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A Competitive World

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A Competitive World*

Abstract

We provide globally representative evidence on two attitudes toward competition: individuals' willingness to compete and the importance they attach to boys and girls being willing to compete, using a novel survey module that we fielded as part of the 2022 Gallup World Poll. The data cover more than 66,000 individuals across 62 countries. Men are more willing to compete than women in all but two countries, and willingness to compete is higher among younger, more educated, and higher-income individuals. Attitudes toward children's willingness to compete vary substantially across countries, with competitiveness valued more for boys in some countries and for girls in others. Both attitudes are systematically related to the economic and social environment. Individuals exposed to greater inequality or faster population growth during their formative years are more willing to compete and place greater importance on children being willing to compete. Greater exposure to gender equality during formative years is associated with smaller gender gaps in both adults' willingness to compete and attitudes toward the competitiveness of boys and girls. Our findings reveal striking global regularities while highlighting the role of the social environment in shaping attitudes toward competition.

JEL classification

D91, J16, J24

Keywords

willingness to compete, gender, global, representative sample, socialization

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1 Introduction

People differ substantially in their willingness to compete (WTC), and these differences are associated with important economic choices and outcomes. WTC is related to educational choices, occupational sorting, entrepreneurship, and income trajectories (Buser, Niederle, and Oosterbeek, 2014; Berge et al., 2015; Almås et al., 2016; Buser, Peter, and Wolter, 2017; Buser, Peter, and Wolter, 2022; Buser, Niederle, and Oosterbeek, 2024; Reuben, Sapienza, and Zingales, 2015; Lozano, Ranhill, and Reuben, 2022). A central and robust finding in this literature is a gender difference in WTC: across a wide range of experimental settings, men are more willing to compete than women (Gneezy, Niederle, and Rustichini, 2003; Niederle and Vesterlund, 2007; Croson and Gneezy, 2009; Niederle and Vesterlund, 2011; Niederle, 2016). Understanding the sources of individual and gender differences in WTC is therefore important for understanding disparities in educational and labor-market outcomes.

Building on this literature, we take a global perspective on how willingness to compete varies across countries and cultures. We use nationally representative data from 66,072 individuals in 62 countries, collected as part of the 2022 Gallup World Poll. A novel survey module elicits two attitudes toward competition: respondents’ own willingness to compete and the importance they attach to boys or girls—randomized across respondents—being willing to compete. We interpret the latter as providing indirect evidence on the socialization of competitiveness, since such views may shape how adults encourage and reward competitive behavior in their roles as parents, teachers, coaches, and other influential adults in children’s lives. Combined with measures of confidence and risk-taking and extensive individual background information, these data allow us to study how willingness to compete and attitudes toward its socialization vary across economic, cultural, and institutional contexts.

Our results reveal strong global regularities alongside substantial cross-country variation in WTC. Men report higher WTC than women in all but two countries, with statistically significant gender gaps in the vast majority of countries. WTC is also positively associated with income and education and negatively associated with age in nearly every country, while its positive associations with confidence and risk tolerance hold in all countries. These findings provide the first global evidence that key patterns documented in the WTC literature are remarkably robust across diverse economic, cultural, and institutional environments.

In contrast to the robust gender gap in adults’ own WTC, we find no difference at the global level in the importance people attach to boys versus girls being willing to compete. This aggregate pattern, however, masks differences by respondent gender: men place greater importance on boys being willing to compete, whereas women place greater importance on girls being willing to compete. Men also place greater importance on children being willing to compete overall, regardless of the child’s gender, a difference largely accounted for by men’s higher WTC. More generally, respondents who are themselves more willing to compete place substantially greater importance on children being willing to compete, and this importance also increases with income and education.

Beneath these global regularities, however, we uncover substantial cross-country variation in both the adults’ own WTC and the importance attached to children being willing to compete. The share of people who agree that they are willing to compete varies from 31 percent to 84 percent across countries, while the share who agree that it is important for children to be willing to compete varies from 35 percent to 90 percent. This cross-country variation is systematically related to inequality and population growth. People tend to be more willing to compete and to attach greater importance to children being willing to compete in more unequal societies and in countries with faster population growth. Further, leveraging country-cohort-specific variation in exposure to inequality and population growth, we show that individuals who experienced greater inequality or faster population growth during their formative years are more willing to compete and attach greater importance to children being willing to compete later in life. These patterns are consistent with inequality raising the stakes of relative success and population growth intensifying competition for educational and labor-market opportunities, thereby increasing the value of being willing to compete.

