Religion, Diversity and Outgroup Tolerance across 79 Countries: The 'Homogenizing' Role of Heterogeneity

Abstract

Using mixed models fitted to World Values Survey data and national statistics from 79 countries, we examine how outgroup tolerance relates to religious identity and country-level religious diversity. We demonstrate three noteworthy findings: religious minorities are generally more tolerant than the majority population, regardless of religious diversity; tolerance is positively related to diversity; and the diversity-tolerance relationship is strongest for the majority population. These findings suggest that exposure to outgroups plays a crucial role for shaping attitudes toward them. As members of an outgroup, minorities are more likely to understand outgroup disadvantage and are more tolerant of other outgroups as a result. This minority-majority difference is largest if diversity is low. If diversity is high, outgroups receive more exposure, resulting in both minorities and the majority population being more tolerant of them.

Keywords: social tolerance; religious identity; minority identity; contextual effects; diversity.

Word count: 7985 (all included, except for the appendices.)

Introduction

A well-established literature explores the relationship between population diversity and outcomes considered crucial for a well-functioning society, including economic prosperity (Alesina, Harnoss, and Rapoport 2016; Ottaviano and Peri 2006), democratic robustness (Bednar 2021) and good governance (Lee 2018). A dominant concern is the relationship between diversity and measures of social cohesion and tolerance (Esteban and Ray 2008; Putnam 2007). Some studies reveal a negative relationship (Dinesen and Sønderskov 2015; Esteban and Ray 2008; Putnam 2007), others a positive one (Gundelach 2014; Rydgren et al. 2013), and still others suggest either no relationship (Laurence 2011) or an unclear pattern (Schmid, Ramiah, and Hewstone 2014). These mixed conclusions point to the need for additional research (Bednar 2021). This need is underscored by unprecedented international migration in recent decades and the increased diversity that has resulted (Inglehart and Norris 2017; Rudolph and Wagner 2022).

Most research on the connection between diversity and social tolerance considers the role of race, ethnicity, or immigration (Andersen and Milligan 2014; Côté et al. 2018; Schmid, Ramiah, and Hewstone 2014). Although religion and ethnicity are closely connected, they are not identical (Spierings 2019). In fact, religious identity permeates national and ethnic boundaries to influence social and political attitudes and behaviors (McCauley 2014). The primacy of religion for identity formation is seldom disputed (Lijphart 1996; Smith 1978:1172). In his seminal work, Lijphart (1979:52) states, "where class, religion and language were all present as competing bases, religion turns out to be victorious, language is a strong runner up, and class finishes as a distant third." Despite its importance, the impact of religious identity and diversity on social tolerance is yet to be studied in cross-national perspective.

The present paper offers new insights on this issue. Using multilevel models fitted to World Values Survey (WVS) data and national statistics collected from 79 countries, we explore how religious identity and religious diversity interact to influence outgroup tolerance. We demonstrate three notable findings: 1) religious minorities tend to be highly tolerant, regardless of the level of religious diversity in their country; 2) members of the majority population are generally less tolerant, albeit the difference between them and minorities disappears in heterogenous countries; and 3) both minorities and the majority population—but especially the latter—are more likely to be tolerant in diverse countries.

Minority Status and Outgroup Tolerance

It is widely accepted that social tolerance has positive outcomes for both individuals and society (Rydgren et al. 2013). Tolerance is associated with diverse ideas, creativity, and innovation (Florida and Gates 2002); social trust and social capital (Herring 2009; Sullivan and Transue 1999); and a well-functioning democracy (Paxton 2002). In contrast, intolerance is associated with discrimination in the workforce and elsewhere (Lee 2018; Pager, Bonikowski, and Western 2009;Van Tubergen, Maas, and Flap, 2004). Intolerance is also a driving force for inter-group conflict, repression, crime, and civil war (Wimmer, Cederman, and Min 2009).

The distinction between minority and majority identities may also have important implications for tolerance. Depending on the context, ethnicity (Benier, Wickes, and Higginson 2016), language (Lijphart 1996), religious affiliation (Giani and Merlino 2021; Lijphart 1979; Andersen and Milligan 2011; Milligan, Andersen and Brym 2011) and race (Pager, Bonikowski, and Western 2009; Craig and Richeson 2014) play important roles in this regard. Comparative research indicates that minorities are more likely to encounter overt discrimination in their daily lives and suffer from social exclusion (Lee 2018; Weldon 2006; Staerklé et al. 2010; Van de Velde, Buffel, and Van Praag 2020). On average, minorities also have lower educational attainment, fewer job opportunities, less public goods acquisition, and poorer well-being (Van de Velde, Buffel, and Van Praag 2020). This disadvantaged position results in a lesser sense of safety, empowerment, and national belonging than the majority population (Gorman and Seguin 2018; Staerklé et al. 2010; Wilkes and Wu 2018).

People tend to recognize both their own and their group's relative social standing (Gorman and Seguin 2018). They also generally relate better to those with whom they share similarities (Zeng and Xie 2008). Concomitantly, the differences in experiences of minorities and the majority population produces profoundly different perceptions of intergroup relations (Sirin, Valentino, and Villalobos 2017). Minorities' experiences of social exclusion and intolerance encourages sympathy for others who experience similar hardship (Dovidio, Gaertner, and Saguy 2008). The majority population, on the other hand, is less likely to experience social exclusion, making understanding outgroups more challenging. We postulate that these differences in knowledge and understanding of outgroups have implications for tolerance. This leads to our first hypothesis:

H1: Religious minorities are generally more tolerant than members of the religious majority.

