Country-level and Individual-level Predictors of Men's Support for Gender Equality in 42 Countries.

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The research was approved by the Ethics Board for Research Projects at the Institute of Psychology, University of Gdansk, Poland and all necessary ethical clearance procedures were followed at all collaborating institutions. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest

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Running Head: MEN'S SUPPORT FOR GENDER EQUALITY

Abstract

Men sometimes withdraw support for gender equality movements when their higher gender status is threatened. Here, we expand the focus of this phenomenon by examining it cross-culturally, to test if both individual- and country-level variables predict men's collective action intentions to support gender equality. We tested a model in which men's zero-sum beliefs about gender predict reduced collective action intentions via an increase in hostile sexism. Because country-level gender equality may threaten men's higher gender status, we also examined whether the path from zero-sum beliefs to collective action intentions was stronger in countries higher in gender equality. Multilevel modeling on 6,781 men from 42 countries supported the individual-level mediation model, but found no evidence of moderation by country-level gender

equality. Both country-level gender equality and individual-level zero-sum thinking independently predicted reductions in men's willingness to act collectively for gender equality.

KEYWORDS: gender inequality, ally behaviour, hostile sexism, collective action, culture, status threats

Country-level and Individual-level Predictors of Men's Support for Gender Equality in 42 Countries

Gender equality has in recent decades become widely accepted as an important political goal, and many countries and international institutions have committed themselves to this objective (Mazur & Goertz, 2008; United Nations, 2015). Gender equality is important not only because it is morally appropriate to ensure equal opportunities across genders, but also because it yields a broad variety of positive consequences for individuals, groups, and societies. Global increases in national gender equality covary with improvements in human rights, reductions in poverty (Greig, Kimmel, & Lang, 2000), and increases in happiness and well-being (Holter, 2014; Inglehart, Foa, Peterson, & Welzel, 2008). In work organizations, gender equality predicts lower employee-reported job turnover and attrition, higher job satisfaction and increased productivity (Catalyst, 2011). In close relationships and families, greater gender equality predicts more happiness, better health, and lower rates of depression among relationship partners (Holter, 2014; Read & Grundy, 2011; Seedat et al., 2009), better school performance and reduced absenteeism among children (Coltrane & Adams, 2008).

The global, organizational, family, and individual benefits associated with gender equality extend to both women and men (Holter, 2014). Yet, men are often more reluctant than women to formally endorse equality efforts. To understand why this is the case, this study examines individual-level and country-level predictors of men's support for gender equality

movements. It does so using a contemporary, cross-cultural dataset of (to our knowledge) an unprecedented size and diversity.

More specifically, we tested a mediational model in which individual-level factors – zero-sum thinking and hostile sexism – predict men's solidarity-based collective action intentions. We also examine the moderating role of country-level gender equality, which may act as a chronic reminder of women's gains. In the following sections, we explain the various concepts in this model as well as the rationale behind our predictions.

Men's Roles in Gender Equality

Despite the important and far-reaching consequences summarized above, gender equality historically has been a topic of concern primarily to women (Holter, 2014). Women have been the driving force behind gender equality strategies and movements, and men - who occupy the higher status gender group in most societies - are less inclined to define themselves in terms of gender (Greig et al., 2000). Thus, gender equality programs mostly refer to men indirectly, as the group that wields more power than women, instead of explicitly involving and addressing them. More recently, however, researchers and policymakers have proposed that social change efforts will have more success if we consider men's role in fostering gender equality (Greig et al., 2000; Meeussen, Van Laar., & Van Grootel, 2020; Vescio & Kosakowska-Berezecka, 2020; Williams, 2000). This perspective notes the importance of examining how high-status group members (men) perceive and respond to gains made by low-status group members (women) in the quest for gender equality (Iyer & Ryan, 2009; Teixera, Spears, & Yzerbyt, 2019). Given that people of all genders benefit from gender equality (Holter, 2014), and that men's buy-in is essential to the success of social change efforts, we examined predictors of men's gender-based collective action intentions in a large, cross-cultural study of 42 countries. Our goal was to begin developing a universally-applicable model of collective action intentions among high-status, advantaged groups, which should have relevance for scholars and practitioners working in the areas of global health, well-being, and happiness.

As noted, little previous work has focused on men's perceptions of gender progress and the factors predicting their involvement in gender equality actions (e.g., Becker & Swim, 2011; Kosakowska-Berezecka, Besta, Adamska, Jaśkiewicz, Jurek, & Vandello, 2016; Lemus,

Navarro, Velásquez, Ryan, & Megías, 2014; Vescio & Kosakowska-Berezecka, 2020). To address this gap here, we examine variables that might inhibit or enhance men's willingness to act in solidarity with women. More specifically, we examine predictors of men's *solidarity-based collective action* intentions, or intentions to participate in collective actions on behalf of another group (Van Stekelenburg & Klandermans, 2013). In the realm of gender equality, men's contributions to gender equality activities – such as marching in Women's marches, signing petitions to support workplace gender equity, and endorsing gender egalitarian politicians – are examples of solidarity-based collective action.

The political solidarity model of social change (Subašić, Reynolds, & Turner, 2008) provides a useful framework for explaining men's involvement in gender equality movements. This model explains how, by developing shared higher-order identities (e.g., men and women as "agents of change"), gender inequality can be seen as a common social problem standing in the way of social justice for all (Subašic et al., 2018). Men, as members of the advantaged gender group, might be more willing to become allies in the struggle for social justice when they share the disadvantaged group's view that existing gender inequalities are illegitimate (Becker, Wright, Lubensky, & Zhou, 2013), and that ending gender-based discrimination is consistent with their moral convictions (Ochoa, Manalastas, Deguchi, & Louis, 2019). Through this lens, people of all genders are both sources and beneficiaries of gender equality.

What if men do not perceive gender inequalities as illegitimate? After all, people have a powerful need to perceive the sociopolitical systems that favour them as fair and just (Cichocka & Jost, 2014). They thus show a motivation to defend the status quo, which correlates negatively with system-challenging collective action (Osborne, Jost, Becker, Badaan, & Sibley, 2019). As such, some men view women as competitors rather than allies, viewing women's advances as threats to men's status (Branscombe, 1998; Fiske & Taylor, 2013). Here, we investigate if the tendency to view women's progress as threatening predicts men's (un)willingness to act as gender equality allies and we examine both individual and country level factors predictors of men's allyship.

