



Cultural Beliefs About Manhood Predict Anti-LGBTQ+ Attitudes and Policies

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Abstract

This study tested whether differences in cultural beliefs about manhood can explain the large cultural variability in attitudes and social policies regarding sexual and gender minorities. If people believe manhood is an easily threatened, precarious social status (Vandello et al., 2008), then LGBTQ+ groups may be targets of derogation as symbolic threats to masculinity and men's distinctiveness. In a large pre-registered cross-cultural study of 62 countries, we tested whether country-level precarious manhood beliefs were associated with more negative attitudes, fewer rights, more restrictive laws, and less safety toward LGBTQ+ groups. Hypotheses were largely supported, and these negative relationships generally held when controlling for religiosity, cultural tightness, traditional and security-related values, gender inequality, and sexism. Results suggest that the fates of societies' most vulnerable gender and sexuality groups are related to societies' beliefs about manhood.

Keywords Precarious manhood · LGBTQ+ Prejudice · Cross-cultural

Globally, attitudes toward LGBTQ+ people¹ have become more positive over the past four decades (Flores, 2021), but there is wide cross-cultural variation in treatment of gender and sexual minorities. While some countries have improved attitudes toward LGBTQ+ individuals as discourse about and awareness of LGBTQ+ people has entered the global public sphere, attitudes in other countries have become more negative (Flores, 2021). A few recent examples illustrate the variation in attitudes around the world. As evidence of more accepting attitudes, in 2021: Switzerland

and the Mexican state of Sinaloa legalized same-sex marriage, while Chile passed a law to allow same-sex unions (Human Rights Campaign, 2022); in Japan, Tokyo introduced a same-sex partnership system (Lies, 2021); the United States revoked a ban on transgender people serving in the military (Whitehouse.gov, 2021); Members of the European Parliament declared the EU to be “an LGBTIQ Freedom Zone” (BBC, 2021); Bhutan decriminalized homosexuality (Sharma, 2020); New Zealand passed a law making it easier for transgender people to update their sex on their birth certificates (The Guardian, 2021); and Canada banned conversion therapy, which attempts to change people's sexual orientation (Treisman, 2021).

In contrast, in 2021: Russia outlawed same-sex marriage and banned transgender people from adopting children (Lang, 2021); Hungary passed a law banning information in schools deemed to promote homosexuality and gender change (Parker & Morris, 2021); Miloš Zeman, the president of the Czech Republic, told a news outlet that transgender people “truly disgust” him (Kačmár, 2021); in Afghanistan, the Taliban hunt down LGBTQ+ individuals and arrest or kill them (Westcott, 2021); authorities in Qatar seized a line of what they called ‘un-Islamic’ children's toys that feature rainbow patterns similar to LGBTQ+ flags (Jewers, 2021); China shut down LGBTQ+ social media groups at most universities (Davis, 2021); and several municipalities

¹ We use the term LGBTQ+ as an umbrella term to refer to various sexual and gender minorities. There is currently no consensus about which term (LGBT, LGBTQ, LGBTQI, LGBTQIA+) best captures these groups.

Public Significance Statement This study finds that cross-national differences in endorsement of the belief that manhood is a precarious status is associated with negative attitudes and outcomes for LGBTQ+ populations. Combatting prejudice toward gender and sexual minorities may require confronting how cultures view manhood.

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in Poland have adopted so called “LGBT-free zones” resolutions in order to declare themselves unwelcoming of an alleged “LGBT ideology” (Amnesty International, 2022).

What accounts for cultural variation in attitudes and treatment of LGBTQ+ populations? Why do some cultures accept and embrace LGBTQ+ individuals while others persecute them? The reasons are undoubtedly complex, ranging from the socializing forces of religion (Van Assche et al., 2021) to political orientation (Worthen et al., 2017) to cultural tightness in response to destabilizing ecological threats or social change (Gelfand et al., 2011; Jackson et al., 2019). We propose that one underappreciated but important factor driving attitudes toward sexual and gender minorities is cultural beliefs about the nature of manhood. Cultural beliefs about manhood entail gender ideologies that are broad sets of shared beliefs about the descriptive and prescriptive traits, roles, and responsibilities of a true man (Davis & Greenstein, 2009). They also serve as justifications that reinforce the higher status of men (over women and other underprivileged groups such as minorities) and legitimize existing inequalities (Jost & Banaji, 1994; Pratto et al., 1994). Here, we specifically argue that stronger cultural beliefs that manhood is a precarious social status that is hard won and easy to lose (Vandello et al., 2008; Vandello & Bosson, 2013) are associated with more hostility and systemic discrimination towards LGBTQ+ people.

LGBTQ+ People as a Symbolic Threat to Manhood

We propose that negativity toward LGBTQ+ group members can result from their perceived threat to manhood. How might LGBTQ+ people threaten manhood? According to the integrated threat theory of prejudice (Stephan & Stephan, 2000), prejudice results from perceived stressors and threats within a group (e.g., for cisgender, heterosexual men). Threats can be realistic, or in the case of LGBTQ+ groups, symbolic. To understand how these groups may be threatening to manhood requires understanding how people view manhood.

Around the world, people commonly believe that manhood is a hard-fought, prized status to be won and defended (Gilmore, 1990; Vandello & Bosson, 2013; Bosson et al., 2021). One implication of a belief that manhood is not a developmental certainty, but rather an earned status, is that men may often harbor anxiety, arising from concerns about their own status as “real men.” Psychologists refer to this as a *prototypicality* threat (Branscombe et al., 1999). At the individual level, when men fear they are not prototypical group members, they increase their use of prototypicality as a standard for judging other group members (Schmitt & Branscombe, 2001) and thus may derogate non-prototypical

men (O’Connor et al., 2017). LGBTQ+ people do not conform to expected sexual preferences (as they are not heterosexual) and thus they can represent a convenient target for men to prove their own manhood credentials when they feel their manhood is questioned. Men might use disparagement of LGBTQ+ populations to accrue “masculine capital” (see de Visser & McDonnell 2013) by exclusion of those deemed “others”. Conversely, by signaling allyship with sexual and gender minorities, cisgender, heterosexual men may fear having their own manhood status diminished (see Bosson et al., 2005; Kroeper et al., 2014). While cisgender, heterosexual women may also be motivated to derogate LGBTQ+ individuals in response to anxiety about their own feminine standing, research suggests that men more chronically and frequently experience manhood anxiety than women experience womanhood anxiety (Vandello & Bosson, 2013). In short, manhood is more easily threatened than womanhood.

Another way in which men may experience threats to manhood is at the collective, rather than individual level. Humans have a need to have distinct and meaningful group identities, and gender is a fundamental group identity (Jetten & Spears, 2003; Weisman et al., 2015). Groups (in this case men) experience *distinctiveness* threats (Branscombe et al., 1999) when their group is not sufficiently distinct from other groups. Traditional masculinity entails both an anti-femininity mandate (distinction from women) and a heterosexuality mandate (distinction from homosexuality) (cf. Berent et al., 2016). Factors that increase men’s need to affirm their distinctive masculine identity, such as masculinity threat, may also increase sexual prejudice. LGBTQ+ groups may threaten men’s sense of distinctiveness by broadening the definition of inclusion into the category of manhood or blurring the boundaries between men and women (see Vieira de Figueiredo & Pereira, 2021). Gay and trans men suggest alternative ways of being men that do not conform to the straight, cisgender masculine prototype. While women’s distinctiveness might also be threatened by lesbians and transgender people, the *motivation* for group distinctiveness may be higher for men, to the extent that men have more societal status and prestige than women (and thus, more reason to want to keep the categories separate). When manhood (relative to womanhood) is viewed as a precarious, hard-earned status, this may motivate heterosexual, cisgender men to police the boundaries of this group identity by derogating those who might threaten group distinctiveness (non-hetero and non-cisgender men) and thus their social status.

