

## Traditional masculinities and men's sexism: A meta-analysis

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### **Abstract**

Traditional masculinities (TM) are a set of meanings related to men. The power attached to these meanings operates to maintain the inequality of gender relations. Previous studies have reported a positive correlation between traditional masculinities and men's sexism, limiting women's personal and professional opportunities. To quantify this relationship, a meta-analysis was conducted using 107 independent samples (mainly from the U.S.) from 21,078 men, reported in 44 manuscripts between 1984 and 2021. Although we observed that TM positively correlated with men's sexism, there was wide variability in effect sizes. An examination of potential moderators revealed that the relationship was significantly different between different forms of TM. The relationship between sexism and conformity to masculine norms and traditional masculinity ideology was stronger than the relationship with gender role stress. Further, TM were more strongly related to forms of sexism that reflect overt negative attitudes toward women (old-fashioned and hostile sexism) than to forms that reflect covert sexist attitudes (modern and benevolent sexism). Moreover, the link between TM and sexism was stronger in the general population than in student samples. However, these findings should be interpreted and taken with caution due to the presence of substantial heterogeneity in effect sizes.

*Keywords:* traditional masculinity ideology, conformity to masculine norms, gender role conflict, sexism

### **Public significance statement**

This study integrates findings from 21,078 respondents across 107 samples of men regarding the relationship between traditional masculinities and men's sexism. In general, men's endorsement of traditional masculinities was positively associated with sexism against women. However, we found evidence of considerable variability in the effect sizes. Therefore, the estimates should be taken with caution and not be interpreted in absolute terms.

*Psychology of Men & Masculinities* defines masculinities 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). As such, masculinities do not contain universal and invariant meanings. Instead, there are multiple, dynamic meanings associated with men that reflect a society's culture and individual constructions of masculinities.

Masculinity scholars identify five areas of analysis of masculinities: (a) meanings that men attribute to themselves; (b) meanings that people attribute to men in general; (c) the situational behavior of men; (d) the behavior of men in the presence of other people, and (e) the meanings associated with men in certain groups and society as a whole (Wong & Wang, 2022). Among these areas, a lot of psychological work is dedicated to the first and second areas—scholars study men's meanings they ascribe to themselves and men in general. Therein, psychologists have concentrated on studying traditional masculinities, which reflect the system of individual and cultural meanings that underlies patriarchy. A “social organization marked by the supremacy of the father in the clan or family, the legal dependence of wives and children, and the reckoning of descent and inheritance in the male line; control by men of a disproportionately large share of power” (Lewis, 2018, p. 382). Such a system reproduces itself through, for instance, men's endorsement of certain individual and cultural beliefs about masculinities that are related to their attitudes toward others (Gerdes et al., 2018; Schwartz et al., 2016).

In particular, the endorsement of traditional masculinities was found to be associated with sexism. Sexism can be defined as “individuals' attitudes, beliefs, and behaviors, and organizational, institutional, and cultural practices that either reflect negative evaluations of individuals based on their gender or support unequal status of women and men” (Swim &

Hyers, 2009, p. 407). A variety of people can become a target of sexism, but scholars usually focus on beliefs, attitudes, behaviors, and social practices that are directed against women. Such sexism is associated with attitudes toward women—romantic partners (Sibley & Overall, 2011) and work colleagues (Connor et al., 2016); sexual objectification of women and violent behavior against them (Agadullina et al., 2022). The more people endorse individual-level sexism, the more their judgments and actions limit the opportunities of women, and the more physical and psychological damage they might cause.

Past research has shown that men's endorsement of traditional masculinities reinforces sexism (e.g., Gerdes et al., 2018; Schwartz et al., 2016). The present meta-analysis aims to quantify this relationship. It was based on the following principles: First, we looked at the association between traditional masculinities and sexism in samples of men; second, we included only research that measured traditional masculinities and sexism with validated inventories; third, we considered that masculinity is a multifaceted phenomenon that can take many forms and includes different domains; and fourth, we included research that measured different forms of sexism.

### **Traditional Masculinities**

There are multiple masculinities but, in many countries, traditional masculinities (TM), a system of beliefs about how a man should behave which dominated Western society prior to the feminist deconstruction of gender roles and rules, are used by men as self-guides on how to be a "real" man (Pleck, 1995; E. H. Thompson et al., 1992). Most studies on TM have been based on research involving men living in English-speaking countries. Nevertheless, research within and outside English-speaking countries demonstrated gender, sexuality, age, ethnic, and national differences (e.g., Komlenac et al., 2023; Komlenac & Hochleitner, 2022; Krivoshchekov et al., 2021, 2022; Levant, 2011; Levant & Richmond, 2007).

There are three main theoretical concepts used to describe TM. The first is traditional masculinity ideology, which is a system of beliefs about what men should be in general (Levant, 2011). The second is conformity to masculine norms, which is the degree to which men follow the traditional masculinity ideology in their behavior (Mahalik et al., 2003). Finally, gender role conflict refers to the degree to which conformity to male gender roles restricts, devalues, or violates the self or others (O'Neil et al., 1986).

TM are theorized to be multifaceted. Psychologists believe that all forms of TM—traditional masculinity ideology, conformity to masculine norms, and gender role conflict—consist of several interrelated domains (Levant et al., 2010; Mahalik et al., 2003; O'Neil, 2015; Thompson et al., 1992; Thompson & Bennett, 2015). Despite the interrelated nature of TM, it is possible to highlight the key domains that are addressed in different models. In our opinion, these domains reflect two main ideas.

First, TM entails anti-femininity and heterosexuality mandates (e.g., unwillingness to look and behave like women and gay men, negative attitudes toward gay men, high activity in the sexual domain). Second, TM implies that society has a hierarchical structure, and “real men” should be at the top of the hierarchy (e.g., control over emotions, independence, risk-taking, striving to be the best, the primacy of work over personal life, and inclination to violence). Together, these two ideas function to keep a positive male identity by helping men maintain their group distinctiveness and social status.

Researchers theorize that TM has an impact on men's beliefs, emotions and behavior. For example, the authors of the Expectancy-Discrepancy-Threat Model of Masculine Identity (Stanaland et al., 2023) consider communities where rigid masculinity norms are common. They make a distinction between men who reject these norms and men who see them as self-guides. Men who accept norms compare themselves with a “real man” and conclude that they

fit or do not fit this image. Men who reject these norms may find a comparison with a “real man” irrelevant.

Acceptance vs. rejection of rigid norms and perceived conformity vs. non-compliance with these norms affects the reactions of men in the face of threat. Men who either reject traditional masculinity ideology or are confident in their masculinity ignore masculinity threat (i.e., not being man enough). At the same time, doubt in their masculinity can result in two outcomes that depend on their motivation: Men who want to conform to rigid norms feel anxious or guilty and commit self-destructive acts, whereas men who think they have to conform to the rigid norms demonstrate sexism and aggression toward women.

We posit that the elements of this model correspond to three forms of traditional masculinity. The perception of rigid masculinity norms widespread in society correspond with traditional masculinity ideology. A man's perception of his fit vs. non-compliance with traditionally masculine standards corresponds with high vs. low conformity to masculine norms. A state arising under the influence of a threat corresponds with gender role conflict. As such, on a theoretical level, traditional masculinity ideology influences conformity to masculine norms, conformity to masculine norms affects gender role conflict, and gender role conflict causes internal and external reactions, including sexism.

