

Traditional masculinity and male violence against women: A meta-analytic examination

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Abstract

Traditional masculinity (TM) is conceptualized as a risk factor for the well-being of men and those around them. Further, TM is often considered a key factor in male violence against women, and the positive association between these two factors has been supported by numerous studies. To quantify this relationship, a meta-analysis was conducted on 57 independent samples (mainly from the U.S.) from 10,772 respondents, reported in 51 manuscripts between 1992 and 2021. We observed that TM positively correlated with male attitudes toward violence and violent behavior against women. The relationship between TM and attitudes toward violence was moderated by a type of TM (traditional masculinity ideology, conformity to masculine norms, experience of gender role conflict), a type of violence (sexual harassment, rape, physical, and psychological violence), but not by type of relationship between the aggressor and the victim (intimate and non-intimate partner violence). The strongest correlations were between traditional masculinity ideology and attitudes toward violence, and between traditional masculinity and sexual harassment. At the same time, none of the mentioned factors moderated the relationship between TM and violent behavior. The relationship between traditional masculinity and male violence against women was also moderated by the domain of traditional masculinity. The strongest association was between Status/Power over Women and violence against women. Furthermore, the results should be interpreted in light of substantial heterogeneity in the size of the correlations and the presence of publication bias.

Keywords: traditional masculinity ideology, conformity to masculine norms, gender role conflict, violence against women

Public significance statement

This study integrates findings from 10,772 respondents across 57 samples regarding the relationship between traditional masculinity and male violence against women. In general, endorsement of traditional masculinity ideology, conformity to masculine norms, and experience of gender role conflict were positively associated with both violent attitudes and behaviour.

However, we detected a presence of publication bias and considerable heterogeneity, therefore, the precise estimates may be not reliable.

Traditional masculinity (TM) has attracted the attention of scientists for several decades. Studies have shown that the endorsement of TM is related to negative consequences for men, for instance, it was negatively associated with psychological well-being and psychological help-seeking. At the same time, the endorsement of TM worsens the relationship of men with the people around them; For example, it is associated with poorer interpersonal relationships, including lower levels of satisfaction in romantic relationships and paternal engagement (e.g., Gerdes et al. 2018; Kaiser et al., 2020; Wong et al., 2017). Further, research by Equimundo across 32 countries (Equimundo, 2022) shows that inequitable gender roles, men's domination in decision-making, and justification of violence against women are highly interrelated. As such, to defend their privilege, many men exert power and control over women in their lives through multiple forms of violence (Equimundo, 2022).

Male violence against women is a global problem faced by people from different countries. Research conducted around the world has demonstrated that women experience violence from both their loved ones and strangers. According to the World Health Organization (2021), almost a third of women over the age of 15 have experienced intimate partner violence, non-partner sexualized violence, or both at least once in their life. In most cases, violence against women comes from men (i.e., husbands, intimate partners, strangers).

Women who have experienced violence from men face severe problems. For instance, meta-analyses indicated that experience of intimate violence and rape is associated with physical and mental health issues—more severe depression, anxiety, post-traumatic stress disorder, and substance misuse (Beydoun et al., 2012; Devries et al., 2013; Dworkin et al., 2017; Golding, 1999; Reyes et al., 2021). Therefore, it is of high importance to determine the factors that increase the likelihood of male violence against women.

Some psychological studies have shown that traditional masculinity (TM) is associated with the increased likelihood of male violence against women. That is, the more men supported TM and followed TM norms, the more they justified and participated in violence against women

(Bevens & Loughnan, 2019; Locke & Mahalik, 2005). Despite many studies on the relationship between TM and violence against women, we found only one meta-analysis (Murnen et al., 2002) and one literature review (Moore & Stuart, 2005) on this topic that were conducted two decades ago, both of which reported support for the relationship between masculinity and violence against women.

In order to update knowledge on and quantify the relationship between TM and violence against women, we aimed to conduct an updated and more comprehensive meta-analysis based on the following principles: First, we looked at the association between TM and violence against women among men; Second, we only included research that measured TM with validated inventories; Third, we considered that TM is a multifaceted phenomenon that can take many forms (i.e., ideology, conformity, conflict) and includes different domains; and Fourth, we included research that measured different forms of violence against women. During the meta-analysis, we examined the relationships among different types of TM and different types of male violence against women.

Traditional Masculinity

Masculinities are defined as “the constellation of cultural and individual meanings attached to men and boys that are attributed to the self as well as to people, concepts, and objects, embedded in situational cues, performed as social practices, and distributed through ecological influences” (Wong & Wang, 2022; p. 2). For several decades, psychologists have paid great attention to traditional masculinity—the constellation of cultural and individual meanings attached to men and boys, which dominated in Western society prior to the feminist deconstruction of gender roles and rules (Thompson et al., 1992).

There are several theoretical concepts related to traditional masculinity (Levant et al., 2015; Levant & Richmond, 2016). Traditional masculinity ideology is defined as a system of beliefs about what men should be in general (Levant, 2011). Similarly, conformity to masculine norms is understood as the degree to which men follow the traditional masculine ideology in

their behavior (Mahalik et al., 2003). Navigating between traditional masculinity ideology and conformity to masculine norms, gender role conflict is defined as the degree to which conformity to male gender roles restricts, devalues, or violates the self or others (O'Neil et al., 1986).

Although these constructs are distinct, theoretically it is expected that greater adherence to traditional masculinity ideology leads to gender role conflict, as mediated by individual conformity to masculine norms.

In contemporary psychology, there are several different views on the structure of TM (Levant et al., 2010; Mahalik et al., 2003; O'Neil, 2015; Thompson et al., 1992; for review see Thompson & Bennett, 2015; Wong & Wang, 2022). Nevertheless, it is possible to highlight the key domains that are addressed in different models. In our opinion, these domains reflect two main ideas. On the one hand, TM reflects the idea that “real men” should be very different from women and can only enter heterosexual relationships. On the other hand, TM implies that society has a hierarchical structure, and “real men” should be at the top of the pyramid. They must be unemotional, independent, ready to take risks, pay great attention to work, achieve their goals, and dominate others (including through violence) (for the presence of these elements in various forms of TM, see Table 1).

Traditional masculinity is usually measured via self-reported inventories. In particular, the Male Role Norms Inventory (MRNI; Levant et al., 2010) and the Male Role Norms Scale (MRNS; Thompson & Pleck, 1986) are most commonly used in research on traditional masculinity ideology. The Conformity to Masculine Norms Inventory (Mahalik et al., 2003) is most used in studies that examine conformity to masculine norms. The research on gender role conflict typically employs the Masculine Gender Role Stress (MGRS; Eisler & Skidmore, 1987)

Table 1*The Conceptually Related Content among the HMI, ADMI, MRNS, CMNI, and GRCS Subscales*

| HMI | ADMI | MRNS | CMNI | GRCS |
|---------------------------------|---------------------------------|---------------------------------|--|---|
| no directly comparable subscale | no directly comparable subscale | no directly comparable subscale | Heterosexual self-presentation | Restrictive Affectionate Behavior between Men |
| no directly comparable subscale | no directly comparable subscale | Antifemininity | no directly comparable subscale | no directly comparable subscale |
| Callous sexual attitudes | Sexual Identity | no directly comparable subscale | Playboy | no directly comparable subscale |
| no directly comparable subscale | no directly comparable subscale | Counterdependence | Self-reliance | no directly comparable subscale |
| | Hypermasculinity | Status | Power over Women Winning Pursuit of Status | Success, Power, Competition |
| no directly comparable subscale | no directly comparable subscale | no directly comparable subscale | Primacy of Work | Conflict between Work and Family Relations |
| no directly comparable subscale | Devaluation of Emotion | no directly comparable subscale | Emotional Control | Restrictive Emotionality |
| no directly comparable subscale | Dominance & Aggression | Violence | Violence | no directly comparable subscale |
| no directly comparable subscale | no directly comparable subscale | no directly comparable subscale | Risk-taking | no directly comparable subscale |

Note. We only incorporated the subscales that were available in the dataset of present meta-analysis. For example, HMI has more subscales but only one was available in the studies included in the present meta-analysis.

and the Gender-Role Conflict Scale (GRCS; O'Neil et al., 1986). All these inventories consist of several subscales that reflect different TM domains.

Psychological studies have shown that TM is associated with a greater justification of violence in personal and intergroup relationships. For instance, men with high levels of traditional masculinity endorsement favored physical punishment of children (Shafer et al., 2019) and the death penalty for criminals (Steele & Wilcox, 2003) more than men with low levels of traditional masculinity endorsement. At the same time, men who uphold traditional masculinity can use violence against women to directly and indirectly limit women's agency (Equimundo, 2022). As such, male violence against women and how it related to traditional masculinity attracts special attention from researchers.

Male Violence against Women

Male violence against women can take many forms, and researchers make several distinctions between these different forms of violence. Psychologists distinguish between violent attitudes and violent behavior; attitudes that justify violent behavior (e.g., rape myths; Cole et al., 2020), myths about domestic violence (e.g., Stratemeyer, 2019), and attitudes toward sexual harassment (e.g., Kearney et al., 2004), are made distinct from the violent actions that men have committed in the past or are ready to commit in the future (e.g., Alonzo & Guerrero, 2009). In terms of violent behavior, scholars have identified three types of violent reactions toward women: Physical violence includes attitudes and actions that involve physical harm (e.g., pushes, blows) (e.g., Harrington et al., 2021; McDermott, Naylor, et al., 2017); attitudes and actions associated with sexual harassment and rape are considered sexualized violence (e.g., Jakupcak et al., 2002; Le et al., 2020); and psychological abuse includes attitudes and actions associated with humiliation (e.g., insults, threats) and control over one's behavior (e.g., Harrington et al., 2021; Schwartz et al., 2005). Finally, scholars have identified two contexts in which violence against women occurs, namely intimate and non-intimate partner violence. Intimate partner violence

refers to the violent attitudes and actions that occur in relationships between spouses and romantic or sexual partners, while non-intimate partner violence includes sexual harassment in organizations, as well as violence against unacquainted women, or women in general.