Diversity and Outgroup Tolerance

Although diversity has positive effects (Florida and Gates 2002; Rydgren et al. 2013), it also brings challenges (Dinesen and Sønderskov 2015; Finseraas et al. 2019). Existing studies document a negative relationship between diversity and economic development, good governance, and the provision of public goods (Alesina, Baqir, and Esterley 1999; Habyarimana et al. 2007). Highly fractionalized states also suffer more from economic recession and political instability (Esteban and Ray 2008). These negative consequences have become increasingly salient as immigration has become more religiously and ethnically diverse (Putnam 2007; Rudolph and Wagner 2022).

Competition theory and contact theory provide competing insights into the mechanisms for a diversity effect. From the competition perspective, members of the majority population are intolerant of outgroups that they fear pose a threat to their security and lifestyle (Côté et al. 2018; Inglehart and Norris 2017; Rudolph and Wagner 2022). This is most likely when social interactions are limited and negative in nature. In contrast, contact theory (Allport 1954) emphasizes the positive impact of contact with outgroups, arguing that it increases familiarity and reduces reliance on stereotypes (Finseraas et al. 2019). This increased knowledge promotes greater inter-group trust and tolerance (Rydgren et al. 2013; Steinmayr 2021).

A growing literature indicates that people who have diversity in their personal networks tend to have a better understanding of and respect for others (Paxton 2004; Putnam 2000, Côté, Andersen and Erickson 2018). Research on neighborhood effects on tolerance is similarly consistent with the contact thesis (Dinesen and Sønderskov 2015; Schmid, Ramiah, and Hewstone 2014; Pettigrew and Tropp 2006). Although less is known about the effects of country-level diversity on tolerance, there is evidence that people in more diverse countries are more likley to have contact with outgroups (Benier, Wickes, and Higginson 2016; Schmid, Ramiah, and Hewstone 2014). Not only does direct contact matter, but so to do general forms of exposure such as depictions of outgroups in the media.

Positive representations of minorities in the mass media are generally higher in diverse societies than in homogenous societies (Saeed 2007). Over the past few decades, an increasingly diverse audience has called for diversity to be reflected in the media, especially in North America and Western Europe (Kuppuswamy and Younkin 2020; Ahmed and Matthes 2017). Modern social media have also trended towards increased diversity in representation (Erigha 2015). In the same

way that consumer preferences affect cultural production (Kuppuswamy and Younkin 2020), we contend that greater representation of minorities in the media encourages a better understanding of them. This emphasis on representation also opened the door for minorities to become legislators, policy makers, and executives (Minta and Sinclair-Chapman 2013), which has further increased their national exposure.

In short, our exposure theory holds that individuals who are exposed to people of a different race, ethnicity or religion than themselves—whether through direct contact, the mass media, or even from discussions with people in their own group who have had contact with outgroup members—are more familiar with the lives, traditions, and values of minorities. This familiarity leads to tolerance. No previous research has explored this issue in cross-national perspective. Our second hypothesis attempts to fill this void:

H2: Country-level religious diversity is positively associated with outgroup tolerance. This relationship holds for both religious minorities and the majority population.

The Moderating Role of National Context

A large literature demonstrates that the relationship between minority-majority status and social tolerance is moderated by neighborhood context (Benier, Wickes, and Higginson, 2016; Finseraas et al., 2019; Schmid, Ramiah, and Hewstone 2014), social networks (Gijsberts et al., 2015; Côté, Andersen, and Erickson, 2018), and country characteristics (Van de Velde, Buffel, and Van Praag, 2020; Wilkes and Wu, 2018). Most studies have explored the effects of ethnic or racial diversity. No previous research has directly explored how the relationship between religious identity and tolerance might differ by the level of religious diversity in a country.

The exposure thesis sheds light on the possible mechanisms for a moderating effect of religious diversity. Given that minorities are more likely to personally experience social exclusion related to being part of an outgroup, they are likely to be more aware of the adverse consequences of intolerance. This heightened awareness leads to positive attitudes towards members of other outgroups who share similar circumstances. On the other hand, majority members are unlikely to have experienced social exclusion resulting from their religious identity. They are also generally less familiar with members of outgroups, especially in homogenous countries. Exposure to outgroups, which is more likely to occur when diversity is high, is critical for their understanding of them. This leads to our third hypothesis:

H3: The disparity in tolerance between religious minorities and the majority population is smallest if religious diversity is high.

Data and Variables

World Values Survey (2005-2020)

We utilize data from the World Values Survey (WVS) (Inglehart et al 2020). The WVS contains cross-sectional survey data collected from more than 100 countries and regions over seven waves between 1981 and 2020. We use data only from the three most recent waves (waves 5-7) because they include the variables necessary for our analysis. Collected between 2005 and 2020, waves 5-7 include responses from 244,318 individuals nested within 167 surveys from 89 countries. Thirteen surveys were excluded because they did not have information needed to create the dependent variable.[1] Another 17 surveys were excluded because the number of minorities was so small ($n < 30$) that it caused problems with the reliability of the model estimates.[2] We also included only respondents with at least two valid responses on the four items used to create the dependent variable. Multiple imputation was used to impute missing information on the other individual-level variables (King et al. 2014), most of which had fewer than two percent missing. The final sample contains 181,032 individuals nested in 137 country-year surveys collected from 79 countries. Fourteen of the countries were surveyed three times, 30 were surveyed twice, and 35 were surveyed once.

Outgroup Tolerance

Information to construct the dependent variable was derived from the survey item: "On this list are various groups of people. Could you please mention any that you would not like to have as neighbors?" We use data from four items from the list: (1) another race, (2) immigrants, (3) different religious belief, and (4) different language. For each item, responses were coded 0 if the

[1] Surveys missing information on the dependent variable were from(survey year in parentheses): Colombia (2005), Egypt (2008, 2013), Guatemala (2004), Hong Kong (2005), Iran (2007), Iraq (2006), Japan (2005), Kuwait (2014), New Zealand (2004), Argentina (2006), Guatemala (2020) and Qatar (2010).