### **Sexism against Women**

Sexism (attitudes, beliefs, behaviors, and practices directed against women) can manifest itself at three levels: Individual, institutional, and cultural. Individual-level sexism refers to individual reactions or interpersonal interactions designed to denigrate women, who are viewed as inferior in society. Institutional-level sexism refers to policies, practices, and norms that perpetuate inequality by restricting opportunities for women. Finally, cultural-level sexism refers to symbols and practices that are used to reinforce the notion that women are inferior to men (Lewis, 2018).

Different levels of sexism are positively related to each other. For instance, cross-cultural studies have shown that the more sexist attitudes are widespread in the country, the lower its level of gender equality (Bosson et al., 2021; Brandt, 2011; Glick et al., 2000). However, most psychological research has focused on individual-level sexism, which includes the sexist beliefs, attitudes, and behaviors that individuals endorse and practice.

Scholars have theorized several forms of sexist attitudes. First, psychologists distinguish between old-fashioned and modern sexism (Lewis, 2018; Swim et al., 1995). Old-fashioned sexism is historically the first form of sexism that reflects an overtly negative attitude toward women. Old-fashioned sexism refers to the belief that there are individual differences between women and men (e.g., in terms of intelligence and leadership skills); Therefore, women and men should have different roles in society (e.g., women should take care of the family and men should pursue a career) and deserve different treatment. Modern sexism is a form of sexism that emerged in the second half of the last century, at a time when regulatory pressure increased in some countries to suppress old-fashioned sexist attitudes and beliefs about women. Modern sexism includes the denial of continued discrimination, antagonism toward women's demands for additional rights, and lack of support for policies designed to help women. Thus, this form of sexism reflects a covertly negative attitude toward women, caused by the growing similarity in the social status of men and women.

Second, scholars also distinguish between hostile and benevolent forms of sexism (Connor et al., 2016; Glick et al., 2000; Glick & Fiske, 2001). Hostile sexism, overtly misogynistic and competitive attitudes toward women, is the belief that women are too easily offended, create problems, and seek to control men. This form of sexism reflects negative attitudes toward women who pose a threat to the gender hierarchy (e.g., feminists), but is weakly associated with attitudes toward women who do not pose a threat. Benevolent sexism reflects subjectively favorable but patronizing attitudes toward women. It is the belief that

women are more cultured and elevated than men but need men's protection and men need women. This form of sexism reflects a positive attitude toward women who conform to traditional gender norms, and who primarily show purity and warmth in close relationships (e.g., housewives), but is weakly associated with attitudes toward women who pose a threat to male dominance.

Research shows that different forms—old-fashioned vs. modern (Swim et al., 1995) and hostile vs. benevolent (Glick et al., 2000) sexism are positively related. However, they are related to other measures (e.g., trait attribution, romantic partner preference, perceptions of job-related discrimination, and voting preferences) in different ways. As such, different forms of individual-level sexism are elements of a single system of gender representations that justifies and supports gender inequality but reflects different aspects of these representations.

### **Relationship between TM and Sexism**

Research over several decades has shown that TM was positively associated with old-fashioned and modern (Leaper & Van, 2008; Martínez-Martínez & Paterna-Bleda, 2013; Smiler, 2006), as well as benevolent and hostile (Amayreh, 2019; Bosson et al., 2021; Covell, 1998) sexism. Therefore, we hypothesized that endorsement of TM would be positively associated with men's sexism (*hypothesis 1*). However, this relationship can be moderated by additional factors.

The first factor is the form of TM. On the one hand, compared to gender role stress, the content of traditional masculinity ideology and conformity to masculine norms has a greater overlap with sexism (Schwartz et al., 2016); therefore, one might expect that traditional masculinity ideology and conformity to masculine norms would be more strongly associated with sexism than gender role stress would be. This is supported by a recent meta-analysis, which showed that traditional masculinity ideology has the strongest, and gender



role stress has the weakest association with violence against women (Krivoshchekov et al., 2023).

On the other hand, the Expectancy-Discrepancy-Threat Model of Masculine Identity (Stanaland et al., 2023) allows one to consider different forms of TM as links in the same chain that connects the presence of rigid masculine norms in society with psychological reactions to the threat of masculinity. According to this model, sexism is a direct response to gender role stress; therefore, it can be assumed that gender role stress would be more strongly associated with sexism than traditional masculinity ideology and conformity to masculine norms would. As such, Research Question 1 is “How are different forms of TM related to men’s sexism?”

The second factor is the domain of TM. Some scholars consider that various elements of TM form a single construct (i.e., traditional masculine ideology and gender role conflict (Komlenac & Hochleitner, 2022; Krivoshchekov et al., 2021; McDermott et al., 2017; O’Neil, 2015)); therefore, it can be assumed that different domains are similarly associated with sexism. Others believe that the different elements of TM are relatively independent of each other and do not form a single construct (conformity to masculine norms (Komlenac et al., 2023; Krivoshchekov et al., 2022; Levant et al., 2020)); therefore, one would expect that different domains are differently associated with sexism. In the second case, the question arises as to which TM domains are more strongly associated with sexism.

Traditional masculinities reflect two different characteristics of a “real man”: The need (a) to be distinct from women and enter heterosexual relationships and (b) to occupy a high position in the social hierarchy. Both characteristics imply a certain attitude toward women: The first case is about romantic relationships, and the second is about dominance over women in the public sphere. However, the first group of domains seems to have more

conceptual overlap with sexism than the second. Thus, Research Question 2 is “How are different domains of TM related to men’s sexism?”

The third factor is the form of sexism. On the one hand, sexist attitudes are elements of one system of gender representations; therefore, it can be expected that TM is similarly associated with different forms of sexism. On the other hand, old-fashioned and hostile sexism reflect overtly negative attitudes towards women, while modern and benevolent sexism are covert attitudes. Therefore, one might assume that old-fashioned and hostile sexism would be more strongly associated with TM than modern and benevolent sexism would be. Thus, Research Question 3 is “How is TM related to different forms of men’s sexism?”

Finally, the relationship between TM and sexism may vary depending on the characteristics of the sample (e.g., sexuality, sample size, sample type). Some studies included only young people, such as pupils from schools and university students, while the others included more diverse samples. In addition, some researchers limited themselves to straight respondents, whereas others included people of different sexual orientations. Therefore, Research Question 4 is “How is the relationship between TM and men’s sexism moderated by the characteristics of the sample?”

## **Method**

### **Inclusion Criteria**

To be included in the present meta-analysis, each study had to meet several pre-defined criteria, namely gender composition of the sample, inventories for measuring TM, and inventories for measuring sexism.

### ***Gender Composition of the Sample***

We included two types of studies: Studies conducted using men-only samples, and studies conducted using mixed samples that reported separate data for men and women. In

both cases, we used only the responses of men. We excluded studies with women-only samples and studies that reported data for men and women together, because the goal of the present meta-analysis is to examine men's self-reported sexism.

