences between male and female participants when examining subjective norms, self-efficacy, behavioural intentions, outcome expectancies, or for benevolent or hostile sexism. Such findings allay concerns that there may have been uncovered gender differences in explicit attitudes, particularly in Study 1, which were not addressed. Implicit attitudes, however, did significantly differ between genders, with male participants more strongly endorsing that men are "strong" and women are "weak" compared to female participants. Such exploratory analyses were replicated within Study 2, which had a more gender balanced sample. As such, we recommended that future research aims to recruit a more gender-balanced sample when investigating issues pertaining to gendered IPV. Similarly, future research efforts should examine explicit and implicit attitudes toward IPV beyond Western cultures. Indeed, research reveals cultural variations in IPV rates and attitudes toward it; where there is gender equality in terms of societal power in a culture, there is likely to be more parity in

IPV perpetration and more reported aggression perpetrated by women (Archer 2006).

An additional limitation includes the potential issue of order effects within the current study. Specifically, participants completed the male IPV vignette scenarios first followed by the female, which may have influenced their responding on this measure. It is possible that women's perpetration and men's victimisation would have been viewed differently if not being preceded by a comparator condition. Further to this, it is worth acknowledging that we did not operationalise baseline measures for implicit and explicit attitudes. As such, it is not possible to fully establish whether there was an equal distribution of attitudes across conditions before the experimental priming.

Finally, it is worth noting that we focused exclusively on physical forms of IPV, which represents only one form of aggression that may occur between intimate partners. Previous commentaries highlight issues in measuring behavioural control (Armitage and Conner 2001), suggesting that individual's perceptions of control are unlikely to be representative of actual control in any given situation, due to the prevalence of illusions of control (Langer 1975; Lerner 1977). However, given evidence that women are often more coercive and controlling than men (Bates et al. 2014), developing more reliable ways of assessing behavioural control within intimate partner relationships would be a fruitful avenue for future research.

Practice Implications

Participants identified the behaviour within both vignettes as IPV, and indeed rated it as unacceptable for both. However, they were significantly more likely to do so when the victim was a woman and the perpetrator, a man. This finding is contrary to some assertions that IPV is seen as acceptable within society and that violence against women is tolerated (Dobash and Dobash 1979). In contrast, our findings indicate that female victims are more likely to receive behavioural intervention and there is a perception of greater outcomes for them, in comparison to men. This pattern provides an indication that prevention campaigns about violence against women has been successful in raising awareness of IPV and ensuring people intervene to protect women; however, the same cannot be said for male victims.

There are significant barriers that exist to men's help-seeking, and many issues prevent men from reporting their IPV experiences—for example, fear of not being believed, fear of being laughed at, and fear of false counter-allegations (Bates 2017). Indeed, in a system where provision is often more oriented toward working with women as victims, men have reported frustrations with trying to access support, as well as experiences of being treated as perpetrators (Hines et al. 2007). If a man reports his experience to services such as the

police and either is not believed or does not have his case taken seriously, the psychological impact can be significant. Research shows that experiences such as these perpetuate victimisation and lead to further trauma through the criminal justice system (McCarrick et al. 2016). Men's perceptions of these attitudes around IPV in their friends/family, as well as within service provision, is likely to impact on their decision-making around help-seeking.

Furthermore, our results indicated no significant impact of the incongruent prime on socio-cognitive measures such as behavioural intentions. This finding means that presenting people with information about IPV rates being similar is not likely to be enough to challenge people's perceptions of their intended behaviours. This conclusion is concerning because these embedded gender norms and societal perceptions affect men's perceptions of their victimisation in a way that stops them from seeking help. Such societal perceptions therefore need to be addressed at a deeper level before campaigns that raise awareness can be effective; this could be achieved through early educational awareness which aims to discourage these traditional gender stereotypes.

Conclusion

In the first known of its kind, the current research established attitudinal outcomes associated with male IPV victimisation and female perpetration, therein extending existing debates on how gendered perceptions of IPV may present different situational effects based upon beliefs. It seems, however, that stereotypical gendered perceptions hold true across victimisation and perpetration contexts and that presenting counter-stereotypes (incongruent priming) does not significantly reduce stereotypical conceptions. Such stereotypes are concerning because they fail to recognise that men can also be victims of heterosexual IPV. Our findings contribute new evidence on implicit gender stereotypes in respect to IPV victimisation and perpetration that is novel in this area of research. Specifically, we found that implicit attitudes toward IPV are stable across situational conditions (victimisation and perpetration) and do not appear to be influenced by priming interventions. Further, there are clear explicit perceptions about greater acceptability and less identification of male victimisation and female perpetration, highlighting a greatly worrying societal norm. Our findings suggest that more needs to be done to counter gender stereotypes associated with IPV and, importantly, move beyond the notion of IPV as a gendered phenomenon. With recent research indicating that women can be as aggressive as men in relationships, there is a need for policy to reflect men's increasing needs as victims (Bates et al. 2017). Current practice in victim support is focused almost entirely on women, but this leaves a substantial number of men without help or support.

