

# What Puts Individuals at Risk for Physical Intimate Partner Violence Perpetration? A Meta-Analysis Examining Risk Markers for Men and Women

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## Abstract

Intimate partner violence (IPV) perpetration is a serious public health concern around the world. This meta-analysis aimed to synthesize all available data examining risk markers for physical IPV perpetration among men and women between 1980 and 2018. Studies were included in the analysis if they examined physical IPV in adult opposite-sex relationships, included statistical information needed to calculate at least one bivariate effect size, and were written in English. A total of 503 studies, yielding 2,972 unique effect sizes, were included in the analysis. Data from these studies allowed for the examination of 63 unique risk markers related to physical IPV perpetration for both men and women, 60 unique risk markers for male perpetration, and 45 unique risk markers for female perpetration. Lastly, we were able to compare the strength of 44 risk markers for physical IPV perpetration between men and women. We found that the strongest risk markers were related to other acts of violence (both perpetration and victimization) as well as relationship dynamics. Results from this study highlight the potential factors that could be focused on in prevention programming and intervention work. Additionally, it was found that 9 out of 44 risk markers significantly differed in strength for men and women, allowing for additional specificity in intervention work for helping professionals working with either male or female perpetrators of physical IPV.

## Keywords

domestic violence, intervention/treatment, anything related to domestic violence

Intimate partner violence (IPV) is a severe, pervasive public health concern for men and women across the globe (Breiding et al., 2014; García-Moreno et al., 2005; Smith et al., 2017). IPV can include a variety of abusive behaviors including physical violence, psychological violence, and/or sexual violence. This study focuses on physical IPV perpetration, which can include acts such as slapping, pushing, striking, kicking, strangulation, or using a weapon against one's partner (Devries et al., 2013). There is no doubt that physical IPV can result in a host of negative outcomes for victims including physical injury and potentially death, depression, post-traumatic stress symptoms, alcohol use, drug use, suicidal ideation, as well as negative economic impacts (Breiding et al., 2014; Campbell, 2002; Coker et al., 2002; García-Moreno et al., 2005). There has been a growing body of literature examining risk markers or factors associated with physical IPV perpetration and victimization as a means to help identify individuals at risk for IPV to help inform assessment, prevention, and intervention efforts (Cafferky et al., 2018; Spencer et al., 2016, 2019; Stith et al., 2004).

There has also been extensive debate about whether or not risk markers for IPV perpetration are more similar, or distinctly

different, between men and women. For example, some researchers have viewed men and women's perpetration of IPV as similar to one another and most frequently related to a lack of conflict resolution skills (Straus, 2005, 2011). However, others have found gender differences related to IPV perpetration, stating that men are more likely to use violence as a means to exert power and dominance over their partners, whereas women more often report self-defense as motive for perpetrating IPV against their partners (Swan et al., 2008; Yllo, 2005).

Other literature reviews examining gender and its relation to IPV perpetration have found mixed results, with some literature supporting that there are more similarities than differences regarding risk markers for IPV perpetration between men and women and others finding distinct differences for the use of

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IPV, with men using violence more often to control their partners than do women (Langhinrichsen-Rohling et al., 2012). Due to the inconsistencies when examining risk markers for IPV perpetration comparing men and women, it is important to use a gendered lens when examining risk for physical IPV perpetration.

The aim of this study is to build on prior research regarding risk markers for physical IPV perpetration through the use of a meta-analysis. This study will aim to examine the following research questions: (1) What are the strongest risk markers for, and protective markers against, physical IPV perpetration? (2) What are the strongest risk markers for, and protective markers against, physical IPV perpetration for men? (3) What are the strongest risk markers for, and protective markers against, physical IPV perpetration for women? (4) Are there statistically significant differences in the strength of risk markers for physical IPV perpetration between men and women?

## Previous Meta-Analyses

This meta-analysis seeks to build off of prior meta-analytic works examining risk markers for physical IPV. In 2004, Stith et al. published a comprehensive meta-analysis examining risk markers for IPV perpetration and victimization. In recent years, additional meta-analytic reviews have been published focusing on risk markers for physical IPV. Some of these recent studies examined specific risk markers including relationship factors (Stith et al., 2008), mental health risk markers (Spencer et al., 2019), psychiatric disorders as risk markers (Oram et al., 2014), substance use risk markers (Cafferky et al., 2018), and family of origin risk markers (Smith-Marek et al., 2016). Others have examined specific populations such as military populations (Smith-Marek et al., 2016), risk markers during pregnancy (James et al., 2013), risk markers for individuals in same-sex relationships (Kimmes et al., 2019), comparing individualistic versus collectivistic cultures (Mallory et al., 2016), comparing risk markers based on level of income inequality (Spencer et al., 2019), and comparing clinical and nonclinical samples (Love et al., 2018). There has also been a recent study providing a comprehensive overview of risk markers for IPV victimization (Spencer et al., 2018) as well as a brief report examining gender and IPV perpetration (Spencer et al., 2016). However, this current study expands on Stith and colleague's (2004) work and provides an updated, comprehensive overview of risk markers specifically for physical IPV perpetration from published and unpublished studies from 1980 to 2018.

## Theoretical Framework

As this study builds upon the previous work of Stith and colleagues (2004), we also utilized Dutton's (1995) nested ecological model as the framework for this study. This theoretical framework posits that there are four concentric levels of an individual's environment (i.e., the macrosystem, exosystem, microsystem, and ontogenetic systems), which can contribute to the perpetration of IPV against one's partner. This highlights

the notion that there is not one singular factor that causes, or can explain, an individual's perpetration of IPV, but instead multiple risk markers within different ecological levels need to be examined when exploring and examining risk markers associated with physical IPV perpetration.

The macrosystem is the society in which the individual is situated and includes the culture (attitudes, beliefs, and laws) where one lives. The exosystem includes the social structures involved in an individual's life, which includes structures such as one's work environment, neighborhood environment, support systems (or lack thereof), and other community-level factors. The microsystem includes the direct setting in which the individual is located. When examining IPV, this could refer to the relationship in which the individual is involved as well as other immediate settings related to one's family of origin or their history related to direct relationships. Lastly, there is the ontogenetic system, which focuses on factors related to the perpetrator at the individual level. This may include factors such as their own beliefs and attitudes, mental health, substance use, and other factors directly related to the individual.