Threats to Men's Social Status, Sexism Beliefs, and Support for Gender Equality

In previous studies, men reported to be less willing to support gender equality if their masculinity was threatened than if it was not (Kosakowska-Berezecka et al., 2016; Valved, Kosakowska-Berezecka, Besta, & Martiny, 2019). Presumably, withdrawing support for gender equality helps men restore their threatened manhood status and maintain their position in the gender hierarchy (Herek, 1986; Sidanius & Pratto, 1999; Vandello & Bosson, 2013). Men's tendency to view women and women's gains as threats to men may therefore negatively predict men's intentions to support solidarity-based collective action. Any conflict in values, norms, or beliefs between groups and any intergroup struggle for access to power and resources may be experienced as a psychological threat (e.g., Branscombe, Ellemers, Spears, & Doosje, 1999; Simon & Klandermans, 2001; Stephan & Stephan, 2000; Tarman & Sears, 2005). Applied to the struggle for gender equality, some men may view women's gains – in politics, educational contexts, and the workplace – as a threat to men (Ruthig, Kehn, Gamblin, Vanderzanden, & Jones, 2017). Men who do so may be more inclined to view women as hostile usurpers of men's power (e.g., Brescoll, Okimoto, & Vial, 2018; Glick et al., 2004), and therefore refuse to support gender equality actions.

Individual-Level Predictors of Men's Collective Action Intentions

We propose that individual differences in men's zero-sum thinking about gender predict their support for solidarity-based collective action. Zero-sum thinking is the belief that one group's gains can only be acquired at the expense of another group's losses, and it corresponds with lower interpersonal trust (Davidai & Ongis, 2019). In the context of gender, those higher in zero-sum thinking view women's gains as directly related to men's losses (e.g., in status, power, and the workplace; Ruthig et al., 2017). In general, men endorse zero-sum thinking about gender more strongly than women do (Bosson, Vandello, Michniewicz, & Lenes, 2012; Kuchynka, Bosson, Vandello, & Puryear, 2018; Wilkins, Wellman, Babbitt, Toosi, & Schad, 2015), indicating that men relative to women generally view gender group relations in a competitive "us vs. them" manner. This may be because men – as members of the higher status gender group across countries (Brown, 1991; World Economic Forum, 2018) – have more to lose, materially, if the gender hierarchy should change or reverse. Moreover, some studies found that U.S. college men's zero-sum thinking increased following reminders of women's societal status gains (Kuchynka et al., 2018), and U.S. men (but not women) viewed decreases in discrimination

against women as corresponding with increases in discrimination against men (Kehn & Ruthig, 2013). These patterns suggest that men's zero-sum beliefs about gender reflect feelings of threat to their gender group. Importantly, zero-sum thinking can arise even when desirable resources are unlimited, and can activate defensive, competitive urges on the part of the ingroup (Meegan, 2010). Thus, if men higher in zero-sum beliefs view women as their competitors for access to resources, they should be less inclined to endorse collective actions on behalf of women.

Moreover, zero-sum thinking may negatively predict men's solidarity-based collective action intentions indirectly, via increases in their hostile sexism. Hostile sexism comprises a set of overtly angry and insulting beliefs and attitudes about women who are deemed insubordinate, manipulative, and needful of dominative control by men (Glick & Fiske, 1996, 1999). Men higher in zero-sum beliefs about gender tend to endorse more hostile sexism (Ruthig et al., 2017), likely as a means of punishing women who challenge male power (Glick et al., 2004). Zero-sum thinking may predict increases in hostile sexism for two reasons. First, viewing women as direct competitors may cause men to adopt a hostile, untrusting mindset toward women (Davidai & Ongis, 2019). Second, when men view women as competitors, they are likely envisioning non-traditional, agentic women (Gaunt, 2013; Glick et al., 2000; Szastok, Kossowska, Pyrkosz-Pacyna, 2019), who are psychologically threatening because they challenge traditional men's beliefs and values (Stephan & Stephan, 2000; Tarman & Sears, 2005). In turn, men higher in hostile sexism are less inclined to support gender equality and less willing to engage in collective actions to reduce gender inequities (Stewart, 2017). We thus explored whether the tendency to perceive women as zero-sum competitors reduces men's solidarity-based collective action intentions, indirectly via increases in their hostile sexism.

Country-Level Predictors of Men's Collective Action Intentions

In addition to examining the individual-level predictors described above, we examined country-level gender equality as a moderator of their relationship with the intention to support gender equality action. To that end, we used the Global Gender Gap Index (GGGI, World Economic Forum, 2018). The GGGI is an objective index of the parity of gendered outcomes for women relative to men across four fundamental categories (sub-indexes): Economic

Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment[1].

The GGGI derives from country-level statistics, only some of which are directly observable to individuals. Yet, a country's GGGI reflects the aggregated social, economic, and political gains that its female citizens have amassed over time. Thus, a high country-level gender equality is presumably visible on a daily basis via reminders of women's progress. These reminders include news stories about feminist causes, online discussions about gender-relevant topics (e.g., the gender wage gap, the Me Too Movement), and the visibility of women in business and politics.

In countries high in GGGI, regular reminders of women's gains may serve as an ongoing contextual factor that threatens men's dominant status in the gender hierarchy. Against the backdrop of this threat, the links between men's zero-sum beliefs, hostile sexism, and collective action intentions may become stronger. That is, when men are being chronically reminded of women's encroachment into male-dominated spaces and positions (high GGGI), those men who view women as competitors may be especially inclined to withdraw support for collective action via increases in hostile sexism (Kuchynka et al., 2018). We therefore explored whether the indirect effect of zero-sum beliefs on men's collective action intentions is especially strong in countries higher in GGGI.

The prediction that a higher GGGI is associated with a stronger indirect effect of zero-sum beliefs on men's collective action intentions might appear counterintuitive for two reasons. One is that countries higher in gender equality are generally lower in sexism overall (Glick et al., 2000). The second is that citizens of societies high on GGGI generally value gender equality, such that the men among them may not see gender equality as a threat (Wood & Eagly, 2012; House, 2004).