Finally, we show that although men are more willing to compete than women in nearly every country, the

magnitude of the men–women WTC gap varies substantially across countries, ranging from -7 percentage points in China to more than 30 percentage points in the United States and Egypt. We also show that the absence of a boys–girls socialization gap at the global level masks striking cross-country differences in both magnitude and direction. At one extreme, respondents in France are 25 percentage points more likely to agree that it is important for girls than for boys to be willing to compete, whereas in Kazakhstan respondents are 29 percentage points more likely to agree that it is important for boys than for girls.

We relate these gender gaps to gender equality, both across countries and across cohorts within countries. The cross-country evidence provides suggestive evidence that greater gender inequality is associated with a larger men–women WTC gap, while the relationship with the boys–girls socialization gap is considerably stronger: people in more gender-equal countries tend to attach greater importance to girls being willing to compete, whereas people in more gender-unequal countries tend to attach greater importance to boys being willing to compete. Exploiting variation in exposure to gender equality across cohorts within countries, we further show that cohorts who experienced greater gender equality during their formative years exhibit a smaller men–women WTC gap and a smaller boys–girls socialization gap later in life.

Taken together, these patterns suggest that gender equality is systematically related not only to gender differences in adults’ willingness to compete, but also to how societies socialize boys and girls into competitiveness. In particular, socialization attitudes tend to reinforce gender differences in competitiveness in more gender-unequal environments, while tending to counteract them in more gender-equal ones. These findings align with theoretical frameworks that emphasize the role of socialization in shaping preferences and how societal conditions influence the values individuals transmit to the next generation (Bisin and Verdier, 2001).

Our findings contribute to several strands of literature. First, we contribute to the large literature on individual differences in WTC, which has documented gender differences in experimental and high-stakes field settings (Gneezy, Niederle, and Rustichini, 2003; Niederle and Vesterlund, 2007; Croson and Gneezy, 2009; Niederle and Vesterlund, 2011; Niederle, 2016; Flory, Leibbrandt, and List, 2015; Ors, Palomino, and Peyrache, 2013; Samek, 2019; Buser, van den Assem, and van Dolder, 2023). We extend this literature by providing the first global evidence on WTC and showing that its key empirical regularities—including gender differences and associations with socioeconomic characteristics, risk tolerance, and confidence—are remarkably robust across countries and cultures. We also introduce a new dimension by studying the importance adults attach to children being willing to compete, providing evidence on how attitudes toward the socialization of competitiveness vary across individuals and societies.

Second, we contribute to the literature on the cultural and social origins of individual and gender differences in WTC. A growing body of evidence shows that willingness to compete and gender differences in WTC vary across social and cultural environments (Gneezy, Leonard, and List, 2009; Leibbrandt, Gneezy, and List, 2013; Almås et al., 2015; Gneezy, Leibbrandt, and List, 2016; Zhang, 2019; Alan and Ertac, 2019; Boneva et al., 2022; Jørgensen, Piovesan, and Willadsen, 2022; Buser et al., 2021; Khadjavi, Sipangule, and Thiele, 2024; Dariel et al., 2026). We contribute to this literature by providing global evidence that attitudes toward competition are systematically related to the economic and social environment, both across countries and across cohorts within countries. In particular, we document systematic relationships with inequality and population growth, and show that exposure to these conditions during the formative years predicts both adults’ own willingness to compete and the importance they attach to children being willing to compete. The latter finding also connects to Doepke and Zilibotti (2019), who show that inequality predicts cross-country differences in parenting styles.