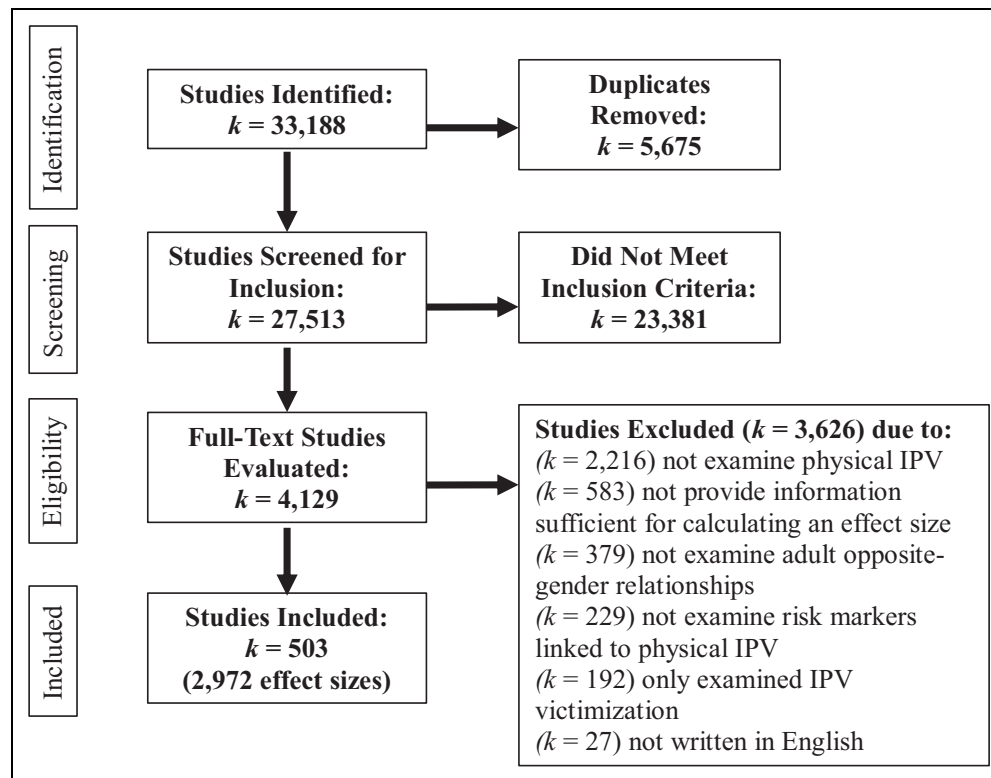
## Method

### Literature Search

Standard meta-analytic procedures were followed when gathering and including effect sizes for this study examining risk markers linked to physical IPV perpetration (Borenstein et al., 2009; Card, 2012; Hunter & Schmidt, 2004). In order to obtain studies to be included in the analysis, multistage database searches were conducted. Databases (PsycINFO, ProQuest, ProQuest Dissertations and Theses, Social Services Abstracts, Web of Science, and Sociological Abstracts) were utilized to find published and unpublished studies from 1980 to 2018 using key search terms. Search terms used included terms related to intimate relationships (i.e., spouse, intimate partner, marital, husband, and wife), violence (i.e., aggression, abuse, domestic violence, violence, maltreatment, and batter), and risk markers (i.e., predictor, correlate, risk, pathway, and factor). In addition to the database searches, multiple handpicking strategies were used to find additional studies (e.g., examining conference abstracts and reference lists from other systematic reviews on IPV).

### Included Studies

In order to be included in the current study, articles needed to meet the following inclusion criteria: (1) examined perpetration of physical IPV (not combined with other forms of IPV), (2) included adult samples of opposite-sex couples, (3) included statistical information allowing for univariate or bivariate effect sizes to be gleaned from the study, and (4) were written in English. Studies were ultimately excluded if they did not examine perpetration of physical IPV (distinct from other forms of IPV), if they did not examine perpetration (distinct from victimization), if they did not examine adults in opposite-gender relationships, if they did not examine risk markers



**Figure 1.** Flowchart of studies included in the analysis.

linked with IPV, if they did not provide statistical information allowing for the calculation of a univariate or bivariate effect size, or if they were not written in English. Additionally, for studies that were quantitative but did not provide information that could be used in the meta-analysis, authors were contacted to see if they could provide additional information so that their data could be used in the meta-analysis. Less than 10% of the contacted authors provided necessary additional statistical information for inclusion in the analysis.

Our database searches and handpicking of conference abstracts and reference lists generated a total of 33,188 initial studies to be considered for inclusion in the current meta-analysis (See Figure 1). In the first round of screening (by examining abstracts of potential studies), a total of 23,381 studies were excluded because it was clear they did not meet our inclusion criteria and 5,675 were excluded because they were duplicates. The remaining 4,129 studies were subjected to a second round of screening that entailed a closer inspection of their method and results sections. Ultimately, 2,216 studies were excluded because they did not specifically examine perpetration of physical IPV, 583 did not provide quantitative information that could be used in the study (170 of these were not quantitative), 379 did not examine adult opposite-gender relationships, 229 did not examine risk markers linked with physical IPV, 192 examined only IPV victimization, and 27 were not written in English. The remaining 503 studies were included in this meta-analysis, yielding

2,972 unique effect sizes of various risk markers linked to perpetration of physical IPV.

### Coding Procedures

Standard coding procedures were followed for harvesting effect sizes from included studies (e.g., Card, 2012). The authors created a 37-item code sheet in order to gather important information from each unique study, including statistical information on the risk markers examined, the sample size, the location of the study, as well as various information related to the methodological approach of each study. Over 80% of the studies included in the analysis were cross-coded by two separate researchers, yielding an agreement rate of approximately 96%. When discrepancies in the coding of articles were present, and the two researchers were not able to agree upon the correct coding, they would meet with one of the project leaders in order to arrive at a consensus collectively (Hawkins et al., 2008).

### Statistical Approach and Analyses

All data were entered and analyzed using Comprehensive Meta-Analysis Software 3.0 (Borenstein et al., 2014). A random-effects approach was used in this analysis in order to account for between-study and within-study variance, which accounts for real population differences between the studies and allows for greater generalizability of the results (Borenstein et al., 2010; Card, 2012).

**Table 1.** Risk Markers for IPV Perpetration With Male and Female Samples Combined.

Risk Marker	<i>k</i>	Mean <i>r</i>	95% CI	Ecological Level	Trim and Fill Imputed Studies	Classic Fail-Safe <i>N</i>
Caused previous injury	17	.58***	[.50, .65]	Micro	2	7,757
Emotional IPV perpetration	125	.53***	[.50, .56]	Micro	6	429,343
Physical IPV victimization	26	.52***	[.46, .59]	Micro	4	34,303
Threatens to harm partner	7	.49***	[.33, .61]	Micro	0	3,040
Stalking perpetration <sup>M</sup>	8	.47***	[.37, .57]	Micro	2	913
Emotional IPV victimization	19	.44***	[.36, .51]	Micro	7	8,695
Sexual IPV victimization	6	.44*	[.01, .73]	Micro	2	630
Verbal arguments	5	.43***	[.29, .55]	Micro	0	534
Previous physical IPV perpetration	16	.42***	[.34, .49]	Micro	0	8,006
Sexual IPV perpetration	28	.40***	[.28, .51]	Micro	7	10,547
Demand/withdraw relationship patterns	8	.37***	[.26, .47]	Micro	1	293
Borderline personality disorder	27	.34***	[.29, .39]	Onto	0	2,932
Anger	49	.32***	[.28, .36]	Onto	8	3,263
Controlling behaviors	38	.30***	[.24, .36]	Micro	2	41,892
Violent toward nonfamily members	22	.28***	[.22, .33]	Micro	3	2,956
Antisocial personality disorder	40	.27***	[.22, .32]	Onto	0	6,334
Mental health problems (general)	18	.27***	[.20, .34]	Onto	6	2,040
Narcissism	9	.26***	[.17, .34]	Onto	0	132
Prior arrest	24	.26***	[.17, .34]	Exo	4	1,712
External locus of control	6	.26*	[.04, .45]	Onto	0	178
Approval of violence	21	.25***	[.17, .34]	Onto	4	1,725
Drug use	78	.25***	[.21, .28]	Onto	0	33,319
Jealousy	25	.24***	[.17, .31]	Onto	4	7,044
Access to weapons	9	.24**	[.09, .38]	Onto	0	561
Substance use	253	.22***	[.20, .23]	Onto	46	580,932
Depression	71	.22***	[.18, .26]	Onto	21	34,384
Abused as a child	84	.22***	[.19, .25]	Micro	13	26,465
Witness parental IPV	79	.22***	[.19, .25]	Micro	16	22,610
Perpetrator's infidelity <sup>M</sup>	4	.22***	[.14, .29]	Micro	1	107
Alcohol use	223	.21***	[.20, .23]	Onto	0	392,716
PTSD	43	.21***	[.18, .24]	Onto	0	3,799
Impulsivity	13	.21***	[.16, .27]	Onto	5	806
Traditional gender roles	16	.20***	[.11, .28]	Onto	0	1,044
Perpetrator's power in the relationship	16	.18***	[.10, .25]	Micro	7	674
Trauma	13	.18***	[.10, .25]	Onto	1	357
Physically abusing own children	9	.17***	[.14, .19]	Micro	2	1,920
Anxiety	28	.16***	[.12, .21]	Onto	5	1,292
Anxious attachment	22	.16***	[.12, .21]	Onto	2	367
Stress	26	.16***	[.10, .21]	Onto	13	1,948
Avoidant attachment	24	.13***	[.07, .19]	Onto	0	266
Physical health problems	10	.11**	[.04, .18]	Onto	0	181
Financial stress	8	.11**	[.03, .18]	Exo	1	421
Disorganized attachment	9	.11**	[.04, .18]	Onto	0	29
Threatens to harm self <sup>M</sup>	4	.10**	[.04, .16]	Onto	2	9
Number of children	22	.08***	[.04, .13]	Exo	2	194
Combat exposure <sup>♦</sup>	8	.09*	[.01, .16]	Onto	1	35
Marital status	33	-.04	[-.09, .01]	Exo	-	-
Religiosity	8	-.07**	[-.11, -.03]	Exo	0	529
Employment	63	-.07***	[-.09, -.05]	Exo	1	2,325
Social support	19	-.07***	[-.10, -.03]	Exo	4	604
Age (older)	130	-.10***	[-.11, -.09]	Onto	22	38,431
Length of relationship	45	-.11***	[-.16, -.07]	Micro	6	1,330
Secure attachment	10	-.11**	[-.19, -.04]	Onto	1	42
Education (higher)	115	-.14***	[-.15, -.12]	Exo	7	24,238
Self-esteem (higher)	13	-.14***	[-.20, -.08]	Onto	2	257
Empathy <sup>M</sup>	6	-.14*	[-.26, -.02]	Onto	0	18
Length of time living together	3	-.16***	[-.21, -.11]	Micro	2	12
Income (higher)	77	-.17***	[-.21, -.13]	Exo	27	2,231