[2] Surveys excluded because they had too few minority respondents ($n < 30$) were from the following countries (survey year in parentheses): Algeria (2014), Bahrain (2014), Iraq (2013, 2018), Jordan (2007, 2018), Morocco (2007, 2011), Pakistan (2012), Palestine (2013), Romania (2005), Romania (2012), Tunisia (2013, 2019), Turkey (2007, 2011), Yemen (2014). .

respondent disapproved of having someone from the group as a neighbor (intolerance), and 1 otherwise (tolerance).

The outgroup tolerance index (OTI) was created by taking the mean for all valid responses to these four questions. The index was rescaled to the $0-100$ range to aid interpretation. Confirmatory factor analysis indicated that the four items loaded until a single latent variable. The scale also has high internal consistency (Cronbach's $\alpha = 0.77$). Multilevel logistic regression models predicting each item separately produced substantively similar results to those for the four-item OTI dependent variable, suggesting that the items have adequate cross-context equivalence. Descriptive statistics for the individual items of the OTI and results from the factor analysis are shown in Table 1.

[Insert Table 1 here]

Religious identity

Our focal individual-level predictor is religious identity. We are specifically interested in whether respondents identified with the dominant religion in their country ("majority" identity) or not ("minority" identity or minorities). Respondents were asked: "Do you belong to a religious denomination? In case you do, answer which one." We collapsed the nearly 100 denominations that were declared into seven general categories: Christian, Islamic, Hindu, Buddhist, Jewish, other religions, and no religion. Majority religion was defined by two criteria: 1) it was an official state religion or 2) in countries without a state religion, it was the largest religion in terms of identifiers. Minority identity is coded 1; the majority population is coded 0.

Demographic Control Variables

Our models control for gender, age, marital status, education, and income. Measured in years, age entered the models as an orthogonal quadratic polynomial to account for curvilinear effects. Martial status has three categories: married or cohabitating; divorced, separated, or widowed; never married or cohabitating. Education is divided into two categories: university degree or lower. Household income is a ten-point scale that asks respondents to state their household income relative to others in their country. Descriptive statistics for the demographic variables are in Table 2.

[Insert Table 2 here]

Country-level Variables

Religious diversity. We adapt Alesina et al.'s (2003:159) fractionalization index. The religious diversity index (RDI) is calculated for each survey:

$$RDI_j = 1 - \sum_{i=1}^{N} S_{ij}^2$$

where S_{ij} is the share of religion i ($i = 1...N$) in country j at the time of the survey. The survey item tapping religious denomination used to code individual-level religious identity—before collapsing the categories—is also used to determine the share of each religion. The RDI indicates the probability that two people randomly selected from the population would have a different religious identity. It has a theoretical range from 0 (no diversity; all members belong to the same affiliation) to 1. The empirical distribution of the RDI in the data is 0.03 to 0.82.

Our main analysis controls for five country-level variables commonly considered important to social tolerance. Three of these were quantitative variables that varied within countries over time: GDP per capita, Gini coefficient, and the percentage of immigrants. These variables were standardized to have a mean of 0 and standard deviation of 1 to facilitate comparison of the magnitude of their effects.

GDP per capita (PPP adjusted). Using data from the World Bank (2021), we adjusted for purchase power parity (PPP) in constant 2017 US dollars.

Gini coefficient for household incomes. These data were obtained from the Standardized World Income Inequality Database (SWIID).

Percent immigrants. We controlled for the percentage of immigrants in the country at the year of the survey to account for the possibility that tolerance may be affected by large numbers of immigrants rather than diversity per se (Putnam 2007). Information on immigration was obtained from the World Bank (2022) and the United Nations (2022).

We also control for two categorical variables that were constant over time: religious-cultural heritage and communist history.

Cultural-religious heritage. Following Huntington (1993) and Schwartz (2006), our measure combines information on cultural traditions, religious history, and geographical proximity.

The measure is divided into four groups: Europe/Christian heritage (the reference group, including the Protestant, Catholic and Orthodox societies in Europe, America, and Oceania); Sub-Saharan Africa; Middle East and North Africa / Islamic countries; Asian countries (including the Confucian, Buddhist, Hindu and Shinto societies but excluding the Islamic societies in Central Asia, which were included in the North Africa/Islamic category).

Communist history. It has been well established that experience with communism is negatively associated with a wide array of social and political attitudes related to social tolerance (Andersen and Fetner 2008; Andersen 2012). Communist past enters the models as a simple binary variable, coded 1 for countries that had a communist government at any time since the end of World War II (1945), and 0 otherwise.

Descriptive statistics for the diversity index, the contextual control variables and the dependent variable for each survey are shown Table A1 of the appendix.

Mixed Models

We fitted a series of mixed models that build sequentially. These models account for dependencies among observations within surveys and countries. They have a three-level design: individuals (level 1) are nested within surveys (level 2), and surveys are nested within countries (level 3). Indicating that a significant portion of the variation in outgroup tolerance is related to country context, the intra-class correlations for the survey ($\rho_2 = 0.18, p \ll 0.001$) and country levels ($\rho_3 = 0.19, p \ll 0.001$) were highly statistically significant. Consequently, all models include variance components (random intercepts) that account for average differences in tolerance across countries (level 3) and surveys (level 2).[3]

The baseline model, Model 1, includes religious identity and all individual-level controls but excludes the country-level variables, including religious diversity. This model provides a test of the first hypothesis. Model 2 adds religious diversity and the country-level control variables. This model tests the second hypothesis. Model 3 adds variance components for minority-majority

[3] Preliminary models included fixed effects for year to control for general changes in tolerance over time. The estimates from these models were generally consistent with those from the models excluding the year effects. However, because survey year was highly related to country—recall that almost half the countries (35) were surveyed only once—including fixed effects for year in the model produced problems with model convergence and unstable estimates. A linear trend for year was not statistically significant. We thus excluded year from the final models.

differences in attitudes across countries (level 3) and surveys (level 2). Model 4 adds a cross-level interaction between minority-majority religious status and religious diversity. This model provides a test of the third hypothesis.