### *Inventories to Measure TM*

We included studies that measured at least one of the three forms of TM (i.e., traditional masculinity ideology, conformity to masculine norms, and gender role conflict). Analysis of the papers found during the search identified ten inventories that were used to study the relationship between TM and sexism.

To measure traditional masculinity ideology, different versions of five 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), Precarious Manhood Beliefs (PMB; Bosson et al., 2021), and Adolescent Masculinity Ideology in Relationships Scale (AMIRS; Chu et al., 2005). Three out of the five inventories (MRNI, MRNS, BMS) are thoroughly described in a review article on TM measurement (Thompson & Bennett, 2015), and the validations of the AMIRS and PMB have been presented in the original publications.

To measure conformity to masculine norms, various versions of the Conformity to Masculine Norms Inventory (Mahalik et al., 2003), Auburn Differential Masculinity Inventory (ADMI; Burk et al., 2004), and Hypermasculinity Inventory (HMI; Mosher & Sirkin, 1984) 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. The Hypermasculinity Inventory includes statements for measuring both conformity to masculine norms and traditional masculinity ideology, which has raised doubts about which form of TM it represents. Based on the statements used in the coded

articles, we decided to code this inventory in the present meta-analysis as conformity to masculine norms.

### ***Inventories to Measure Sexism***

During the screening, we identified four groups of inventories that were used to measure sexism. The first group included questionnaires to measure old-fashioned sexism: Old-Fashioned Sexism Scale (OS; Swim et al., 1995), different forms of Attitudes toward Women Scale (ATW or AWS; Spence et al., 1973; Spence & Helmreich, 1978), and Traditional Gender Beliefs Scale (TGBS; Dasgupta & Rivera, 2006). The second group included questionnaires for measuring modern sexism: Modern Sexism Scale (MS; Swim et al., 1995) and Neosexism Scale (Tougas et al., 1995).

The third group included one inventory designed to measure benevolent attitudes toward women: Benevolent Sexism, a subscale from the Ambivalent Sexism Inventory (BS; Glick & Fiske, 1996). The fourth group included inventories for measuring hostile attitudes: Hostile Sexism, a subscale from the Ambivalent Sexism Inventory (HS; Glick & Fiske, 1996) and Hostility toward Women Inventory (HTW; Check, 1984).

### **Literature Search**

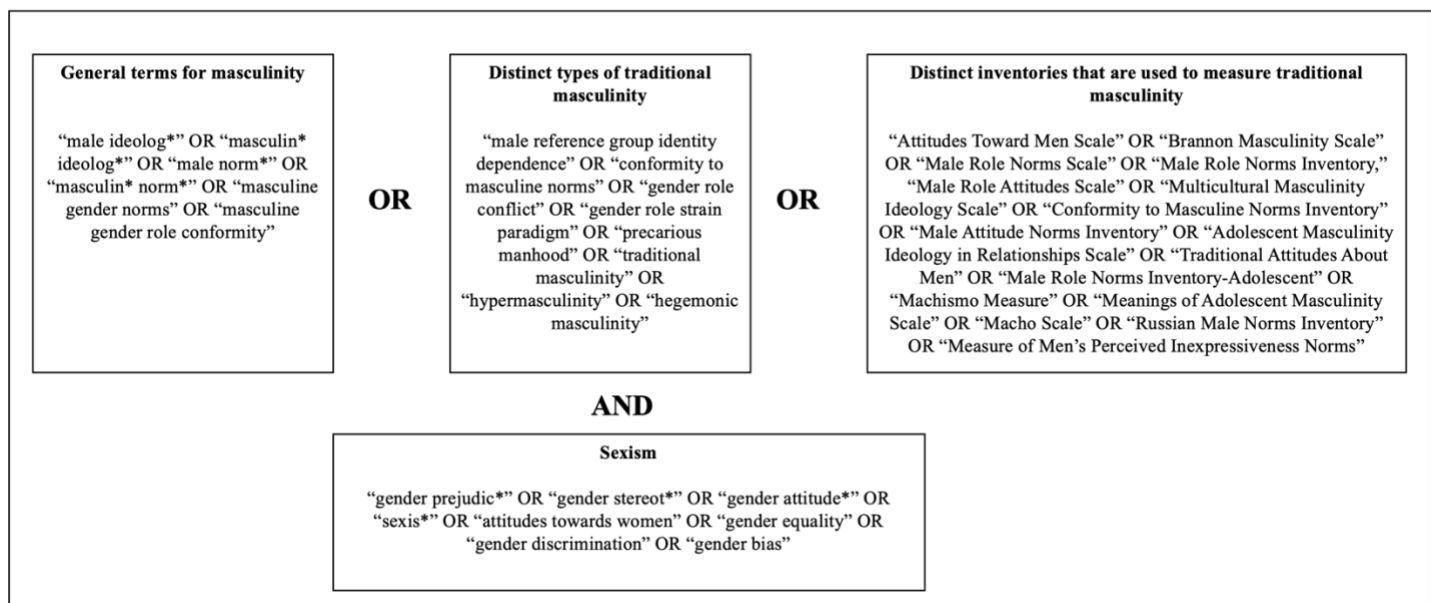
To identify the eligible studies, we conducted a systematic source search from April to August 2021. The literature search was conducted across seven electronic databases: Web of Science, Scopus, ProQuest, Google Scholar, PsycINFO, EBSCO (Academic Search Ultimate, eBook Collection), and DOAJ (Directory 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 TM, and one designed to identify studies assessing

sexism. 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 TM concept block paired, using 'and', with the sexism concept block. Search terms are displayed in Figure 1.