Our analysis of gender differences further speaks to an influential body of work documenting a “gender-equality paradox”—larger gender differences in more gender-equal countries—for personality traits (Schmitt et al., 2008), economic preferences (Falk and Hermle, 2018), career choices (Stoet and Geary, 2018), and competitiveness itself (Napp and Breda, 2022; Markowsky and Beblo, 2022; Klinowski and Niederle, 2025). We complement the existing evidence using representative adult samples from a broader set of countries—including low-income and African

countries—and by studying both adults’ own willingness to compete and attitudes toward the importance of boys and girls being willing to compete. We find some evidence consistent with the gender-equality paradox: the men–women gap in WTC is larger in richer countries. Our evidence on gender equality itself, however, points predominantly toward smaller gender gaps in more gender-equal environments. This is particularly clear in our within-country cohort analysis: cohorts exposed to greater gender equality during their formative years exhibit both a smaller men–women gap in WTC and a smaller boys–girls socialization gap later in life.

Third, we contribute to the literature on survey measures of WTC, which make it possible to study willingness to compete in large-scale representative samples (Buser, Niederle, and Oosterbeek, 2014; Berge et al., 2015; Almås et al., 2016; Buser, Peter, and Wolter, 2017; Buser, Peter, and Wolter, 2022; Reuben, Sapienza, and Zingales, 2015; Lozano, Ranehill, and Reuben, 2022). Buser, Niederle, and Oosterbeek (2024) introduced a generally worded single-item survey measure of competitiveness and showed that it is strongly related to incentivized tournament entry and predicts important career outcomes, including income, education, and occupational level. Other studies using or examining survey measures of WTC include Bönnte and Piegeler (2013); Bönnte (2015); Bönnte, Lombardo, and Urbig (2017); Fallucchi, Nosenzo, and Reuben (2020); Boneva et al. (2022); Buser and Oosterbeek (2023). We contribute to this literature by examining what our general WTC measure captures in a follow-up experiment. We show that it is similarly strongly related to willingness to compete at work, at school, and in sports and games, suggesting that it captures a general disposition to compete rather than attitudes toward competition in a particular domain. We further show that our measure is highly correlated with the survey measure of Buser, Niederle, and Oosterbeek (2024) and strongly predicts behavior in an incentivized tournament-entry task modeled on Niederle and Vesterlund (2007).

The rest of the paper is organized as follows. Section 2 describes the sample, survey design, and follow-up experiment. Section 3 documents global and country-level patterns in willingness to compete and attitudes toward the importance of children being willing to compete. Section 4 examines how these attitudes relate to inequality and population growth, both across countries and through variation in formative exposure across cohorts within countries. Section 5 examines how gender gaps in attitudes toward competition relate to gender equality, again both across countries and through variation in formative exposure across cohorts within countries. Section 6 concludes. The Online Appendix provides supplementary tables and figures, additional details on the sample and survey design, the follow-up experiment, secondary data sources, and the survey and experimental instructions.

2 Sample and Study Design

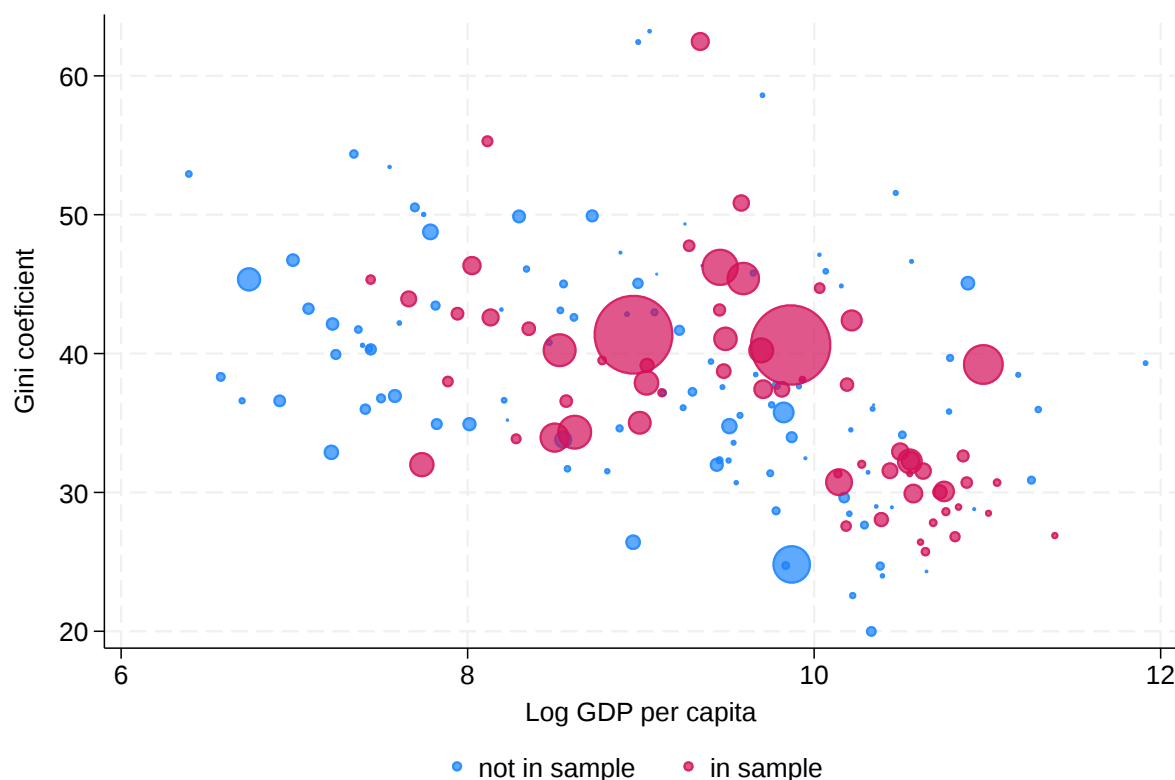
This section first describes the global sample and survey implementation. It then presents the survey module, a follow-up experiment designed to better understand what the main WTC questions capture, and the individual- and country-level background variables used in the analysis.