(continued)

Table 1. (continued)

Risk Marker	<i>k</i>	Mean <i>r</i>	95% CI	Ecological Level	Trim and Fill Imputed Studies	Classic Fail-Safe <i>N</i>
Conflict resolution skills	14	-.17***	[-.23, -.12]	Onto	0	295
Coping skills	6	-.20***	[-.25, -.15]	Onto	1	549
Communication skills	7	-.24***	[-.33, -.16]	Onto	0	230
Relationship satisfaction	98	-.25***	[-.27, -.22]	Micro	0	67,546
Internal locus of control	5	-.25***	[-.35, -.14]	Onto	1	76

Note. Duval and Tweedie's trim and fill (random effects) and classic fail-safe *N* tests for publication bias. CI = confidence interval; IPV = intimate partner violence; PTSD = post-traumatic stress disorder; *k* = number of effect sizes; *r* = point estimate of effect size; ♦ = risk markers were not robust against possible publication bias; ♦ = risk marker was examined in male populations only. Micro = microsystem, Onto = ontogenetic system, Exo = exosystem.

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

All risk markers that were statistically significant were then subjected to publication bias testing. For all meta-analyses, a potential limitation is the “file drawer problem,” which refers to the fact that insignificant findings often go unpublished and thus are put into the “file drawer” (Hunter & Schmidt, 2004). In order to combat this potential limitation, two specific tests were conducted to determine whether the significant results were robust against potential publication bias. We employed Duval and Tweedie's (2000) trim and fill test to determine whether there were any asymmetrical distributions of effect sizes per risk marker. Theoretically, if publication biases were not present, the funnel plot of effect sizes would be symmetrically distributed, and Duval and Tweedie's (2000) trim and fill test provided the number of effect sizes/plots (representing potentially missing studies) that would need to be imputed to create a symmetrical funnel plot. We also calculated the fail-safe *N* for each significant risk marker, which provides the number of potentially missing, insignificant studies that would be needed to nullify the current results at an  $\alpha$  level of .05 (Rosenthal, 1979).

First, we calculated an aggregate effect size (Pearson's *r*) for each risk marker that was present in at least three unique studies (regardless of the gender of the perpetrator). In order to examine the strength of risk markers for men and women separately, we next calculated the aggregate effect sizes (Pearson's *r*) for each risk marker linked with males perpetrating physical IPV (reported in at least three studies), and we repeated this process for each risk marker linked with females perpetrating physical IPV (reported in at least three studies). Lastly, gender was used as a moderating variable in that a *Q*-statistic was calculated for any risk marker that was found in both the aforementioned male perpetrator and female perpetrator categories. The results of this *Q*-statistic revealed whether or not there was significant heterogeneity between the two groups (men and women), which reflects whether there is a significant difference between males and females regarding the strength of the link between that risk marker and the perpetration of physical IPV.

## Results

We were able to calculate the aggregate effect sizes for 63 unique risk markers related to physical IPV perpetration. We were able to examine 31 risk markers in the ontogenetic

system, 23 risk markers in the microsystem, and 9 risk markers in the exosystem and were unable to examine any risk markers located within the macrosystem. We were able to examine 60 unique risk markers for male perpetration and 45 unique risk markers for female perpetration. Lastly, we were able to compare the strength of 44 risk markers for physical IPV perpetration between men and women.

## Microsystem

The strongest risk markers were located within the microsystem (i.e., the immediate setting in which the individual is located, such as familial or romantic relationships) and specifically related to other forms of violence in the relationship, such as causing previous injuries ( $r = .58, p < .001$ ; see Table 1), perpetrating emotional IPV ( $r = .53, p < .001$ ), physical IPV victimization ( $r = .52, p < .001$ ), threatening to harm one's partner ( $r = .49, p < .001$ ), stalking perpetration (although this was only examined in male populations;  $r = .47, p < .001$ ), emotional IPV victimization ( $r = .44, p < .001$ ), and sexual abuse victimization ( $r = .44, p < .05$ ). Additional microsystem-level risk markers that were significant risk markers for IPV perpetration were verbal arguments ( $r = .43, p < .001$ ), previous physical IPV perpetration ( $r = .42, p < .001$ ), demand/withdraw relationship patterns ( $r = .37, p < .001$ ), controlling behaviors ( $r = .30, p < .001$ ), and being violent toward non-family members ( $r = .28, p < .001$ ). Other significant risk markers included having been abused as a child ( $r = .22, p < .001$ ), witness parental IPV ( $r = .22, p < .001$ ), the perpetrator's infidelity (only examined in male populations;  $r = .22, p < .001$ ), the perpetrator's power in the relationship ( $r = .18, p < .001$ ), and if they physically abused their own children ( $r = .17, p < .001$ ). Insecure attachment styles were also found to be significant risk markers for IPV perpetration, including anxious attachment ( $r = .16, p < .001$ ), avoidant attachment ( $r = .13, p < .001$ ), and disorganized attachment ( $r = .11, p < .001$ ). Additionally, relationship satisfaction ( $r = -.25, p < .001$ ), the length of time living together ( $r = -.16, p < .001$ ), secure attachment ( $r = -.11, p < .01$ ), and length of the relationship ( $r = -.11, p < .001$ ) were found to be significant protective markers against physical IPV perpetration. All risk