Ample past research has demonstrated that traditional masculinity is positively associated with violence against women. That is, TM predicted attitudes that favored violence (e.g., Hill & Fischer, 2001; Lutz-Zois et al., 2015) and violent behavior (e.g., Truman et al., 1996), tendencies toward physical (e.g., Lisco et al., 2015), sexualized (e.g., McDermott et al., 2020; O'Donohue et al., 1996; Obierefu & Ojedokun, 2019), and psychological abuse (e.g., McDermott, Naylor, et al., 2017). TM also predicted attitudes and actions in intimate (e.g., Gilbar et al., 2021) and non-intimate (e.g., Seabrook et al., 2018; Wade & Brittan-Powell, 2001; Warren et al., 2015) relationships. Therefore, we hypothesized that TM would be positively associated with violence against women (*hypothesis 1*).

At the same time, there is evidence to suggest that the relationship between TM and violence against women is dependent on additional factors. First, the connection between TM and violence against women may vary depending on the form and domains of masculinity. For instance, some studies have shown that traditional masculinity ideology, conformity to masculine norms, and gender role conflict are associated differently with violence against women (Allen, 2010; Luddy & Thompson, 1997). In addition, different TM subscales were associated differently with violent responses (Locke & Mahalik, 2005). Therefore, we formulated research question 1: How is the relationship between TM and violence against women moderated by the measurement of traditional masculinity?

Second, the relationship between TM and violence may vary depending on the type of violent responses (attitudes vs. behavior), the form of violent responses (physical vs. rape vs. sexual harassment vs. psychological), and the context of the relationship in which they occur (intimate vs. non-intimate). For example, there is evidence that TM was more strongly associated with attitudes than with behavior (Harnishfeger, 1998; Hill & Fischer, 2001). In addition, TM

was more strongly associated with some forms of violent reactions than others (Covell, 1998).

Therefore, we formulated research question 2: How is the relationship between TM and violence against women moderated by types of violence?

Third, the relationship between TM and violence may vary depending on the characteristics of the respondents (e.g., age and sexuality). Some studies included only young people, such as pupils from schools and university students, while the others included participants with greater diversity in age. In addition, some researchers limited themselves to heterosexual respondents, whereas others used mixed samples. In the vast majority of studies, participants were straight men, or the sexual composition of the sample was not controlled for. Therefore, we formulated research question 3: How is the relationship between TM and violence against women moderated by the age and characteristics of the sample?

Method

Inclusion Criteria

To be included in the present meta-analysis, each study had to meet several criteria identified prior to the search, namely gender composition of the sample, inventories for measuring masculinity, and inventories for measuring violence against women.

Gender Composition of the Sample

We included two types of studies, that is studies conducted using male samples and studies conducted in mixed samples that reported separate data for men and women. In both cases, we used only the responses of men. We excluded studies with exclusively women samples and studies that reported data for men and women together. We did not include the latter because the goal of the present meta-analysis is to examine male self-reported experiences of violence against women only.

Inventories to Measure Traditional Masculinity

We included studies that measured one of the three forms of traditional masculinity (i.e., traditional masculinity ideology, conformity to masculine norms, and gender role conflict). We

excluded the studies that used questionnaires to measure masculinity-femininity in general, mainly Bem Sex-Role Inventory. The analysis of the papers identified nine inventories that were used to study the relationship between TM and violence against women.

To measure traditional masculinity ideology, different versions of four inventories were used: Male Role Norms Inventory (MRNI; Levant et al., 2010), Male Role Norms Scale (MRNS; Thompson & Pleck, 1986), Brannon Masculinity Scale (BMS; Brannon & Juni, 1984), and Auburn Differential Masculinity Inventory (ADMI; Burk et al., 2004). Three out of the four inventories (MRNI, MRNS, BMS) are thoroughly described in a review article on TM measurement (Thompson & Bennett, 2015), and the validation of the ADMI has been presented in the original publication. Thompson & Bennett (2015) also noted that BMS is receiving criticism for its redundancy between subscales, so we decided to exclude the only study that used this questionnaire from the present meta-analysis.

To measure conformity to masculine norms, various versions of the Conformity to Masculine Norms Inventory (Mahalik et al., 2003) and Adolescent Masculinity Ideology in Relationships Scale (AMIRS; Chu et al., 2005) were used, whereas for measuring gender role conflict, Masculine Gender Role Stress (MGRS; Eisler & Skidmore, 1987) and Gender-Role Conflict Scale (GRCS; O'Neil et al., 1986) were used. Previous research has demonstrated the factor structure and convergent validity of all these questionnaires for measuring conformity to masculine norms and gender role conflict, therefore, we included the studies that used these inventories in the present meta-analysis.

At the same time, the Hypermasculinity Inventory (HMI; Mosher & Sirkin, 1984) has raised doubts. It includes statements for measuring both traditional masculinity ideology and conformity to masculine norms. We decided to classify this inventory in the present meta-analysis as conformity to masculine norms. We did so because most items used in the coded articles measured how a man acted, rather than beliefs about what men should or should not be.

Thus, in the present meta-analysis, we included studies that used seven TM inventories. Some papers reported indicators of reliability in their study, while others reported information on the reliability from previous studies (e.g., from the original study). The scores coded in the present research demonstrated that the internal consistency reliability (Cronbach's α) of subscales and total scales varied: MRNI from .89 to .95, MRNS from .58 to .91, CMNI from .74 to .93, MGRS from .83 to .94, and GRCS from .64 to .92. In addition, the Cronbach's α for AMIRS was .81 and for ADMI it was .83. A sample-based internal consistency reliability coefficient was available in 70.5% of studies.

Inventories to Measure Violence against Women

We included studies that used inventories to measure violent attitudes and behaviors against women. In general, we considered three main forms of violence—physical, sexualized, and psychological. In our analysis of sexualized violence, we made a distinction between rape and sexual harassment. Rape is defined as sexual penetration without the consent of a woman. On the other hand, sexual harassment refers to gender harassment, unwanted sexual attention, and sexual coercion, which does not include sexual intercourse (Gelfand et al., 1995). We identified four groups of inventories that were used to measure violence against women.

The first group included inventories designed to measure attitudes and behavior associated with sexualized violence against women in general. That is, rape myths, which included the Rape Myth Scale, Rape Myth Acceptance Scale, Illinois Rape Myth Acceptance Scale, Updated Illinois Rape Myth Acceptance Scale, Date Rape Myth Acceptance Scale, Attitude toward Rape Victim Scale, and Acceptance of Interpersonal Violence Scale (the internal consistency reliability (Cronbach's α) in the studies ranged from .59 to .97); past behavior, including the Sexual Experiences Survey, Coercive Sexuality Scale (Cronbach's α ranged from .69 to .95); and willingness to commit such actions in the future, using the Attraction to Sexual Aggression Scale (Cronbach's α was .91).

The second group included inventories for measuring attitudes (Sexual Harassment Attitude Scale, Illinois Sexual Harassment Myth Acceptance Scale, Sexual Harassment Proclivities Scale, Sexual Harassment Inventory) and behavior (Likelihood to Sexually Harass Scale, Adolescent Sexual Harassment Scale) associated with sexual harassment in organizations. The internal consistency reliability (Cronbach's α) in these studies ranged from .80 to .93.

The third group included respondents' reactions to vignettes that mainly described rape. When using vignettes, respondents were asked to read a description of the situation and answer a series of questions. For the present meta-analysis, we included the responses to questions about the responsibility of the woman that was raped and a person's own willingness to commit sexualized violence that the respondent gave on their behalf (Hill & Fischer, 2001; Truman et al., 1996).

Finally, the fourth group was formed by inventories measuring attitudes (Domestic Violence Myths Acceptance Scale, Attitudes Toward Male Dating Violence Scale, Acceptance of Interpersonal Violence, College Date Rape Attitude and Behavior Survey) and behavior (Conflict Tactics Scale, Controlling Behavior Scale of Women Inventory) associated with various forms of intimate partner violence. The internal consistency reliability (Cronbach's α) of the scales measuring attitudes ranged from .59 to .87, and of the scales measuring past behavior ranged from .61 to .98.

We excluded studies that measured aggressiveness as a personality trait, general delinquency, or violence toward men. In addition, we excluded inventories that measured the perception of a man's actions as violence, empathy to a person that experienced violence, and willingness to help them.