**Figure 1**

*Search terms*

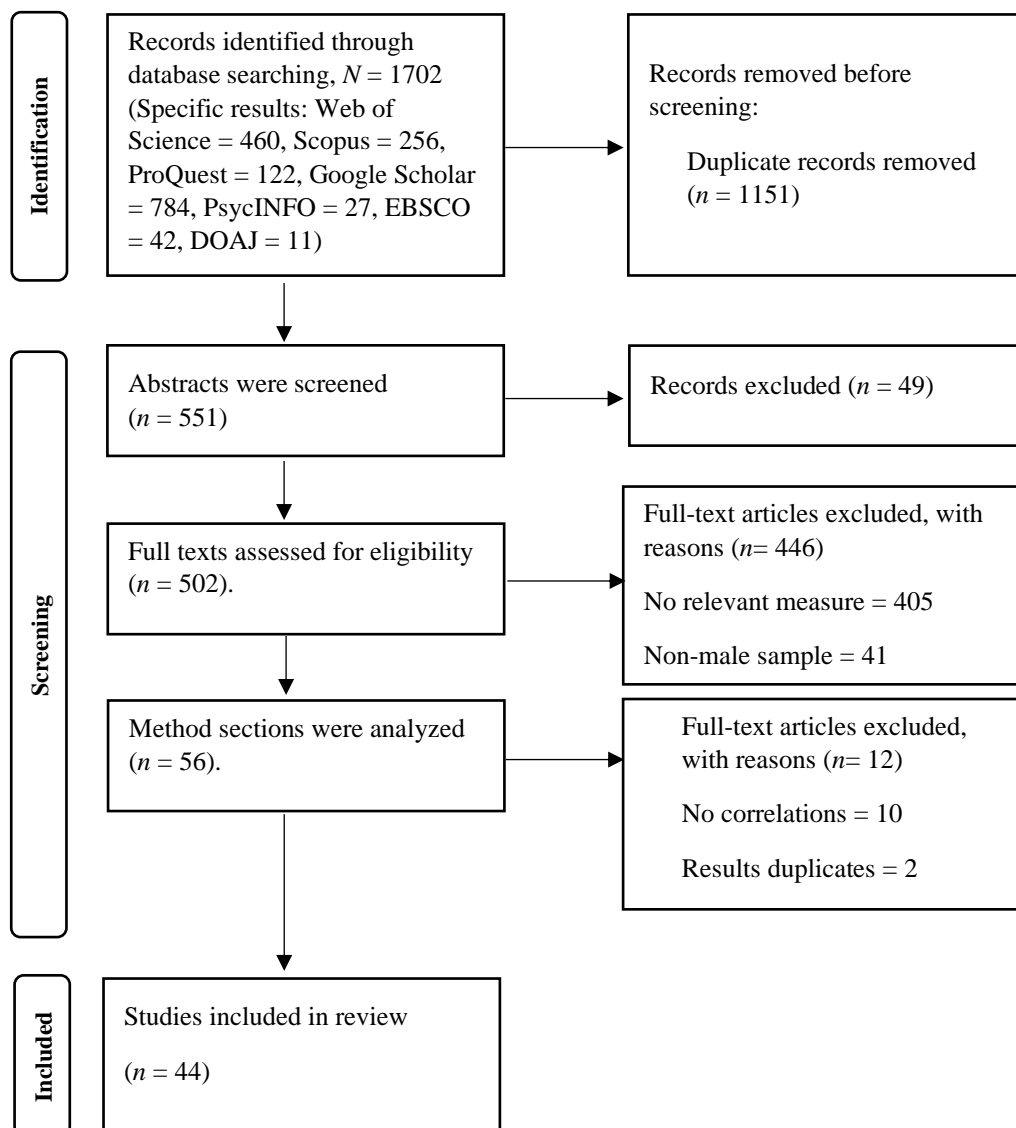


Our search produced a total of 1,702 search results. We manually excluded 1151 duplicate articles. Two authors subsequently assessed each of the remaining 551 results for relevance ("yes", "no", "maybe") based on the abstract. Those coded as "maybe" were discussed by both authors and were considered jointly and rejected or accepted after discussion. For the resulting 502 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 ( $n = 405$ ) or used a non-male sample ( $n=41$ ). We further excluded several articles after careful examination of the method sections because they did not contain necessary correlations ( $n=10$ ) 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 chart*



The final list included 44 sources, including 33 journal articles, 2 master's thesis, and 9 dissertations. These sources included 107 independent samples. Thirty-nine samples were collected in the U.S., and 68 samples were collected in other countries, namely the United Kingdom (Archer, 2010; Archer & Rhodes, 1989), Poland (de Zavala & Bierwiazzonek,

2021), South Korea (Seo et al., 2022), Switzerland (Martínez-Martínez & Paterna-Bleda, 2013), Spain (Larrañaga et al., 2013), and cross-cultural research in 62 countries (Bosson et al., 2021). A list of these studies is reported in the reference section of this article as well as online at the Open Science Framework (Krivoshchekov & Gulevich, 2023).

### **Information Retrieved from the Studies**

Each study included in the meta-analysis was coded for a number of variables. First, we extracted the effect sizes (i.e., correlations) and associated *p*-values for the relationships between TM and sexism. Most studies did not report exact *p*-value, therefore, we coded them at four levels (i.e., “.001,” “.01,” “.05,” and “ns” for non-significant results).

Second, we coded inventories for measuring TM. 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 analyse the effect of possible moderators, that is, the form and domains of TM (Research Questions 1 and 2), we coded the overall scores of inventories for measuring TM. We then investigated the effect sizes among subscales corresponding to different domains of TM. A preliminary analysis of the studies indicated that most researchers provided data on separate subscales. The correspondence among the contents of the subscales is presented in Table 1. The correspondence between the CMN and GRCS was based on Levant et al. (2016).

Second, we coded the inventories for measuring sexism. We distinguished between old-fashioned, modern, benevolent, and hostile sexism (Research Question 3). Third, 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 vs. lack of data on sexual orientation), and the sample type (students vs. general sample that included men of different ages; Research Question 4).





**Table 1***The Conceptually Related Content among the Subscales in the Present Meta-analysis*

<b>HMI</b>	<b>ADMI</b>	<b>MRNS</b>	<b>CMNI</b>	<b>GRCS</b>
no directly comparable subscale	no directly comparable subscale	no directly comparable subscale	Disdain for homosexuals	Restrictive Affectionate Behaviour 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	no directly comparable subscale	Self-reliance	no directly comparable subscale
no directly comparable subscale	Anti-feminine Attitudes	Status	Power over Women Winning Pursuit of Status Dominance	Success, Power, Competition Need for Success and Achievement
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
Violence	no directly comparable subscale	Violence	Violence	no directly comparable subscale

Danger                      no directly comparable subscale      no directly comparable subscale      Risk-taking                      no directly comparable subscale

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

### 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 TM and the total scores along with multiple measures of sexism, 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 & Tipton, 2015). This method allows 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.

We used the total scores of the inventories to represent TM in our analyses. Also, given the multidimensional nature of TM, we performed the analysis described below separately for total scale scores and for the separate domains of TM. To estimate the overall correlation between TM and sexism, 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 categorical variables with two factor levels, we used a  $t$ -test for the regression coefficient (i.e., the difference between two levels) as a test of moderation. For categorical variables with three and more factor levels, we performed Cluster wild bootstrapping (CWB) via the wildmeta package (Joshi et al., 2022; Joshi & Pustejovsky, 2022). This function allows testing of whether the average effect size is equal across all levels of the moderator using the  $F$ -type test (note that the function in R only produces a  $p$ -value as an output). Joshi et al. (2022) recommend using CWB over HTZ in

meta-analyses using RVE. They demonstrated that compared to extant small-sample correction methods, CWB maintains adequate Type I error rates and provides more power, particularly for multiple-contrast hypothesis tests. In contrast, CWB and HTZ have very similar power in tests of single-contrast hypotheses (i.e., *t*-tests). As such, we applied small-sample corrections only to single-contrast tests (Tipton, 2015). 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 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 simulation studies, it has been demonstrated that PET performs better at identifying true zero effects, while PEESE leads to better estimates when the true effect size is non-zero. As such, it is recommended to use both methods. We used the PET method 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. Both Egger's and PET-PEESE regression tests were adjusted for correlation between effect estimates.

Our sample of studies contains considerable heterogeneity in effect size, which we discuss in further detail below. As such, using the methods above can be problematic, as they

have previously demonstrated poor performance in instances where there is heterogeneity in effect sizes (Alinaghi & Reed, 2018; Macaskill et al., 2001; Pustejovsky & Rodgers, 2019).