**Table 2.** Risk Markers Ranked by Magnitude for Male and Female Physical IPV Perpetration.

Male Risk Marker	Male			Female Risk Marker	Female		
	k	Mean r	95% CI		k	Mean r	95% CI
Physical IPV victimization	10	.61***	[.50, .71]	Caused previous injury	5	.69***	[.51, .81]
Caused previous injury	16	.60***	[.49, .69]	Sexual IPV victimization <sup>Z</sup>	3	.59***	[.53, .64]
Emotional IPV perpetration	114	.52***	[.19, .55]	Emotional IPV perpetration	49	.54***	[.49, .59]
Threatens to harm partner <sup>X</sup>	6	.50***	[.27, .67]	Physical IPV victimization	16	.53***	[.44, .62]
Emotional IPV victimization	10	.50***	[.37, .60]	Emotional IPV victimization	10	.49***	[.37, .60]
Previous physical IPV perpetration	15	.49***	[.39, .58]	Sexual IPV perpetration	9	.46***	[.24, .64]
Stalking perpetration <sup>M</sup>	8	.47***	[.37, .57]	Prior physical IPV perpetration	8	.38***	[.22, .52]
Sexual IPV perpetration	21	.45***	[.30, .57]	Borderline personality disorder	4	.37***	[.23, .50]
Demand/withdraw relationship patterns	7	.42***	[.34, .49]	Anger	11	.34***	[.25, .42]
Borderline personality disorder	25	.34***	[.28, .40]	Antisocial personality disorder	9	.31***	[.20, .42]
Controlling behaviors	37	.33***	[.26, .40]	Trauma	3	.30***	[.15, .44]
Anger	53	.32***	[.27, .36]	Violent toward nonfamily members	4	.26***	[.13, .37]
Violent toward nonfamily members	22	.28***	[.22, .33]	Depression	31	.26***	[.19, .33]
Narcissism <sup>X</sup>	8	.28***	[.18, .36]	Avoidant attachment	6	.23**	[.09, .35]
Approval of violence	18	.27***	[.21, .34]	Post-traumatic stress	11	.22***	[.16, .29]
Prior arrest <sup>X</sup>	23	.27***	[.20, .34]	Anxious attachment	6	.22***	[.11, .32]
Antisocial personality disorder	34	.27***	[.21, .33]	Drug use	37	.21***	[.15, .27]
Mental health problems	17	.27***	[.19, .35]	Power in the relationship	3	.20*	[.02, .37]
External locus of control <sup>X</sup>	5	.26*	[.03, .45]	Stress	12	.19***	[.10, .28]
Witness parental IPV	77	.25***	[.21, .28]	Witness parental IPV	25	.17***	[.11, .23]
Jealousy <sup>X</sup>	24	.24***	[.17, .31]	Substance use	135	.17***	[.15, .20]
Abused as a child	78	.24***	[.21, .28]	Alcohol use	95	.16***	[.13, .19]
Access to weapons <sup>X</sup>	9	.24**	[.09, .38]	Demand/withdraw relationship patterns	3	.16*	[.02, .28]
Substance use	510	.23***	[.21, .24]	Mental health problems	5	.15	[-.02, .31]
Drug use	126	.23***	[.20, .27]	Anxiety	8	.14**	[.04, .24]
Impulsivity	10	.23***	[.16, .29]	Impulsivity	6	.14***	[.06, .21]
Alcohol use	366	.22***	[.21, .24]	Abused as a child	30	.14***	[.08, .19]
Post-traumatic stress	26	.22***	[.18, .26]	Controlling behaviors	4	.14	[-.09, .36]
Depression	57	.21***	[.15, .26]	Approval of violence	3	.14	[-.04, .32]
Traditional gender roles <sup>X</sup>	20	.19***	[.12, .27]	Physically abusing own children	5	.13***	[.09, .17]
Perpetrator's infidelity <sup>M</sup>	9	.18***	[.10, .26]	Financial stress	6	.10*	[.01, .19]
Physically abusing own children	9	.18***	[.15, .22]	Number of children	3	.06	[-.08, .20]
Poor physical health <sup>X</sup>	6	.18***	[.08, .27]	Religiosity	4	-.02	[-.07, .02]
Power in the relationship	19	.17***	[.10, .25]	Marital status	26	-.03	[-.11, .04]
Trauma	11	.17**	[.07, .26]	Employment	12	-.05	[-.09, .01]
Stress	15	.16***	[.08, .25]	Length of relationship	15	-.06	[-.15, .03]
Anxiety	23	.15***	[.09, .21]	Social support	11	-.07**	[-.11, -.02]
Disorganized attachment <sup>X</sup>	6	.14*	[.02, .24]	Age (older)	34	-.09***	[-.13, -.06]
Anxious attachment	14	.13***	[.07, .20]	Education (higher)	23	-.10***	[-.15, -.05]
Financial stress	8	.12**	[.05, .20]	Self-esteem	3	-.11	[-.22, .01]
Avoidant attachment	15	.11**	[.03, .19]	Coping skills	3	-.14***	[-.20, -.08]
Threatens to harm self <sup>M</sup>	4	.10**	[.04, .16]	Income (higher)	21	-.14**	[-.22, -.05]
Number of children	20	.07**	[.02, .12]	Communication skills	3	-.17**	[-.28, -.07]
Combat exposure <sup>X</sup>	6	.07	[-.01, .08]	Conflict resolution skills	3	-.25***	[-.33, -.17]
Social support	18	-.06***	[-.10, -.03]	Relationship satisfaction	50	-.26***	[-.29, -.22]
Employment	58	-.08***	[-.10, -.06]				
Religiosity	8	-.09***	[-.13, -.05]				
Marital status	62	-.09***	[-.14, -.04]				
Age (older)	106	-.12***	[-.14, -.10]				
Length of relationship	42	-.13***	[-.18, -.08]				
Secure attachment <sup>X</sup>	7	-.13*	[-.25, -.01]				
Self-esteem	8	-.13***	[-.20, -.06]				
Conflict resolution skills	10	-.14***	[-.19, -.09]				
Empathy <sup>M</sup>	6	-.14*	[-.26, .02]				
Education (higher)	96	-.15***	[-.18, -.13]				
Income (higher)	69	-.19***	[-.24, -.14]				
Coping skills	9	-.20***	[-.24, -.16]				

(continued)

**Table 2.** (continued)

Male Risk Marker	k	Male		Female Risk Marker	k	Female	
		Mean <i>r</i>	95% CI			Mean <i>r</i>	95% CI
Communication skills	9	<b>-.22***</b>	[-.29, -.14]				
Relationship satisfaction	92	<b>-.25***</b>	[-.27, -.22]				
Internal locus of control <sup>x</sup>	3	<b>-.30***</b>	[-.38, -.21]				

Note. IPV = intimate partner violence; CI = confidence interval; *k* = number of effect sizes; *r* = point estimate of effect size; boldface indicates statistically significant; <sup>x</sup> = risk marker had at least three effect sizes for males but did not have at least three effect sizes for females; <sup>z</sup> = risk marker had at least three effect sizes for males but did not have at least three effect sizes for females; <sup>M</sup> = risk marker was examined in male populations only.  
\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

markers within the microsystem were found to be robust against potential publication bias.

### Ontogenetic System

Some of the next strongest risk markers for physical IPV perpetration were located within the ontogenetic system (i.e., the perpetrator's individual behaviors, attitudes, and beliefs), including perpetrator anger ( $r = .32, p < .001$ ), antisocial personality disorder ( $r = .27, p < .001$ ), general mental health problems ( $r = .27, p < .001$ ), narcissism ( $r = .26, p < .001$ ), external locus of control ( $r = .26, p < .05$ ), and drug use ( $r = .25, p < .001$ ). Access to weapons ( $r = .24, p < .01$ ), jealousy ( $r = .24, p < .001$ ), substance use (coded as a combination of drug and alcohol use;  $r = .22, p < .001$ ), depression ( $r = .22, p < .001$ ), alcohol use ( $r = .21, p < .001$ ), post-traumatic stress disorder (PTSD;  $r = .21, p < .001$ ), impulsivity ( $r = .21, p < .001$ ), traditional gender roles ( $r = .20, p < .001$ ), trauma ( $r = .18, p < .001$ ), and anxiety ( $r = .16, p < .001$ ) were also significant risk markers for physical IPV perpetration. Additionally, stress ( $r = .16, p < .001$ ), physical health problems ( $r = .11, p < .001$ ), threatening to harm self (although this was only examined in male populations;  $r = .10, p < .001$ ), and combat exposure ( $r = .09, p < .05$ ) were significant risk markers for physical IPV perpetration. However, it is important to note that combat exposure was not robust against potential publication bias and should be interpreted with caution. Additionally, communication skills ( $r = -.24, p < .001$ ), coping skills ( $r = -.20, p < .001$ ), conflict resolution skills ( $r = -.17, p < .001$ ), empathy (although only examined in male populations;  $r = -.14, p < .05$ ), higher levels of self-esteem ( $r = -.14, p < .001$ ), and older age ( $r = -.10, p < .001$ ) were found to be significant protective markers against physical IPV perpetration.

### Exosystem

The strongest risk marker for physical IPV perpetration in the exosystem (i.e., social structures and community/work contexts) was prior arrest ( $r = .26, p < .001$ ). Other significant risk markers located in the exosystem were of small magnitude but included financial stress ( $r = .11, p < .001$ ) and number of children ( $r = .08, p < .001$ ). Most of the factors located in the exosystem were found to be protective markers against

physical IPV perpetration, which included higher income ( $r = -.17, p < .001$ ), higher education ( $r = -.14, p < .001$ ), social support ( $r = -.07, p < .001$ ), employment ( $r = -.07, p < .001$ ), and religiosity ( $r = -.07, p < .001$ ). Marital status was not a significant protective marker against physical IPV perpetration. Significant risk markers located within the exosystem were robust against publication bias.