Literature Search

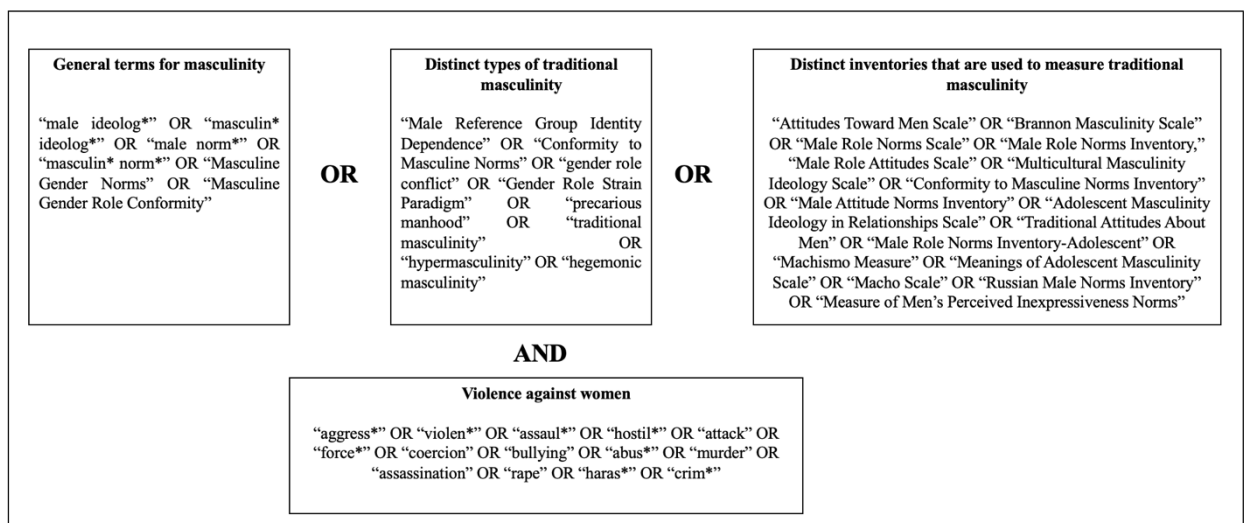
To identify the eligible studies, we conducted a systematic source search during April–August 2021. The literature search was conducted across seven electronic databases: Web of Science, Scopus, ProQuest, Google Scholar, PsycINFO, EBSCO (Academic Search Ultimate,

eBook Collection), and DOAJ (Directory of Open Access Journals). To ensure that a broad spectrum of studies was included in our meta-analysis, we placed no restrictions related to subject area, type of sources, or year of publication. This search resulted in a list of journal articles, conference abstracts, and dissertation texts.

To identify relevant studies, we searched using four concept blocks, three that were designed to identify studies assessing traditional masculinity, and one designed to identify studies measuring violence. All terms within the same concept block were connected with ‘or’. We ran three searches in each database using fields of title, abstract, and keywords, one with each traditional masculinity concept block paired, using ‘and’, with the violence concept block. Search terms are displayed in Figure 1.

Figure 1

Search terms

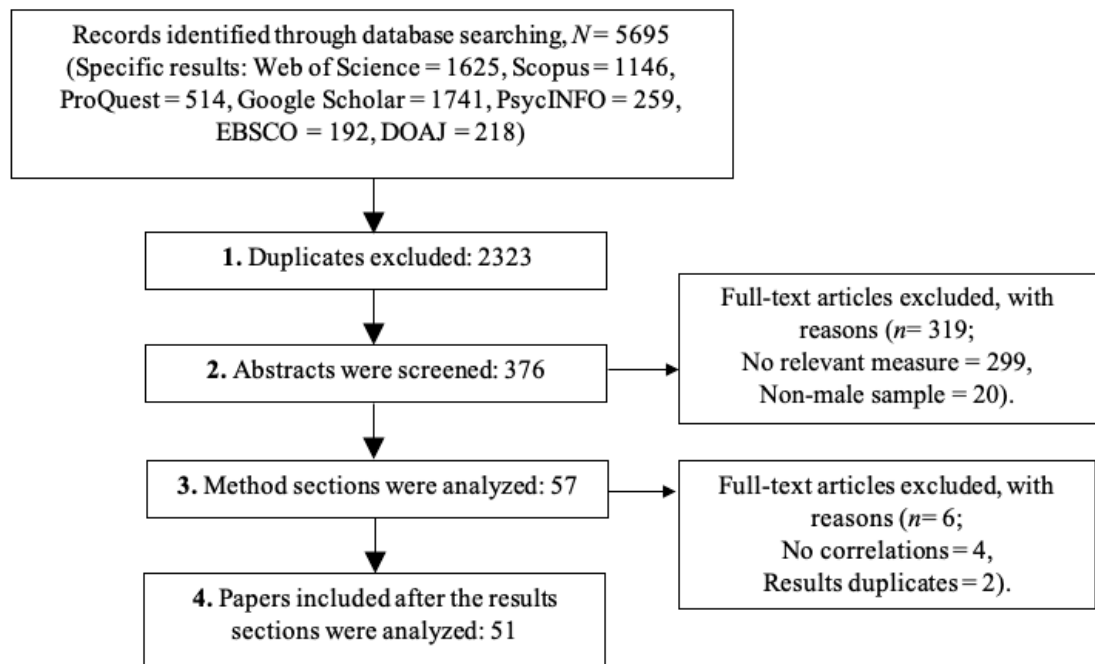


Our search produced a total of 5,695 search results. Manually, we excluded 3372 duplicate articles. Two authors subsequently assessed each of the remaining 2323 results for relevance (“yes”, “no”, “maybe”) based on the abstract. Those coded as “maybe” were discussed by both authors and were considered jointly and rejected or accepted after discussion. For the resulting 376 records, we subsequently retrieved the full-text articles for more careful examination. Following our inclusion criteria, we excluded additional articles because they did not contain relevant measures ($n = 299$) or used a non-male sample ($n=20$). We further excluded

several articles after careful examination of the method sections because they did not contain necessary correlations ($n=4$) or were papers that had different titles and different statuses (published vs. unpublished) but belonged to the same author and reported the same results ($n=2$). In this case, we coded the published source. Figure 2 contains the PRISMA flow diagram which summarizes the overall search process.

Figure 2

PRISMA flow diagram



The final list included 51 sources, including 28 journal articles and 22 dissertations and 1 master's thesis. These sources included 57 studies. Forty-six studies were conducted in the U.S., 5 studies were conducted in other countries, namely the United Kingdom (2), Canada (1), Australia (1), and Israel (1). A list of these studies is reported in the reference section of this article and at the Open Science Framework (Krivoshchekov et. al., 2022).

Information Retrieved from the Studies

Each study included in the meta-analysis was coded for several variables. First, we extracted the effect sizes (i.e., correlations) and associated p -values for the relationships between traditional masculinity and violence against women. Most studies did not report exact p -values, therefore, we coded them at four levels (i.e., “.001,” “.01,” “.05,” and “ns” for non-significant

results). Second, we coded inventories for measuring traditional masculinity. If the researchers only measured the overall score, we coded the effect size. If the researchers reported correlations both for the overall score and the scores for separate subscales, we coded all the reported data.

To analyze the effect of two possible moderators, that is the form and domains of traditional masculinity (research question 2), we examined the overall scores of inventories for measuring traditional masculinity ideology, conformity to masculine norms, and gender role conflict. We then investigated the effect sizes among subscales corresponding to different domains of traditional masculinity. A preliminary analysis of the studies indicated that most researchers provided data on separate subscales for MRNS, CMNI, and GRCS. The correspondence among the contents of the subscales is presented in Table 1. The correspondence between the CMNI and GRCS was based on Levant et al. (2016).

Third, we coded the design (cross-sectional vs. experimental) and publication status (published vs. unpublished) of studies. Most of the studies included in the present analysis were cross-sectional. Evidence from the experimental studies was coded only when both traditional masculinity and violence against women were measured prior to experimental exposure.

Fourth, we coded the characteristics of the respondents: the number of respondents, the average age of respondents, sexual orientation (exclusively straight sample vs. predominantly straight sample (from 85% to 98%) vs. lack of data on sexual orientation), and the sample type (schoolchildren and students vs. mixed sample that included men of different ages). Information on the number and average age of the respondents was used to provide a general description of the studies, and sexual orientation and sample type were considered moderators (research question 3).

Fifth, we coded the inventories for measuring violence against women. Based on the content of these scales, we determined the characteristics of violence. We distinguished between attitudes (approval or disapproval of violence against women, positive or negative attitudes toward the actor of violence and the person that experienced violence) and behavior (self-reports

about violent actions that a person has committed in the past, and a subjective assessment of their ability to commit violence in the future). Moreover, we distinguished the types of violence (i.e., physical, psychological, rape, and sexual harassment). In doing so, we added an item—extending the forms of classification outlined in the theoretical section of this article. It is necessary to do this, as sexual harassment (sexual comments, jokes, gestures, or looks) has different content than rape.

Finally, we coded context of violence (intimate or non-intimate relationships). Under intimate relationships, we understand relationships with romantic or sexual partners. We coded the data on distinguishing studies where they measured intimate partner violence from the inventories in which intimate partner violence was measured (see the fourth group of inventories for measuring violence). Under non-intimate relationships, we understand either relationships with colleagues at work, with unacquainted women from vignettes, or with women in general (see the first, second, and third group of inventories for measuring violence).

It is worth noting that the criteria for the type of violence and context of violence were related to each other. Violence in non-intimate relationships was usually sexualized (i.e., rape and sexual harassment), while in intimate relationships respondents were asked about all types of violence. However, assessing violent responses on three dimensions allowed us to understand how types of violence moderate the relationship between TM and men's violence against women (research question 3).

Analytical Strategy

The entire analysis was conducted in R (R Core Team, 2022). We transformed correlation coefficients to Fisher's z scores for the analysis. To calculate the variances for each effect size, we used the metafor package (Viechtbauer, 2010). The analysis followed the guidelines to conduct a high-quality meta-analysis (Pigott & Polanin, 2020).

Typically, researchers reported the correlations for different domains of traditional masculinity and the total scores along with multiple measures of violence, therefore, the derived

effect sizes are not independent. To account for the dependency, we applied the robust variance estimation (RVE) (Hedges et al., 2010) available via the *robumeta* package (Fisher et al., 2017; Fisher & Tipton, 2015). Not only does this method allow for multiple effect sizes from the same study to be included in a meta-analysis, even when information on the covariance of these effect sizes is unavailable, it also enables small-sample corrections to be applied, which were recommended even with the large samples (Tipton, 2015).