## Results

### Characteristics of the Dataset

We identified 44 documents with 107 independent samples and 339 effect sizes, and data from 21,078 respondents. The years of publication ranged between 1984 and 2021 (the median year was 2013). We found 339 effect sizes (185 were total scores from the scales and 154—subscales from the scales) for the relationship between TM and men's sexism, obtained from 107 independent samples. The main characteristics of the dataset are presented in Table 2. Studies are described in detail in online Supplemental Materials. The data and R code are available in the Open Science Framework at

[https://osf.io/gb8cp/?view\\_only=b6069db49e2d43ef8398656427a92949](https://osf.io/gb8cp/?view_only=b6069db49e2d43ef8398656427a92949).

**Table 2**

#### *Description of the Dataset*

Characteristic	k	n
<b>Total</b>	107	339
<b>TM forms</b>		
TMI	83	170
CMN	15	125
GRC	12	44
<b>Sexism forms</b>		
Benevolence	74	86
Old-fashioned	18	86
Hostility	86	110
Modern	3	53

Ambivalent (total score)	3	3
<b>Sample type</b>		
Students	89	231
General population	19	108
<b>Sample sexual orientation</b>		
Exclusively straight	9	17
Predominantly straight	9	117
Unknown	89	205
<b>Publication status</b>		
Published	93	301
Unpublished	14	38

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*Note.* The sum for TM forms and Sexism forms does not equal 107 because in some cases authors used the same sample but multiple measures. The sum for the sample type (students vs general population) = 108 due to Smiler (2006) using 1 independent sample but reporting data for students and general populations separately.

k = number of independent samples; n = number of effect sizes.

### **Correlations between TM and Sexism**

The overall correlation between TM and sexism was positive, Pearson's  $r = .307$ , 95% CI [.278; .334], and significantly different from zero,  $t(101) = 20.4$ ,  $p < .001$ . This result supports *hypothesis 1*. However, we found evidence of considerable heterogeneity in the effect sizes (prediction interval, PI [.005; .63]; Borenstein et al., 2017) for the relationship between TM and sexism. This result indicated that there was greater variability than one would expect due to sampling error. Such variability might be explained by differences between studies; therefore, we performed a moderation analysis for the relationship between self-ascribed TM and sexism. The results are presented in Table 3.

**Table 3***Effect Sizes for the Relationship between TM and Sexism by Moderators*

Moderator	ES	95% CI	PI	df	p	Moderation statistic	df	p	I <sup>2</sup>
<b>TM forms</b>						<i>CWB</i>		.006	81.99
Traditional masculinity ideology	.304	.266; .342	-.007; .61	76.7	<.001				
Conformity to masculine norms	.410	.356; .465	.01; .72	13.4	<.001				
Gender role conflict	.288	.222; .353	-.02; .60	10.4	<.001				
<b>Sexism forms</b>						<i>CWB</i>		<.001	79.57
Benevolence	.252	.222; .281	-.03; .54	63.14	<.001				
Old-fashioned	.387	.294; .479	.10; .67	15.71	<.001				
Hostility	.318	.278; .358	.03; .60	58.39	<.001				
Modern	.484	-.230; 1.198	.20; .77	1.64	.09				
Ambivalent sexism (total scale)	.528	.027; 1.028	.24; .81	1.98	.045				
<b>Sample type</b>						<i>t</i> = 3.35	26.2	.002	80.43
Students	.289	.259; .319	-.002; .58	82.1	<.001				
General population	.436	.349; .522	.14; .73	17.5	<.001				
<b>Sample's sexual orientation</b>						<i>CWB</i>		.002	81.20
Exclusively straight	.386	.304; .467	.09; .69	8.91	<.001				
Predominantly straight	.466	.285; .646	.17; .77	7.90	<.001				
Unknown	.291	.260; .321	-.008; .59	82.18	<.001				
<b>Publication status</b>						<i>t</i> = 1.68	17.1	.112	81.94
Published	.305	.273; .337	-.004; .61	86.8	<.001				
Unpublished	.391	.286; .496	.09; .70	12.9	<.001				

*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; *CWB* = cluster wild bootstrapping; *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.

Correlation with sexism significantly differed between different forms of TM (Research Question 1), with the strongest between conformity to masculine norms, Pearson's  $r = .388$ , 95% CI [.342; .434], followed by traditional masculinity ideology, Pearson's  $r = .295$ , 95% CI [.260; .329], and gender role conflict, Pearson's  $r = .28$ , 95% CI [.218; .339].

Moreover, correlation significantly differed between different forms of sexism (Research Question 3), old-fashioned: Pearson's  $r = .369$ , 95% CI [.286; .445]; hostile: Pearson's  $r = .308$ , 95% CI [.271; .343]; benevolent: Pearson's  $r = .247$ , 95% CI [.219; .273]; with modern (Pearson's  $r = .449$ , 95% CI [-.226; .833]) and ambivalent (general score; Pearson's  $r = .484$ , 95% CI [.027; .773]) forms not being significantly different from zero.

Finally, we found evidence of significant differences in effect sizes for the relationship between TM and sexism by characteristics of the sample (Research Question 4): sample type (students: Pearson's  $r = .281$ , 95% CI [.253; .309]; general population: Pearson's  $r = .41$ , 95% CI [.335; .479]), sample's sexual orientation (straight: Pearson's  $r = .368$ , 95% CI [.295; .436]; mostly straight: Pearson's  $r = .435$ , 95% CI [.278; .569]; unknown sexual orientation: Pearson's  $r = .283$ , 95% CI [.254; .310]). There were no significant differences based on publication status (see Table 3).

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 significant. However, the only significant predictor of the effect size in this model was the form of TM,  $CWB$   $p$ -value = .012 (while Hostile sexism was significant on its own, the form of sexism in general was not a significant predictor,  $CWB$   $p$ -value = .21). Thus, only the form of TM was able to explain a unique proportion of effect size heterogeneity in the relationship between TM and men's sexism when controlling for other moderators.



**Table 4**

*The Meta-regression Model Predicting Effect Sizes for the Relationship between TM and Sexism*

Variable	b	95% CI	t	df	p
<b>Intercept</b>					
Masculinity form (GRC)	-.175	-.292; -.059	-3.13	20.88	.005
Masculinity form (TMI)	-.039	-.155; .077	-.71	17.71	.49
Form of Sexism (Old-fashioned)	.066	-.087; .219	.89	22.90	.38
Form of Sexism (Hostile)	.041	.007; .074	2.44	71.84	.02
Form of Sexism (Modern)	.156	-.026; .578	1.42	2.27	.28
Form of Sexism (ASI)	.201	-.07; .474	2.12	3.72	.11
Sample type (General population)	.098	-.009; .205	1.89	23.24	.07
Sample sexual orientation (Predominantly straight)	.073	-.096; .242	0.93	13.39	.37
Sample sexual orientation (Unknown)	-.042	-.184; .098	-.64	15.35	.53
Sample size	.00003	-.0001; .0002	.46	4.28	.67
Publication status (Unpublished)	.102	-.008; .212	1.96	15.88	.07
<b>Model Parameters</b>	<i>CWB p-value = .024, <math>I^2 = 75.78</math></i>				

*Note.* *df* = 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); CWB = cluster wild bootstrapping.