### Risk Markers for Physical IPV Perpetration for Men

For men, the strongest risk markers were located within the microsystem and included physical IPV victimization (see Table 2;  $r = .61, p < .001$ ), causing previous injury ( $r = .60, p < .001$ ), emotional IPV perpetration ( $r = .52, p < .001$ ), threatening to harm their partner ( $r = .50, p < .001$ ), emotional IPV victimization ( $r = .50, p < .001$ ), prior physical IPV perpetration ( $r = .49, p < .001$ ), stalking perpetration ( $r = .47, p < .001$ ), and sexual IPV perpetration ( $r = .45, p < .001$ ). The next strongest risk markers included demand/withdraw relationship patterns ( $r = .42, p < .001$ ), borderline personality disorder ( $r = .34, p < .001$ ), controlling behaviors ( $r = .33, p < .001$ ), anger ( $r = .32, p < .001$ ), violence toward nonfamily members ( $r = .28, p < .001$ ), narcissism ( $r = .28, p < .001$ ), and approval of violence ( $r = .27, p < .001$ ). Prior arrest ( $r = .27, p < .001$ ), antisocial personality disorder ( $r = .27, p < .001$ ), mental health problems ( $r = .27, p < .001$ ), external locus of control ( $r = .26, p < .05$ ), witnessing parental IPV ( $r = .25, p < .001$ ), jealousy ( $r = .24, p < .001$ ), being abused as a child ( $r = .24, p < .001$ ), access to weapons ( $r = .24, p < .01$ ), substance use ( $r = .23, p < .001$ ), and drug use ( $r = .23, p < .001$ ) were also significant risk markers for physical IPV perpetration. Other significant risk markers included impulsivity ( $r = .23, p < .001$ ), alcohol use ( $r = .22, p < .001$ ), post-traumatic stress ( $r = .22, p < .001$ ), depression ( $r = .21, p < .001$ ), traditional gender roles ( $r = .19, p < .001$ ), perpetrator's infidelity ( $r = .18, p < .001$ ), physically abusing one's own children ( $r = .18, p < .001$ ), poor physical health ( $r = .18, p < .001$ ), the perpetrator's power in the relationship ( $r = .17, p < .001$ ), trauma ( $r = .17, p < .01$ ), stress ( $r = .16, p < .001$ ), anxiety ( $r = .15, p < .05$ ), disorganized attachment style ( $r = .14, p < .001$ ), anxious attachment style ( $r = .13, p < .001$ ), financial stress ( $r = .12, p < .01$ ), avoidant attachment style ( $r = .11, p < .01$ ), threatening to harm one's self ( $r = .10, p < .01$ ), and number of children ( $r = .07, p < .01$ ).

Combat exposure was not a significant risk marker for physical IPV perpetration for men.

The strongest protective markers against physical IPV perpetration, although medium to small in magnitude, included an internal locus of control ( $r = -.30, p < .001$ ), relationship satisfaction ( $r = -.25, p < .001$ ), communication skills ( $r = -.22, p < .001$ ), coping skills ( $r = -.20, p < .001$ ), higher income ( $r = -.19, p < .001$ ), and higher education ( $r = -.15, p < .001$ ). Other significant protective markers included empathy ( $r = -.14, p < .05$ ), conflict resolution skills ( $r = -.14, p < .001$ ), high self-esteem ( $r = -.13, p < .001$ ), secure attachment ( $r = -.13, p < .05$ ), length of relationship ( $r = -.13, p < .001$ ), older age ( $r = -.12, p < .001$ ), marital status ( $r = -.09, p < .001$ ), religiosity ( $r = -.09, p < .001$ ), employment ( $r = -.08, p < .001$ ), and social support ( $r = -.06, p < .001$ ).

### *Risk Markers for Physical IPV Perpetration for Women*

The strongest risk markers for physical IPV perpetration for women were also located within the microsystem and included causing previous injury ( $r = .69, p < .001$ ), sexual IPV victimization ( $r = .59, p < .001$ ), emotional IPV perpetration ( $r = .54, p < .001$ ), physical IPV victimization ( $r = .53, p < .001$ ), emotional IPV victimization ( $r = .49, p < .001$ ), sexual IPV perpetration ( $r = .46, p < .001$ ), and prior physical IPV perpetration ( $r = .38, p < .001$ ). Other significant risk markers for physical IPV perpetration for women included borderline personality disorder ( $r = .37, p < .001$ ), anger ( $r = .34, p < .001$ ), antisocial personality disorder ( $r = .31, p < .001$ ), trauma ( $r = .30, p < .001$ ), violence toward nonfamily members ( $r = .26, p < .001$ ), depression ( $r = .26, p < .001$ ), avoidant attachment style ( $r = .23, p < .01$ ), post-traumatic stress ( $r = .22, p < .001$ ), anxious attachment style ( $r = .22, p < .001$ ), drug use ( $r = .21, p < .001$ ), and the perpetrator's power in the relationship ( $r = .20, p < .05$ ). Stress ( $r = .19, p < .001$ ), witnessing parental IPV ( $r = .17, p < .001$ ), substance use ( $r = .17, p < .001$ ), alcohol use ( $r = .16, p < .001$ ), demand/withdraw relationship patterns ( $r = .17, p < .001$ ), anxiety ( $r = .14, p < .01$ ), impulsivity ( $r = .14, p < .001$ ), abused as a child ( $r = .14, p < .001$ ), physically abusing one's own children ( $r = .13, p < .001$ ), and financial stress ( $r = .10, p < .001$ ) were also small but significant risk markers for physical IPV perpetration for women. Mental health problems, controlling behaviors, approval of violence, and number of children were not significant risk markers for women's physical IPV perpetration.

The strongest protective markers against physical IPV perpetration for women included relationship satisfaction ( $r = -.26, p < .001$ ), conflict resolution skills ( $r = -.25, p < .001$ ), communication skills ( $r = -.17, p < .01$ ), higher income ( $r = -.14, p < .01$ ), coping skills ( $r = -.14, p < .001$ ), higher education ( $r = -.10, p < .001$ ), older age ( $r = -.09, p < .001$ ), and social support ( $r = -.07, p < .01$ ). Higher self-esteem, length of the relationship, employment, marital status, and religiosity were not significant protective markers against physical IPV perpetration for women.

### *Comparing Risk Markers Between Men and Women*

Of the 44 risk markers we were able to compare between men and women, we found that a total of 9 risk markers significantly differed in strength (see Table 3). We found that alcohol use ( $Q^b = 14.81, p < .001$ ), substance use ( $Q^b = 14.49, p < .001$ ), demand/withdraw relationship patterns ( $Q^b = 12.10, p < .001$ ), being abused as a child ( $Q^b = 9.94, p < .01$ ), witnessing parental IPV ( $Q^b = 5.29, p < .05$ ), and physically abusing one's own children ( $Q^b = 4.19, p < .05$ ) were significantly stronger risk markers for men than for women. We also found that religiosity ( $Q^b = 4.20, p < .05$ ) and higher education ( $Q^b = 3.89, p < .05$ ), both risk markers located within the exosystem, were significantly stronger protective markers against physical IPV perpetration for men than they were for women. Lastly, we found that conflict resolution skills ( $Q^b = 5.37, p < .05$ ) was a significantly stronger protective marker against physical IPV perpetration for women than it was for men.