Robustness checks

We also report the results of four supplementary models. Models 4a and 4b are mixed models identical in structure to Model 4 but differ in how the non-religious are handled. Model 4b includes non-religious respondents in the religious majority in all societies except for Islamic societies, for which they are coded as minorities. Model 4c is fitted to a subset of the data that excludes the non-religious in all countries; it also excludes entire countries where the non-religious are the majority (e.g., China, Vietnam). Models 5a is identical to Model 4 except that it excludes the country-level control variables. Model 5b also excludes the country-level controls but differs in that it replaces the variance components and country-level control variables with fixed effects for country. While this model estimates the within-country temporal relationship between tolerance and diversity, it is unable to rule out the possibility that other contextual factors explain it.

Building on the final model (Model 4), we also tested all possible combinations of cross-level interactions between minority status and the five country-level control variables. The BIC values for these competing models indicated that our final model provide the best fit to the data (see Table A2 of the appendix). Although not reported here, we also explored the impact of various combinations of other national-level predictors related to social trust and tolerance. These variables included the proportion of people with higher education, level of urbanization, regime stability, level of political freedom, type of political system, years as a democracy, freedom of the press, severity of corruption and homicide rates. None of these alternative controls yielded statistically significant estimates when our main contextual variables are also included. Their inclusion also did not impact the estimates for religious diversity.

Finally, to ensure that no country had undue influence on the results, the final model (Model 4) was cross-validated by refitting it as many times as there were countries, omitting one country each time. The same process was employed for individual country-year surveys. We also explored the impact in the results of different exclusion criteria for the minimum cut-offs for the number of valid items used in the dependent variable (three items and all four items). We also

assessed the impact of restricting the data to surveys for which the minimum number of minority respondents within a country was $20, 50$ and 100. In all cases, these different data restrictions produced similar results as our main findings.

Results

Figure 1 is a heatmap displaying the distributions of the final tolerance index and each of the four items used to construct it. Countries are sorted by regional-cultural group and ascending order of mean tolerance. The boxes display the proportion of tolerant responses: dark shading represents low tolerance; light shading represents high tolerance.

[Insert Figure 1 here]

Figure 1 highlights some noteworthy patterns. First, outgroup tolerance is high in most countries. Second, there is generally high within-country consistency in the responses to the four individual measures, although a few countries are outliers. Third, in some countries, slightly fewer respondents are tolerant of immigrants (item 2) relative to the other three items. Fourth, countries with a European/Christian heritage tend to be most tolerant; Islamic and Asian countries tend be least tolerant. The latter two differences suggest the importance of controlling for regional-cultural group and percent immigrants.

Figure 2 provides insight into the relationship between religious tolerance and religious identity in each country. Countries are listed in descending order by average level of tolerance. The estimates represent the effect of religious identity from country-specific OLS regressions predicting tolerance, controlling for the other individual-level variables. Because religious status is measured as a binary variable, these effects indicate the minority-majority in gap in average tolerance.

[Insert Figure 2 here]

Three interesting patterns emerge in Figure 2. First, indicating the importance of country context, there is significant variation in the relationship between religious identity and tolerance.

Second, providing preliminary evidence of our first hypothesis, in all but a handful of countries, minorities are more tolerant or there is no significant difference between the two groups. Third, the relationship between religious identity and tolerance differs by cultural-religious heritage. The differences between minorities and the majority population tend to be much larger in African, Islamic, and Asian societies than in the Christian world.

The bivariate correlations between the context variables and average tolerance are shown in Table 3. The correlations were calculated with country-year survey as the unit of analysis. Justifying their inclusion in the statistical models, all national-level variables except the Gini coefficient are significantly correlated with religious diversity (RDI), and most of them are correlated with each other. Most importantly, the correlation between religious diversity and average tolerance is positive and statistically significant ($0.388, p << 0.001$). This provides tentative support for our second hypothesis.

[Insert Table 3 here]

Table 4 displays the results of the mixed models predicting outgroup tolerance. Recall that Model 1 includes variance components for the country (level 3) and survey (level 2) intercepts and the demographic control variables but none of the country-level variables. Both variance components are statistically significant, indicating that mean tolerance differs both by country and survey. In support of our first hypothesis, the coefficient for the minority effect ($1.41, p < 0.001$) indicates that, on average, religious minorities are more tolerant than the majority population. The estimates for the control variables are consistent with previous research: men are less tolerant than women, tolerance decreases with age and income, and those who have never been married tend to be more tolerant than others. The estimate for educational attainment points to its liberalizing role: people who hold a university degree are most tolerant.

[Insert Table 4 here]

As Model 2 indicates, adding religious diversity and the country-level control variables to the model reduces the variance components for the country intercept by more than half (133.62 to 64.74) and the survey intercept by about six percent (42.93 to 40.34). In other words, the contextual variables explain a large proportion of the cross-national difference differences in

tolerance. However, adding the contextual variables has no practical impact on the relationship between minority-majority identity and tolerance (the estimate changes only from 1.41 to 1.40). Just as important, the estimate for religious diversity is positive and statistically significant ($12.92, p < 0.05$), lending further support to our second hypothesis.

In terms of the country-level control variables, GDP per capita has a positive association with tolerance. Compared with Christian societies (the reference group), Islamic and Asian societies are least tolerant, on average; African societies do not differ significantly from Christian societies. The estimates for communist history, income inequality and percent immigrants are statistically insignificant.

Model 3 adds the variance components for religious identity at the country and survey levels. Both variance components are statistically significant, indicating that country context moderates the relationship between religious identity and tolerance. Moreover, the AIC and BIC values are substantially smaller than for the two previous models. While the estimate for religious identity is substantially larger than for Model 2 (2.42 versus 1.40), the estimate for religious diversity is smaller and now statistically insignificant. These estimates change substantially when we consider the cross-level interaction between the two religious variables in Model 4.