### **Correlations among the Domains of TM and Sexism**

To address the multidimensionality of TM (Research Question 2), we investigated effect sizes for the relationship between separate domains of TM and sexism. The overall correlation was positive and significantly different from zero (Pearson's  $r = .291$ , 95% CI [.235; .346]),  $df = 15.8$ ,  $p < .001$ ) with substantial heterogeneity (PI [-.057; .657]). As indicated in Table 5, we found evidence that all but one of the analysed dimensions of TM

(*risk-taking*) significantly positively correlated with sexism, and the formal test indicated that effect sizes were not significantly different among the dimensions of TM, *CWB*  $p$ -value = .079. Also, we found evidence of considerable heterogeneity for all domains but *restrictive emotionality*.

**Table 5***Effect Sizes for the Relationship between TM and Sexism by Domains*

Domain	ES	95% CI	PI	df	p	n
Heterosexual self-presentation	.281	[.168; .394]	.16; .40	4.21	.002	14
Antifemininity	.377	[.188; .565]	.04; .71	3.99	.005	7
Self-reliance	.186	[.186; .186]	.186; .186	1	<.001	6
Status	.283	[.192; .375]	.04; .53	11.6	<.001	48
Restrictive emotionality	.208	[.152; .264]	.15; .27	3.75	<.001	17
Primacy of work	.147	[.077; .218]	.08; .22	3.32	.006	16
Violence	.310	[.219; .400]	.09; .53	6.8	<.001	18
Playboy	.329	[.118; .541]	-.08; .74	4.95	.01	13
Risk-taking	.230	[-.100; .561]	.04; .42	1.9	.09	10

*Note.* Scales were combined into the domains in the following way based on Table 1: Heterosexual self-presentation = 'Heterosexual self-presentation' and 'Restrictive Affectionate Behavior Between Men;' Antifemininity = 'Antifemininity' and 'Avoidance of Femininity;' Self-reliance = 'Self-reliance' and 'Facade/Counterdependence;' Status = 'Status,' 'Winning,' 'Pursuit of status,' 'Success, Power, and Competition,' and 'Power over women;' Restrictive emotionality = 'Restrictive Emotionality' and 'Emotional Control;' Primacy of work = 'Primacy of Work' and 'Conflict Between Work and Family;' Violence = 'Violence' and 'Toughness;' Playboy = 'Playboy;' Risk-taking = 'Risk-taking.'

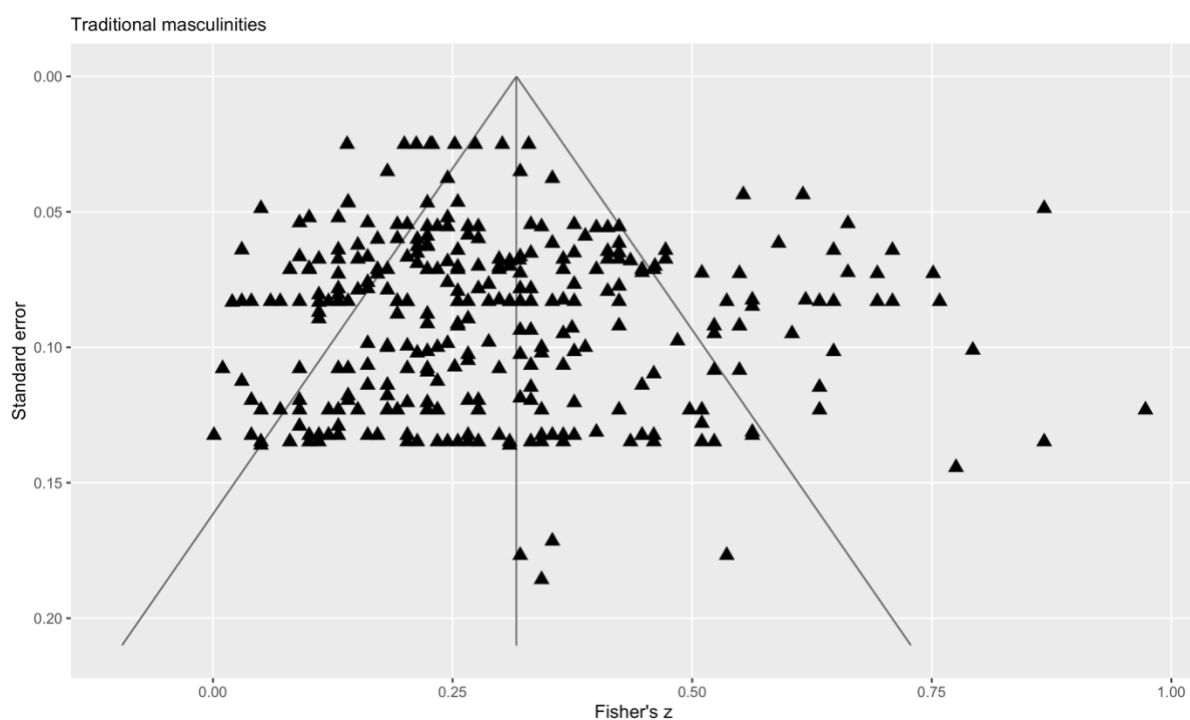
ES = Fisher's  $z$ ; n = number of effect sizes; PI = prediction interval, a range into which we can expect the effects of future studies to fall based on present evidence; df = Satterthwaite degrees of freedom (if the Satterthwaite degrees of freedom are less than 4, the Type I error rates can be tremendously 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

Funnel plot for the effect sizes based on the total scores is illustrated in Figure 3. Visual inspection of the plots revealed a certain degree of asymmetry. The Egger's regression test was non-significant for the relationship between TM and men's sexism ( $b_1 = .494$ , 95% CI [-.035; 1.023],  $p = .067$ ).