We used the total scores of the inventories to represent traditional masculinity in our analyses. If the total score was not reported, we computed the average effect sizes (using Fisher's z). However, some studies did not use all the subscales of the inventories. To keep an adequate representation of the total score, we averaged the effect sizes from the subscales only if authors reported effect sizes for more than half of the subscales (only one study reported less). Given the multidimensional nature of traditional masculinity (traditional masculinity ideology, conformity to masculine norms, and gender role conflict), we performed the analysis described below separately for total scale scores and for the separate domains of traditional masculinity.

To estimate the overall correlation between traditional masculinity and violence against women, we first used an intercept-only meta-regression model, where the intercept was interpreted as the precision-weighted average of the observed effect sizes and corrected for effect-size dependence. Second, we performed a moderation analysis, where the moderator variable was included in the meta-regression as a predictor. For the categorical variables with two factor levels, we used the t -test for the regression coefficient (i.e., the difference between two levels) as a test of moderation. For the categorical variables with three and more factor levels, we performed the Wald test via the *clubSandwich* package (Pustejovsky, 2017). This function allows testing if the average effect size is equal across all levels of the moderator using the F -type test with degrees of freedom estimated using the approximate Hotelling's method (HTZ). To estimate the weighted mean effect sizes for different levels of moderators, we used meta-regression models without intercept. To examine the bivariate relationship, we ran the

meta-regression models for all moderators separately. After that, we used the meta-regression model that simultaneously included all moderators.

Publication Bias

To investigate the presence of publication bias, we first used funnel plots and examined the asymmetry via Egger's regression, which is a weighted, least squares regression of the effect size on standard errors. The significance of the coefficient associated with standard error in Egger's regression can be interpreted as a test of funnel plot asymmetry (Sterne et al., 2011). Second, we used the Precision Effect Test—Precision Effect Estimate with Standard Errors (PET-PEESE; Stanley & Doucouliagos, 2014). In the simulation studies, the authors demonstrated that PET performs better at identifying true zero effects. PEESE, on the other hand, leads to better estimates when the true effect size is non-zero. The authors, therefore, recommend using both methods. The PET method was used to test whether there was a significant non-zero effect size. If the PET analysis showed a significant result, PEESE was then used to estimate the true effect size.

Results

Characteristics of the Dataset

We identified 51 studies with 57 independent samples and 414 effect sizes, and data from 10,772 respondents. The years of publication ranged between 1992 and 2021 (the median year was 2010). The main characteristics of the dataset are presented in Table 2. The data and R code are available in the Open Science Framework at <https://osf.io/6huav/>.

We found 191 effect sizes (56 were total scores from the scales and 135—subscales from the scales) for the relationship between traditional masculinity and attitudes toward violence against women, obtained from 41 independent samples. We also found 223 (61 were total scores from the scales and 162—subscales from the scales) effect sizes for the relationship between traditional masculinity and violent behavior obtained from 34 independent samples.

Table 2

Description of the Dataset

| Characteristic | Attitudes toward Violence | | | | | | Violent Behavior | | | | | |
|----------------------------------|---------------------------|----|-----|----|-----|----|------------------|----|-----|-----|-----|----|
| | TMI | | CMN | | GRC | | TMI | | CMN | | GRC | |
| | k | n | k | n | k | n | k | n | k | n | k | n |
| Total | 10 | 34 | 23 | 92 | 10 | 65 | 9 | 31 | 18 | 103 | 17 | 89 |
| Violence type | | | | | | | | | | | | |
| Physical | 1 | 1 | 2 | 30 | 2 | 9 | 1 | 4 | 5 | 31 | 9 | 31 |
| Rape | 6 | 23 | 22 | 60 | 6 | 38 | 5 | 16 | 14 | 39 | 5 | 14 |
| Psychological | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 3 | 28 | 8 | 35 |
| Sexual harassment | 3 | 10 | 1 | 2 | 3 | 12 | 2 | 9 | 1 | 4 | 1 | 5 |
| Physical + Psychological | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 2 | 4 |
| Context of violence | | | | | | | | | | | | |
| Intimate partner | 1 | 1 | 1 | 10 | 3 | 26 | 3 | 7 | 6 | 70 | 13 | 76 |
| Non-intimate partner | 9 | 33 | 23 | 82 | 8 | 39 | 6 | 24 | 13 | 33 | 4 | 13 |
| Sample type | | | | | | | | | | | | |
| Students | 9 | 33 | 17 | 56 | 9 | 63 | 7 | 26 | 12 | 27 | 7 | 22 |
| General population | 1 | 1 | 6 | 36 | 1 | 2 | 2 | 5 | 6 | 76 | 10 | 67 |
| Sample sexual orientation | | | | | | | | | | | | |
| Exclusively straight | 0 | 0 | 3 | 6 | 0 | 0 | 3 | 6 | 6 | 60 | 8 | 31 |
| Predominantly straight | 5 | 15 | 19 | 34 | 6 | 35 | 6 | 9 | 16 | 30 | 14 | 27 |
| Unknown | 5 | 19 | 16 | 52 | 6 | 30 | 3 | 16 | 10 | 13 | 6 | 31 |
| Study design | | | | | | | | | | | | |
| Cross-sectional | 9 | 32 | 19 | 50 | 8 | 55 | 8 | 29 | 15 | 100 | 17 | 89 |
| Experimental | 1 | 2 | 4 | 42 | 2 | 10 | 1 | 2 | 3 | 3 | 0 | 0 |
| Publication status | | | | | | | | | | | | |
| Published | 6 | 18 | 10 | 40 | 3 | 25 | 5 | 19 | 8 | 27 | 10 | 31 |
| Unpublished | 4 | 16 | 13 | 52 | 7 | 40 | 4 | 12 | 10 | 76 | 7 | 58 |

Note. k = number of independent samples; n = number of effect sizes. Effect sizes include scores both for the scales overall and for subscales. TMI = Traditional Masculinity Ideology (MRNI; MRNS; AMIRS); CMN = Conformity to Masculine Norms (CMNI; ADMI; HMI); GRC = Gender Role Conflict (GRCS; MGRS).

Correlations between Traditional Masculinity and Violence

The overall correlation between traditional masculinity and violence against women was positive, Pearson's $r = .312$, 95% CI [.272; .351], and significantly different from zero ($t(47.5) = 14.7$, $p < .001$). Traditional masculinity was significantly more strongly associated with attitudes toward violence, ($t(41.8) = -2.98$, $p = .005$; Pearson's $r = .347$, 95% CI [.298; .394], than with violent behavior, Pearson's $r = .251$, 95% CI [.205; .297].

Traditional Masculinity and Attitudes toward Violence

We used the prediction interval (PI) to assess the magnitude of effect size heterogeneity (Borenstein et al., 2017) and found heterogeneity to be considerable [.09; .64] for the relationship between traditional masculinity and attitudes toward violence. Such variability of the correlations might be explained by differences between studies; therefore, we performed a moderation analysis for the relationship between traditional masculinity and attitudes toward violence. The results are presented in Table 3.

The moderation analysis revealed significant differences in the relationship by the type of traditional masculinity (i.e., traditional masculinity ideology, conformity to masculine norms, and gender role conflict), $HTZ(16.1) = 5.02, p = .021$. The largest observed effect size was for the TMI, Pearson's $r = .46$, 95% CI [.339; .566], followed by the CMN, Pearson's $r = .333$, 95% CI [.276; .388], and the GRC, Pearson's $r = .256$, 95% CI [.169; .339].

Table 3

Effect Sizes for the Relationship between Traditional Masculinity and Attitudes toward Violence against Women by Moderators

| Moderator | ES | 95% CI | PI | df | p | n | Moderation statistic | df | p | I ² |
|--|------|---------------|-----------|------|-------|----|----------------------|------|------|----------------|
| Type of Traditional Masculinity | | | | | | | HTZ = 5.02 | 16.1 | .020 | 67.45 |
| TMI | .497 | [.353; .641] | .28; .72 | 7.5 | <.001 | 16 | | | | |
| CMN | .346 | [.283; .409] | .13; .57 | 18.7 | <.001 | 24 | | | | |
| GRC | .262 | [.171; .353] | .04; .48 | 7.4 | <.001 | 16 | | | | |
| Type of Violence | | | | | | | HTZ = 11.8 | 9.1 | .001 | 74.03 |
| Physical | .319 | [-.028; .668] | .05; .58 | 3.36 | .062 | 7 | | | | |
| Rape | .339 | [.283; .396] | .07; .60 | 24.4 | <.001 | 38 | | | | |
| Psychological | .198 | [.098; .227] | -.06; .46 | 1.00 | <.001 | 2 | | | | |
| Sexual harassment | .485 | [.267; .704] | .22; .75 | 4.96 | .002 | 9 | | | | |
| Context of violence | | | | | | | t = .217 | 4.07 | .84 | 76.25 |
| Intimate partner | .339 | [-.017; .695] | .07; .61 | 3.3 | .057 | 10 | | | | |
| Non-intimate partner | .365 | [.309; .420] | .09; .64 | 32.3 | <.001 | 46 | | | | |
| Sample type | | | | | | | t = 1.42 | 6.7 | .19 | 75.97 |
| Students | .343 | [.287; .398] | .07; .61 | 30.0 | <.001 | 49 | | | | |
| General population | .473 | [.247; .700] | .20; .74 | 4.9 | .003 | 7 | | | | |
| Sample's sexual orientation | | | | | | | HTZ = .147 | 2.09 | .87 | 77.60 |
| Exclusively straight | .392 | [-.132; .916] | .11; .68 | 1.0 | .067 | 2 | | | | |
| Predominantly straight | .371 | [.246; .495] | .09; .65 | 8.8 | <.001 | 19 | | | | |
| Unknown | .357 | [.287; .426] | .07; .64 | 24.4 | <.001 | 35 | | | | |
| Study design | | | | | | | t = .554 | 8.22 | .59 | 76.49 |
| Cross-sectional | .357 | [.293; .420] | .08; .63 | 29.2 | <.001 | 46 | | | | |
| Experimental | .388 | [.272; .504] | .11; .66 | 5.8 | <.001 | 10 | | | | |

| Publication status | | | | | | | | | | |
|--------------------|------|--------------|----------|------|-------|----|-----------|------|-----|-------|
| Published | .398 | [.287; .509] | .12; .67 | 13.7 | <.001 | 23 | | | | |
| Unpublished | .338 | [.277; .399] | .06; .62 | 21.3 | <.001 | 33 | t = -1.01 | 29.6 | .32 | 77.10 |