Together, prototypicality and distinctiveness threats are likely more chronically salient in cultures that endorse the belief that manhood is precarious. In such cultures, we hypothesize that LGBTQ+ groups are more likely to be convenient targets to mitigate threats. Note that our theorizing suggests that men more than women drive cultural

derogation of LGBTQ+ groups. However, women can play a role in perpetuating prejudices towards LGBTQ+ groups as well – a point we will expand on shortly.

Manhood Concerns and Anti-LGBTQ+ Prejudice

Past research consistently demonstrates that men have more negative attitudes toward gay people and trans people than do women (Hall & La France, 2013; Kite et al., 2021; Nagoshi et al., 2019; PRRI, 2020; Riggs & Sion, 2017). In addition, men who perceive manhood to be precarious, or who endorse masculine honor ideologies, or who are motivated to maintain positive gender-related self-esteem, often hold higher levels of LGBTQ+-based prejudices (Brand & O’Dea, 2022; Falomir-Pichastor & Mugny, 2009; Kroeper et al., 2014). Similarly, when men’s masculinity is experimentally threatened, they express more hostile, derogatory LGBTQ+ attitudes (Glick et al., 2007; Harrison & Michelson, 2019; Konopka et al., 2021; O’Connor et al., 2017; Talley & Bettencourt, 2008). As Falomir-Pichastor and Mugny (2009) note, sexuality and gender-based prejudices can be functional for maintaining a positive gender identity for men as they help men maintain their group distinctiveness and social status (especially if these are threatened).

Thus, to the extent that people believe manhood is a precarious social status, motivations to derogate sexual and gender minorities should increase. Individuals differ in their endorsement of precarious manhood beliefs, but there are also substantial cultural-level differences in the average endorsement of precarious manhood beliefs (Bosson et al., 2021). Cultural-level precarious manhood beliefs function to socialize boys and men to internalize qualities—such as toughness and anti-femininity—that will facilitate their success. They also socialize girls and women to accept these beliefs about men. Women play important roles in reinforcing manhood beliefs, both as important teachers of cultural beliefs to children and in selecting for mates that embody culturally valued traits. Importantly, both men and women have beliefs about the precarious nature of manhood, and men’s and women’s beliefs tend to be strongly correlated within a culture (Bosson et al., 2021). Thus, while we theorize that LGBTQ+ derogation is driven more by *men’s* perceived threats, it is important to note that both men and women can share beliefs about manhood that can influence prejudices. In addition, men often have greater societal power, and thus are usually the prime lawmakers and enforcers of laws and social policies that target LGBTQ+ populations. Although men more often than women create and enforce formal social policies that protect or harm LGBTQ+ populations, these cultural beliefs about manhood and threats to manhood are understood by both men and women.

Researchers have attempted to measure individual differences in people’s endorsement of the belief that manhood is precarious through the creation of scales (cf., Himmelstein et al., 2019; Kroeper et al., 2014; Vandello et al., 2008). Bosson et al. (2021) recently validated a brief, four-item Precarious Manhood Beliefs (PMB) scale cross-culturally in college samples of over 33,000 participants from 62 countries. The items conveyed beliefs that manhood is difficult to earn (“Some boys do not become men no matter how old they get,” “Other people often question whether a man is a ‘real man’”) and easy to lose (“It is fairly easy for a man to lose his status as a man,” “Manhood is not assured – it can be lost”). We used mean nation-level PMB scores in the present study to assess cultural differences in the belief that manhood is precarious. These country-level scores have been shown to predict other outcomes, such as men’s physical health behaviors and outcomes (Vandello et al., 2023).

Overview and Hypotheses

This research explored how cultural differences in precarious manhood beliefs relate to cultural attitudes and behaviors about LGBTQ+ individuals. As gay, transgender, and gender nonconforming people may be symbolic threats to masculinity, we predicted that cultures that endorse precarious manhood beliefs should also be those that are most negative toward sexual and gender minorities (reflected in attitudes, laws, and social policies). Specifically, we examined the associations of country-level PMB (Bosson et al., 2021) with *attitudes* toward, *rights* of, and *safety* of LGBTQ+ people. Given that precarious manhood beliefs are culturally shared beliefs held by both men and women (men’s and women’s country-level PMBs correlate at 0.71, $p < .001$), we are not separating PMB by gender for any analyses. We had nine main pre-registered hypotheses (https://osf.io/m5t3a/?view_only=6cb625b17d8b4300aafdd8360cb676e1). Regarding attitudes, we predicted that:

1. Country-level precarious manhood beliefs will correlate with more **negative attitudes toward LGBTQ+ groups**, as measured by the Williams Institute’s LGBTQ+ Global Acceptance Index (GAI; Flores 2021).
2. Country-level precarious manhood beliefs will correlate with the percentage of people agreeing that **homosexuality is not acceptable**, and more strongly with the percentage of *men* than *women* saying that homosexuality is not acceptable, as measured by a Pew (2020) polling question.

Regarding rights, we predicted that:

3. Country-level precarious manhood beliefs will correlate with **fewer gay rights**, as measured by the Franklin & Marshall Global Barometer of Gay Rights (Dicklitch-Nelson et al., 2021).
4. Country-level precarious manhood beliefs will correlate with **fewer transgender rights**, as measured by the Franklin & Marshall Global Barometer of Transgender Rights (Dicklitch-Nelson et al., 2021).

Regarding laws, we predicted that:

5. Country-level precarious manhood beliefs will correlate with the **criminalization of same sex relations** (Human Rights Watch, 2022).
6. Country-level precarious manhood beliefs will correlate negatively with the **legalization of gay marriage** (Human Rights Campaign, 2022; Wikipedia, 2021).
7. Country-level precarious manhood beliefs will correlate negatively with the **legal status of transgender identities** (ILGA World, 2020).

Regarding safety, we predicted that:

8. Country-level precarious manhood beliefs will correlate negatively with the **safety of sexual minority travelers and citizens to countries**, as measured by the Spartacus Gay Travel Index (Spartacus, 2021).
9. **People will be less likely to identify as a sexual or gender minority** (Ispos, 2021) in places that more strongly endorse PMB. We reasoned that in places that are more hostile toward LGBTQ+ people, people would be less comfortable openly expressing an LGBTQ+ identity. Thus, self-identification may serve as an indirect measure of cultural safety.

To ensure that any relationship between PMBs and LGBTQ+ outcomes is not accounted for by variations in other variables known to be associated with LGBTQ+ outcomes, we also measured and controlled for several potential confounding variables. First, to account for cultural values, religious values are consistently associated with negative attitudes toward LGBTQ+ groups (Whitley, 2009). LGBTQ+ attitudes and policies are likely more negative in countries that are more religiously conservative, and so we predicted that:

10. The associations between PMB and LGBT attitudes, rights, and laws **will hold when controlling for religiosity**.

Similarly, traditional, more conservative values are associated with more negative attitudes toward LGBTQ+ groups (Nagoshi et al., 2019; Norton & Herek, 2013). The World Values Survey (Haerpfer et al., 2020)

is the largest, most well-known ongoing cross-national survey of values. From this work, researchers have identified two major dimensions of cross-cultural variation in the world: traditional (vs. secular) and survival (versus self-expression) values. Countries that endorse traditional values tend to be conservative, religious, and emphasize traditional family values and deference to authority. Countries that endorse survival values tend to prioritize security over self-expression and are characterized by ethnocentrism, low trust, and low tolerance for social deviants. Each of these dimensions can be expected to relate to attitudes toward LGBTQ+ groups, and thus we predicted that:

11. The associations between PMB and LGBT attitudes, rights, and laws **will hold when controlling for traditional values**.
12. The associations between PMB and LGBT attitudes, rights, and laws **will hold when controlling for survival values**.