### Figure 3

#### *Funnel Plot for Total Scores*



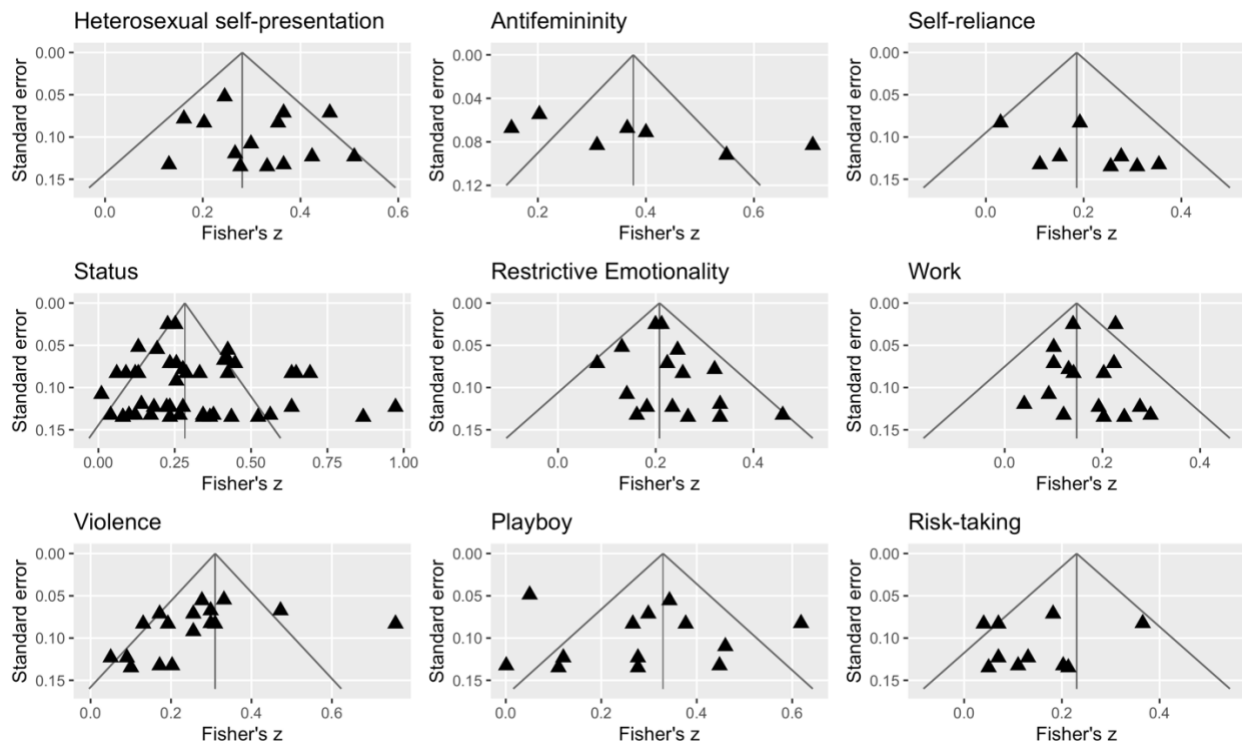
The intercept for TM,  $b_0 = .253$ , 95% CI [.216; .291],  $p < .001$ , was statistically significant at the conventional level in the PET regression. Therefore, we used the intercept from the PEESE regression as the estimate of the true effect sizes. The intercept in the PEESE regression was significantly different from zero ( $b_0 = .274$ , 95% CI [.249; .298],  $p < .001$ ). Compared to the original estimate from RVE meta-regression, the estimate was somewhat smaller than the original effect size (by .04).

Funnel plots for the nine separate domains of TM based on the scores from subscales are illustrated in Figure 4. Visual inspection of the plots revealed the noticeable asymmetry

for the three domains, *status*, *violence*, and *risk-taking*. As indicated in Table 6, Egger's regression test, however, was non-significant for all domains.

**Figure 4**

*Funnel Plots for Separate Domains*



The PET intercepts for *anti-femininity*, *self-reliance*, *playboy*, and *risk-taking* were non-significant (see Table 6). Therefore, we used them as the estimates of the true effects with the understanding that they are statistically indistinguishable from zero. Compared to the original estimates from RVE meta-regressions, all estimates except for *risk-taking* were much smaller than the original effect sizes.

The PET intercepts for *heterosexual self-presentation*, *status*, *restrictive emotionality*, *primacy of work*, and *violence* were significantly different from zero (see Table 6). Therefore, we used an intercept from the PEESE regression as the estimates of the true effect sizes. The intercept in the PEESE regression was significantly different from zero for *heterosexual self-presentation*, *status*, *restrictive emotionality*, *primacy of work*, and *violence*. Compared to the original estimates from RVE meta-regressions, estimates for *heterosexual self-presentation*

(larger by .004), *status* (larger by .003), and *restrictive emotionality* (lower by .012) were similar to the original effect sizes, in contrast to estimates for *work* (larger by .026) and *violence* (larger by .069).

**Table 6**

*Egger's test and PET-PEESE technique among TM Domains*

Domain	Egger's test	PET Estimate [95% CI]	PEESE
Heterosexual self-presentation	.53 [-1.745; 2.815]	.259* [.054; .465]	.285*** [.168; .403]
Antifemininity	10.57 [-.929; 22.074]	-.40 [-.929; 22.074]	—
Self-reliance	2.83 [-.642; 6.305]	-.125 [-.642; 6.305]	—
Status	.86 [-.352; 2.074]	.228*** [.138; .320]	.258*** [.193; .322]
Restrictive emotionality	.511 [-.357; 1.380]	.186*** [.137; .236]	.196*** [.163; .23]
Primacy of work	-.15 [-1.081; .773]	.179*** [.126; .232]	.173*** [.135; .211]
Violence	-2.46 [-5.637; .724]	.479*** [.219; .739]	.379*** [.246; .513]
Playboy	1.11 [-2.671; 4.894]	.179 [-2.671; 4.894]	—
Risk-taking	-.75 [-4.192; 2.681]	.226 [-4.192; 2.681]	—

*Note.* PET = Precision Effect Test; PEESE = Precision Effect Estimate with Standard Errors.

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

## Discussion

This present research reports findings from the meta-analysis of the relationship between TM and men's sexism against women. We quantified the link and examined whether there were differences in the correlations due to the form of TM (traditional masculinity ideology, conformity to masculine norms, and gender role stress), the domain of TM, the form of sexism (old-fashioned vs. modern vs. hostile vs. benevolent), and sample characteristics.

### Relationship Between TM and Sexism

Together these results provide important insights into the relationship between TM and men's sexism against women. Overall, TM was positively related to sexism in male

samples ( $r = .307$ ). This means that men who endorse traditional masculinities to a greater extent—that is, that men should be different from women and occupy a dominant place in the social hierarchy—are more supportive of beliefs that limit women's opportunities in the public sphere than men who endorse traditional masculinities to a lesser extent.

At the same time, we observed the evidence for a conceptual difference between TM and sexism. There is a weaker association between TM and sexism than between TM and endorsement of violent attitudes toward women ( $r = .347$ ; Krivoshchekov et al., 2023) and could be considered a moderate association in the context of the broader social-psychological literature (Lovakov & Agadullina, 2021). This result is in line with the proponents of the conceptual differences between individual forms of TM and sexism (e.g., Schwartz et al., 2016).

The content of TM targets women to a certain extent and implies an ambiguous attitude toward them. The desire to be different from women or to dominate others (including women) is not equivalent to a negative attitude toward women. At the same time, the desire to engage in romantic and/or sexual relationships with women does not equal a positive attitude. This is likely why the link between traditional masculinity and sexism varies based on additional conditions.

Sexism was more strongly associated with traditional masculinity ideology and conformity to masculine norms than it was with gender role stress. These findings are consistent with the results of a previous meta-analysis, according to which, compared to gender role conflict, traditional masculinity ideology and conformity to masculine norms were more strongly associated with attitudes toward violence against women (Krivoshchekov et al., 2023). One explanation could be that the content of gender role conflict scales correspond less to scales of sexism than scales of traditional masculinity ideology and conformity to masculine norms.

Further, TM were more strongly associated with forms of sexism that reflect overtly negative attitudes toward women (old-fashioned and hostile sexism), than with forms of sexism that reflect more hidden beliefs (e.g., benevolent sexism). Perhaps this happens because TM imply that feminine characteristics are less valuable than masculine ones, and in romantic relationships, a woman is perceived as a trophy that should be won than a “pure” being who needs love and care.