However, there are also strong reasons to support our prediction. The fact that women and men in more gender egalitarian countries occupy more similar labor roles implies that women are more visible in the labor force and in the politics of such countries (House, 2004). That renders women a more salient comparison group for men in higher GGGI countries, compared to countries where women are less visible in the labor force and politics. In more

gender egalitarian countries, moreover, men are more likely to socially compare to women when evaluating their own standing on gender-relevant dimensions (Guimond et al., 2007). By extension, women's status in more gender equal countries may serve as a particularly important chronic threat to some men. If that is true, it may help explain the "Nordic paradox" that implies that the world's most gender equal countries – the Nordic countries of Denmark, Sweden, Finland, Iceland, and Norway – report the highest rates of male-to-female intimate partner violence (Gracia & Merlo, 2016).

In low GGGI countries, moreover, at least three mechanisms work to secure men's high status. First, women lack the resources to regularly challenge the gender status quo. Second, women in these countries are more prone to embrace the traditional sex-based labor division that keeps them economically dependent on men (Wood & Eagly, 2012; Glick et al. 2000). Third, the relatively high national levels of ambivalent sexism that characterize countries lower in GGGI help reinforce the status quo by rewarding traditional women and punishing non-traditional women (Glick & Fiske, 1996). In sum, the path from zero-sum beliefs to men's collective action intentions is likely to be stronger in countries higher (vs. lower) in GGGI, where women's progress serves as a chronic threat to men's status.

Expanding beyond WEIRD countries. Research on models of collective action has been conducted mostly in WEIRD samples (Western, Educated, Industrialized, Rich, Democratic; Henrich, Heine, & Norenzayan, 2010). As a consequence, cross-cultural predictors of collective action intentions are understudied (Van Zomeren & Louis, 2018). Some recent studies examined predictors of collective action intentions in non-WEIRD world regions and cultural settings (e.g., Chayinska, Minescu, & McGarty, 2017; Fischer, Becker, Kito, & Nayır, 2017; Górska, Bilewicz, & Winiewski, 2017; Tausch et al., 2011), but these studies generally focused on single world regions or small numbers of countries. Similar to research on collective actions in general, most research on predictors of men's involvement in gender equality movements has been based either in the U.S. or in Europe. That situation inevitably leaves many world regions unexamined, especially the ones where gender equality movements are less visible or have a short history.

Women worldwide make less money and hold fewer political positions and positions of power than men (World Economic Forum, 2018). However, economic and political gender gaps are largest in the Middle East and North Africa (a 40% gap from true gender parity). They range from 32% to 34% in East Asia and the Pacific, Sub-Saharan Africa, and South Asia. There are only four world regions where the gaps from true gender parity are under 30%: Western Europe (24%), North America (27%), Eastern Europe and Central Asia (29%), and Latin America and the Caribbean (29%). Thus, gender equality levels differ substantially across the globe. Studies that compare countries across a wide range of the gender equality continuum may therefore offer especially robust information (Sidanius, Levin, Liu, & Pratto, 2000).

For that reason the present work includes multinational data from 42 countries ranging from the very gender egalitarian Norway (0.835 on a 0.0–1.0 scale, ranked 2nd in gender equality), to the relatively inegalitarian Pakistan (0.555, ranked 142nd out of 149 countries; see the Global Gender Gap Report, 2018). We view this as an important strength of our investigation, which should allow our study to yield an expansive assessment of cross-cultural variations in men's intentions to join solidarity-based collective actions for gender equality.

The Present Research

We tested a mediation model in which men's zero-sum beliefs about gender are associated with lower intentions to engage in solidarity-based collective action via enhanced hostile sexism. We also examined whether this path from men's (individual-level) zero-sum beliefs to collective action intentions via hostile sexism was especially strong in countries higher in gender equality (country-level GGGI). We reasoned that women's relative equality in high-GGGI countries poses a chronic threat for men, which should enhance the links among the individual-level predictors. To test our model, we analyzed data from 42 countries as part of a larger project (blinded for review) that is pre-registered on OSF (blinded for review). Note that the model tested here is not pre-registered as a confirmatory hypothesis, and thus is considered exploratory.

Method

Participants and Procedure

IRB approval for each sample was obtained from the researchers' respective institutions. Informed consent was obtained from all individual participants, and participants were assured that their data would remain anonymous and confidential. Data were collected between January 2018 and December 2019, from N = 18,837 respondents (6,734 men) in 42 countries (for details about samples' composition, see Table 1). The mean age of participants was M = 23.56 years (SD = 8.04). To verify that participants read the survey attentively, we randomly placed three attention checks throughout the study as follows: *if you are reading this sentence please select 4*. After screening for attention checks, we removed records from 156 individuals (<1%) who passed fewer than two out of three attention checks.

All samples mainly consisted of undergraduate students in social sciences (mainly psychology). Students were mostly recruited as volunteers. In the majority of countries, they were generally not compensated for their participation. Participants completed a set of scales that measured more variables than those described in this paper. The order of measures was randomized and data were collected via Surveymonkey or Qualtrics platforms. In some cases, paper and pencil were used. The complete set of scales is published on both the project's website (blinded for review) and OSF registration (blinded for review).

As shown in Table 1, the proportion of men in the national sub-samples varied from 17% (France) to 49% (India). The sub-samples also differed in the mean age of participants. Due to national differences in age and gender distribution, both variables (if applicable) were considered as covariates in the tested models.

INSERT TABLE 1 HERE

Measures

The scales had 25 language versions (Armenian, Bosnian, Chinese, Croatian, Danish, Dutch, English, French, Georgian, German, Greek, Italian, Kazakh, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Spanish, Turkish, Ukrainian, Welsh). Bilingual scholars working in psychology used the back-translation procedure (see van de Vijver & Leung, 1997) to create national versions of each scale. All items were translated to each language from English, and back-translated by an independent translator, unless previously published in the respective language. The translations in all 25 languages, and details about their published versions, are added as supplementary material.