Compliance with Ethical Standards

We confirm that the research protocol adheres to BPS and APA ethical guidelines. We do not see any potential conflicts of interests, we have adhered to ethical guidelines from our individual institutions as well as our professional bodies. We also sought and gained informed consent from participants.

References

- Addis, M. E., & Mahalik, J. R. (2003). Men, masculinity, and the contexts of help seeking. *American Psychologist*, *58*, 5–14. <https://doi.org/10.1037/0003-066X.58.1.5>.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control* (pp. 11–39). Berlin, Heidelberg: Springer.
- Ajzen, I. (1987). Attitudes, traits, and actions: Dispositional prediction of behavior in personality and social psychology. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 20, pp. 1–63). New York: Academic Press.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T).
- Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, *22*, 453–474.
- Ambady, N., Paik, S. K., Steele, J., Owen-Smith, A., & Mitchell, J. P. (2004). Deflecting negative self-relevant stereotype activation: The effects of individuation. *Journal of Experimental Social Psychology*, *40*, 401–408. <https://doi.org/10.1016/j.jesp.2003.08.003>.
- Archer, J. (2000). Sex differences in aggression between heterosexual partners: A meta-analytic review. *Psychological Bulletin*, *126*, 651–680. <https://doi.org/10.1037/0033-2909.126.5.651>.
- Archer, J. (2004). Sex differences in real world settings: A meta-analytic review. *Review of General Psychology*, *8*, 291–322. <https://doi.org/10.1037/1089-2680.8.4.291>.
- Archer, J. (2006). Cross-cultural differences in physical aggression between partners: A social-role analysis. *Personality and Social Psychology Review*, *10*, 133–153. https://doi.org/10.1207/s15327957pspr1002_3.
- Armitage, C., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, *40*, 471–499. <https://doi.org/10.1348/014466601164939>.
- Bates, E. A. (2017, November). *Hidden victims: Men and their experiences of domestic violence*. Paper presented at ManKind initiative conference, London, UK.
- Bates, E. A. (2018). Contexts for women's aggression against men. In T. Shackelford, V. Weekes-Shackelford (Eds.), *Encyclopedia of Evolutionary Psychological Science*. Cham: Springer. https://doi.org/10.1007/978-3-319-16999-6_901-1.
- Bates, E. A., & Graham-Kevan, N. (2016). Is the presence of control related to help-seeking behavior? A test of Johnson's assumptions regarding sex-differences and the role of control in intimate partner violence. *Partner Abuse*, *7*, 3–25. <https://doi.org/10.1891/1946-6560.7.1.3>.
- Bates, E. A., Graham-Kevan, N., & Archer, J. (2014). Testing predictions from the male control theory of men's partner violence. *Aggressive Behaviour*, *40*, 42–55. <https://doi.org/10.1002/ab.21499>.
- Bates, E. A., Graham-Kevan, N., Bolam, L. T., & Thornton, A. J. V. (2017). A review of domestic violence perpetrator programs in the UK. *Partner Abuse*, *8*, 3–46. <https://doi.org/10.1891/1946-6560.8.1.3>.