With respect to social norms, an important dimension of cultural variation is tightness versus looseness. Tightness reflects the degree to which cultures have strict norms and punishments for deviance (Gelfand et al., 2011). Thus, we should expect that culturally tight cultures will express more negativity toward LGBTQ+ groups. We therefore predicted that:

13. The associations between PMB and LGBT attitudes, rights, and laws **will hold when controlling for cultural tightness**.

Precarious manhood beliefs may also overlap with other gender-based beliefs. With respect to gender relations, endorsement of traditional gender roles and hostile and benevolent sexism are predictive of negative attitudes and behaviors toward gay, lesbian, and transgender individuals (Nagoshi et al., 2008; Vincent et al., 2011; Whitley, 2001). At the cultural level, societies with greater gender inequality also have more negative attitudes and laws concerning gay men and lesbians (Henry & Wetherell, 2017). While precarious manhood beliefs are related to other beliefs about gender roles and gendered power relations, we wished to show that they were distinct predictors of anti-LGBTQ+ sentiments as they reflect different aspects of gender inequalities. Gender ideologies (such as for example ambivalent sexism) reflect the intergroup tensions arising from unequal power distributions and gender hierarchies (Glick & Fiske, 1996, 2001), whereas precarious manhood beliefs reflect the individual challenges men need to face when striving for and maintaining their dominant social status (Gilmore, 1990; Vandello et al., 2008). Thus, we predicted that:

14. The associations between PMB and LGBT attitudes, rights, and laws **will hold when controlling for gender equality**, as measured by the Global Gender Gap Index (GGGI).
15. The associations between PMB and LGBT attitudes, rights, and laws **will hold when controlling for traditional beliefs about gender** as measured by the Ambivalent Sexism Inventory.

Method

All variables collected for this project were from country-level data. We began with mean country scores for the belief that manhood is precarious, collected from 62 countries as part of another project (see below). We then gathered country-level data on various LGBTQ+ outcomes related to attitudes, rights, and safety using publicly available attitude surveys, laws and social policies, and indices created by LGBTQ+-focused organizations. Finally, to measure various control variables, we collected data on religiosity, cultural tightness, moral values, and gender-related variables. Details of the various measures follow.

Precarious Manhood Beliefs

As part of another research project, Bosson et al. (2021; see also, Kosakowska et al., 2020) surveyed college student samples from 62 nations ($N = 33,417$; samples from each country ranged from 134 to 2,419) on their gender beliefs and attitudes. From that data set, Bosson et al. (2021) created country-level Precarious Manhood Belief (PMB) scores. The scale used to create PMB scores consists of four items that convey societal expectations about manhood and beliefs that manhood is difficult to earn (“Other people often question whether a man is a ‘real man,’” “Some boys do not become men no matter how old they get”) and easy to lose (“It is fairly easy for a man to lose his status as a man,” “Manhood is not assured – it can be lost”). Participants indicated their agreement on scales of 1 (*strongly disagree*) to 7 (*strongly agree*). For final country scores, the authors created standardized factor scores ranging from -0.78 (Finland) to 0.80 (Kosovo). Table 1 presents mean factor scores on the 4-item Precarious Manhood Beliefs (PMB) Scale for each of the 62 countries in our sample, along with country-level values for the various LGBTQ+ outcome variables.

LGBTQ+ Attitudes

To measure a country’s citizens’ attitudes toward LGBTQ+ groups, we used the Williams Institute’s LGBTQ Global Acceptance Index (Flores, 2021). The measure draws on several cross-cultural surveys of citizens’ attitudes toward

LGBTQ+ people and rights. They define acceptance as the extent to which LGBTQ+ people are seen in ways that are positive and inclusive, both with respect to an individual’s opinions about LGBTQ+ people and an individual’s position on LGBTQ+ policies. Country scores range from 0 (low acceptance) to 10 (high acceptance). We retrieved data for 59 countries. As a second measure of LGBTQ+ attitudes, we sought survey data that reported men’s and women’s attitudes separately. We found a Pew (2020) poll of respondents from 29 relevant countries that reported the percentage of people agreeing that homosexuality is not acceptable.

LGBTQ+ Rights

To measure country-level rights of sexual and gender minorities, we used two measures created by researchers at Franklin & Marshall College: *The Global Barometer of Gay Rights* and *The Global Barometer of Transgender Rights*. Each is an index measuring rights across a few domains (constitutional and legal protections of sexual and gender minorities; the ability of the state to implement laws to protect; state sanction or suppression of sexual and gender minority attempts to organize; ability of sexual and gender minorities to seek socioeconomic opportunities without discrimination; societal persecution and violence targeting sexual and gender minority individuals). For each measure, countries are scored on a scale from 0 to 100%, with higher numbers representing more rights. We retrieved data for 59 countries.

As secondary measures of LGBTQ+ rights, we coded for the legal status of three specific LGBTQ+ issues, as of January, 2022: (1) Same-sex relationships are criminalized (coded as yes = 1, no = 0) (Human Rights Watch, 2022); (2) Same-sex marriage is legal (coded as yes = 1, only civil unions = 0.5, no = 0) (Human Rights Campaign, 2022; Wikipedia, 2021); and (3) Transgender identities are legally recognized, coded as 0 = transgender identities are criminalized, 1 = no legal recognition of transgender identities, and 2 = legal recognition of transgender identities (e.g. ability to legally change name or gender) (ILGA World, 2020). For each measure, we retrieved data from 62 countries. Note that there is some overlap with the above legal indicators and the measures that make up the Franklin & Marshall barometers (see below; indeed, the criminalization of homosexuality correlated $r = -.71$ with the Franklin & Marshall Global Barometer of Gay Rights, and the legalization of gay marriage correlated $r = .74$ with the Franklin & Marshall Global Barometer of Gay Rights; the legal recognition of transgender identities correlated $r = .67$ with the Franklin & Marshall Global Barometer of Transgender Rights). However, we wanted to single these laws out particularly, as they are of primary importance and garner significant public attention.

Table 1 Precarious Manhood Beliefs (PMB) and LGBTQ+ Outcome Variables for 62 Countries