Note. ES = Fisher's z ; PI = prediction interval, a range into which we can expect the effects of future studies to fall based on present evidence; n = number of effect sizes; df = Satterthwaite degrees of freedom (if the Satterthwaite degrees of freedom are less than 4, the Type I error rates can be tremendously larger than .05, and, therefore, p -value should not be trusted); I^2 = ratio of true heterogeneity to total variance across the observed effect sizes.

Other observed significant differences in the relationship were by the violence type (i.e., physical, rape, psychological, and sexual harassment), $HTZ(9.1) = 11.8$, $p = .001$. The largest observed effect size was for sexual harassment, Pearson's $r = .45$, 95% CI [.261; .607], followed by rape, Pearson's $r = .327$, 95% CI [.275; .377], physical violence, Pearson's $r = .309$, 95% CI [-.028; .584], and psychological violence, Pearson's $r = .195$, 95% CI [.195; .195]. However, the Satterthwaite degrees of freedom for the estimates of physical and psychological violence were less than 4 and, therefore the p -values are not to be trusted.

We did not find significant differences in effect sizes for the relationship between traditional masculinity and attitudes toward violence by sample type, composition of the participants' sexual orientation in samples, study design, or publication status (see Table 3). It is worth noting however, that heterogeneity can be large when the number of studies is small, as in the present meta-analysis.

We also tested the meta-regression model where multiple moderators were entered as predictors. As presented in Table 4, the overall meta-regression model was non-significant, $HTZ(3.84) = 1.66$, $p = .336$. This demonstrates that the set of entered predictors did not result in a statistically significant reduction in unexplained heterogeneity in effect sizes describing the relationship between traditional masculinity and attitudes toward violence.

Table 4

The Meta-regression Model Predicting Effect Sizes for the Relationship between Traditional Masculinity and Male Attitudes toward Violence against Women

| Variable | b | 95% CI | t | df | p |
|--|---|----------------|-------|-------|------|
| Intercept | .391 | [-.077; .705] | 3.92 | 3.06 | .028 |
| Type of TM (TMI) | .083 | [-.048; .213] | 1.40 | 10.34 | .19 |
| Type of TM (GRC) | -.182 | [-.326; -.039] | -2.89 | 10.19 | .02 |
| Type of Violence (Rape) | .281 | [-.045; .608] | 2.45 | 3.77 | .07 |
| Type of Violence (Psychological) | .048 | [-.105; .202] | .080 | 5.08 | .46 |
| Type of Violence (Gender harassment) | .464 | [-.151; .778] | 3.63 | 5.96 | .11 |
| Context of violence (Non-intimate partner) | -.302 | [-.606; .001] | -2.65 | 4.47 | .05 |
| Sample type (General population) | .174 | [-.039; .387] | 1.97 | 6.45 | .09 |
| Sample sexual orientation (Predominantly straight) | -.059 | [-.563; .445] | -.61 | 1.67 | .61 |
| Sample sexual orientation (Unknown) | -.043 | [-.068; .594] | -.48 | 1.33 | .96 |
| Study design (Experimental) | .110 | [-.016; .204] | 2.71 | 7.74 | .03 |
| Publication status (Unpublished) | -.028 | [-.119; .064] | -.64 | 16.75 | .53 |
| Model Parameters | <i>HTZ</i> (3.84) = 1.66, <i>p</i> = .34, <i>I</i> ² = 62.59 | | | | |

Note. df = Satterthwaite degrees of freedom (if the Satterthwaite degrees of freedom are less than 4, the Type I error rates can be tremendously larger than .05, and, therefore, *p*-value should not be trusted).

Traditional Masculinity and Violent Behavior

The magnitude of heterogeneity was large in the effect sizes (PI [.05; .46]) for the relationship between traditional masculinity and violent behavior. Similar to the effect sizes in attitudes toward violence, we examined whether such variability of the correlations might be explained by differences among studies. The results are presented in Table 5.

The results of the moderation analysis revealed no significant differences in the effect sizes for the relationship between traditional masculinity and violent behavior against women by any of the moderators (see Table 5). To examine whether the heterogeneity can be explained by a set of moderators, we used meta-regression where multiple moderators were entered as predictors. As presented in Table 6, the overall meta-regression model was non-significant, *HTZ*(1.5) = .105, *p* = .995. These results indicate that the available set of predictors did not result in a statistically significant reduction in unexplained heterogeneity in effect sizes describing the relationship between traditional masculinity and violent behavior against women. Nevertheless, we should note that it is possible that the heterogeneity in the effect sizes is present due to the small number of studies.

Table 5

Effect Sizes for the Relationship between Traditional Masculinity and Male Violent Behavior against Women by Moderators

| Moderator | ES | 95% CI | PI | df | p | n | Moderation statistic | df | p | I ² |
|--|------|---------------|------------|------|-------|----|----------------------|------|-----|----------------|
| Type of Traditional Masculinity | | | | | | | HTZ = 2.30 | 14.4 | .14 | 65.62 |
| TMI | .232 | [.095; .369] | .03; .44 | 5.4 | .006 | 13 | | | | |
| CMN | .311 | [.229; .394] | .11; .51 | 11.9 | .014 | 22 | | | | |
| GRC | .212 | [.147; .276] | .01; .42 | 11.1 | <.001 | 26 | | | | |
| Type of Violence | | | | | | | HTZ = .404 | 6.48 | .76 | 68.13 |
| Physical | .222 | [.143; .302] | .01; .44 | 6.21 | <.001 | 16 | | | | |
| Rape | .282 | [.206; .358] | .07; .50 | 13.9 | <.001 | 21 | | | | |
| Psychological | .212 | [.100; .323] | -.004; .43 | 6.3 | .003 | 13 | | | | |
| Sexual harassment | .272 | [-.167; .711] | .06; .49 | 2.0 | .116 | 6 | | | | |
| Physical + Psychological | .240 | [-.536; 1.02] | .02; .46 | 1.0 | <.001 | 5 | | | | |
| Context of violence | | | | | | | t = 1.36 | 21.4 | .19 | 65.50 |
| Intimate partner | .222 | [.159; .284] | .02; .43 | 10.2 | <.001 | 36 | | | | |
| Non-intimate partner | .283 | [.209; .358] | .08; .49 | 15.1 | <.001 | 25 | | | | |
| Sample type | | | | | | | t = -.449 | 17.7 | .66 | 66.56 |
| Students | .266 | [.202; .329] | .06; .47 | 16.6 | <.001 | 31 | | | | |
| General population | .243 | [.151; .335] | .03; .45 | 8.7 | <.001 | 30 | | | | |
| Sample sexual orientation | | | | | | | HTZ = .13 | 11.1 | .88 | 68.15 |
| Exclusively straight | .269 | [.151; .386] | .05; .49 | 7.05 | <.001 | 22 | | | | |
| Predominantly straight | .232 | [.077; .387] | .01; .45 | 3.97 | .014 | 11 | | | | |
| Unknown | .263 | [.192; .333] | .05; .48 | 13.8 | <.001 | 28 | | | | |
| Study design | | | | | | | t = .551 | 3.02 | .62 | 67.52 |
| Cross-sectional | .251 | [.201; .300] | .04; .46 | 22.0 | <.001 | 56 | | | | |
| Experimental | .316 | [-.110; .742] | .10; .52 | 2.41 | .091 | 5 | | | | |
| Publication status | | | | | | | t = -.485 | 21.7 | .63 | 67.42 |
| Published | .271 | [.201; .342] | .06; .48 | 10.9 | <.001 | 24 | | | | |
| Unpublished | .248 | [.175; .322] | .04; .46 | 14.5 | <.001 | 37 | | | | |

Note. ES = Fisher’s z; PI = prediction interval, a range into which we can expect the effects of future studies to fall based on present evidence; n = number of effect sizes; df = Satterthwaite degrees of freedom (if the Satterthwaite degrees of freedom are less than 4, the Type I error rates can be tremendously larger than .05, and, therefore, p-value should not be trusted); I² = ratio of true heterogeneity to total variance across the observed effect sizes.