Collective Action Intentions. We used a modified version of six items from the Environmental Action Scale (Alisat & Reimer, 2015). The scale contains descriptions of actions undertaken to support gender equality, such as participating in a community event which focused on gender issues or using online tools (e.g., Instagram, YouTube, Facebook, Wikipedia, Blogs) to raise awareness about gender issues/gender equality. Participants rated their intention to engage in this type of activity on a seven-point scale ranging from 1 (*not likely at all*) to 7 (*very likely*). Responses for all six items were averaged to create a composite measure in which higher scores reflect greater intention to engage in solidarity-based collective action for gender equality.

Zero-Sum Beliefs about Gender. Ruthig et al.'s (2017) seven-item scale was used to assess participants' zero-sum beliefs about gender. The scale consists of six items reflecting zero-sum beliefs in specific domains: occupational ('More good jobs for women mean fewer good jobs for men'), power ('The more power women gain, the less power men have'), economic ('Women's economic gains translate into men's economic losses'), political ('The more influence women have in politics, the less influence men have in politics'), social status ('As women gain more social status, men lose social status'), and familial ('More family-related decision making for women means less family-related decision making for men'). Additionally, one item assesses zero-sum beliefs about discrimination ('Declines in discrimination against women are directly related to increased discrimination against men'). Response options for each item ranged from 0 (*strongly disagree*) to 5 (*strongly agree*), and we averaged them to create a composite in which higher scores reflect greater zero-sum beliefs.

Hostile Sexism. We used three items ('Women seek to gain power by getting control over men', 'Women exaggerate problems they have at work', and 'When women lose to men in a fair competition, they typically complain about being discriminated against') from the short version of the hostile sexism subscale of the Ambivalent Sexism Inventory (ASI; Rollero, Glick, & Tartaglia, 2014), with response options ranging from 0 (*strongly disagree*) to 5 (*strongly agree*). Responses to all items were averaged to create a composite score in which higher scores indicate greater hostile sexism. For invariance tests, we also used three items from the short version of the benevolent sexism subscale (e.g., 'Women should be cherished and protected by men') which were scored similarly to hostile sexism.

Country-Level Gender Equality. The Global Gender Gap Index (GGGI) was developed by the World Economic Forum as a framework for capturing the magnitude of gender-based disparities. The GGGI benchmarks national gender gaps on economic, education, health, and political criteria. The overall GGI reflects a country's progress towards gender parity on a scale from 0 (disparity) to 1 (parity). The methodology of the Index has remained stable since its original conception in 2006, providing a basis for cross-country comparison. For current study purposes we used 2018 data for all 42 countries (World Economic Forum, 2018).

Analytical Strategy

Before proceeding to primary analyses, we tested the scales' cross-country equivalence through multigroup confirmatory factor analysis (MGCFA) using whole national samples (both men and women). This allowed us to examine the scales' cross-country measurement invariance, or whether the scales measure the same constructs in all countries. Usually, cultural researchers estimate three levels of invariance, which are defined by parameters that are constrained to be equal across samples (e.g., Milfont & Fisher, 2010; van de Vijver & Leung, 1997). *Configural invariance* requires that a given set of indicators are predicted by the same latent variables with the same pattern of factor loadings; *metric invariance* requires that factor loadings are equal across the groups; and *scalar invariance* requires that factor loadings and all intercepts are equal across the groups. In general, partial invariance, defined as equal parameters of at least two indicators per construct, is sufficient to allow for group comparisons (Byrne, Shavelson, & Muthe.n, 1989). We first tested for configural invariance across all national samples, using

common criteria to assess models' goodness of fit, i.e., CFI > 0.95 and RMSEA < 0.08 (e.g., Brown, 2015). Next, to identify metric and scalar measurement invariance, we used the cut-off criteria for large numbers of samples suggested by Rutkowski and Svetina (2014): ΔCFI of 0.02 and ΔRMSEA of 0.03. We conducted measurement invariance analyses using R (R Core Team, 2018) and the lavaan package (Rosseel, 2012) , using maximum likelihood estimation with robust standard errors.

We then tested the hypotheses using MLM (e.g., Hox, 2010) on data from 6,734 individuals (men) (Level 1) across 42 countries (Level 2). The multilevel analyses were specified sequentially by incorporating additional predictors into each successive model to produce nested models that could be compared statistically. Models were fitted using maximum likelihood (ML) estimation. The fit of nested models was assessed using -2 log likelihood (-2LL) and Akaike's information criteria (AIC), where lower values indicate better fit (Finch, Bolin, & Kelley, 2014). Country served as the grouping variable in all models. Analyses were carried out with nlme, an R package for fitting multilevel models (Finch et al., 2014). The multilevel analyses explored relationships between the variables only in a male sample. The first set of models tested the relationship between zero-sum beliefs about gender and collective action intentions via hostile sexism with country-level GGGI as moderator. Separate analyses clarified the relationship between zero-sum beliefs (predictor) and hostile sexism (mediator) across countries.

Model 1_{CAI} and Model 1_{HS} were specified as baseline models with no independent variable. These models provided estimates of the residual and intercept variance when only considering clustering by country. The baseline models allowed us to determine whether mean collective action intentions and hostile sexism scores differed across the 42 countries. They also provided the intraclass correlations (ICCs), which relate within-country similarity in both variables to the total variation in individual collective action intentions and hostile sexism across all countries. A significant ICC value indicates that the scores of individuals are not statistically independent within countries, and that a multilevel model design should therefore be used.

Models 2_{CAI}, 3_{CAI} , and 4_{CAI} involved random coefficients and fixed predictors. Model 2_{CAI} incorporated both fixed-effect predictors at the country (GGGI) and individual levels. Model

3_{CAI} built on the previous model by including men's hostile sexism as a mediator of the relationship between zero-sum beliefs and collective action intentions, and Model 4_{CAI} included the interaction of GGGI and zero-sum beliefs as an effect. Age was not a significant predictor of collective action intentions so we did not include it in any models as a covariate.

Results

We calculated descriptive statistics (means, standard deviations), and Cronbach's alphas for the three individual-level variables, separately for each country. As shown in Table 1, the three measures were generally reliable in all national sub-samples. The exception was the hostile sexism scale, where Cronbach's alpha was below 0.70 in China, Kazakhstan, Nigeria, and Suriname.. This was partly due to the small number of items in the hostile sexism scale.