- Blair, I. V., & Banaji, M. R. (1996). Automatic and controlled processes in stereotype priming. *Journal of Personality and Social Psychology, 70*, 1142–1163. <https://doi.org/10.1037/0022-3514.70.6.1142>.
- Bookwala, J., Frieze, I. H., Smith, C., & Ryan, K. (1992). Predictors of dating violence: A multivariate analysis. *Violence and Victims, 7*, 297–311.
- Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review, 106*, 676–713. <https://doi.org/10.1037/0033-295X.106.4.676>.
- Centers for Disease Control and Prevention. (2011). *National intimate partner and sexual violence survey: 2010 summary report*. Atlanta: Author.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155–159. <https://doi.org/10.1037/0033-2909.112.1.155>.
- de Groot, J., & Steg, L. (2006). Impact of transport pricing on quality of life, acceptability, and intentions to reduce car use: An exploratory study in five European countries. *Journal of Transport Geography, 14*(6), 463–470.
- Dijksterhuis, A., & Bargh, J. A. (2001). The perception-behavior expressway: Automatic effects of social perception on social behavior. In M. Zanna (Ed.), *Advances in experimental social psychology* (pp. 1–40). London: Academic Press.
- Dobash, R. E., & Dobash, R. P. (1979). *Violence against wives: A case against the patriarchy*. London: Open Books.
- Douglas, E. M., & Hines, D. A. (2011). Helpseeking experiences of men who sustain intimate partner violence: An overlooked population and implications for practice. *Journal of Family Violence, 26*, 473–485. <https://doi.org/10.1007/s10896-011-9382-4>.
- Drijber, B. C., Reijnders, U. J. L., & Ceelen, M. (2013). Male victims of domestic violence. *Journal of Family Violence, 28*, 173–178. <https://doi.org/10.1007/s10896-012-9482-9>.
- Dutton, D. (2006). The gender debate and the feminist paradigm. In D. G. Dutton (Ed.), *Rethinking domestic violence* (pp. 109–129). Vancouver: UBS Press.
- Dutton, D. G., & Nicholls, T. L. (2005). The gender paradigm in domestic violence research and theory: Part 1 – The conflict of theory and data. *Aggression and Violent Behavior, 10*, 680–714. <https://doi.org/10.1016/j.avb.2005.02.001>.
- Eagly, A. H., & Crowley, M. (1986). Gender and helping behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin, 100*, 283–308. <https://doi.org/10.1037/0033-2909.100.3.283>.
- Erickson, K. A., Jonnson, M., Langile, J. I., & Walsh, Z. (2017). Victim gender, rater attitudes, and rater violence history influence perceptions of intimate partner violence. *Violence and Victims, 32*, 533–544. <https://doi.org/10.1891/0886-6708.VV-D-15-00086>.
- Felson, R. B. (2002). *Violence and gender reexamined*. Washington, DC: American Psychological Association.
- Felson, R. B., & Feld, S. L. (2009). When a man hits a woman: Moral evaluations and reporting of violence to the police. *Aggressive Behavior, 35*, 477–488. <https://doi.org/10.1002/ab.20323>.
- Felson, R. B., & Paré, P. (2005). The reporting of domestic violence and sexual assault by nonstrangers to the police. *Journal of Marriage and Family, 67*, 597–610. <https://doi.org/10.1111/j.1741-3737.2005.00156.x>.
- Fisher, C. (2013). Changed and changing gender and family roles and domestic violence in African refugee background communities post-settlement in Perth, Australia. *Violence Against Women, 19*, 833–847. <https://doi.org/10.1177/1077801213497535>.
- Forscher, P. S., Lai, C. K., Axt, J., Ebersole, C. R., Herman, M., Devine, P. G., & Nosek, B. A. (2018, July 13). *A meta-analysis of change in implicit bias*. <https://doi.org/10.31234/osf.io/dv8tu>; <https://psyarxiv.com/dv8tu/>. Accessed 15 May 2018.