Country	PMB	GAI	Homosexuality not acceptable (Women)	Homosexuality not acceptable (Men)	Barometer of Gay Rights	Barometer of Trans Rights	Criminalize same sex relations	Gay Marriage legal	Legal Recognition of Trans Identity	Gay Safety Travel Index	% Identifying as not hetero	% Identifying as not cisgender
Albania	0.72	2.65			70	59	0	0.0	1	-2		
Argentina	-0.32	7.07	0.14	0.22	78	65	0	1.0	2	6	9	3
Armenia	0.05	2.17			41	41	0	0.0	1	-4		
Australia	0.04	8.03	0.08	0.16	93	71	0	1.0	1	9	11	3
Belgium	-0.30	7.95			100	94	0	1.0	2	7	10	1
Bosnia & Herzegovina	-0.12	2.87			74	71	0	0.0	1	-1		
Brazil	-0.03	7.22	0.23	0.27	74	59	0	1.0	2	2	15	3
Canada	0.03	9.02	0.05	0.11	96	94	0	1.0	2	13	11	2
Chile	-0.06	6.83			78	82	0	1.0	2	2	11	4
China	0.17	3.69			37	41	0	0.0	1	-3	5	2
Colombia	-0.16	6.10			85	77	0	1.0	2	8	7	1
Croatia	0.47	5.05			82	82	0	0.5	1	0		
Czechia	-0.04	5.87	0.20	0.30	82	82	0	0.5	1	2		
Denmark	-0.30	8.69			100	100	0	1.0	2	10		
England	-0.10	8.34	0.06	0.12	96	82	0	1.0	2	10	10	2
Finland	-0.78	7.96			96	82	0	1.0	1	6		
France	-0.41	7.73	0.07	0.11	96	94	0	1.0	2	6	8	2
Georgia	0.39	2.94					0	0.0	1	-5		
Germany	-0.49	7.73	0.07	0.13	85	88	0	1.0	1	9	11	4
Ghana	0.53	2.68			22	29	1	0.0	1	-11		
Greece	-0.20	5.44	0.45	0.47	89	77	0	0.5	2	1		
Hungary	0.41	5.08	0.36	0.46	78	53	0	0.5	1	-3	6	3
India	-0.01	5.28	0.33	0.41	37	71	0	0.0	2	1	17	2
Indonesia	0.18	2.79	0.79	0.85	19	18	0	0.0	0	-12		
Iran	0.66	2.11			4	29	1	0.0	0	-17		
Ireland	0.10	8.41			93	82	0	1.0	2	7		
Italy	0.07	6.94	0.14	0.20	74	65	0	0.5	1	0	6	1
Japan	0.49	5.26	0.17	0.30	63	59	0	0.0	2	-2	6	2
Kazakhstan	0.52	2.69			37	29	0	0.0	1	-4		
Kosovo	0.80	3.52			74	59	0	0.0	1	-4		
Lebanon	0.42	3.63	0.85	0.85	19	24	1	0.0	0	-7		
Lithuania	0.19	4.38	0.43	0.49	78	47	0	0.0	1	-4		
Luxembourg	-0.06	7.82			96	94	0	1.0	2	6		

Table 1 (continued)

Country	PMB	GAI	Homosexuality not acceptable (Women)	Homosexuality not acceptable (Men)	Barometer of Gay Rights	Barometer of Trans Rights	Criminalize same sex relations	Gay Marriage legal	Legal Recognition of Trans Identity	Gay Safety Travel Index	% Identifying as not hetero	% Identifying as not cisgender
Malta	0.23	8.01			100	94	0	1.0	2	11		
Mexico	-0.18	6.50	0.25	0.27	70	35	0	1.0	1	2	11	3
Morocco	0.05	3.39			19	24	1	0.0	1	-12		
Nepal	0.21	7.84			70	77	0	0.0	1	0		
Netherlands	-0.36	9.46	0.04	0.07	93	88	0	1.0	1	8	10	1
New Zealand	0.05	8.23			93	82	0	1.0	1	8		
Nigeria	0.65	2.18	0.91	0.91	7	18	1	0.0	0	-13		
Northern Ireland	-0.06						0	1.0	2	10		
Norway	-0.42	9.38			93	100	0	1.0	2	7		
Pakistan	0.18	3.66			7	47	1	0.0	2	-5		
Philippines	0.26	6.06	0.29	0.23	59	35	0	0.0	1	-7		
Poland	0.34	5.15	0.36	0.48	59	53	0	0.0	1	-8	9	1
Portugal	-0.39	6.87			96	88	0	1.0	2	11		
Romania	0.36	4.10			78	53	0	0.0	1	-3		
Russia	0.41	3.28	0.72	0.80	19	24	0	0.0	1	-12	6	2
Serbia	0.27	3.71			70	71	0	0.0	1	-3		
Slovakia	0.29	4.82	0.50	0.48	82	77	0	0.0	1	0		
South Africa	0.40	6.01	0.36	0.43	85	82	0	1.0	1	5	8	1
Spain	-0.52	8.77	0.04	0.08	96	65	0	1.0	2	11	12	3
Suriname	0.32	4.64			74	47	0	0.0	1	-5		
Sweden	-0.46	9.18	0.03	0.06	100	82	0	1.0	2	10	10	3
Switzerland	-0.44	8.00			70	77	0	1.0	1	8		
Turkey	-0.34	3.94	0.52	0.61	22	29	0	0.0	1	-7	8	2
UAE	0.38				7	12	1	0.0	0	-14		
Ukraine	0.55	2.91	0.68	0.71	59	53	0	0.0	1	-6		
Uruguay	-0.32	7.90			100	100	0	1.0	2	10		
USA	0.15	7.42	0.20	0.22	78	41	0	1.0	1	4	11	1
Vietnam	0.17	4.99			67	59	0	0.0	2	-3		
Wales	0.07						0	1.0	2	10		

Note. PMB = Precarious Manhood Beliefs Scale (Bosson et al., 2021).

Safety of LGBTQ + People

To measure the safety of LGBTQ + groups, we used three measures. First, the Spartacus Gay Travel Index measures the safety of travelers to and citizens from countries (Spartacus, 2021) across 17 categories. Country scores range from +13 to -19, with higher scores indicating greater safety. We retrieved data for 62 countries. Second, as an indirect measure of the safety of LGBTQ + people, we measured people's comfort in *self-identifying* as sexual or gender minority individuals. Specifically, from the Ipsos (2021) *LGBT + Pride 2021 Global Survey* of 27 countries, we gathered data on the percentage of respondents who currently described themselves as (1) not heterosexual (lesbian/gay/homosexual, bisexual, pansexual/omnisexual, asexual, or other) and (2) not cisgender (transgender, non-binary/non-conforming/gender-fluid, or "in another way"). We retrieved self-identification data for 24 countries for each measure.

Control Variables

We also gathered data for variables that are plausible or known predictors of cultural attitudes toward LGBTQ + groups to serve as controls.

Religiosity

To measure countries' average religiosity, we used a response from a 2009 Gallup Global Report (Crabtree, 2010; also summarized on the rationalwiki.org webpage "Importance of Religion by Country") asking respondents to indicate "is religion important in your daily life?" We recorded the percentage of people who said yes. We retrieved data for 57 countries.

Tightness

We used a measure of cultural tightness-looseness developed by Gelfand et al. (2021) based on country averages on a six-item scale. We retrieved data for 37 countries.

Traditional (vs. Secular) Values and Survival (vs. Self-Expression) Values

The World Values Survey (Haerpfer et al., 2020) is an ongoing cross-national survey of values. From this work, researchers have identified two major dimensions of cross-cultural variation in the world: traditional (vs. secular) and survival (versus self-expression) values. We used factor

scores on these two dimensions as our measure of values. We retrieved data for 51 countries.

Gender Inequality

To measure countries' gender inequality, we used The Global Gender Gap Index (GGGI), which indexes women's disadvantages, relative to men's, in economic, educational, health, and political domains (World Economic Forum, 2021). Scores can range from 0 to 0.99, with higher scores indicating more gender parity. We retrieved data for 62 countries.

Traditional Gender Role Attitudes

To measure cultural endorsement of traditional gender role attitudes, we used average country scores on a short 6-item version of the Ambivalent Sexism Inventory (Glick & Fiske, 1996; Rollero et al., 2014) that measures Hostile Sexism (HS) and Benevolent Sexism (BS). Country scores were derived from data collected in Bosson et al. (2021). We retrieved data for 62 countries.

Results

To test our main hypotheses, we first calculated bivariate correlations of Precarious Manhood Beliefs (PMBs) and various LGBTQ + outcomes. Table 2 presents the correlations of PMBs and these LGBTQ + outcomes. Overall, there was a remarkably consistent pattern of correlations in the predicted direction. Note also that effect sizes of the relationships tended to be quite strong, with an average Pearson correlation across the main outcome measures of $r = .54$. Within social psychology, a correlation coefficient of 0.24 represents the 50th percentile (a medium effect), and a correlation coefficient of 0.41 represents the 75th percentile (a large effect) across many studies (see Lovakov & Agadulina, 2021). We summarize the findings by category below.