### **Discussion**

The immediate finding from this study was the increase in research available for this meta-analysis in comparison with the 2004 meta-analysis, on which this study builds (Stith et al., 2004). The 2004 meta-analysis, which included both IPV perpetration and victimization risk markers, reviewed evidence from 85 studies, producing 308 distinct effect sizes. In this meta-analysis, which only examined risk markers for IPV perpetration, we were able to include 503 studies yielding 2,972 distinct effect sizes. The 2004 meta-analysis included sufficient effect sizes to examine 16 risk markers for male perpetrators (i.e., income, age, education, career/life stress, employment, jealousy, forced sex, emotional/verbal abuse, previous physical IPV perpetration, relationship satisfaction, anger, attitudes condoning violence, traditional sex-role ideology, depression, alcohol use, and illicit drug use) and 1 risk marker for female offenders (i.e., relationship satisfaction). The current meta-analysis, in addition to including all of the previous risk markers, was able to identify 49 additional risk markers. The current meta-analysis not only highlights the increased attention that researchers have paid to the issue of IPV, by both males and females, but also found that much of the newer research examines risk markers that can easily be the focus of applied intervention and prevention efforts. The current meta-analysis also included many factors that could be a focus of behavioral/mental health treatment (e.g., borderline personality disorder, anger, controlling behavior, antisocial personality disorder, general mental health problems, depression, narcissism, external locus of control, substance use, alcohol use, PTSD, trauma, anxiety, and threatens to harm self), whereas the earlier meta-analysis only included four factors that could be clearly a focus in behavioral health treatment (i.e., anger, depression, alcohol and drug use). In addition, markers that could be targeted in conjoint treatment or relationship enhancement were also more common in the current data set (e.g., anxious attachment,



**Table 3.** Comparing the Strengths of Risk Markers for Physical IPV Perpetration Between Men and Women.

Risk Marker by Ecological Level	<i>k</i>	Mean <i>r</i>	95% CI	<i>Q<sup>b</sup></i>	<i>p</i> Value
Ontogenetic risk markers					
Age (older)					
Women	34	-.09***	[-.13, -.06]	1.84	.175
Men	106	-.12***	[-.14, -.10]		
Alcohol use					
Women	95	.16***	[.13, .19]	<b>14.81</b>	<b>.000</b>
Men	366	.22***	[.21, .24]		
Anger					
Women	11	.34***	[.25, .42]	0.24	.622
Men	53	.32***	[.27, .36]		
Antisocial personality disorder					
Women	9	.31***	[.20, .42]	0.35	.554
Men	34	.27***	[.21, .33]		
Anxiety					
Women	8	.14**	[.04, .24]	0.01	.918
Men	23	.15***	[.09, .21]		
Approval of violence					
Women	3	.14	[-.04, .32]	1.73	.189
Men	18	.27***	[.21, .34]		
Borderline personality disorder					
Women	4	.37***	[.23, .50]	0.15	.697
Men	25	.34***	[.28, .40]		
Communication skills					
Women	3	-.17**	[-.28, -.07]	0.40	.527
Men	9	-.22***	[-.29, -.14]		
Conflict resolution skills					
Women	3	-.25***	[-.33, -.17]	<b>5.37</b>	<b>.021</b>
Men	11	-.14***	[-.20, -.09]		
Coping skills					
Women	3	-.14***	[-.20, -.08]	2.52	.113
Men	9	-.20***	[-.24, -.16]		
Depression					
Women	31	.26***	[.19, .33]	1.07	.301
Men	57	.21***	[.15, .26]		
Drug use					
Women	37	.21***	[.15, .27]	0.35	.554
Men	126	.23***	[.20, .27]		
Impulsivity					
Women	6	.14***	[.06, .21]	3.13	.077
Men	10	.23***	[.16, .29]		
Mental health problems					
Women	5	.15	[-.02, .31]	1.92	.166
Men	17	.27***	[.19, .35]		
Post-traumatic stress					
Women	11	.22***	[.16, .29]	0.00	.991
Men	26	.22***	[.18, .26]		
Self-esteem					
Women	3	-.11	[-.22, .01]	0.09	.763
Men	8	-.13***	[-.20, -.06]		
Stress					
Women	12	.19***	[.10, .28]	0.239	.625
Men	15	.16***	[.08, .25]		
Substance use					
Women	135	.17***	[.15, .20]	<b>14.49</b>	<b>.000</b>
Men	150	.23***	[.21, .24]		
Trauma					
Women	3	.30***	[.15, .44]	2.17	.141
Men	11	.17**	[.07, .26]		

(continued)

**Table 3.** (continued)

Risk Marker by Ecological Level	<i>k</i>	Mean <i>r</i>	95% CI	<i>Q<sup>b</sup></i>	<i>p</i> Value
Microsystem risk markers					
Abused as a child					
Women	30	.14***	[.08, .19]	<b>9.94</b>	<b>.001</b>
Men	78	.24***	[.21, .28]		
Anxious attachment				1.73	.188
Women	6	.22***	[.11, .32]		
Men	14	.13***	[.07, .20]		
Avoidant attachment				2.12	.146
Women	6	.23**	[.09, .35]		
Men	15	.11**	[.03, .019]		
Caused previous injury				0.97	.323
Women	5	.69***	[.51, .81]		
Men	16	.60***	[.49, .69]		
Controlling behaviors				2.58	.108
Women	4	.14	[-.09, .36]		
Men	37	.33***	[.26, .40]		
Demand/withdraw relationship patterns				<b>12.10</b>	<b>.000</b>
Women	3	.16*	[.02, .28]		
Men	7	.42***	[.34, .49]		
Emotional IPV perpetration				0.38	.539
Women	49	.54***	[.49, .59]		
Men	114	.52***	[.19, .55]		
Emotional IPV victimization				0.00	.961
Women	10	.49***	[.37, .60]		
Men	10	.50***	[.37, .60]		
Length of relationship				1.64	.200
Women	15	-.06	[-.15, .03]		
Men	42	-.13***	[-.18, -.08]		
Physical IPV victimization				1.23	.267
Women	16	.53***	[.44, .62]		
Men	10	.61***	[.50, .71]		
Physically abusing own children				<b>4.19</b>	<b>.040</b>
Women	5	.13***	[.09, .17]		
Men	9	.18***	[.15, .22]		
Previous physical IPV perpetration				1.76	.185
Women	8	.38***	[.22, .52]		
Men	15	.49***	[.39, .58]		
Power in the relationship				0.09	.770
Women	3	.20*	[.02, .37]		
Men	19	.17***	[.10, .25]		
Relationship satisfaction				0.292	.589
Women	50	-.26***	[-.29, -.22]		
Men	92	-.25***	[-.27, -.22]		
Sexual IPV perpetration				0.02	.889
Women	9	.46***	[.24, .64]		
Men	21	.45***	[.30, .57]		
Violent toward nonfamily members				0.12	.728
Women	4	.26***	[.13, .37]		
Men	22	.28***	[.22, .33]		
Witness parental IPV				<b>5.29</b>	<b>.021</b>
Women	25	.17***	[.11, .23]		
Men	77	.25***	[.21, .28]		
Exosystem risk markers					
Education (higher)				<b>3.89</b>	<b>.048</b>
Women	23	-.10***	[-.15, -.05]		
Men	96	-.15***	[-.18, -.13]		
Employment				1.71	.192
Women	12	-.05	[-.09, .01]		
Men	58	-.08***	[-.10, -.06]		

(continued)

**Table 3.** (continued)

Risk Marker by Ecological Level	<i>k</i>	Mean <i>r</i>	95% CI	<i>Q</i> <sup>b</sup>	<i>p</i> Value
Financial stress					
Women	6	<b>.10*</b>	[.01, .19]	0.10	.755
Men	8	<b>.12**</b>	[.05, .20]		
Income (higher)					
Women	21	<b>-.14**</b>	[-.22, -.05]	0.98	.321
Men	69	<b>-.19***</b>	[-.24, -.14]		
Marital status					
Women	26	-.03	[-.11, .04]	1.41	.236
Men	62	<b>-.09***</b>	[-.14, -.04]		
Number of children					
Women	3	.06	[-.08, .20]	0.04	.852
Men	20	<b>.07**</b>	[.02, .12]		
Religiosity					
Women	4	-.02	[-.07, .02]	<b>4.20</b>	<b>.040</b>
Men	8	<b>-.09***</b>	[-.13, -.05]		
Social support					
Women	11	<b>-.07**</b>	[-.11, -.02]	0.00	.943
Men	18	<b>-.06***</b>	[-.10, -.03]		

Note. Boldface indicates statistically significant. IPV = intimate partner violence. *k* = number of effect sizes; *r* = point estimate of effect size; CI = confidence interval; *Q*<sup>b</sup> = *Q*-statistic.

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

avoidant attachment, disorganized attachment, secure attachment, verbal arguments, demand/withdraw relationship patterns, jealousy, infidelity, conflict resolution skills, coping skills, communication skills, and relationship satisfactions). The earlier meta-analytic data set only included relationship satisfaction.