2.1 Sample

Our global data on willingness to compete were collected through a survey module included in the 2022 Gallup World Poll. The module was administered to a nationally representative sample of at least 1,000 participants in 62 countries, yielding a total effective sample size of 66,072 respondents.¹ The sample covers all major world regions: 4 countries from the Anglosphere, 12 from Western and Northern Europe, 4 from Southern Europe, 4 from Eastern Europe, 6 from Southeast Asia, 4 from South Asia, 4 from East Asia, 8 from Latin America, 5 from the Middle East and North Africa, and 11 from Sub-Saharan Africa. As shown in Figure 1, the countries included in the study

¹In total, 66,785 people answered (parts of) the questionnaire, of whom 66,072 answered the WTC question. Slightly fewer people, 65,843, answered the question on the importance of children being willing to compete. Depending on the analysis, we drop 75 individuals for whom gender is coded as "other" and individuals for whom key control variables are missing.

Figure 1: Countries in the sample and the global distribution of economic development and income inequality



Note: This figure places the countries included in the study in the global distribution of economic development and income inequality. Each dot represents a country. The horizontal axis reports log GDP per capita from the 2023 Maddison Project Database (Bolt and Van Zanden, 2025), and the vertical axis reports the Gini coefficient from the Standardized World Income Inequality Database (Solt, 2016). Countries included in our sample are shown in red, and countries not included are shown in blue. Bubble size is proportional to population.

span a broad range of economic development and income inequality and account for approximately 85 percent of the world's population and 89 percent of global GDP.

The survey was administered in two modes, determined by country-level internet penetration. In the 31 countries with internet penetration of 70 percent or above, the survey was conducted online; in the remaining 31 countries, face-to-face interviews were conducted by local professional enumerators. Online surveys relied on self-selected web panels. Gallup used soft quota targets for key demographic characteristics (age, gender, and education) to ensure that the sample closely matched the population distribution. Face-to-face surveys used probability-based sampling, with a single adult selected at random within each sampled household. In all countries, Gallup constructed population weights to account for the sampling design and any remaining differences between the sample and the population. The full list of countries by survey mode and further details on the sampling procedures are provided in Section B of the Online Appendix.

The survey instrument underwent extensive pretesting. In a qualitative phase, Gallup conducted ten cognitive interviews in each of four culturally and linguistically diverse countries—Argentina, Egypt, Kenya, and Thailand—with respondents selected to ensure diversity in gender, age, education, and urbanicity. The findings informed refinements to the questionnaire, which was subsequently translated into the relevant local languages. Small-scale pilot tests were then conducted in all countries before the main fieldwork.

2.2 Study Design

The survey module was designed to measure individual willingness to compete and attitudes toward children’s willingness to compete.