Attitudes Toward LGBTQ +

We first tested whether PMBs correlated with negative attitudes toward LGBTQ + groups (H1). Supporting the first hypothesis, PMBs correlate $r = -.71$ ($p < .001$) with the Williams Institute's LGBTQ Global Acceptance Index (see Fig. 1).

As a second measure of attitudes, we examined a Pew (2020) question reporting the percentage of people agreeing that homosexuality is not acceptable. Because Pew reported men's and women's responses disaggregated, this also allowed us to test whether men's attitudes were more strongly correlated with PMBs than women's attitudes (H2). Although country-level PMB correlated strongly with both

Table 2 Correlations and Partial Correlations of Precarious Manhood Beliefs with LGBTQ+ Attitudes, Rights, Laws, and Safety

LGBTQ+ Variable	Pearson Coefficient		Controlling for:												
	n	r	CI	Religiosity		Tightness		Traditional Values		Survival Values		GGGI		ASI	
				n	r	n	r	n	r	n	r	n	r	n	r
GAI	59	-0.71	[-0.82, -0.56]	53	-0.66	33	-0.67	48	-0.73	48	-0.55	56	-0.60	56	-0.29
Homosexuality unacceptable (% men)	29	0.67	[0.40, 0.83]	26	0.64	21	0.67	25	0.67	25	0.48	26	0.48	26	0.26
Homosexuality unacceptable (% women)	29	0.66	[0.39, 0.83]	26	0.63	21	0.65	25	0.67	25	0.45	26	0.47	26	0.24
Gay Rights	59	-0.51	[-0.68, -0.29]	53	-0.43	34	-0.61	47	-0.53	47	-0.22	56	-0.26	56	-0.11
Trans Rights	59	-0.54	[-0.70, -0.34]	53	-0.46	34	-0.56	47	-0.55	47	-0.28	56	-0.37	56	-0.22
Criminalization (relationships)	62	0.34	[0.10, 0.54]	54	0.24	34	0.42	48	0.28	48	0.16	59	0.07	59	0.06
Legalization (marriage)	62	-0.69	[-0.80, -0.53]	54	-0.63	34	-0.67	48	-0.68	48	-0.47	59	-0.57	59	-0.29
Legal recognition (trans people)	62	-0.50	[-0.67, -0.29]	54	-0.43	34	-0.41	48	-0.50	48	-0.39	59	-0.41	59	-0.21
Safety	62	-0.67	[-0.79, -0.51]	54	-0.69	34	-0.71	48	-0.72	48	-0.52	59	-0.54	59	-0.32
Identify as sexual minority (%)	24	-0.37	[-0.67, 0.04]	20	-0.40	18	-0.39	20	-0.39	20	-0.39	21	-0.33	21	-0.39
Identify as gender minority (%)	24	-0.30	[-0.63, 0.11]	20	-0.29	18	-0.33	20	-0.32	20	-0.32	21	-0.30	21	-0.02

Note. Correlations in boldface indicate significant relationships ($p < .05$)

men’s and women’s disapproval of homosexuality, in contradiction to Hypothesis 2, men’s and women’s disapproval were equally correlated with PMB ($r = .67, p < .001$ for men and $r = .66, p < .001$ for women).

Rights

Next, we tested whether PMBs correlated with fewer gay rights (H3) and fewer transgender rights (H4), as measured by the Franklin & Marshall Global Barometer of Gay Rights and Transgender Rights, respectively. Both Gay Rights ($r_s = -0.51, p < .001$) and transgender rights ($r_s = -0.54, p < .001$) were lower in places that most endorsed PMBs (see Figs. 2 and 3).

Laws

Turning to laws, we predicted that PMB would be associated with more restrictive LGBTQ+-targeted laws (H5-H7). Supporting this, country-level PMBs positively correlated with the criminalization of same sex relations ($r = .34, p = .007$), negatively with the legalization of gay marriage ($r = -.69, p < .001$), and negatively with the legal recognition of transgender identities ($r = -.50, p < .001$).

Safety

We predicted that PMBs would correlate negative with the safety of LGBTQ+ citizens and travelers to countries (H8). As measured by the Spartacus Gay Travel Index 2021, countries higher in PMBs were indeed less safe for LGBTQ+ individuals ($r = -.67, p < .001$; see Fig. 4). As a second measure of safety, we predicted that people would be less likely to openly identify as a sexual or gender minority in places that more strongly endorse PMB (H9). Supporting this hypothesis, the percentage of people identifying as something other than heterosexual (Ispos, 2021) was lower in places more strongly endorsing PMBs ($r = -.37, p = .077$), though the correlation failed to reach the conventional significance level. Similarly, the percentage of people identifying as something other than cisgender (Ispos, 2021) was lower in places more strongly endorsing PMBs ($r = -.30, p = .15$). Although these did not reach statistical significance, our sample size for these analyses is necessarily limited to 24; thus, we give more credence to the effect sizes which indicate a moderate relationship (see Lovakov & Agadullina, 2021) between PMB and percentage of people as identifying as non-heterosexual and non-cisgender.

In summary, country-level precarious manhood beliefs are strongly and consistently associated with countries’ negative attitudes toward LGBTQ+ groups, fewer rights, more restrictive laws, and less safety for LGBTQ+ persons. We next test whether these associations are robust when