Mean scores for the main predictor variables, that is, zero-sum beliefs about gender and hostile sexism, were low in many countries and particularly in liberal Western Democracies. For zero-sum beliefs, mean scores were below 1 in 17 of the 42 countries and below 2 in all countries. For hostile sexism, 41 of the 42 countries were below the scale midpoint (3) and only one – Nigeria – was above it.

Measurement Invariance of the Scales

Table 2 presents the global fit coefficients for the three levels of measurement invariance (configural, metric, and scalar) for each of the three individual-level scales. As shown in Table 2, the collective action intentions scale displayed configural, metric, and scalar invariance across all countries (Rutkowski & Svetina, 2014). The other two scales demonstrated configural and metric equivalence, but lacked full scalar invariance. We thus tested for partial scalar invariance, releasing selected items (see notes under Table 2) that varied most between countries. Results indicated partial scalar invariance of the zero-sum beliefs and hostile sexism scales across all countries.

INSERT TABLE 2 HERE

Multilevel Modeling

Baseline Models (Model 1_{CAI} and Model 1_{HS}). Country characteristics significantly explained variation in collective action intentions among men at the individual level (Model 1_{CAI}), ICC = 0.16. Differences between countries thus accounted for 16% of the variance in collective action intentions. Mean collective action intentions were highest in Ghana, India, Kosovo, Nigeria, and the Philippines (see Table 1). Country characteristics also explained significant variation in hostile sexism among men (Model 1_{HS}), ICC = 0.16.

INSERT TABLE 3

INSERT TABLE 4

Models with Random Coefficients and Fixed Country- and Individual-Level Predictors (Models 2_{CAI}, 3_{CAI}, & 4_{CAI}). The results of the fitted Model 2_{CAI} confirmed that among men, stronger zero-sum beliefs predicted weaker collective action intentions (B = -0.26, p < 0.01). Consistent with our expectations, Model 3_{CAI} showed that hostile sexism partially mediated the relationship between zero-sum beliefs and collective action intentions. Hostile sexism significantly and negatively predicted collective action intentions (B = -0.30, p < 0.01). Including hostile sexism in the model weakened the relationship between zero-sum beliefs and collective action intentions (B = -0.10, p < 0.01).

Models 2_{CAI}, 3_{CAI}, and 4_{CAI} also showed that county-level GGGI significantly predicted collective action intentions among men: In more gender equal countries, men reported weaker collective action intentions. The negative relationship between GGGI and collective action intentions remained significant when accounting for zero-sum beliefs and hostile sexism (B = -7.10, p < 0.01). Further analysis showed that GGGI also significantly predicted men's hostile sexism, even when zero-sum beliefs were included in the model (B = -4.28, p < 0.01).

Contrary to the hypothesis, adding the interaction term (GGGI*zero-sum beliefs) to the model did not improve model fit, and the interaction was not significant (B = 0.01, p > 0.05). As reported in Table 3 and 4, zero-sum beliefs significantly predicted hostile sexism among men (B = 0.54, p < 0.01). Figure 1 shows a summary of the final confirmed model.

INSERT FIGURE 1

Discussion

Globally, gender equality is at an all-time high. The year 2019 saw the highest percentage of women ever to hold senior management positions, at 29%. This percentage also marked the biggest increase in women's executive roles around the world, rising five percentage points from 24% from a year earlier, and making it the first time the proportion of women in senior leadership exceeded one in four (Thornton, 2019). Women currently hold 24.5% of legislative seats around the world, an increase from 13.0% in 1999 (Chesser, 2019). Apart from these observable increases in women's presence in business and politics, another recent sign of gender equality is the decrease in the global gender wage gap from 26 cents less (for each dollar earned by men) in 2015 to 21 cents less in 2019 ("Gender Pay Gap Statistics for 2019 | PayScale," 2019).

At the same time, these numbers show that gender inequality still persists, and some world regions – such as the Middle East, North and Sub-Saharan Africa, East and South Asia, and the Pacific – have a relatively long way to go before reaching gender parity. Although gender equality benefits men as well as women, advances in gender equality often face resistance from men who are reluctant to support gender equality movements. Ironically, the findings presented here indicate that men are less motivated to support gender equality action in more gender egalitarian nations, where women's progress likely serves as a reminder of their encroachment into previously male-dominated contexts. Specifically, we found a negative correlation between countries' gender equality and men's solidary-based collective action intentions, and this association emerged above and beyond the individual-level predictors of men's collective action intentions including zero-sum beliefs and hostile sexism.

Our logic suggested that the indirect path from zero-sum beliefs to collective action intentions via hostile sexism would be stronger in countries higher in gender equality (a moderation effect). This pattern did not emerge, however. Instead, as noted, country-level GGGI was a main effect predictor of men's solidary-based collective action intentions. This effect may indicate that our logic was at least partially correct: Perhaps women's advances in more gender

egalitarian countries pose a chronic threat to men's dominance, which correlates directly with declines in men's motivation to push for further gains on behalf of women. To test his explanation, it will, of course, be important to include measures of perceived threat in future research.

An alternative explanation for the negative association between country-level gender equality and men's collective action intentions is that men may consider it unnecessary to contribute to gender equality efforts because women are already "doing well enough on their own" . This may be especially true in countries where gender equality movements have a long tradition of success and where women have been approaching equality since a relatively long period. Consistent with this notion, women are also less inclined to join feminist movements and take pro-equality actions when they believe that "there is nothing to fight for" (Radke, Hornsey, & Barlow, 2016). Moreover Stroebe (2013) showed that people who believe that "all will be well" because injustice will be naturally resolved in their society are less inclined to engage in collective action to address disadvantage. Men in more gender-equal countries may assume that their society naturally resolves discrimination against women. Thus, men in more gender equal countries may no longer view discrimination against women as an important social challenge, and therefore view their own solidarity-based collective action as unnecessary