Table 6

The Meta-regression Model Predicting Effect sizes for the Relationship between Traditional Masculinity and Male Violent Behavior against Women

| Variable | b | 95% CI | t | df | p |
|---|-------|---------------|-------|-------|-----|
| Intercept | .324 | [-.171; .819] | 1.53 | 7.37 | .17 |
| Type of TM (TMI) | -.140 | [-.360; .080] | -1.52 | 8.00 | .18 |
| Type of TM (GRC) | -.104 | [.257; .048] | -1.47 | 10.29 | .16 |
| Type of Violence (Rape) | .100 | [-.302; .502] | .767 | 3.20 | .50 |
| Type of Violence (Psychological) | -.007 | [-.074; .061] | -.23 | 7.59 | .82 |
| Type of Violence (Sexual harassment) | .227 | [-.209; .664] | 1.28 | 5.93 | .25 |
| Type of Violence (Physical + Psychological) | .089 | [-.220; .399] | .884 | 3.23 | .44 |
| Context of violence (Non-intimate partner) | .026 | [-.347; .399] | .217 | 3.20 | .84 |
| Sample type (General population) | .041 | [-.429; .510] | .251 | 3.63 | .82 |

| | | | | | |
|--|---|---------------|-------|------|-----|
| Sample sexual orientation (Predominantly straight) | -.090 | [-.327; .147] | -.971 | 5.13 | .38 |
| Sample sexual orientation (Unknown) | -.111 | [-.355; .132] | -1.06 | 7.80 | .32 |
| Study design (Experimental) | .084 | [-.242; .409] | .649 | 5.27 | .54 |
| Publication status (Unpublished) | -.075 | [-.240; .089] | -1.03 | 9.17 | .33 |
| Model Parameters | <i>HTZ</i> (1.5) = .105, <i>p</i> = .995, <i>F</i> ² = 70.72 | | | | |

Note. *df* = Satterthwaite degrees of freedom (if the Satterthwaite degrees of freedom are less than 4, the Type I error rates can be tremendously larger than .05, and, therefore, *p*-value should not be trusted).

Correlations among the Domains of Traditional Masculinity and Violence

To address the multidimensionality of traditional masculinity, we investigated the effect sizes for the relationship between separate domains of traditional masculinity and violence against women. The overall correlation was positive and significantly different from zero, Pearson's $r = .226$, 95% CI [.181; .270], $t(26.6) = 9.96$, $p < .001$, and the magnitude of heterogeneity was large (PI [-.08; .54]). As indicated in Table 7, we found evidence that all analyzed dimensions of traditional masculinity positively correlated with violence against women, and the formal test indicated that effect sizes were significantly different among the dimensions of traditional masculinity, $HTZ(9.77) = 17.9$, $p < .001$. Nevertheless, based on the Satterthwaite degrees of freedom ($df = 3.85$), which indicates that the Type I error rates can be much larger than .05, the associated *p*-value for the finding for the subscales Antifemininity and Avoidance of Femininity should not be trusted.

Moreover, since the effect sizes of total scores for the relationship between traditional masculinity and attitudes toward violence and violent behavior were significantly different, we examined whether this was the case for the separate domains. The results revealed that the associations of the subscales Heterosexual Self-presentation and Status with violence against women were significantly stronger for attitudes than for behaviors (see Table 7). However, all other effect sizes for specific domains did not significantly differ between attitudes toward violence and violent behavior. Furthermore, the strongest association with male violence against women was evident for Status/Power over women (Pearson's $r = .281$, 95% CI [.202, .356]), followed by Heterosexual self-presentation (Pearson's $r = .25$, 95% CI [.169, .327]), Avoidance of Femininity (Pearson's $r = .235$, 95% CI [.089, .37]), Playboy (Pearson's $r = .217$, 95% CI

[.15, .284]), Violence (Pearson's $r = .201$, 95% CI [.104, .295]), Risk-taking (Pearson's $r = .172$, 95% CI [.126, .217]), Restrictive emotionality (Pearson's $r = .164$, 95% CI [.123, .209]), Self-reliance (Pearson's $r = .132$, 95% CI [.01, .164]), and Primacy of Work (Pearson's $r = .087$, 95% CI [.047, .126]).

It should be noted that the only results for attitudes and behavior that can be trusted are those for which the Satterthwaite degrees of freedom were larger than 4. Based on the analysis, this was true only for five domains (i.e., Heterosexual self-presentation, Status, Restrictive emotionality, Violence, and Playboy). This issue could arise because of a combination of problems, namely high leverage, large imbalances, or a small number of studies, as in the present research (see Tipton, 2015).

Table 7

Effect Sizes for the Relationship between Traditional Masculinity and Male Violence against Women by Subscales

| Subscale | Overall/ Attitudes/ Behavior | ES | 95% CI | PI | df | p | n | Moderation statistic | df | p | I ² |
|--|------------------------------------|------|------------------|------------|------|-------|----|-------------------------|------|------|----------------|
| Heterosexual self- Presentation | O | .255 | [.171; .34] | -.04; .55 | 14.7 | <.001 | 39 | t = -2.94 | 12.2 | .012 | 71.91 |
| | A | .325 | [.210; .440] | .08; .56 | 10.0 | <.001 | 19 | | | | |
| | B | .150 | [.074; .226] | -.09; .39 | 6.2 | .003 | 20 | | | | |
| Avoidance of Femininity | O | .239 | [.0896; .389] | .03; .45 | 3.85 | .012 | 9 | t = -1.61 | 3.06 | .20 | 52.04 |
| | A | .338 | [-.129; .805] | .18; .49 | 1.9 | .087 | 4 | | | | |
| | B | .191 | [.062; .320] | .04; .35 | 2.3 | .022 | 5 | | | | |
| Self-reliance | O | .133 | [.010; .166] | .133; .133 | 4.49 | <.001 | 15 | t = .43 | 3.11 | .70 | 0 |
| | A | .129 | [.070; .188] | .129; .129 | 3.6 | .004 | 9 | | | | |
| | B | .138 | [.086; .190] | .138; .138 | 1.4 | .012 | 6 | | | | |
| Status/ Power over women | O | .289 | [.205; .372] | -.16; .74 | 22.9 | <.001 | 76 | t = -2.32 | 19.8 | .03 | 89.17 |
| | A | .347 | [.223; .472] | -.08; .77 | 16.2 | <.001 | 36 | | | | |
| | B | .200 | [.134; .266] | -.22; .62 | 10.9 | <.001 | 40 | | | | |

| | | | | | | | | | | | |
|---------------------------------|---|------|---------------|------------|------|-------|----|-----------|-------|-----|-------|
| Restrictive Emotionality | O | .166 | [.123; .209] | .04; .29 | 15.1 | <.001 | 40 | t = -1.99 | 13.63 | .06 | 36.71 |
| | A | .197 | [.135; .259] | .08; .31 | 10.0 | <.001 | 19 | | | | |
| | B | .129 | [.077; .181] | .02; .24 | 6.5 | <.001 | 21 | | | | |
| Primacy of Work | O | .087 | [.047; .127] | .087; .087 | 5.95 | .002 | 25 | t = .10 | 5.54 | .93 | 0 |
| | A | .085 | [-.013; .183] | .085; .085 | 3.6 | .072 | 11 | | | | |
| | B | .089 | [.042; .135] | .089; .089 | 2.4 | .012 | 14 | | | | |
| Violence | O | .204 | [.104; .304] | -.07; .48 | 11.7 | <.001 | 32 | t = -.96 | 11.31 | .35 | 78.41 |
| | A | .247 | [.053; .442] | -.03; .52 | 7.0 | .005 | 13 | | | | |
| | B | .164 | [.074; .254] | -.11; .44 | 5.9 | .005 | 19 | | | | |
| Playboy | O | .221 | [.151; .292] | .03; .41 | 6.97 | <.001 | 27 | t = -.04 | 9.58 | .97 | 69.23 |
| | A | .223 | [.058; .387] | .02; .43 | 5.02 | .017 | 10 | | | | |
| | B | .220 | [.147; .294] | .01; .43 | 5.33 | <.001 | 17 | | | | |
| Risk-taking | O | .174 | [.127; .221] | .10; .24 | 4.05 | <.001 | 13 | t = .89 | 3.35 | .43 | 18.77 |
| | A | .152 | [.093; .211] | .07; .23 | 2.9 | .004 | 7 | | | | |
| | B | .203 | [-.085; .491] | .12; .28 | 1.6 | .085 | 6 | | | | |

Note. O = overall effect size; A = effect size for attitudes; B = effect size for behavior; ES = Fisher's z ; PI = prediction interval, a range into which we can expect the effects of future studies to fall based on present evidence; n = number of effect sizes; df = Satterthwaite degrees of freedom (if the Satterthwaite degrees of freedom are less than 4, the Type I error rates can be tremendously larger than .05, and, therefore, p -value should not be trusted); I^2 = ratio of true heterogeneity to total variance across the observed effect sizes.