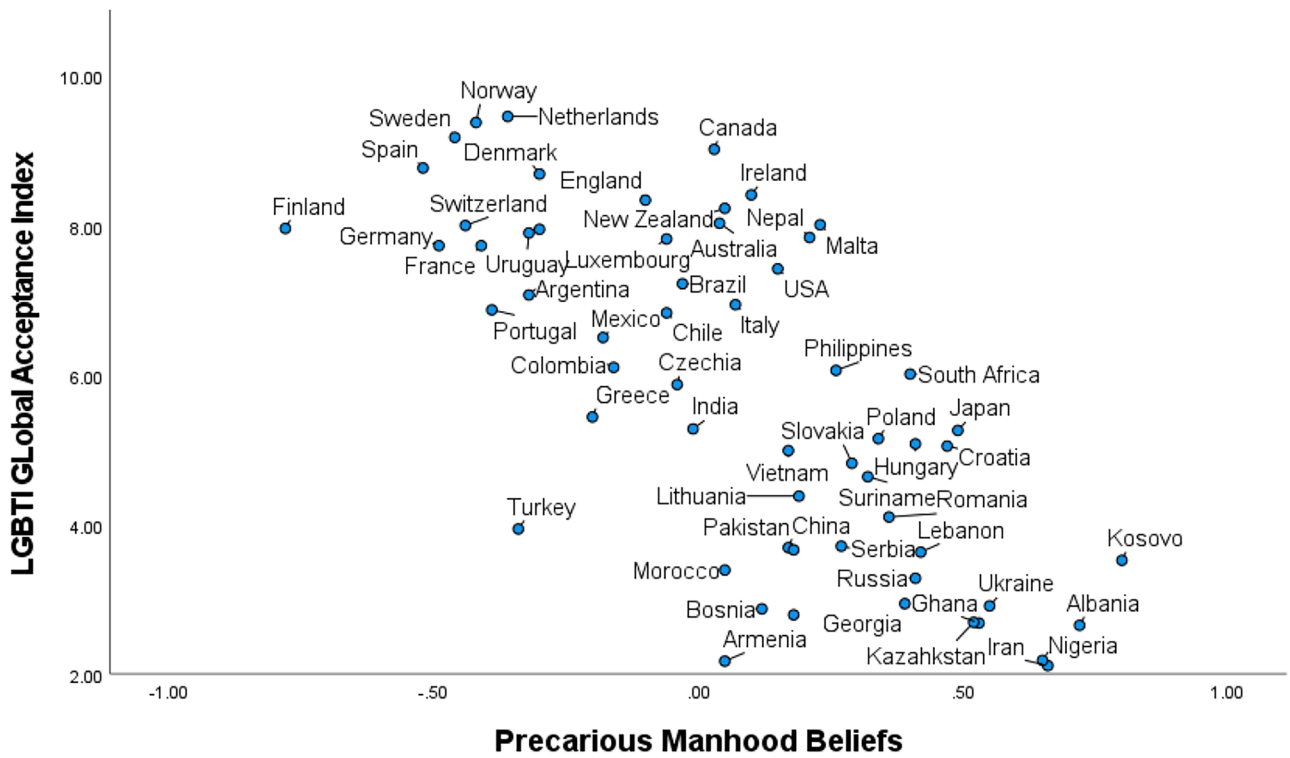


Fig. 1 The Association of PMB and LGBTI Global Acceptance Index

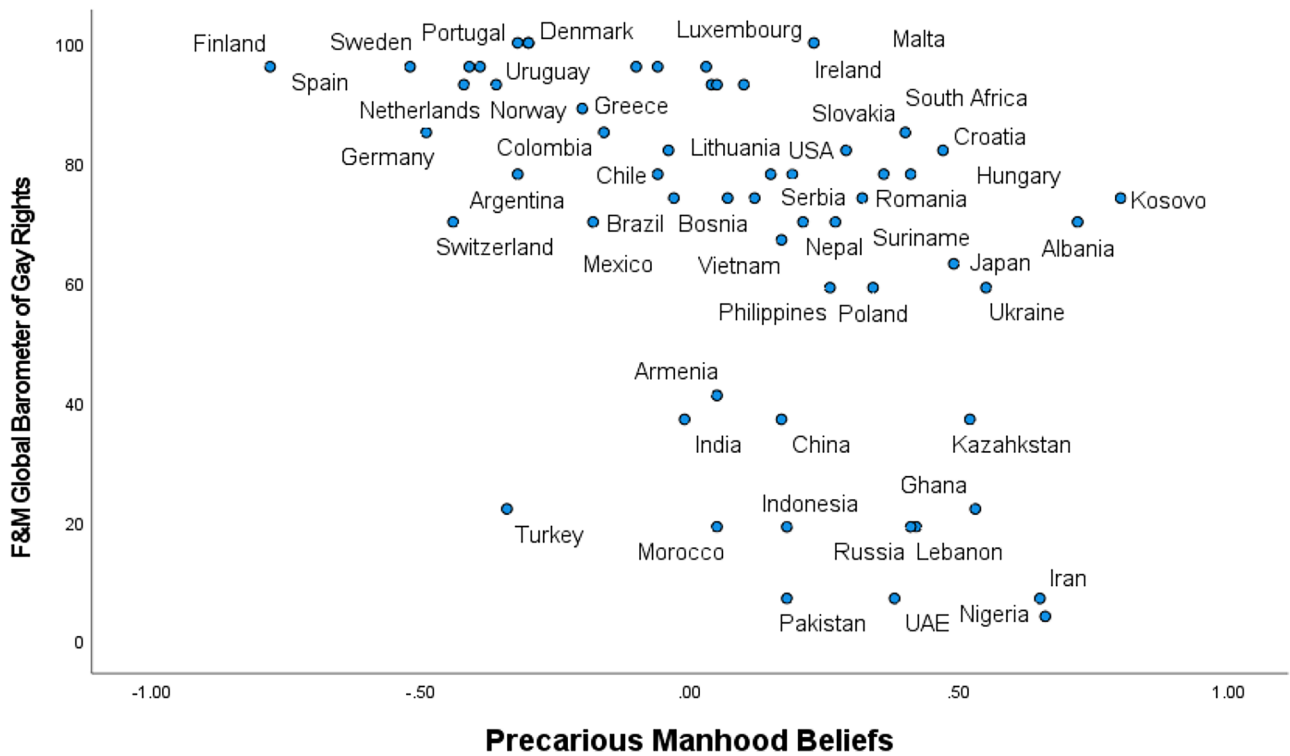


Fig. 2 The Association of PMB and Gay Rights

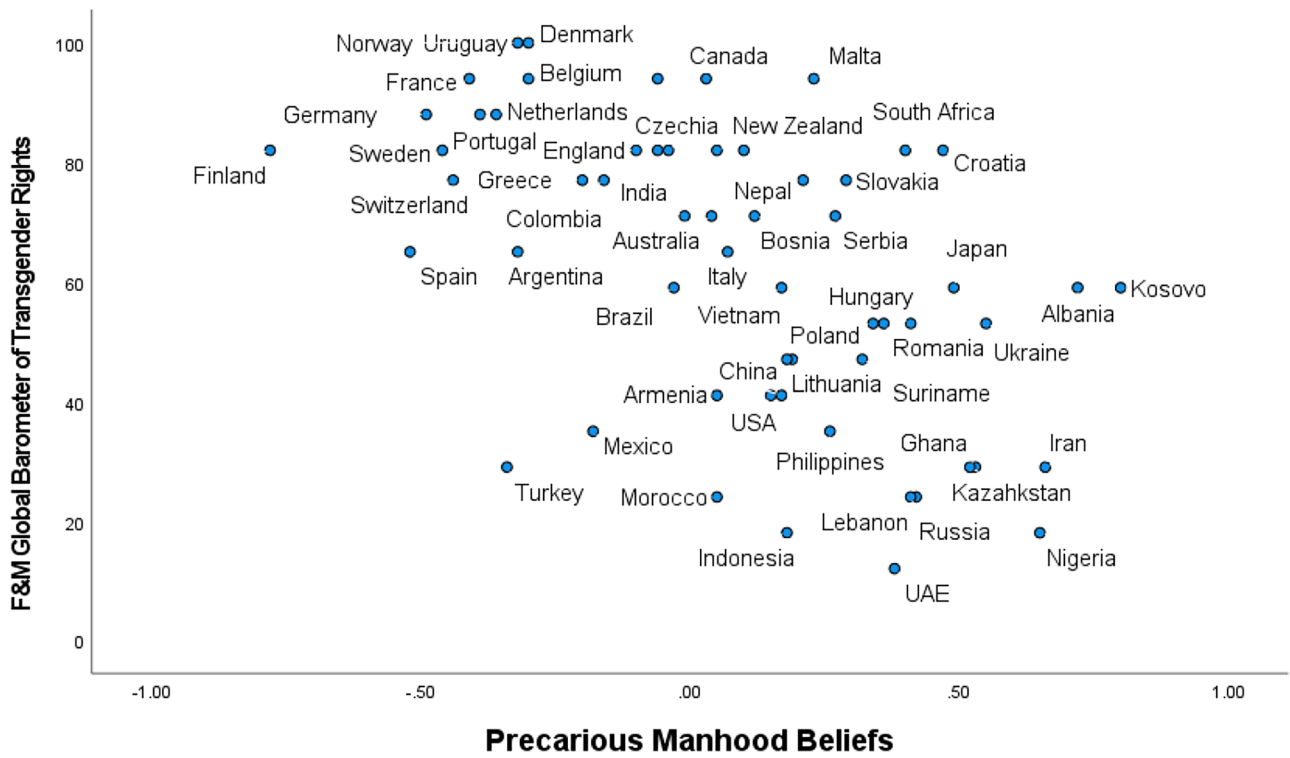


Fig. 3 The Association of PMB and Transgender Rights

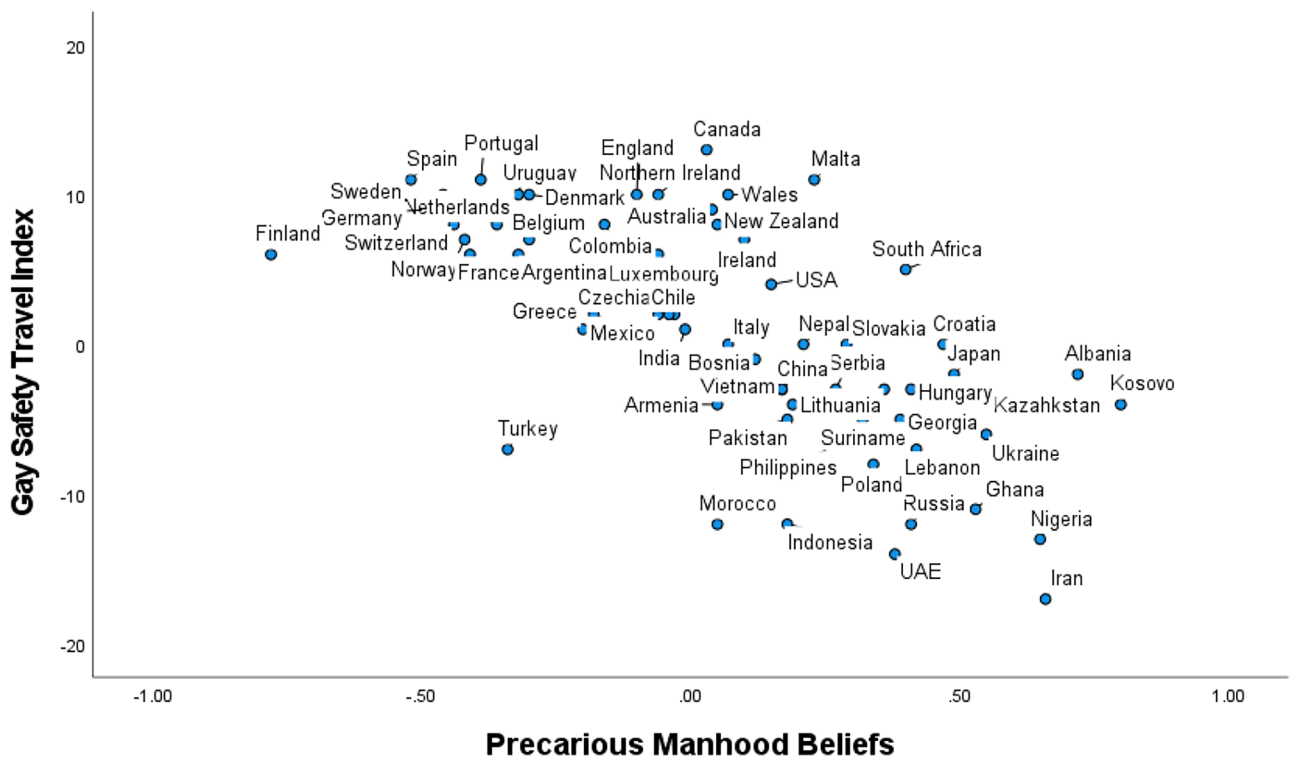


Fig. 4 The Association of PMB and Gay Travel Safety

controlling for various other indicators known or theorized to predict cultural attitudes and social policies toward LGBTQ+ groups. To do so, we calculated partial correlations of PMB and LGBTQ+ outcome measures, controlling for potential confounds.

Controlling for Religion

Religion is consistently associated with more negative attitudes toward LGBTQ+ populations, and indeed, country-level religiosity was a strong predictor of negative LGBTQ+ attitudes, rights, laws, and safety in the present sample. Nonetheless, as can be seen in Table 2, controlling for religiosity (Crabtree, 2010), the significant associations between PMBs and LGBTQ+ outcomes remained significant and of nearly equal magnitude.

Controlling for Tightness

As shown in Table 2, controlling for cultural tightness did not change the significant associations between PMBs and LGBTQ+ outcomes. The size of the relationships was virtually unchanged when adding tightness as a control.

Value Controls

As can be seen in Table 2, controlling for Traditional values and Survival values had very little effect on the size of the associations between PMBs and LGBTQ+ outcomes. Most significant relationships remained significant. We also recalculated all correlations controlling for both Traditional and Survival values simultaneously, and the associations remained (all $r_s = |0.23|$ or higher).

Controlling for Gender Equality and Ambivalent Sexism

Finally, we examined the associations between PMBs and LGBTQ+ outcomes controlling for gender ideologies. Given that there is likely some conceptual overlap between precarious manhood beliefs, gender inequality, and sexism, we expected that the associations might be diminished (but not disappear) when accounting for these controls. As shown in Table 2, controlling for gender inequality (GGGI) attenuated the relationships somewhat, but most significant relationships remained significant. Controlling for ASI had a larger effect on the relationship between PMBs and LGBTQ+ outcomes, generally diminishing the associations such that many were no longer statistically significant. Nonetheless, even here the associations were often in the medium to large range (where an r of 0.24 can be interpreted as a medium effect; see Lovakov & Agadullina, 2021).