The AIC and BIC values suggest that Model 4—which includes the interaction between religious identity and diversity—provides a better summary of the data than previous models. Adding the interaction also significantly reduces the magnitude of the variance components for estimate of the minority-majority effect, especially at the country-level, which decreased by about 37.5 percent (from 11.39 to 7.14) and is no longer statistically significant. Most important, the interaction between religious identity and diversity is negative and statistically significant ($-11.73, p < 0.001$). Table 5, which includes the results from the supplementary models, highlights the robustness of these findings. The estimates for the focal variables—individual-level religion and religious diversity—are substantively equivalent in all models.

[Insert Table 5 here]

Figure 3 displays the interaction between religious identity and diversity. To emphasize the robustness of this finding, we include the results from some of the supplementary models as

well as those from Model 4. In each panel, religious diversity is on the horizontal axis, and predicted tolerance is on the vertical axis. Predicted tolerance was calculated by allowing religious identity and diversity to vary through their ranges while holding all other variables at their means or proportions (see Andersen and Armstrong 2022). The broken lines represent predicted tolerance for religious minorities; the solid lines are for the majority population.

[Insert Figure 3 here]

Focussing on Model 4 (panel a), we can clearly see that both minorities and the majority population are most tolerant in diverse countries, although this relationship is much stronger for the majority population. In a very homogeneous society (RDI = 0.20), the estimated difference in tolerance between religious minorities and the majority is about 8 percentage points. When RDI = 0.82 (the maximum in the data), this difference disappears: the lines converge at ~0.87 on the tolerance index. In other words, regardless of their religious identity, most people are tolerant in diverse countries. As panels b, c and d demonstrate, the predicted values from the supplementary models are substantively identical. In summary, Model 4 provides strong support for all three hypotheses.

Discussion and Conclusions

The modern world is marked by growing international migration and xenophobia (Putnam 2007; Inglehart and Norris 2017). Some research suggests that increasing heterogeneity poses a threat to economic growth, good governance, and social solidarity (Dinesen and Sønderskov 2015; Esteban and Ray 2008; Habyarimana et al. 2007). Others argue that it is key to a thriving economy and a tolerant society (Alesina, Harnoss, and Rapoport 2016; Gundelach 2014; Herring 2009; Ottaviano and Peri 2006). Most knowledge on the issue focuses on ethnic or racial diversity. Cross-national research considering the role of religious identity and diversity is virtually nonexistent. Our analysis provides new insight on the issue.

We uncover three important results: on average, religious minorities are more tolerant of outgroups than the majority population; tolerance tends to be highest in religiously diverse countries; and the relationship between diversity and tolerance is strongest for the majority

population. In highly diverse countries, both minorities and the majority population tend to be tolerant.

We contend that the higher tolerance among minorities reflects that they have likely experienced, or know someone who has, social exclusion stemming from their position as outsiders. This leads to sympathy for others. But even minorities may not be aware of the plight of other minority groups in homogeneous countries. In more diverse countries, they are likely to have more exposure to other outgroups which results in a higher tolerance. This social learning process, where biases are overcome through exposure, has most relevance for those who start with little knowledge. The majority population is less likely to face challenges associated with social exclusion. It is also less familiar with people from outgroups, especially if diversity is low. A lack of awareness results in low tolerance. In diverse countries, exposure of outgroups is much higher, resulting in tolerance reaching levels comparable to that of minorities.

Our findings contrast with those of some individual country studies that demonstrate a negative association between ethnic diversity and tolerance (Dinesen and Sønderskov 2015; Esteban and Ray 2008; Habyarimana et al. 2007). This discrepancy might simply suggest that ethnicity and religion influence attitudes in different ways. Alternatively, as Putnam suggests (2007), it is possible that the discrepancy reflects that public opinion responds slowly to changes in diversity. We partly mitigate this issue by modelling the relationship between religious diversity and tolerance both across and within many countries. Our results suggest that efforts to raise awareness about new minority groups, and their potential benefits to diversity, may encourage social cohesion in the long run.

Some might argue that a relationship between diversity and tolerance simply reflects that people with different attitudes move to different contexts. While geographical mobility is a sensible concern for neighborhoods, it unlikely applies to countries. Consider the US, a rich country with high immigration and diversity. About 10 percent of the US population moved to a new residence within the US in 2021 (Forbes 2023; Census Bureau 2022); in the same year, new immigrants were only 0.4 percent of the population (Homeland Security 2022). Only in rare cases—the Russian invasion of Ukraine, the Syrian refugee crisis etc.—are emigration and immigration greater than movement within a country (Bell and Muhidin 2009). We suspect, then, that the relationships we uncovered are meaningful.

Still, our analysis does have limitations. Without micro-level data on the exposure that

individuals had to outgroups, we could not test the mechanisms of the exposure thesis. Data containing detailed information on social networks and interactions are usually bounded within a single country or even smaller communities. Limited by data availability, we could only demonstrate how the relationship between religious identity and tolerance differs by country-level diversity. To understand these differences, we must lean on other research demonstrating that exposure of minorities in the media and politics (Ahmed and Matthes 2017), and direct contact with minorities (Benier, Wickes, and Higginson 2016; Schmid, Ramiah, and Hewstone 2014), are generally higher in heterogeneous countries. The relationship between country differences exposure to minorities—especially positive versus negative exposure—and tolerance merits further examination. Our findings provide a foundation for these inquiries.