Using Dutton's (1995) nested ecological model as a theoretical framework for the study, we were able to calculate mean effect sizes for 63 unique risk markers for physical IPV perpetration for both men and women, with 31 located in the ontogenetic system, 23 located in the microsystem, and 9 located in the exosystem. We were also able to examine 60 unique risk markers for men and 45 unique risk markers for women in order to examine what the strongest risk markers for physical IPV perpetration were for both men and women. Lastly, we were also able to compare the strength of 44 risk markers between men and women and found that 9 risk markers significantly differed in strength between men and women.

We found that for both men and women, the strongest risk markers were located within the microsystem and were linked with other forms of IPV perpetration and victimization, such as causing previous injury to one's partner, emotional IPV perpetration, physical IPV victimization, threatening to harm one's partner, stalking perpetration (although this was only examined in male populations), emotional IPV victimization, sexual IPV victimization, verbal arguments, previous physical IPV perpetration, and sexual IPV perpetration. These risk markers were all considered large or medium in magnitude (Cohen, 1992). With the exception of previous physical IPV perpetration and causing previous injury to one's partner (which may just alert practitioners and professionals to the possibility of ongoing physical violence), the strength of these other top risk markers

highlights previous findings that perpetrators of physical IPV often perpetrate multiple forms of IPV (psychological and sexual) against their victims (Krebs et al., 2011; Marshall & Holtzworth-Munroe, 2002). These results also highlight the possibility of bilateral violence, where both members of the couple are perpetrating violence against one another, occurring within these relationships (Hines & Douglas, 2010; McDonald et al., 2009). However, it is important to note that those who are also victims of IPV may be perpetrating IPV as a means of self-defense (Leisring & Grigorian, 2016). Many quantitative studies examining IPV perpetration lack information on the context or motivation of the IPV perpetration, such as whether or not individuals were acting in self-defense.

Beyond risk markers related to other types of IPV, as highlighted above, many risk markers were identified in the analysis that could aid future prevention and intervention efforts. In regard to prevention, a number of significant ontogenetic system risk markers for physical IPV perpetration were related to mental health and cognitions and could be addressed by mental health professionals in order to prevent IPV from occurring. These included borderline personality disorder, anger issues, antisocial personality disorder, general mental health problems, having an external locus of control, approval of violence, and substance use.

This meta-analysis also identified significant protective markers against physical IPV perpetration, which may also serve as targets for intervention efforts. For men, an internal locus of control, or the belief that one is responsible for one's actions, was the strongest protective marker against IPV perpetration. This factor is often targeted in batterer intervention programs. It is important to note that there were not enough effect sizes examining this protective marker for women, so it

may be that this is also an important protective marker for women. For both men and women, relationship satisfaction, communication skills, coping skills, and conflict resolution skills were all significant protective markers against IPV perpetration. This highlights the potential importance of how couples treatment, or therapy, may aid in the prevention and reduction of IPV. Prior research has highlighted how couples treatment can aid in the reduction of IPV with couples who have experienced situational, often mutual, low levels of IPV in their relationship (e.g., Cooper & Vetere, 2005; Stith et al., 2011). It is important to note that the authors strongly advocate against utilizing couples treatment for couples when one partner is using physical violence to control or maintain dominance over the other partner, as this would be a very serious safety concern. In addition to specific couples treatment targeting IPV, these results suggest that mental health professionals, educators, and other helping personnel could teach these important communication and self-regulation skills to couples at risk for IPV in their relationship.

One interesting finding from this study was that although not all significantly different between men and women, a pattern emerged where several exosystem factors (employment, marital status, religiosity, and length of relationship) were significant protective markers against IPV perpetration for men but were not found to be significant for women. This may suggest that these outside structures that impact an individual may have a stronger link with men's IPV perpetration than it does with women's. It is also possible that because more effect sizes were available for male IPV risk markers than for female risk markers, future research on female IPV perpetration may help to confirm whether or not these factors are also protective factors for female IPV perpetration.

Although there were more similarities (than differences) in the strengths of risk markers for physical IPV perpetration between men and women, it is still imperative to examine the risk markers that did significantly differ between men and women. The similarities in risk markers between men and women suggest that they may benefit from similar IPV prevention and intervention strategies. However, intervention and treatment options that can be tailored to the individual may benefit from examining the differences between men and women regarding risk for IPV perpetration. Out of 44 risk markers examined, we found 9 that significantly differed between men and women. The largest significant difference was that alcohol use was a stronger risk marker for IPV perpetration for men than it was for women. It has been identified that men are more likely to experience alcohol-related problems than women (Substance Abuse and Mental Health Services Administration, 2008), which may help to explain why alcohol use was a stronger risk marker for men than it was for women. It is important to note that substance use, which was characterized by a mix of alcohol and drug use, was also a significantly stronger risk marker for physical IPV perpetration for men than it was for women. This is useful knowledge for clinicians, medical professionals, or other helping professionals working with perpetrators of IPV. This suggests that

especially for male perpetrators, it may be useful to target alcohol and substance use in addition to IPV reduction or, at the least, assess for alcohol and substance use when working with perpetrators of IPV.

We also found that demand/withdraw relationship patterns, which was coded as the perpetrator being the one who was in the "demanding" role in the relationship, was a significantly stronger risk marker for men than it was for women. This suggests that when males identified as the partner who demanded to continue conversations, this "demander role" was significantly more strongly linked to perpetrating IPV against their withdrawing female partners (compared to the link between women demanding and then perpetrating IPV against their withdrawing male partners). Individuals who feel or believe that their partner is withdrawing from the relationship may perpetrate IPV against their partner as an attempt to "pull" their distancing partner back into the relationship (Maysless, 1991). When examining power differentials related to gender in relationships (Knudson-Martin, 2013), it may be that men in the demanding role resort to exerting power over their partner through the use of violence if they feel their partner is distancing from them. Helping professionals working with couples who display demand/withdraw relationship patterns may promote healthy relationship dynamics and address potential gender power differentials as a means to prevent unhealthy interaction patterns from escalating to violence.

It was also found that being abused as a child, witnessing parental IPV in one's family of origin, and abusing one's own children were significantly stronger risk markers for men's physical IPV perpetration than it was for women's. Although these three risk markers have small effect sizes, these meta-analytic results hint that males may be more susceptible to the intergenerational familial patterns and socialization of violence. This highlights another important factor to examine in treatment or prevention work, and it may be extremely useful to explore family of origin experiences and patterns when working with male perpetrators of IPV.

Religiosity was found to be a stronger protective marker against IPV perpetration for men than it was for women. One possible explanation of this finding might be related to the notion that more women report being religious than men throughout the life span but especially in young age (Stark, 2002), meaning that there is a trend that men become more religious as they become older (Thompson & Remmes, 2002). There is also a negative correlation between men's age and their violent crime perpetration, such as physical IPV perpetration (Stark, 2002). However, the strength of this effect size was trivial. Other protective markers were much stronger in magnitude, such as coping skills, communication skills, and relationship satisfaction and may warrant more direct attention for prevention and intervention endeavors. Another protective marker that was significantly stronger for men than for women, which was also located within the exosystem, was higher education. Although higher education was a significant protective marker for both men and women, our results suggest that especially for men, the more educated they are, there is a strong

**Table 4.** Critical Findings From This Study.

1. The strongest risk markers for physical IPV for both men and women were other forms of IPV perpetration and victimization. These included causing previous injury to one's partner, emotional IPV perpetration, physical IPV victimization, threatening to harm one's partner, stalking perpetration (although this was only examined in male populations), emotional IPV victimization, sexual IPV victimization, verbal arguments, previous physical IPV perpetration, and sexual IPV perpetration.
2. After other forms of IPV, the next strongest significant risk markers for men and women were related to the intimate relationship itself and mental health issues. These included verbal arguments, demand/withdraw relationship patterns, borderline personality disorder, anger, and controlling behaviors.
3. A number of significant protective markers were found for both men and women, including an internal locus of control, relationship satisfaction, communication skills, coping skills, and conflict resolution skills.
4. A total of 9 out of 44 studies (approximately 20% of the risk markers examined) significantly differed between men and women. Alcohol use, demand/withdraw relationship patterns, being abused as a child, witnessing parental IPV, physically abusing one's own children, and substance use were stronger risk markers for men than for women. Religiosity and higher education were stronger protective markers for men than for women, and conflict resolution skills was a stronger protective marker for women than for men.