The differences were also evident in the sample characteristics. TM was more strongly associated with sexism in the general population than in students. As such, one has to be careful when trying to generalize the patterns found in student samples to the general population of the country. In addition, TM was more strongly associated with sexism in predominantly or exclusively straight samples than in samples with unknown sexual orientation. However, this finding should be situated in the fact that most of the research included in the present meta-analysis was done on men whose sexual orientation was unknown (i.e., not measured or reported).

Among the domains, we observed that the relationship between TM and sexism ranged from .147 (Primacy of work) to .377 (Antifemininity), but there were no significant differences between them. On the one hand, these results speak in favor of the fact that different domains of TM could be considered elements of a single construct. On the other hand, the varying size and statistical significance of these associations, as well as the relatively small number of studies, cast doubt on this conclusion.

Finally, 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. Only the form of TM was statistically significant. The metaregression model that aimed to reduce potential difficulties caused by confounding moderators also was not successful in the explanation of the variability in the effect sizes.

These results imply the existence of unidentified sources of variation in these correlations across studies and suggest that researchers should attempt to identify other contributing variables in future. Thus, although one might expect a positive correlation between TM and sexism against women in samples of men, it is hard to conclude how strongly these phenomena are related to each other.

### **Publication Bias**

Current methods for detecting publication bias are still in development. As such, we used three types of tests to detect whether there was evidence of publication bias 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 did not indicate considerable publication bias. We should note however, that these methods have previously demonstrated poor performance when there is heterogeneity in 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, especially among different domains of TM. 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 methods yielded conflicting results. This implies that if there is a publication bias in this meta-analysis, it probably would not substantively alter our interpretation of the presence and direction of the relationship between traditional masculinities and men's sexism against women.

### **Limitations and Future Directions**

As with any meta-analysis, our confidence in the conclusions is limited by the quality of available data. Therefore, it is crucial to place the results of the present meta-analysis in context so that they can be interpreted correctly. Below we highlight the main limitations of



studies included in this meta-analysis addressing the relationship between TM and sexism and conclude with the limitations of the present meta-analysis itself.

First, TM and sexism are complex phenomena that manifest themselves at different levels, from the attitudes and behavior of individuals to the attitudes and social practices that exist at the level of society and are embodied in social—educational, economic, and political institutions (e.g., Lewis, 2018 for sexism; Wong & Wang, 2022 for masculinities). However, most psychological research looks at the relationship between individual-level traditional masculinities and sexism. A possible line of future research is to analyze the relationship between situational masculinities and sexism (Wong & Wang, 2022). One might consider how people with different levels of acceptance of traditional masculinity ideology and conformity to masculine norms react to temporary influence that either suppresses, strengthens, or threatens their masculinity, including under what conditions they display stronger sexism.

Second, scholars note that traditional masculinities can have different content. There are multiple, dynamic meanings associated with men that reflect individual constructions of masculinities and a society's culture (Wong & Wang, 2022). This is supported by studies that demonstrate sexuality, ethnicity, and national differences in content (Thompson & Bennett, 2015) and endorsement (Krivoshchekov et al., 2021; Lease et al., 2013; Levant, 2011; Levant & Richmond, 2007) of masculinities. However, most of the studies reviewed in the present meta-analysis were conducted in the United States of America and on samples of unknown sexual orientation. The field of psychology of men & masculinities would benefit from a closer examination of how endorsement of TM among gay, bisexual, and transgender men related to sexism against women. Scholars argue that gay, bisexual, and transgender men may endorse masculinities to a different extent, their masculinities might have different content, and motivation to be masculine might differ (e.g., Sánchez, 2016). Future research with a

focus on non-WEIRD (Western, Educated, Industrial, Rich, and Democratic) countries and gay, bisexual, and transgender men will enrich the understanding of variability in masculinities and whether the findings are universal.

Third, in the meta-analysis, we considered three forms of TM. In the course of the analysis, it became evident that researchers more often measured the endorsement of traditional masculinity ideology than conformity to masculine norms and gender role stress. In addition, the meta-analysis has shown variability in the associations between different domains and sexism, although these differences did not reach statistical significance. In many studies, only the total TM score was calculated. This reduces the reliability of the conclusions about the relationship of various forms and domains of TM with sexism. This meta-analysis showed no significant differences between different domains of TM and sexism. At the same time, previous meta-analyses have shown that different domains of TM are differently associated with health-related outcomes (Wong, Ho et al., 2017) and attitudes toward violence against women (Krivoshchekov et al., 2023). As such, it is warranted to conduct more studies that will examine separate domains of TM to better understand the multidimensional nature of TM.

Fourth, according to a broad definition, sexism includes cognitive and behavioral indicators. We observed that psychologists tend to concentrate on cognitive indicators. At the same time, there are practically no studies in the scientific literature that examine the relationship between the subjective endorsement of TM and behavioral manifestations of sexism in the economic (e.g., in organizations) or political (e.g., in elections) domains. Future research should focus on the analysis of the relationship between masculinities and behavioral manifestations of sexism in various areas of public life. For instance, it can be assumed that TM in men is related to how they interact with men and women who work with them in the same organization, run for local or federal elections, and are active within the

same Internet community. These studies will reveal how and under what conditions self-ascribed and other-ascribed masculinities facilitate or hinder existing social practices.

Fifth, we found a relatively small number of studies looking at the relationship between TM and sexism. Therefore, we were unable to analyze the interaction between different forms of TM and sexism. For example, it can be assumed that domains that reflect the differences between men and women would be more strongly associated with explicit negative attitudes toward women, and domains that reflect the belief that men should occupy a high position in the social system—with more hidden forms of sexism. We encourage authors to continue the examination of the correlations between different forms and domains of TM and sexism, especially using larger samples to increase the power of the studies.

Finally, while traditional masculinities have a lot of negative consequences, scholars call to pay more attention to the positive aspects of masculinities (Cole et al., 2021). Similar to violence against women (Pérez-Martínez et al., 2021), future research might focus on what are the positive aspects of masculinities that could be used to reduce sexism against women in men.

### **Practical Implications**

On a practical level, our findings demonstrate that in order to tackle sexism, meanings attached to masculinities should be addressed to empower men to live lives less constrained by gender role norms and not only the harmful impacts of sexism on women. Interventions that combine content on both sexism and traditional masculinities might yield the most effective results in reducing sexism in men.

Further, present findings mean that interventions aimed to reduce sexism against women in men need to tackle different forms of traditional masculinities, that is what a “real” man should be like, the extent to which men conform to masculine norms, and the extent to which men feel stressed because of conformity to masculine norms. For instance,

educational interventions to reduce men's sexism might focus on a gender-transformative approach to questioning meanings attached to traditional masculinities and the way men and boys are forced to conform to them.

While present findings are limited to individual-level masculinities and sexism, they might inform practitioners at the community level. Our results show that students might not be representative, and practitioners should be cautious when using the same interventions with a broader audience, especially with men who are underrepresented in the research (e.g., low-income, gay, bisexual, and transgender men and men from non-WEIRD countries).

### **Conclusion**

The present meta-analysis aimed to quantify the relationship between TM and men's sexism against women. We found evidence that the observed correlations between TM and sexism were significant and positive. Nevertheless, we could not conclude the strength of these relationships due to the substantial heterogeneity of effect sizes. We strongly recommend researchers use larger samples in future research to increase the power of their studies and follow open practices to reduce publication bias.

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