Complementary to that explanation, men in less gender egalitarian countries may be more aware of the gender inequality that surrounds them and thus be more willing to engage in collective action. For men in low-GGGI countries, it is not difficult to observe instances of gender discrimination on a daily basis. The women in their lives have relatively restricted access to education, high-paying jobs, and positions of political power. Moreover, given that our participants were relatively young and (potentially liberal-leaning) university students, they may be especially inclined to view the gender discrimination in the larger culture as illegitimate. If so, this could in more gender unequal countries increase men's motivation to support collective action. However, some studies suggest, that people are more likely to minimize the problem of gender discrimination in places with low (vs. high) gender equality (see: Ayalon, 2014). Although, variations in perceived discrimination in this study were largely attributed to individual differences, the popularity of opinion that gender discrimination is no longer a problem in a given country was inversely related to objective measures of gender equality. For

example, only 12.4% of participants in Hungary and 20,9% in Turkey perceived gender discrimination, compared to 36,2% in Netherlands and 27% in Sweden. Thus, future research is needed to determine whether men in more gender equal countries withdraw their support for gender equality efforts due to perceived threat, lack of perceived need, or both.

If country-level gender equality constitutes a threat that reminds men of the precariousness of their dominance in the gender hierarchy, we suggest that some men – i.e., those higher in zero-sum thinking – cope with this threat by adopting a competitive mindset to defend their group against further loss of status. Indeed, current results indicate that men's zero-sum beliefs are a barrier to collective action intentions directly, and indirectly via enhanced hostile sexism. The tendency to perceive low-status groups (women) as competitors for men's resources predicts a hostile mindset towards women who are perceived as threatening men's status. Men may respond by becoming more motivated to protect these resources (Meegan, 2010) and by reducing their support for solidarity-based collective action (Branscombe et al., 1999; Kuchynka et al., 2018). This effect is consistent with findings that link zero-sum beliefs to social dominance orientation (Esses, Dovidio, Jackson, & Armstrong, 2001). If zero-sum beliefs are a part of a hierarchy-enhancing worldview, negative attitudes toward lower status groups (i.e., hostile sexism) and unwillingness to support underprivileged groups could indeed all reflect the perception that undeserving groups are trying to gain status.

However, country-level gender equality did not moderate the relationship between men's zero-sum beliefs and their collective action intentions. Independently of country-level gender equality, zero-sum beliefs about gender predicted lower collective action intentions among men. Hence, both country-level, objective indices of women's advances and individual-level, subjective mindsets about women's gains independently predict reductions in men's willingness to act for gender equality. To put it another way, the indirect path from men's zero-sum beliefs to collective action intentions via hostile sexism was equally strong across all examined countries, which ranged widely in their levels of gender equality. Although the current sample of 42 countries clearly did not capture all possible variance in country-level gender equality, it is noteworthy that our mediation model worked similarly across otherwise very diverse countries. This suggests that men's zero-sum beliefs may be a universal barrier to their collective action intentions, regardless of country-level differences. Interventions to increase men's buy-in to

gender equality movements may thus benefit, cross-culturally, from targeting the competitive, zero-sum beliefs that may fuel men's resistance to women's gains.

Limitations

To maintain the homogeneity of the current samples, we conducted the study among students only, and did not include people from the general population. As university students are not representative of the whole population, it will be important to conduct future research that includes other social groups and people with varying educational backgrounds. For instance, regardless of their nation's level of gender equality, college students may be more aware than the general populace of structural gender hierarchies and national and international gender equality movements. If so, this may reduce variance in their support for collective action. This is also reflected by our results showing that male students had relatively low scores on both zero-sum beliefs about gender and hostile sexism.

Although we concentrated on student samples, the mean age of the participants considerably varied across countries. To account for these differences and to make sure that the current samples across countries were comparable with regard to age, we controlled for age effects in analyses. However, age was not a significant predictor of collective action intentions and was therefore omitted in the reported analyses. In some national samples, moreover, the number of male participants was relatively low (< 100). This alone should not affect our final model, but future studies should include larger samples of male participants.

Our measure of collective action intentions was worded such that it measured intentions to participate in collective action to support "gender equality" and equality-based policies. The items did not ask about intentions to promote "women's progress" or "equality for women." Thus, although we assume that most readers have interpreted "gender equality" as "women's rights," we cannot be sure how participants interpreted these items. For some male participants, and especially those who believe that discrimination against men now outweighs discrimination against women (e.g., Bosson et al., 2012), endorsement of these items could mean support for collective action on behalf of men's rights or against women's gains. Our data do not allow conclusions regarding participants' beliefs that men are discriminated against, and that actions to establish equality are pro-men actions.

Note also that our primary outcome measure was based on men's self-reports of their intentions to support collective actions. Men's responses to these items may reflect a desire to conform to local norms or well-intended efforts to communicate their core values rather than actual behavioral intentions (Doliński, 2018). Future research should examine men's behavioral efforts to support collective actions as opposed to their mere intentions.

Finally, the cross-sectional, correlational nature of our data renders causal conclusions premature. Although our theoretical model implies causal paths from men's zero-sum beliefs to their collective action intentions via hostile sexism, a true test of our logic awaits further study. In particular, longitudinal and experimental designs will be essential in further tests of our model. Kuchynka et al. (2018) already found that experimentally manipulated reminders of women's progress heightened men's zero-sum beliefs about gender and accordingly reduced their support for workplace gender equity policies. However, it will be important to replicate this experimental finding cross-culturally.

Conclusions

Across countries, men as a group have more agency and power than women, and men's higher status correlates with decreases in their readiness to support women's progress (Becker & Barreto, 2014). The results of our multi-nation study show that this pattern holds universally, with partial invariance taken into consideration, across different countries: Viewing women as direct competitors predicts men's lower willingness to engage in collective action on behalf of women, at least partly via a tendency to view women as manipulative, deceitful, and unworthy of high status positions. Thus, men may withhold support for gender equality movements to prevent "undeserving" women from gaining even more strength.

This model emerged equally strongly regardless of country-level gender equality. Furthermore, our results provide robust and universal evidence that women's country-level advances in power and status are associated with decreases in men's intentions to act on behalf of gender equality. This is consistent with our logic that women's country-level gains pose a threat to men's status. Hence our cross-cultural results show that both individual- and country-level factors predict men's willingness to support gender equality.