Publication Bias

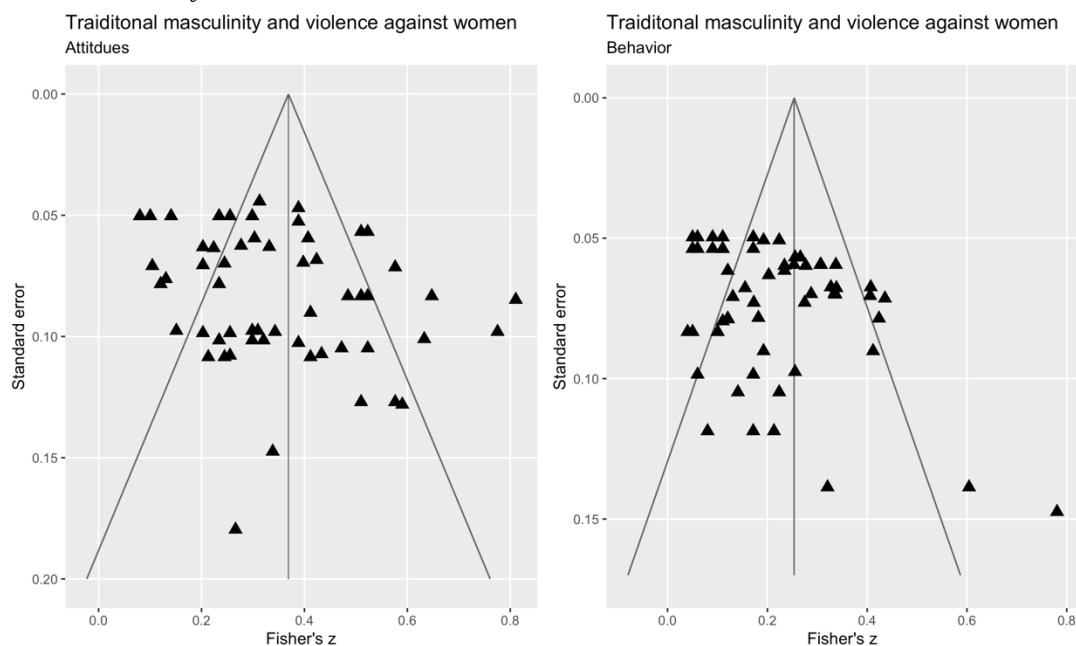
Overall Scores

We tested publication status as a moderator, and there were no significant differences in effect sizes between published and unpublished studies for attitudes (Pearson's $r = .378$, 95% CI [.279; .469] vs .326, 95% CI [.270; .379]) and behavior (Pearson's $r = .265$, 95% CI [.198; .329] vs .265, 95% CI [.173; .311]). Visual inspection of the funnel plots (see Fig. 3) did reveal a certain degree of asymmetry in attitudes toward violence and violent behavior against women.

At the same time, the Egger's regression test was significant for the relationship between traditional masculinity and attitudes toward violence against women ($b_1 = 2.18$, 95% CI [.250; 4.108], $p = .028$) as well as for the relationship between traditional masculinity and violent behavior against women ($b_1 = 2.235$, 95% CI [.530; 3.940], $p = .011$). The intercept for the attitudes toward violence against women was statistically significant at the conventional level ($b_0 = .173$, 95% CI [.033; .312], $p = .017$) in the PET regression. Therefore, we used an intercept from the PEESE regression as the estimate of the true effect sizes. The intercept in the PEESE regression was significantly different from zero ($b_0 = .259$, 95% CI [.184; .334]). At the same time, the PET intercept for the violent behavior against women was non-significant ($b_0 = .056$, 95% CI [-.057; .169], $p = .328$), therefore, it should be used as the estimate of the overall effect with the understanding that it is statistically insignificant from zero. Compared to the original estimates from RVE meta-regressions, both estimates were smaller than the original effect sizes. Overall, these results indicate the presence of some publication bias in effect sizes for overall scores. This implies that if there is any publication bias in this meta-analysis for overall scores, it does not alter conclusions regarding the direction of the relationship between traditional masculinity and male violence against women substantially.

Figure 3

Funnel Plots for Overall Scores



Separate Domains

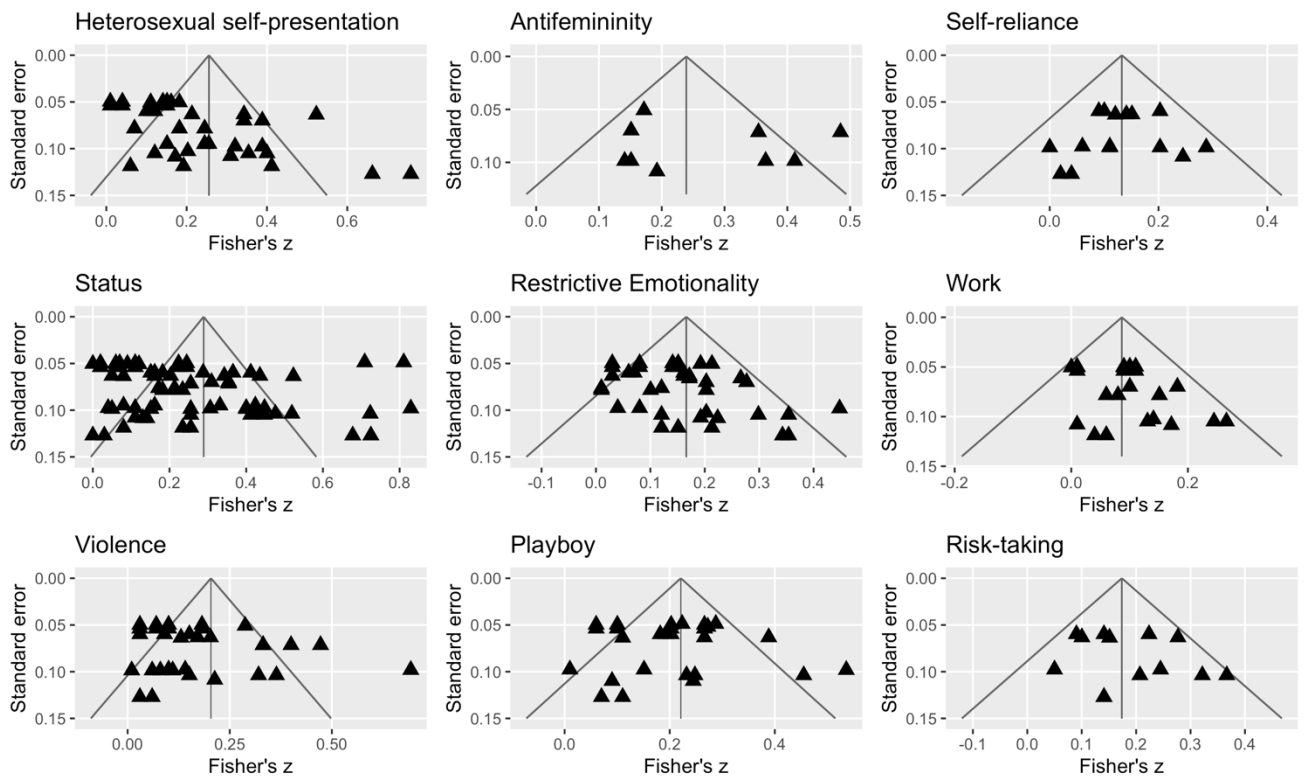
Overall, we did not find significant differences in effect sizes between published and unpublished studies ($t(24.9) = -1.26, p = .22$; Pearson's $r = .25, 95\% \text{ CI } [.175; .322]$ vs $.197, 95\% \text{ CI } [.144; .249]$). However, when examined individually, there was a significant difference between published and unpublished effect sizes in the Playboy domain ($t(7.96) = -2.67, p = .028$; Pearson's $r = .267, 95\% \text{ CI } [.163; .367]$ vs $.146, 95\% \text{ CI } [.095; .196]$), but not in others. Visual inspection of the funnel plots (see Fig. 4) revealed the noticeable asymmetry for the two domains, Heterosexual self-presentation and Status, but not others. The Egger's regression test was significant for the Heterosexual self-presentation ($b_I = 3.62, 95\% \text{ CI } [1.768; 5.465], p = .0003$), Status ($b_I = 2.34, 95\% \text{ CI } [.100; 4.587], p = .041$), and Restrictive emotionality ($b_I = 1.55, 95\% \text{ CI } [.220; 2.876], p = .024$) and non-significant for Antifemininity ($b_I = 1.07, 95\% \text{ CI } [-4.643; 6.788], p = .67$), Self-reliance ($b_I = -.39, 95\% \text{ CI } [-2.231; 1.441], p = .65$), Work ($b_I = 1.10, 95\% \text{ CI } [-.052; 2.261], p = .06$), Violence ($b_I = 1.63, 95\% \text{ CI } [-.843; 4.110], p = .188$), Playboy ($b_I = .045, 95\% \text{ CI } [-1.779; 2.669], p = .68$), Risk-taking ($b_I = .96, 95\% \text{ CI } [-1.567; 3.487], p = .42$).

The PET intercepts for Heterosexual self-presentation ($b_0 = -.057, 95\% \text{ CI } [-.185; .070], p = .37$), Antifemininity ($b_0 = .182, 95\% \text{ CI } [-.264; .626], p = .37$), Status ($b_0 = .067, 95\% \text{ CI } [-.085; .219], p = .38$), Restrictive emotionality ($b_0 = .041, 95\% \text{ CI } [-.049; .131], p = .36$), Work ($b_0 = .013, 95\% \text{ CI } [-.063; .089], p = .73$), Violence ($b_0 = .055, 95\% \text{ CI } [-.112; .223], p = .504$), Risk-taking ($b_0 = .106, 95\% \text{ CI } [-.088; .301], p = .252$) were statistically non-significant. Therefore, we used them as the estimates of the true effects with the understanding that they are statistically insignificant from zero. Compared to the original estimates from RVE meta-regressions, all estimates were smaller than the original effect sizes. The PET intercepts for Self-reliance ($b_0 = .161, 95\% \text{ CI } [.017; .306], p = .032$), Playboy ($b_0 = .173, 95\% \text{ CI } [.032; .315], p = .018$) were significantly different from zero. Therefore, we used an intercept from the PEESE

regression as the estimate of the true effect sizes. The intercept in the PEESE regression was significantly different from zero for Self-reliance ($b_0 = .148$, 95% CI [.072; .224], $p = .001$) and Playboy ($b_0 = .192$, 95% CI [.123; .262], $p < .001$). Compared to the original estimates from RVE meta-regressions, the estimate for Playboy was smaller than the original effect size and the estimate for Self-reliance was larger than the original effect. Overall, these results demonstrated some evidence of the presence of publication bias in effect sizes for separate domains, but it does not alter our conclusions substantially.