Some argue that acceptance, not tolerance, is the yardstick by which democracy should be measured (Hjerm et al. 2020). We disagree. While other measures (e.g., inter-group marriage) better tap acceptance than our tolerance index, convincing evidence demonstrates that tolerance is enough to reduce conflict and increase cooperation among groups (Oberdiek 2001). Others might argue that our findings merely reflect pragmatic responses to lived realities. From this view, people living in culturally countries areas may have little option but to live near members of outgroups simply because they are too numerous to avoid. That is, people in highly diverse countries may be forced to live near members of outgroups even if they are intolerant towards them. As our measure asks respondents who they "would not *like* to have as neighbors," our results are immune to this criticism. Even if one has little choice but to live near someone, that does not necessarily mean one "likes" to do so.

Our study is the first to examine how outgroup tolerance is related to religious identity and diversity across a wide array of countries with diverse cultural, political, and economic contexts. Our findings counter concerns that increasing diversity necessarily has a negative impact on social solidarity. The opposite is likley true, at least in the long term. While minorities are generally more tolerant than the majority population, the difference between them is most marked in homogenous countries. In highly heterogeneous countries, both groups are not only much more tolerant, but the difference between them disappears. In short, population heterogeneity has a homogenizing effect.

DATA AVAILABILITY STATEMENT

We employed publicly accessible data from the World Values Survey (longitudinal file,

1981-2020, version name: "WVS_TimeSeries_R_v1_2") available at: https://dx.doi.org/10.14281/18241.17. The R code used in our analysis is available upon request.

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Table 1
Mean scores (or proportions), factor loadings and correlations for the outgroup tolerance index (OTI) and the four items used to construct it.

Item	Mean	Factor loading	Correlations			
			Item 1	Item 2	Item 3	Item 4
1. Accept neighbor of a different race	83.4	0.73	1			
2. Accept neighbor who is an immigrant	77.6	0.61	0.46	1		
3. Accept neighbor who has a different belief	85.6	0.69	0.50	0.41	1	
4. Accept neighbor who speaks a different language	84.7	0.66	0.42	0.40	0.47	1
OTI	82.3	--	0.79	0.76	0.77	0.75

Table 2 Descriptive statistics for individual-level variables

Variable	N / Mean	Percent / SD
Survey wave		
WVS 5 (2005-09)	52,153	28.8
WVS 6 (2010-14)	66,469	36.7
WVS 7 (2017-22)	62,410	34.5
Religion identity		
Minority	49,185	27.2
Majority	131,847	72.8
Religion identity		
None	39,466	21.8
Christian	86,212	47.6
Islam	32,832	18.1
Hindu	4,877	2.7
Buddhism	10,134	5.6
Jewish	398	0.22
Other	7,113	3.9
Age (years)	42.5 (mean)	16.7 (s.d.)
Gender		
Men	87,236	48.2
Women	93,796	51.8
Marital status		
Never married	44,876	24.8
Married/cohabiting	114,269	63.1
Divorced/separated/widowed	21,887	12.1
Education		
University degree	35,617	19.7
Less than university degree	145,415	80.3
Self-rated income (1-10)	4.74 (mean)	2.14 (s.d.)
Total	**181,032**	

Table 3 Correlation matrix for context variables and average tolerance (survey is unit of analysis).

	Religious diversity	GDP per capita	Gini coefficient	Percent immigrants	Average minority-majority difference in outgroup tolerance
Religious diversity	1				
GDP per capita	0.347***	1			
Gini coefficient	0.062	-0.453***	1		
Percent immigrants	0.187*	0.550***	-0.289***	1	
Mean minority-majority difference in outgroup tolerance	-0.373***	-0.218**	-0.033	-0.088	1
Average tolerance	0.388***	0.326***	-0.053	0.081	-0.396***

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 4 Estimates for mixed models predicting outgroup tolerance. Standard errors are in parentheses.

Variables	Model 1	Model 2	Model 3	Model 4
Intercept	80.34***	79.71***	79.84***	75.40***
	(1.45)	(3.44)	(3.26)	(3.38)
Individual-level				
Male	-0.11	-0.11	-0.04	-0.04
	(0.13)	(0.13)	(0.13)	(0.13)
Age (in years)	-275.47***	-276.75***	-302.70***	-303.00***
	(33.21)	(33.21)	(33.31)	(33.31)
Age squared (orthogonal)	-226.10***	-226.43***	-231.59***	-231.68***
	(28.76)	(28.76)	(28.74)	(28.74)
Marital status				
Never married	0	0	0	0
Married or cohabiting	-0.89***	-0.89***	-0.85***	-0.85***
	(0.18)	(0.18)	(0.18)	(0.18)
Divorced, separated, widowed	-1.15***	-1.15***	-1.16***	-1.16***
	(0.26)	(0.26)	(0.26)	(0.26)
University degree	3.82***	3.82***	3.80***	3.80***
	(0.17)	(0.17)	(0.17)	(0.17)
Self-rated income	0.22***	0.22***	0.22***	0.22***
	(0.03)	(0.03)	(0.03)	(0.03)
Minority religion identity	1.41***	1.40***	2.42***	8.01***
	(0.15)	(0.15)	(0.60)	(1.37)
Contextual level				
Religious diversity (0-1)	--	12.92*	9.32	19.00**
		(5.77)	(5.42)	(5.79)
GDP per capita (Standardized)	--	4.18**	3.67*	3.82**
		(1.57)	(1.47)	(1.46)
Gini coefficient (Standardized)	--	1.68	1.61	1.61
		(1.30)	(1.21)	(1.20)
Percent immigrants (Standardized)	--	-1.63	-1.59	-1.64
		(1.20)	(1.12)	(1.11)
Communist history (No = 0; Yes = 1)	--	1.21	3.81	3.76
		(2.76)	(2.58)	(2.56)
Cultural-religious heritage				
Christian (reference group)	--	0	0	0
	--	-9.23*	-6.30	-5.64