Solidarity efforts to combat gender inequalities will not succeed as long as equality is framed only as a "women's" problem (Subašić et al., 2018). As long as gender equality is perceived as a movement that takes away from men and gives to women, social change may continue to stall. More research is therefore needed on factors leading men to perceive gender equality as beneficial for them. Such efforts may include wide-spread educational campaigns emphasizing how gender equality benefits men in terms of health, well-being, and overall happiness (Holter, 2014). Our results might potentially help create more nuanced policies and interventions fostering gender equality depending on the levels of gender equality within a given country. Across the world, more equality for women means progress and gains for all - but it may also mean new challenges in mobilizing men for pro-gender equality actions.

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Table 1. Samples' Composition, Country's GGGI, Cronbach's alphas, and Descriptive Statistics of the Measured Variables in 42 Countries.

Country	N	% of men	Age		Collective Action Intentions			Zero-Sum Perspective of Gender Status			Hostile Sexism			GGGI
			M	SD	M	SD	Alpha	M	SD	Alpha	M	SD	Alpha	
Argentina	431	47	34.92	14.86	4.05	1.98	0.94	0.77	0.89	0.79	1.46	1.39	0.77	0.733
Armenia	283	45	19.98	1.92	2.92	1.72	0.93	1.52	1.13	0.83	2.63	1.22	0.60	0.678
Australia	669	34	31.01	12.67	3.52	1.77	0.94	1.00	0.92	0.87	1.39	1.13	0.80	0.73
Belgium	307	39	19.62	4.40	3.40	1.58	0.93	1.16	0.86	0.83	1.51	1.04	0.73	0.738
Bosnia and Herzegovina	230	42	23.01	5.88	3.59	1.67	0.93	1.54	1.17	0.87	2.77	1.31	0.72	0.712
Brazil	198	48	23.37	7.99	4.25	1.99	0.95	1.60	0.62	0.78	1.97	0.98	0.73	0.681
Canada	323	19	19.93	2.49	3.65	1.49	0.93	0.83	0.91	0.89	1.39	1.02	0.73	0.771
Chile	242	33	21.70	5.09	4.29	1.78	0.91	0.78	0.95	0.82	1.33	1.27	0.74	0.717
China	415	31	19.51	2.34	4.27	1.31	0.90	0.76	0.72	0.88	1.62	0.84	0.51	0.673
Colombia	315	46	19.89	1.78	4.16	1.77	0.94	1.06	1.07	0.88	1.72	1.29	0.76	0.729
Denmark	256	39	25.74	5.85	2.72	1.62	0.94	1.23	1.01	0.88	1.58	1.18	0.77	0.778
France	433	17	22.34	6.80	4.29	1.60	0.90	0.60	0.70	0.80	0.97	1.01	0.73	0.779
Georgia	206	48	21.58	3.40	4.03	1.68	0.93	1.29	1.08	0.86	2.13	1.22	0.59	0.677

Germany	1,755	38	29.21	11.04	3.25	1.55	0.91	1.11	0.92	0.85	1.41	1.11	0.77	0.776
Ghana	332	37	20.19	2.58	4.78	1.69	0.90	1.62	1.27	0.84	2.95	1.41	0.67	0.688
Greece	293	27	26.71	9.62	4.31	1.75	0.93	0.81	0.78	0.83	1.64	1.11	0.71	0.696
India	189	49	21.61	3.26	4.95	1.21	0.89	1.63	0.70	0.85	2.25	0.89	0.70	0.665
Ireland	575	45	19.92	4.22	3.18	1.58	0.93	1.27	1.00	0.85	1.91	1.27	0.78	0.796
Italy	1,752	31	23.14	5.85	4.25	1.70	0.93	0.61	0.77	0.83	1.30	1.15	0.75	0.706
Kazakhstan	344	43	20.22	3.82	2.71	1.58	0.91	1.85	1.15	0.84	2.52	1.26	0.64	0.712
Kosovo	438	37	20.23	3.85	5.13	1.67	0.93	1.20	1.12	0.86	1.97	1.40	0.75	0.730
Lithuania	358	28	23.80	6.72	3.30	1.67	0.92	1.38	1.13	0.86	2.17	1.31	0.77	0.749
Luxembourg	181	34	24.61	5.43	3.81	1.63	0.92	0.55	0.65	0.81	1.11	0.97	0.76	0.712
Malta	261	35	27.29	10.91	3.79	1.76	0.93	0.84	0.88	0.83	1.70	1.24	0.74	0.686
Mexico	344	46	23.68	8.92	4.09	1.68	0.92	0.89	0.99	0.89	1.89	1.33	0.74	0.721
Netherlands	899	33	20.70	3.67	2.97	1.42	0.92	1.21	0.86	0.84	1.51	0.99	0.70	0.747
Nigeria	180	37	23.09	2.47	4.82	1.51	0.85	1.91	1.21	0.80	3.21	1.17	0.43	0.621
Norway	216	41	23.10	4.09	3.21	1.58	0.93	1.01	0.89	0.84	1.34	1.05	0.74	0.835
Pakistan	416	47	21.44	2.25	4.22	1.49	0.91	1.87	1.21	0.89	2.57	1.17	0.70	0.550
Philippines	475	47	19.78	2.00	4.35	1.53	0.93	0.83	0.90	0.87	1.67	1.22	0.77	0.799
Poland	566	29	24.32	6.85	2.91	1.58	0.92	1.42	1.02	0.82	2.29	1.22	0.70	0.728
Romania	256	41	22.81	4.61	3.48	1.70	0.92	1.17	1.00	0.86	2.56	1.28	0.74	0.711