Controlling for Wealth

As a final exploratory test of the robustness of the associations between precarious manhood and the various LGBTI outcomes, we ran analyses (that were not pre part of the pre-registration) controlling for the influence of country-level wealth (using Gross National Income [GNI] per capita). Countries differ greatly in wealth and development, and cross-country differences in wealth could potentially explain other relationships. When controlling for GNI per capita, most of the significant associations remained significant and quite robust ($|r_{sl}| > 0.27$), with one exception: the percentage of men saying homosexuality is not acceptable ($r[26] = 0.35$, $p = .066$). Thus, the associations found in the current investigation cannot be explained by country-level differences in wealth.

Discussion

As global gay and transgender rights movements bring visibility and recognition to marginalized gender and sexual minority groups, these efforts can create more inclusive and diverse definitions of manhood by relaxing and redefining rigid standards of masculinity. At the same time, these changes may be met with resistance and backlash, particularly from those most invested in (and those who gain most from) maintaining the status quo. This study examined whether societies' attitudes about sexual and gender minorities are connected to their beliefs about manhood. We found consistent evidence that countries' endorsement of the belief that manhood is precarious—a hard won, but impermanent status—is linked to their treatment of LGBTQ+ groups. The consistency of the negative associations is perhaps not surprising given that attitudes inform rights, social policies, laws, and behaviors, and thus the various outcome measures are intercorrelated. However, two points are noteworthy. First, it is remarkable that college students' responses to a simple four-item scale about manhood (and not about sexual orientation or gender identity) were so strongly predictive of broader cultural attitudes, rights, laws, and safety of sexual and gender minorities. Second, these associations largely remained even when controlling for factors known or theorized to be associated with attitudes toward LGBTQ+ groups, suggesting that manhood beliefs may play an important, independent role in shaping attitudes toward and treatment of gender and sexuality.