Figure 4

Funnel Plots for Separate Domains



Discussion

This present research reports findings from the meta-analysis of the relationship between traditional masculinity and men’s violence against women. We examined whether there are differences in the correlations due to the form (traditional masculinity ideology, conformity to masculine norms, gender role conflict) and domains of traditional masculinity. We also investigated whether differences emerge across the attitudes toward violence and violent

behavior, the types of violence (physical vs. rape vs. sexual harassment vs. psychological), and the context of violence (intimate vs. non-intimate relationships).

Relationship between Traditional Masculinity and Male Violence against Women

First, traditional masculinity was observed to positively correlate with male violence against women. The observed effects for attitudes ($r = .347$) and behavior ($r = .251$) could be considered medium to large in the broader social psychological literature (Lovakov & Agadullina, 2021). To make effect sizes more understandable, scholars recommend comparing them to other psychological findings (Funder & Ozer, 2019). One might consider that the link between traditional masculinity and attitudes is somewhat weaker and the relationship between traditional masculinity and behavior is almost two times weaker than a well-established finding in psychology that people in a bad mood are more aggressive than those in a good mood ($r = .41$) (Funder & Ozer, 2019). These results are in line with the theoretical concept of traditional masculinity as a risk factor for the psychological well-being of men and those around them (e.g., Levant, 2011). In general, the results suggested that men who endorse traditional masculinity ideology to a greater extent, according to which men should be different from women and occupy a dominant place in the social structure, have a greater tendency to justify violence against women and demonstrate violent behavior that reduces the quality of heterosexual relationships than men who do adhere to traditional masculinity to a lesser extent.

Second, the correlation between traditional masculinity and attitudes toward violence was stronger than the correlation between TM and violent behavior. Traditional masculinity and violent attitudes can be considered elements of the cognitive system, whereas violent behavior was demonstrated to be affected by other factors, for instance, the physical and psychological state of a potential aggressor (Capaldi et al., 2012; Moore et al., 2008) and social norms (Anderson & Bushman, 2002). Therefore, the weaker correlation for violent behavior is not surprising.

Third, the relationship between traditional masculinity and violent attitudes toward women, but not violent behavior, depends on the form of masculinity and the type of violence. The strongest correlation was between attitudes toward violence and traditional masculinity ideology, followed by conformity to masculine norms, and then gender role conflict. We suggest this can be explained by their content. Both traditional masculinity ideology and violent attitudes capture a system of beliefs about what men should or should not be in general. At the same time, conformity to masculine norms and gender role conflict reflect how a particular man feels and how he acts. Moreover, traditional masculinity was more strongly associated with attitudes toward sexualized violence (sexual harassment and rape) than physical and psychological violence. On the one hand, sexualized violence is more consistent with the content of traditional masculinity that postulates an active role for men in heterosexual relationships (from flirting to sexual intercourse), than physical or psychological violence is. On the other hand, in most studies, myths that emphasize the guilt of a person who has experienced violence rather than sanction sexualized abuse are indicative of positive attitudes toward sexualized violence.

Fourth, the relationship differed between domains of traditional masculinity and male violence against women. For instance, the weakest correlation was between Primacy of Work (domain reflecting the differences between men and women) and male violence against women, whereas the strongest one was between Status/Power over Women (domain reflecting the desire for a dominant position in society) and male violence against women. Although domains are theorized to be positively related to each other, these results indicate the importance of the examination of separate domains of traditional masculinity rather than traditional masculinity as a single construct. In addition, we did not observe any significant differences in the associations between traditional masculinity and male violence against close (romantic partners, spouses) and distant (work colleagues, strangers) women. In our opinion, this may be because traditional masculinity does not distinguish between close and distant women. Men with a high level of traditional masculinity may view any woman either as an object for potential sexual relations

(e.g., domain Playboy) or as a person who occupies low levels of the social hierarchy (e.g., domain Power over Women).

Fifth, the study-to-study variation in true effect sizes was considerable, as evidenced by the prediction intervals, and we had only limited success in identifying the possible sources for this heterogeneity. None of the moderators for the relationship between violent behavior and traditional masculinity was statistically significant. As for the relationship between attitudes toward violence and traditional masculinity, only the type of violence and type of traditional masculinity significantly moderated the relationship. The meta-regression models that aimed to reduce potential difficulties caused by confounding moderators also did not significantly explain the variability in the effect sizes. These results imply the existence of unidentified sources of variation in these correlations across studies and suggest that future researchers should focus attention on identifying those. Thus, although a positive correlation can be expected between traditional masculinity and male violence against women, it is hard to say how strongly these phenomena are related to each other.

Publication Bias

Although current methods for detecting publication bias are still in development, we used three types of tests to detect if it was present in our research sample. We used publication status as a moderator, a funnel plot along with Egger's regression of funnel plot symmetry, and a PET-PEESE technique. All three analyses indicated at least some presence of publication bias. We should note, however, using these methods can be problematic, as they were demonstrated not to perform well, particularly when there is heterogeneity among effect sizes (Alinaghi & Reed, 2018; Macaskill et al., 2001; Pustejovsky & Rodgers, 2019). When controlling for publication bias, overall effect sizes became smaller and sometimes did not significantly differ from zero. Such results often suggest that entire studies have gone unpublished or unsupportive findings have been omitted from published reports. At the same time, the present set of studies is not characterized by an overabundance of barely significant results and different bias detection

techniques yielded conflicting results. This implies that if there is any publication bias in this meta-analysis, it does not substantively alter our interpretation of the presence and direction of the relationship between traditional masculinity and male violence against women.

Limitations and Future Directions

As with any meta-analysis, our confidence in the conclusions is limited by the data provided by available studies. Therefore, it is crucial to place the results of the present meta-analysis in context so that they are correctly interpreted. Below we highlight the main limitations of studies included in this meta-analysis addressing the relationship between traditional masculinity and male violence against women and conclude with the limitations of the present meta-analysis itself.

First, the studies were more likely to use inventories that measure conformity to masculine norms and gender role conflict than traditional masculinity ideology. In other words, researchers were more likely to pay attention to the extent to which men are guided by traditional masculinity ideology in their lives than to the extent to which they generally endorse the traditional view of men.

Second, researchers measured attitudes more often than behavior, sexualized violence (especially rape) was measured more than physical and psychological violence, and non-intimate partner violence was measured more than intimate partner violence. Nevertheless, there were some variations. In particular, in non-intimate relationships, researchers paid more attention to attitudes, and in intimate relationships—to behavior. In addition, attitudes toward sexualized violence received more attention than attitudes toward physical and psychological violence. Consequently, some links (e.g., the connection of traditional masculinity with attitudes to sexualized violence in intimate relationships) were investigated in more studies than others (e.g., the relationship between traditional masculinity and attitudes to psychological violence in intimate relationships). As a result, the dataset relating to certain topics was smaller than the dataset for others, which limits the precision of the effect size estimates.

Third, researchers tend to measure self-reported behavior rather than behavior itself. This is understandable since observations are necessary to measure actual behavior. In non-intimate relationships, observations are usually carried out during experiments in which participants are exposed to additional factors (e.g., provocation) that may affect the connection between traditional masculinity and violence. In close relationships, observations are usually not possible due to ethical reasons. Despite these difficulties in data collection for actual behavior, self-reported behavior does not necessarily reflect the actual level of violence. Future research should pay more attention to the ethical investigation of actual violent behavior and should explicitly identify what is being studied—attitudes or behavior, the types and contexts of violence.

Fourth, most studies included in the present meta-analysis examined the relationship between traditional masculinity and face-to-face violence against women but not online aggression. Violence that takes place on the Internet is different from face-to-face violence. It can take different forms, is easily implemented, can be carried out around the clock and in front of many witnesses. On the one hand, it can seriously impact the person, and, on the other, it is open to observation. Thus, analyzing the relationship between traditional masculinity and online violence against women may become a further area of research.

Fifth, most studies were conducted in the USA. Although the concepts of traditional masculinity reflect the Western understanding of masculinity, it is crucial to research traditional masculinity outside the USA and among diverse groups of men (e.g., by race, socioeconomic status, (dis)ability, immigration, etc.). This is particularly important because violence against women is a global issue and traditional masculinity is considered one of the primary contributing factors.

Sixth, in cases where the researchers reported only the information on separate subscales, but not an overall score, we additionally calculated the effect sizes for overall scores. We should note that averaging the correlations does not recover the correlation and it is possible that the correlation of interest for these studies could be underestimated. We used this strategy due to the

absence of correlations between the subscales in many cases, which would make it possible to calculate a more precise estimate.

Seventh, the present meta-analysis assumed that traditional masculinity is something relatively stable, whereas research on precarious manhood revealed that men who experienced a threat to their masculinity status demonstrated more aggressive behavior than those who did not (Vandello & Bosson, 2013). Future research would benefit from the examination of whether and how traditional masculinity and precarious manhood interact when it comes to violence against women.

Conclusion

The present meta-analysis aimed to quantify the relationship between traditional masculinity and male violence against women. We found evidence that the observed correlations between TM and violent attitudes and behavior against women were significant and positive. On a practical level, it means that interventions aimed to reduce male violence against men need to tackle different forms of traditional masculinity (i.e., ideology, conformity, and stress). Furthermore, our results highlighted the importance of separate domains of traditional masculinity. Practitioners might focus on a single dimension of traditional masculinity (e.g., Power over women) in their work with male perpetrators in the reduction of violence. Nevertheless, we could not be certain about the strength of these relationships due to the publication bias and substantial heterogeneity. Based on the observed effects, one could expect a correlation ranging from .01 to .75. We strongly recommend researchers use larger samples in future research to increase the power of their studies and follow open science practices to reduce publication bias.

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