Russian Federation	475	21	21.48	6.75	2.90	1.71	0.93	1.38	1.15	0.87	1.92	1.33	0.77	0.701
Serbia	514	18	22.03	5.73	4.04	1.79	0.92	0.85	0.99	0.87	2.12	1.37	0.71	0.730
Slovak Republic	627	44	21.95	4.61	2.82	1.57	0.93	1.29	1.10	0.87	2.36	1.27	0.72	0.693
Spain	1,254	34	26.03	9.44	4.49	1.67	0.93	0.57	0.78	0.84	0.83	1.01	0.77	0.746
Suriname	183	45	22.92	5.72	4.29	1.71	0.94	1.40	1.08	0.85	2.35	1.20	0.67	0.695
Turkey	257	35	21.87	2.44	4.41	1.80	0.94	0.98	1.06	0.84	1.72	1.40	0.75	0.628
UAE	521	33	19.99	1.47	3.65	1.75	0.94	0.98	0.86	0.83	1.97	1.19	0.70	0.642
Ukraine	284	34	19.16	1.43	3.40	1.74	0.94	1.48	1.20	0.87	2.23	1.32	0.72	0.708
USA	375	40	19.60	2.38	3.66	1.72	0.95	0.96	0.92	0.88	1.48	1.11	0.74	0.720
Wales	209	34	30.96	10.93	3.62	1.86	0.95	0.91	1.10	0.92	1.24	1.27	0.83	0.774
Total	18,837	36	23.56	8.04	3.76	1.76	0.94	1.06	1.02	0.87	1.72	1.29	0.77	

Table 2. Global Fit Measures from Measurement Invariance Tests for Individual-Level Scales

Scale	Level of invariance	χ^2	df	CFI	RMSEA	ΔCFI	ΔRMSEA
Collective Action Intentions	Configural invariance (equal form)	1226.55	369	0.981	0.072	-	-
	Metric (weak) invariance (equal factor loadings)	1836.88	569	0.977	0.071	0.004	0.001

	Scalar (strong) invariance (equal indicator intercepts)	3167.92	769	0.962	0.084	0.015	0.013
Zero-Sum Beliefs about Gender		1439.38	574	0.967	0.058	-	-
	Configural invariance (equal form)						
		2142.80	814	0.954	0.061	0.013	0.003
	Metric (weak) invariance (equal factor loadings)						
		2659.13	894	0.941	0.067	0.013	0.006
	Partial scalar (strong) invariance (equal indicator intercepts) [a]						
		4135.05	1054	0.906	0.081	0.048	0.020
	Scalar (strong) invariance (equal indicator intercepts)						
Ambivalent Sexism (2-factor structure: Hostile and Benevolent)		495.32	328	0.991	0.034	-	-
	Configural invariance (equal form)						
		946.66	488	0.975	0.046	0.016	0.012
	Metric (weak) invariance (equal factor loadings)						
		1376.14	528	0.955	0.060	0.020	0.014
	Partial scalar (strong) invariance (equal indicator intercepts) [b]						
		5069.49	648	0.784	0.124	0.191	0.078
	Scalar (strong) invariance (equal indicator intercepts)						

Notes. 41 countries; $\chi 2$ – chi square; d*f* -degrees of freedom; CFI - comparative fit index; RMSEA - root mean square error of approximation; [a] Intercepts for item 1, 2, 4, and 7 were released; [b] Intercepts for item 1, 2, and 3 were released.

Table 3. Multilevel Models Predicting Collective Action Intentions (Male Sample).

		Model 1$_{CAI}$	*Model 2$_{CAI}$*	*Model 3$_{CAI}$*	*Model 4$_{CAI}$*
Individual-level variables (L1)	*Zero-sum beliefs about gender*	-	*-0.26***	*-0.10***	*-0.10***
	Hostile sexism	-	-	*-0.30***	*-0.30***
Country-level variables (L2)	*Country's gender equality (GGGI)*	-	*-5.80***	*-7.10***	*-7.10***
Cross-levels interaction component	*Country's gender equality (GGGI)*Zero-sum beliefs about gender*	-	-	-	*0.01*
Random effects	*Residual*	*1.56*	*1.54*	*1.50*	*1.50*
	Intercept	*0.67*	*0.59*	*0.62*	*0.62*

Male sample; dependent variable: HS

		Model 1$_{HS}$	*Model 2$_{HS}$*	*Model 3$_{HS}$*
Individual-level variables (L1)	*Zero-sum beliefs about gender*	-	-	*0.54***
Country-level variables (L2)	*Country's gender equality (GGGI)*	-	*-5.31***	*-4.28***
Random effects	*Residual*	*1.20*	*1.20*	*1.07*
	Intercept	*0.52*	*0.44*	*0.34*

Notes. Number of observations: Male sample = 6,734; Number of countries = 42. * $p < 0.05$. ** $p < 0.01$

Table 4. Multilevel Models' Fit Indices.

Model	*Type*	*Description*	*Δ df*	*- 2 log likelihood*	*AIC*	*L. Ratio*
			Male sample			
1_{CAI}	*Baseline (null) model*	*Individuals nested within their country with no other predictors*	*-*	*25216.32*	*25222.31*	*-*
2_{CAI}	*Random coefficient and fixed predictors*	*Individual (L1), country (L2) level (GGGI)*	*2*	*25012.56*	*25022.57*	*203.74***
3_{CAI}	*Random coefficient and fixed predictors*	*Individual (L1), country (L2) level (GGGI)*	*1*	*24713.88*	*24725.88*	*298.69***
4_{CAI}	*Random coefficient and fixed predictors*	*Individual (L1), country (L2) level (GGGI) and cross-levels interaction (L2*L1)*	*1*	*24713.88*	*24727.88*	*0.00*
			Male sample; dependent variable: HS			
1_{HS}	*Baseline (null) model*	*Individuals nested within their country with no other predictors*	*-*	*21661.90*	*21667.90*	*-*

2_{HS}	*Random coefficient and fixed predictors*	*Individual (L1), country (L2) level (GGI)*	*1*	*21649.00*	*21657.00*	*12.90***
3_{HS}	*Random coefficient and fixed predictors*	*Individual (L1), country (L2) level (GGI)*	*1*	*20073.78*	*20083.78*	*1575.22***

Notes. Number of observations: Male sample = 6,734; Number of countries = 42. * $p < 0.05$. ** $p < 0.01$

[1] For all sub-indexes, scores range from 0 (imparity) to 1 (gender parity; see: World Economic Forum, 2018, for more detail about how the GGGI is scored).

Figure 1. Multilevel model of hostile sexism as a mediator of the relationship between zero-sum perspective and collective action intentions among men.