When manhood is believed to be precarious, derogation of LGBTQ+ groups can mitigate threats to individual men's prototypicality and to men's distinctiveness from women. Negative attitudes, restrictive laws, and harassment toward sexual and gender minorities may thus be motivated

by the desire to privilege a fragile sense of masculinity. This suggests that men may be the prime drivers of anti-LGBTQ+ attitudes and policies, and indeed, men's attitudes and behaviors toward gender and sexual minorities are more negative than women's (Kite et al., 2021; Nagoshi et al., 2019; PRRI, 2020). However, our measure of country-level beliefs combines men's and women's endorsement of precarious manhood. Though the beliefs are specific to manhood, women play a role in reinforcing these beliefs as well, through their preferences in mates and their socialization of children (Vandello & Bosson, 2013). Country-level male and female precarious manhood beliefs correlate very strongly, indicating strong cultural consensus about manhood and justifying combining men's and women's responses. Still, we acknowledge that women's gender-based prejudices may be driven by other factors not investigated here. For instance, work by Nagoshi et al. (2019) suggests that women's fears of deviations from conventional female gender identities may uniquely predict women's anti-LGBTQ+ attitudes.

Most of the LGBTQ+ outcome measures we selected also did not distinguish between men's and women's attitudes. The one exception was a 2020 Pew poll question asking about the acceptability of homosexuality that provided separate responses from men and women. Contrary to our hypothesis, precarious manhood beliefs were just as predictive of women's attitudes toward homosexuality as men's attitudes. Nonetheless, men's attitudes were more negative than women's in nearly all countries sampled in the Pew poll, suggesting that anti-LGBTQ+ attitudes, behaviors, and policies may be driven more by men than women. This is probably particularly true in cultures where men have more political power than women.

Practice Implications

Countries' attitudes toward and treatment of its LGBTQ+ citizens have wide-reaching implications, beyond the curtailing of human rights and the immediate safety of members of these groups. For instance, cultural attitudes toward LGBTQ+ populations are associated with health disparities among these groups (Hatzenbuehler & Link, 2013; Hatzenbuehler et al., 2017). Country-level attitudes toward LGBTQ+ individuals predict country-level suicide rates as well (Stuke et al., 2021). In addition to the health and human rights costs of LGBTQ+ negative attitudes, recent analyses suggest substantial macro-economic costs (in terms of lost labor and underinvestment in human capital) to societies that exclude LGBTQ+ people (Badgett et al., 2019).

Clearly, anti-LGBTQ+ attitudes, behaviors, and policies are harmful to both individuals and societies. Here, we have argued that negativity toward LGBTQ+ groups is driven in part by beliefs about manhood. This suggests that to improve

attitudes and treatment of sexual and gender minorities, societies' beliefs about manhood must change.

Limitations

While we found support for our main hypothesis that countries' beliefs about manhood predict their attitudes and behaviors toward LGBTQ+ populations, five methodological limitations of the present study should be noted. First, we would like to argue that beliefs about manhood produce LGBTQ+ attitudes, but the current data, while supportive of this interpretation, are correlational. While it is less plausible that LGBTQ+ attitudes cause beliefs about manhood, it is possible that some other variable associated with manhood beliefs may be driving the correlation. We attempted to control for the most plausible variables, but of course some unmeasured third variable may account for significant variation. Of note, when controlling for ambivalent sexism, the relations between precarious manhood beliefs and LGBTQ+ outcomes were attenuated. This suggests that manhood beliefs may be part of a larger gender belief system that drive gender-based prejudices. According to ambivalent sexism theory (Glick & Fiske, 1996), hostile and benevolent gender ideologies emerge from and reflect the structures of male dominance (i.e., patriarchy) and as such may be strongly related to beliefs about precariousness of male status. Male dominance might be elusive and must be thus secured, especially in the face of threat coming from groups that do not conform to masculine norms of anti-femininity and heterosexuality (gender and sexual minorities).

Second, one must be careful not to draw inferences about individual behavior from analyses at the aggregate, national level (i.e., the ecological fallacy; Robinson, 1950). The country-level variation in precarious manhood beliefs predicts country-level aggregate measures of LGBTQ+ attitudes and behaviors, but we make no claims about whether these relationships hold at the individual level. However, other research does suggest that individual manhood beliefs and threatened masculinity can drive LGBTQ+ derogation (cf. Brand & O'Dea, 2022; Falomir-Pichastor & Mugny, 2009; Glick et al., 2007; O'Connor et al., 2017; Talley & Bettencourt, 2008), suggesting that individual-level and country-level beliefs may operate in concert.

Third, country is not culture (Taras et al., 2016). We used country as a short-hand substitute for cultural differences, but we recognize that while there is overlap between the constructs, cultures exist beyond geographical boundaries. Ethnic, racial, religious, and other markers of socio-cultural identity can cut across countries and may be more powerful predictors of citizens' belief systems, attitudes, and norms. Nonetheless, as a proxy for culture, between-country variation is highly predictive of LGBTQ+ attitudes, behaviors, and social policies.

Fourth, and related to the last point, country-level analyses can obscure individual variation within cultures. Even in countries that are, overall, transitioning to greater acceptance of LGBTQ+ groups, there may still be large segments of the population that reject these groups. Indeed, the two processes sometimes go hand in hand—greater visibility or increased rights of marginalized groups is often accompanied by backlash from groups that see their progress as threat to their own standing (Flood et al., 2021; Wiggins-Romesburg & Githens, 2018). In the United States, for instance, transgender acceptance and visibility is at an all-time high. At the same time, U.S. state legislatures introduced a record number of anti-transgender bills in 2022 (Lavietes & Ramos, 2022).

Fifth, the Precarious Manhood Beliefs country scores were derived from college student samples, which are unrepresentative of the larger populations of these countries (being younger, wealthier, and more educated than the average citizen). Nevertheless, we believe the gender beliefs of these samples likely reflect those of their countries generally. First, the pattern of results was remarkably consistent with large effect sizes. Second, men's and women's scores within countries were very strongly correlated. And third, the country-level PMBs have been shown to be predictive of other important beliefs and outcomes (see Bosson et al., 2021; Vandello et al., 2023).

Future Directions

Cultural beliefs about gender and manhood specifically are deeply entrenched, and we offer no easy solutions to changing them. Future research might examine the extent to which cultures provide alternative models of manhood and the association of these alternatives with LGBTQ+ attitudes. Short of changing entrenched beliefs about manhood, future research might also examine how cultural solutions that offer security to men may have implications for LGBTQ+ groups. For instance, research might examine cultures that provide economic security and social safety nets or healthy outlets for demonstrating masculinity to explore connections to manhood beliefs and to LGBTQ+ outcomes.

Conclusion

We end by returning to the central question of this research: what accounts for cultural variation in attitudes and treatment of LGBTQ+ populations? Our results shed an important light on the distinct relationship between culturally universal beliefs about precariousness of manhood and hostility and systemic discrimination LGBTQ+ individuals face across the world. Here we show that culturally shared expectations that manhood is not given but must be earned may fuel hateful attitudes and cruel behaviors against gender

and sexual minorities. Gender ideologies such as precarious manhood beliefs are pervasive in certain cultural contexts, they legitimize existing inequalities, and they lead to detrimental consequences for the quality of life of individuals and groups. Analyzing how manhood is developed, and especially focusing on alternatives to notions of traditional masculinity may allow for a thorough understanding of how culturally-driven inequalities within societies are produced, developed and maintained. And combatted.

Author Contributions Joseph Vandello led the writing and analyses. All authors contributed to the data collection, analysis, writing, and editing of the manuscript.

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Data Availability The study described in this paper was pre-registered at OSF: https://osf.io/m5t3a/?view_only=6cb625b17d8b4300aafdd8360cb676e1.

All original data are reported in the manuscript (Table 1).

Compliance with Ethical Standards

Ethical Approval and Consent to Participate Because the data were based on publicly available archival statistics at the national level, there were no direct human participants in this study, and thus no informed consent.

Human and Animal Ethics Not applicable.

Consent for Publication Not applicable.

Conflict of Interest The authors have no financial or non-financial conflicts of interest to disclose.

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