- Galdas, P. M., Cheater, F., & Marshall, P. (2005). Men and health help-seeking behaviour: Literature review. *Journal of Advanced Nursing, 49*, 616–623. <https://doi.org/10.1111/j.1365-2648.2004.03331.x>.
- Glick, P., & Fiske, S. T. (1996). The ambivalent sexism inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology, 70*, 491–512. <https://doi.org/10.1037/0022-3514.70.3.491>.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology, 74*, 1464–1480. <https://doi.org/10.1037/0022-3514.74.6.1464>.
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the implicit association test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology, 85*, 197–216. <https://doi.org/10.1037/0022-3514.85.2.197>.
- Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the implicit association test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology, 97*, 17–41. <https://doi.org/10.1037/a0015575>.
- Harris, R. J., & Cook, C. A. (1994). Attributions about spouse abuse: It matters who the batterers and victims are. *Sex Roles, 30*, 553–565. <https://doi.org/10.1007/BF01420802>.
- Hines, D. A., Brown, J., & Dunning, E. (2007). Characteristics of callers to the domestic abuse helpline for men. *Journal of Family Violence, 22*(2), 63–72. <https://doi.org/10.1007/s10896-006-9052-0>.
- Hodell, E. C., Wasarhaley, N. E., Rose Lynch, K., & Golding, J. M. (2014). Mock juror gender biases and perceptions of self-defense claims in intimate partner homicide. *Journal of Family Violence, 29*, 495–506. <https://doi.org/10.1007/s10896-014-9609-2>.
- Hogan, K. (2016). *Mens experiences of female-perpetrated intimate partner violence: A qualitative exploration* (unpublished thesis). University of the West of England. Retrieved from <http://eprints.uwe.ac.uk/28618>.
- Ialongo, C. (2017). The logic of equivalence testing and its use in laboratory medicine. *Biochemia medica: Biochemia medica, 27*(1), 5–13.
- Johnson, M. P. (1995). Patriarchal terrorism and common couple violence: Two forms of violence against women. *Journal of Marriage and the Family, 57*, 283–294. <https://doi.org/10.2307/353683>.
- Johnson, M. P. (2006). Conflict and control: Gender symmetry and asymmetry in domestic violence. *Violence Against Women, 12*, 1003–1018. <https://doi.org/10.1177/1077801206293328>.
- Kindermann, H. (2017). Priming and context effects of banner ads on consumer based brand equity: A pilot study. In F. H. Nah & C. H. Tan (Eds.), *HCI in business, government and organizations. Supporting business. HCIBGO 2017. Lecture Notes in Computer Science* (Vol. 10294). https://link.springer.com/chapter/10.1007/978-3-319-58484-3_5#citeas. Accessed 15 May 2018.
- Lai, C. K., Marini, M., Lehr, S., Cerruti, C., Shin, J. E., Joy-Gaba, J., ... Nosek, B. A. (2014). Reducing implicit racial preferences: I. A comparative investigation of 17 interventions. *Journal of Experimental Psychology: General, 143*, 1765–1785.
- Lakens, D. (2017). Equivalence tests: A practical primer for *t* tests, correlations, and meta-analyses. *Social Psychological and Personality Science, 8*, 355–362.
- Lakens, D., Smell, A., & Isager, P. (2018). Equivalence testing for psychological research: A tutorial. *Advances in Methods and Practices in Psychological Science, 1*, 259–269. <https://doi.org/10.1177/2515245918770963>.
- Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology, 32*, 311–328. <https://doi.org/10.1027/1618-3169/a000225>.
- Langhinrichsen-Rohling, J., Misra, T. A., Selwyn, C., & Rohling, M. L. (2012). Rates of bidirectional versus unidirectional intimate partner violence across samples, sexual orientations, and race/ethnicities: A comprehensive review. *Partner Abuse, 3*, 199–230. <https://doi.org/10.1891/1946-6560.3.2.199>.