IPV = intimate partner violence.

**Table 5.** Implications for Practice and Future Research.

1. In regard to prevention, a number of significant ontogenetic system risk markers for physical IPV perpetration were related to mental health and cognitions and could be addressed by mental health professionals in order to prevent IPV from occurring. These included borderline personality disorder, anger issues, antisocial personality disorder, general mental health problems, having an external locus of control, approval of violence, and substance use.
2. Other important risk markers and protective markers for physical IPV perpetration were related to factors that could be targeted in prevention programming, couples treatment, or interventions (e.g., relationship satisfaction, demand/withdraw relationship patterns, communication skills, and coping skills). The authors advocate against utilizing couples treatment for couples when one partner is using physical violence to control or maintain dominance over the other partner. However, for prevention efforts or in cases where situational couple violence is occurring, focusing on communication and self-regulation skills may be useful.
3. Several risk markers were examined in only male populations, or in less than three studies for female populations, which warrants the potential for future research to examine these risk markers with female perpetrators of physical IPV. These included threatening to harm partner, stalking perpetration, narcissism, prior arrest, external locus of control, jealousy, access to weapons, traditional gender roles, infidelity, poor physical health, disorganized attachment, secure attachment, threatening to harm self, combat exposure, empathy, and internal locus of control.
4. This study was unable to examine any risk markers located within the macrosystem, which includes societal-level factors, in this analysis. Future research examining broader, more cultural, and societal-level risk markers would increase our understanding of factors related to physical IPV perpetration.

IPV = intimate partner violence.

negative relationship between IPV perpetration and higher education.

Lastly, conflict resolution skills were found to be a significantly stronger protective marker against IPV perpetration for women than for men. Interestingly, conflict resolution skills would be a protective marker strongly related to situational couple violence (Johnson, 2008), where the violence is less frequent, less severe, and often bidirectional and is typically a result of a conflict, argument, or stress within the relationship. It may be that there is a stronger relationship between high conflict resolution skills and less use of IPV for women, but this was found to be a significant protective marker for both men and women. With few effect sizes found (14 in total; 11 for men and 3 for women), this is an area that needs further examination. It may also be helpful to examine which types of conflict resolutions skills, or what types of conflict resolution education, create the strongest impact on preventing or reducing IPV perpetration. Summaries of findings and implications are included in Tables 4 and 5.

### *Limitations and Future Research*

One limitation of this study, which is a potential limitation of all meta-analyses, is the potential to have missed studies that could have been included in the analysis. There were also other potential useful databases that we did not include in our search, such as PubMed or Scopus. There is always the possibility that some studies were missed due to the "file drawer" problem (Hunter & Schmidt, 2004), where insignificant studies may go unpublished. We attempted to combat this potential limitation by utilizing tests for publication biases.

Another limitation of this study is that we were not able to compare men and women on all risk markers in the analysis, as some risk markers were not found in at least three unique studies for either men (sexual IPV victimization) or women (threatening to harm partner, stalking perpetration, narcissism, prior arrest, external locus of control, jealousy, access to weapons, traditional gender roles, infidelity, poor physical health, disorganized attachment, secure attachment, threatening to harm self, combat exposure, empathy, and internal locus of

control). Future research may benefit from examining these lesser examined risk markers for men and women. Additionally, one major suggestion for future research is highlighted by the number of studies that were quantitative but did not provide data that could be used in a meta-analysis. A total of 413 studies were excluded from the analysis because they did not provide bivariate effect sizes to be used in the analysis. It would be beneficial for future research to provide bivariate effect sizes (such as a correlation table) in addition to the research that answers their exact research question. This way, their results can have the potential to contribute to meta-analytic syntheses that can benefit the field as a whole.

Although a wide array of risk markers were examined in this study, there are still some limitations regarding details related to the context of these risk markers and their association with physical IPV perpetration. It is impossible to determine the temporal ordering of these risk markers with IPV perpetration, as many of the studies included in the analysis were cross-sectional. Continued longitudinal research on factors related to IPV perpetration is needed. Additionally, specifically with the risk markers related to IPV victimization, there is a lack of context surrounding the violence occurring in these relationships, and whether or not self-defense was being used in these contexts. Future research would benefit from examining the contexts and motivations surrounding IPV perpetration. We were unable to examine any risk markers located within the macrosystem, which includes societal-level factors, in this analysis. Future research examining broader, more cultural, and societal-level risk markers would increase our understanding of how all levels of Dutton's (1995) nested ecological theory impact physical IPV perpetration.

Another limitation of this research is that this study did not directly examine the role of various aspects of identity beyond gender, or how these other aspects of identity may impact the strength of risk markers for IPV perpetration. Identities that individuals hold undoubtedly impact variables located in all levels of Dutton's (1995) nested ecological model. It is important for future research to deliberately examine how other aspects of identity, such as race or ethnicity, impact risk markers for IPV perpetration. There are also critical structural factors that impact the lives of individuals with marginalized identities that may contribute to differences in risk markers for IPV. This is also connected to the lack of societal-level factors that were able to be included in the analysis, as it is possible that societal or structural factors may vary considerably based on an individual's racial or ethnic identity. Additionally, this meta-analysis excluded individuals in same-sex relationships, which is another aspect of identity that may impact the strength of risk markers for physical IPV perpetration. However, a previous meta-analysis (Kimmes et al., 2019) has specifically examined risk markers for physical IPV perpetration for individuals in same-sex relationships.

Lastly, comparing the results from this meta-analytic review of risk markers for physical IPV perpetration with Stith and colleague's (2004) study helps to highlight the progress that has been made in the field as well as areas that still warrant attention.

Suggestions for future research that were made in the 2004 meta-analysis included examining child abuse, controlling behaviors, empathy, marital separation, the offender taking responsibility (or internal locus of control), pet abuse, prior arrest, stalking, and violence toward nonfamily members as risk markers for physical IPV perpetration (Stith et al., 2004). Our results have found that since 2004, researchers have examined child abuse as a risk marker more thoroughly, but there are still many gaps in the research that have not been examined since the 2004 study. Although prior arrest, violence toward nonfamily members, stalking, controlling behaviors, and an internal locus of control have been focused on for male populations, a gap remains on examining these risk markers for physical IPV perpetration for female populations. Additionally, there remains a strong lack of research that has focused on marital separation, pet abuse, and empathy as risk or protective markers for IPV perpetration. Although great progress has been made in the field of research on physical IPV, such as examination of a variety of risk markers and examining risk markers for both men and women, there is still potential for advancements in what is known about risk for physical IPV perpetration for men and women.

## Conclusion

This meta-analytic review of risk markers for physical IPV found a number of important findings to add to the current knowledge of IPV as well as information that can be applied to both prevention and intervention efforts related to IPV. Firstly, we found that the strongest risk markers for men's and women's perpetration of physical IPV were related to the relationship dynamic. This supports that bidirectional IPV and mutual forms of IPV often co-occur in relationships. Additionally, this suggests that couples treatment could potentially help prevent couples from becoming violent toward one another by developing key relationship skills and resources, such as conflict resolution skills, communication skills, coping skills, and relationship satisfaction. There were a number of significant risk markers related to the individual that could be addressed by helping professionals to prevent or intervene with perpetrators, such as anger, alcohol and drug use, and negative mental health symptoms (e.g., depression, anxiety, borderline personality disorder, and post-traumatic stress). This study also examined gender differences regarding the strength of risk markers for physical IPV perpetration. Although we found more similarities between men and women than differences, it is still important to note that 9 of 44 risk markers did differ from one another and may provide additional information for those working with either men, women, or couples to prevent or intervene in cases of IPV (e.g., alcohol use was a significantly stronger risk marker for men than for women, which may be useful for individuals working with perpetrators of IPV). Overall, this study highlights areas/risk markers that could benefit from additional research as well as useful information that can be applied to reduce future cases of IPV.


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## Supplemental Material

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