Variables	Model 1	Model 2	Model 3	Model 4
Islamic				
		(3.76)	(3.53)	(3.51)
African	--	-3.62	-4.76	-4.41
		(4.11)	(3.80)	(3.78)
Asian	--	-17.01***	-14.85***	-14.92***
		(2.96)	(2.71)	(2.69)
Cross-level interaction				
Minority religion identity ×	--	--	--	-11.73***
Religious diversity				(2.60)
Variance components				
Survey (Level 2)	42.93***	40.34***	41.97***	41.66***
Country (Level 3)	133.62***	64.74***	78.06***	73.88***
Minority religion (Level 2)	--	--	22.88***	21.76***
Minority religion (Level 3)	--	--	11.39*	7.14
n (respondents)	181,032	181,032	181,032	181,032
N (surveys)	137	137	137	137
N (countries)	79	79	79	79
AIC_{Δ} (from Model 1)	--	-68	-929	**-950**
BIC_{Δ} (from Model 1)	--	13	-807	**-818**

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

Table 5 Estimates for supplementary models predicting outgroup tolerance. Models 4b, 4c and 5a are mixed models; Model 5b is a country fixed-effects model. Standard errors are in parentheses.

Variables	**Model 4b** (Nonreligious coded alternatively)	**Model 4c** (Nonreligious respondents excluded)	**Model 5a** (Same data as Model 4 but excludes controls)	**Model 5b** (Country fixed effects)
Minority religion identity	9.02***	8.99***	8.01***	8.67***
	(1.58)	(2.02)	(1.34)	(0.54)
Contextual-level				
Religious diversity	18.73***	19.21***	23.77***	19.81***
	(5.67)	(5.57)	(2.56)	(1.71)
GDP per capita (Standardized)	0.21**	0.19*	--	--
	(0.08)	(0.08)		
Gini coefficient (Standardized)	0.19	0.07	--	--
	(0.14)	(0.14)		
Percent immigrants (Standardized)	-0.17	-0.12	--	--
	(0.10)	(0.11)		
Communist history (No = 0; Yes = 1)	3.99	1.94	--	--
	(2.53)	(2.60)		
Cultural-religious heritage				
Christian	0	0	--	--
Islamic	-6.96*	-7.66*	--	--
	(3.43)	(3.23)		
African	-5.00	-4.76	--	--
	(3.72)	(3.54)		
Asian	-16.23***	-18.35***	--	--
	(2.63)	(2.91)		
Cross-level interaction				
Minority religion identity ×	-12.97***	-12.64***	-11.57***	-13.26***
Religious diversity	(2.96)	(3.78)	(2.57)	(0.93)
Country fixed effects	no	no	no	yes

Variables	**Model 4b** (Nonreligious coded alternatively)	**Model 4c** (Nonreligious respondents excluded)	**Model 5a** (Same data as Model 4 but excludes controls)	**Model 5b** (Country fixed effects)
Variance components				
Survey (Level 2)	41.66***	43.67***	43.51***	--
Country (Level 3)	73.88***	53.93***	112.14***	--
Minority religion (Level 2)	21.76***	52.45***	20.05***	--
Minority religion (Level 3)	7.14	4.28	7.49	--
n (respondents)	181032	131839	181032	181032
N (surveys)	137	117	137	137
N (countries)	79	71	79	79

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

Figure 1 Heatmap showing the distribution of outgroup tolerance by country. Countries (in ISO 3-digit codes) are sorted in descending order by mean tolerance (OTI) and grouped by cultural-religious heritage. Boxes in the first four columns (items 1-4) represent proportions; the column for the OTI represents the mean on a 0-100 scale. Light colors represent higher tolerance.