- Lerner, M. J. (1977). The justice motive: Some hypotheses as to its origins and forms. *Journal of Personality*, *45*, 1–52. <https://doi.org/10.1111/j.1467-6494.1977.tb00591.x>.
- Lövestad, S., Löve, J., Vaez, M., & Krantz, G. (2017). Prevalence of intimate partner violence and its association with symptoms of depression: A cross-sectional study based on a female population sample in Sweden. *BMC Public Health*, *17*, 335. <https://doi.org/10.1186/s12889-017-4222-y>.
- Macrae, C. N., Stangor, C., & Hewstone, M. (1996). *Stereotypes and stereotyping*. London: Guilford Press.
- McCarrick, J., Davis-McCabe, C., & Hirst-Winthrop, S. (2016). Men's experiences of the criminal justice system following female perpetrated intimate partner violence. *Journal of Family Violence*, *31*(2), 203–213. <https://doi.org/10.1007/s10896-015-9749-z>.
- McCarthy, R. J., Hartnett, J. L., Header, J. D., Scherer, C. R., Wood, S. E., Nichols, A. L., ... Walker, W. R. (2018). An investigation of abstract construal on impression formation: A multi-lab replication of McCarthy and Skowronski (2011). *International Review of Social Psychology*, *31*, 15. <https://doi.org/10.5334/irsp.133>.
- Menard, K. S., Anderson, A. L., & Godboldt, S. M. (2009). Gender differences in intimate partner recidivism: A 5-year follow up. *Criminal Justice and Behavior*, *36*, 61–76. <https://doi.org/10.1177/0093854808325905>.
- Nelson, T. D. (2009). *Handbook of prejudice, stereotyping and discrimination*. New York: Psychology Press.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2005). Understanding and using the implicit association test: II. Method variables and construct validity. *Personality and Social Psychology Bulletin*, *31*, 166–180. <https://doi.org/10.1177/0146167204271418>.
- Nosek, B. A., Smyth, F. L., Sriram, N., Lindner, N. M., Devos, T., Ayala, A., ... Greenwald, A. G. (2009). National differences in gender-science stereotypes predict national sex differences in science and math achievement. *Proceedings of the National Academy of Sciences*, *106*(26), 10593–10597.
- Nosek, B. A., Hawkins, C. B., & Frazier, R. S. (2012). Implicit social cognition: From measures to mechanisms. *Trends in Cognitive Sciences*, *15*, 152–159. <https://doi.org/10.1016/j.tics.2011.01.005>.
- Office for National Statistics. (2015). *Chapter 4: Violent crime and sexual offences- Intimate personal violence and serious sexual assault*. Retrieved from http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/dcp171776_394500.pdf.
- Rhodes, R. E., Jones, L. W., & Courneya, K. S. (2002). Extending the theory of planned behavior in the exercise domain: A comparison of social support and subjective norm. *Research Quarterly for Exercise and Sport*, *73*, 193–199. <https://doi.org/10.1080/02701367.2002.10609008>.
- Rohmer, O., & Louvet, E. (2012). Implicit measures of the stereotype content associated with disability. *British Journal of Social Psychology*, *51*, 732–740. <https://doi.org/10.1111/j.2044-8309.2011.02087.x>.
- Santana, M. C., Raj, A., Decker, M. R., Marche, A. L., & Silverman, J. G. (2006). Masculine gender roles associated with increased sexual risk and intimate partner violence perpetration among young adult men. *Journal of Urban Health*, *83*, 575–585. <https://doi.org/10.1007/s11524-006-9061-6>.
- Scarduzio, J. A., Carlyle, K. E., Lockwood Harris, K., & Savage, M. W. (2017). “Maybe she was provoked”: Exploring gender stereotypes about male and female perpetrators of intimate partner violence. *Violence Against Women*, *23*, 89–113. <https://doi.org/10.1177/1077801216636240>.
- Seelau, S., & Seelau, E. (2005). Gender-role stereotypes and perceptions of heterosexual, gay and lesbian domestic violence. *Journal of Family Violence*, *20*, 363–371. <https://doi.org/10.1007/s10896-005-7798-4>.
- Sorenson, S. B., & Taylor, C. A. (2005). Female aggression toward male intimate partners: An examination of social norms in a community-based sample. *Psychology of Women Quarterly*, *29*, 78–96. <https://doi.org/10.1111/j.1471-6402.2005.00170.x>.
- Sugarman, D., & Frankel, S. L. (1996). Patriarchal ideology and wife-assault: A meta-analytic review. *Journal of Family Violence*, *11*, 13–40. <https://doi.org/10.1007/BF02333338>.
- Sylaska, K. M., & Walters, A. S. (2014). Testing the extent of the gender trap: College students' perceptions of and reactions to intimate partner violence. *Sex Roles*, *70*, 134–145. <https://doi.org/10.1007/s11199-014-0344-1>.
- Terry, D. J., & O'Leary, J. E. (1995). The theory of planned behaviour: The effects of perceived behavioral control and self-efficacy. *British Journal of Social Psychology*, *34*, 199–220. <https://doi.org/10.1111/j.2044-8309.1995.tb01058.x>.
- Terry, D. J., Hogg, M. A., & White, K. M. (1999). The theory of planned behaviour: Self-identity, social identity and group norms. *British Journal of Social Psychology*, *38*, 225–244.
- Walsh, J., Spangaro, J., & Soldatic, K. (2015). Global understandings of domestic violence. *Nursing & Health Sciences*, *17*, 1–4. <https://doi.org/10.1111/nhs.12197>.
- Welch, W. W., & Barlau, A. N. (2013). *Addressing survey nonresponse issues: Implications for ATE principal investigators, evaluators, and researchers*. Retrieved from <http://www.colorado.edu/ibs/decaproject/pubs/Survey%20nonresponse%20issues%20Implications%20for%20ATE%20PIs%20researchers%20%20evaluators.pdf>.
- Wheeler, S. C., & Petty, R. E. (2000). The effects of stereotype activation on behavior: A review of possible mechanisms. *Psychological Bulletin*, *127*, 797–826. <https://doi.org/10.1037/0033-2909.127.6.797>.
- Wheeler, S. C., Javis, B. G., & Petty, R. E. (2001). Think unto others: The self-destructive impact of negative racial stereotypes. *Journal of Experimental Social Psychology*, *37*, 173–180. <https://doi.org/10.1006/jesp.2000.1448>.
- Whitaker, D. J., Haileyesus, T., Swahn, M., & Saltzman, L. S. (2007). Differences in frequency of violence and reported injury between relationships with reciprocal and nonreciprocal intimate partner violence. *American Journal of Public Health*, *97*, 941–947. <https://doi.org/10.2105/AJPH.2005.079020>.
- Williams, D. M., Anderson, E. S., & Winett, R. A. (2005). A review of the outcome expectancy construct in physical activity research. *Annals of Behavioral Medicine*, *29*, 70–79. https://doi.org/10.1207/s15324796abm2901_10.