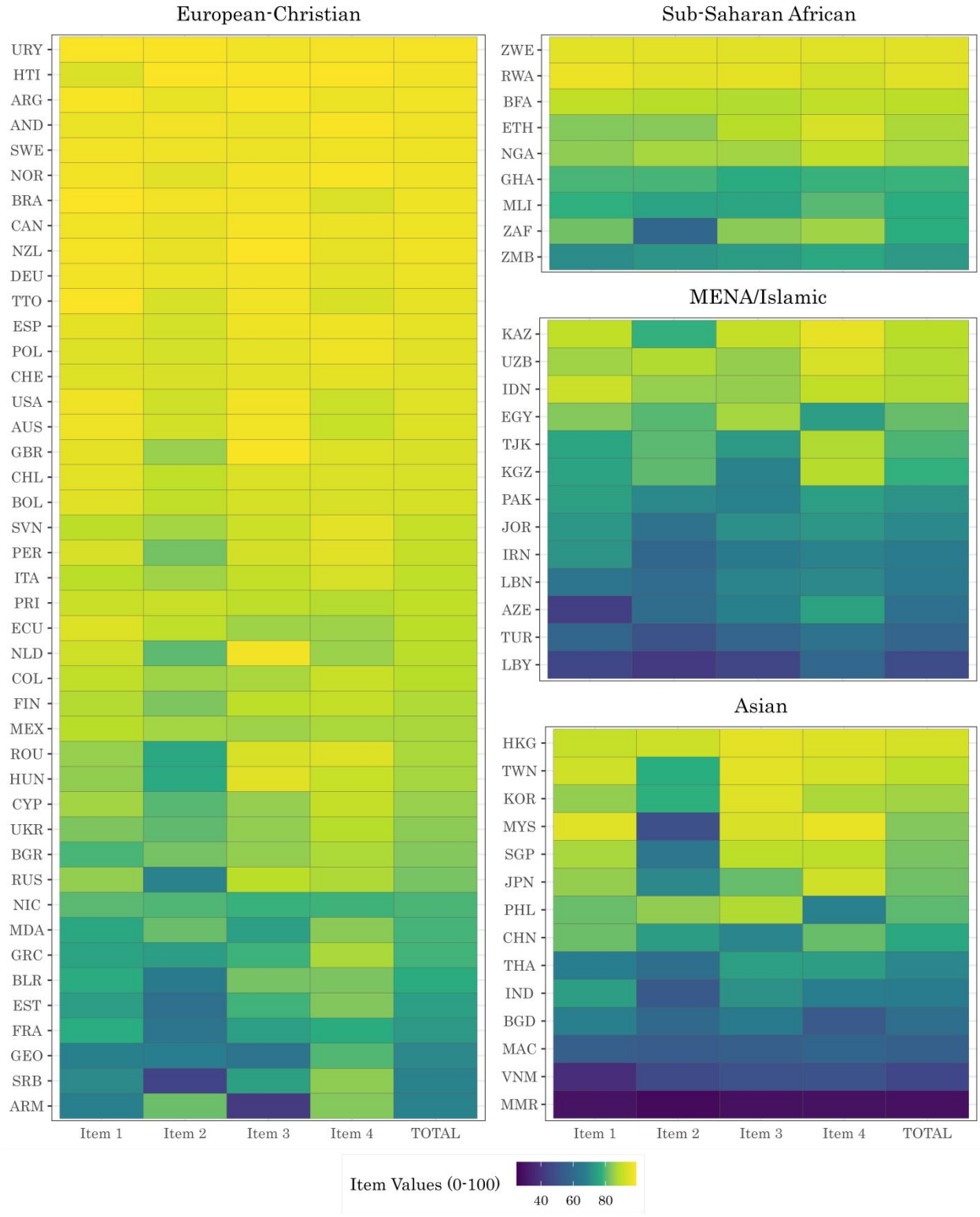

Figure 2 Religious minority-majority gap in outgroup tolerance measured by the regression coefficient (and its 95 percent confidence intervals) from OLS models fitted to each country separately, controlling for all individual-level variables. Within each cultural-religious group, countries are sorted in descending order by average tolerance. Countries are represented by their ISO 3-digit code.

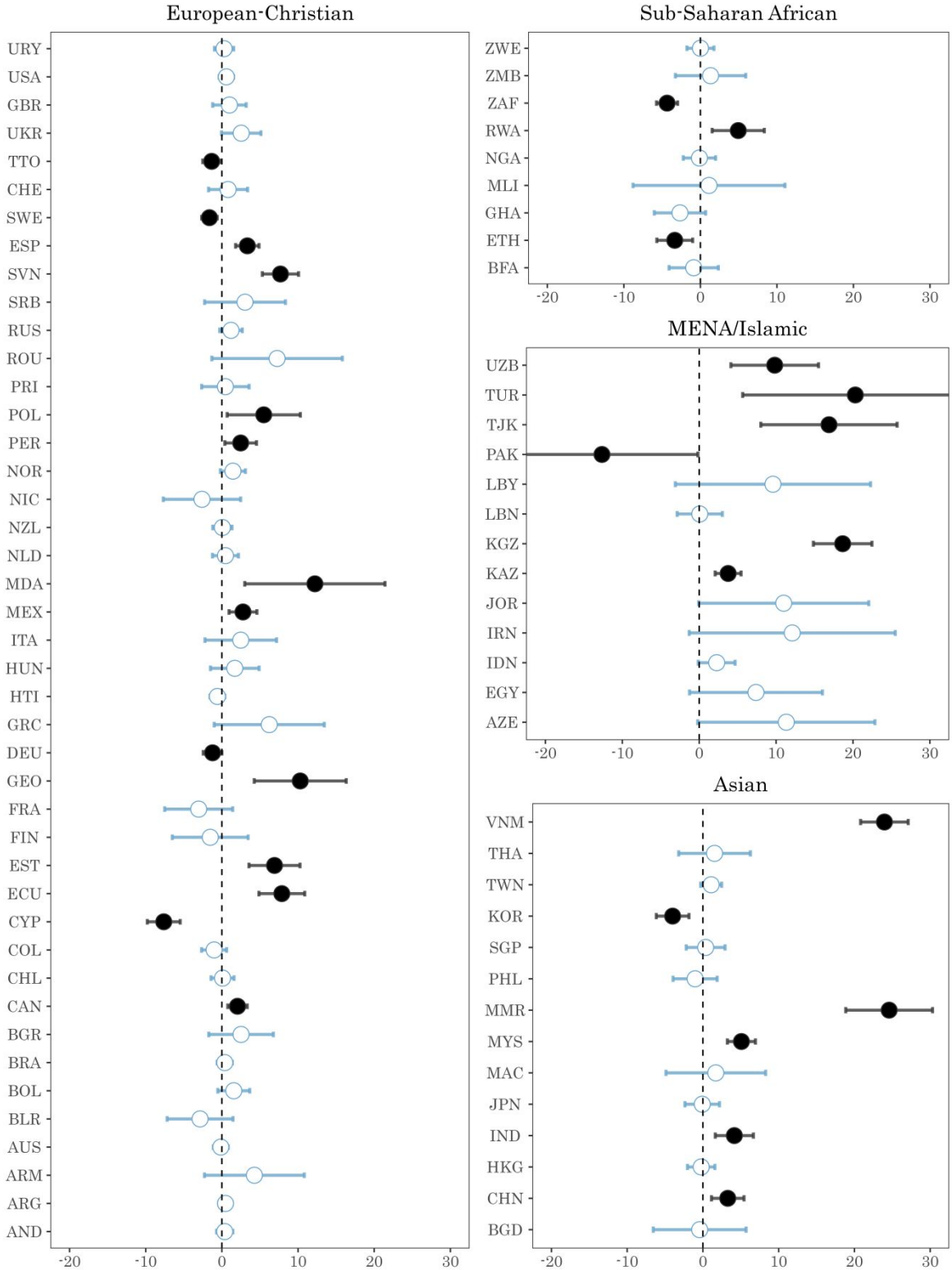

Figure 3 Predicted outgroup tolerance by religious identity and diversity