Willingness to compete. We measure willingness to compete (WTC) with the following statement:

“You are generally willing to compete against others.”

Respondents indicated their level of agreement on a five-point scale (disagree strongly, disagree somewhat, neither agree nor disagree, agree somewhat, agree strongly). In the main analyses, we use a binary indicator for somewhat or strongly agreeing with this statement as our measure of WTC. The same dichotomization is applied to all survey items described in this section. While dichotomizing the responses entails some loss of information, it improves cross-country comparability by reducing the influence of cross-cultural differences in the tendency to express attitudes using extreme rather than moderate response categories. Section A of the Online Appendix shows that the main results are robust to using the full five-point scale.

The module also included two statements measuring traits that the literature has identified as closely related to competitiveness, namely willingness to take risks and confidence in one’s own abilities (e.g., Niederle and Vesterlund, 2007; Buser, Niederle, and Oosterbeek, 2024):

“You generally have confidence in your abilities.”

“You are generally willing to take risks.”

Respondents indicated their agreement with both statements on the same five-point scale. These measures allow us to examine the extent to which WTC is associated with these related traits and whether differences in risk taking and confidence account for observed gender gaps in WTC.

Attitudes towards children’s competitiveness. A novel feature of our study is that we elicit not only people’s own willingness to compete but also their views on the importance of children being willing to compete. Specifically, respondents were asked about their agreement with the following statement, on the same five-point scale:

“It is generally important for girls/boys to be willing to compete against others.”

Whether the statement referred to boys or girls was randomized across respondents, with each respondent evaluating only one gender. This between-subject design allows us to causally identify the effect of the child’s gender on the perceived importance of competitiveness.

We interpret respondents’ views on the importance of competitiveness for boys and girls as indirect evidence on how societies socialize children into competitiveness. Adults’ views on the importance of competitiveness for children are likely to shape how competitive behavior is encouraged and rewarded in the many roles adults play in children’s upbringing—as parents, teachers, and other influential adults—and thus to operate through both direct parental transmission and what the cultural transmission literature refers to as oblique socialization (Bisin and Verdier, 2001). Our data do not allow us to distinguish between the different channels, and we do not observe whether these attitudes in fact translate into gender differences in children’s own competitiveness; establishing that link is beyond the scope of this study. Rather, the measure captures the normative environment surrounding children’s competitiveness, which we interpret as providing indirect evidence on the socialization process.

Follow-up Experiment. To better understand what the general WTC question captures, we conducted a follow-up experiment on Prolific in November 2025 with a sample stratified to match the US population on age, sex, and ethnicity (N=1002). The experiment serves two purposes. First, it allows us to examine whether responses to our general WTC question reflect a broad disposition to compete or are driven by competitiveness in one particular

domain. Second, it allows us to relate the general WTC question to two of the main approaches in the literature: the survey item of Buser, Niederle, and Oosterbeek (2024) and the incentivized tournament entry choice in the spirit of Niederle and Vesterlund (2007).

A natural concern with a general survey question is that different respondents may have different settings in mind when answering it. Someone may report a high willingness to compete because they enjoy competitive sports, while being reluctant to compete at work. To assess this, participants in the follow-up experiment answered both the general WTC question and three domain-specific questions on willingness to compete: at work, at school, and in sports and games. All questions used the same five-point response scale. If the general WTC question captured competitiveness in one particular domain, we would expect it to be more strongly correlated with that domain than with the others. Instead, the general WTC question is similarly correlated with WTC at work ($r = 0.655; p < 0.001$), at school ($r = 0.637; p < 0.001$), and in sports and games ($r = 0.604; p < 0.001$). This suggests that responses to the general WTC question reflect a general disposition to compete rather than domain-specific attitudes.

Participants also answered the competitiveness question from Buser, Niederle, and Oosterbeek (2024), which differs in wording from the general WTC question and uses an 11-point response scale. Responses to the general WTC question are highly correlated with responses to the competitiveness question of Buser, Niederle, and Oosterbeek (2024) ($r = 0.723; p < 0.001$), which has itself been shown to predict tournament entry and career outcomes.

Finally, participants took part in an incentivized tournament-entry task modeled on Niederle and Vesterlund (2007), in which they chose between a piece-rate payment and a winner-takes-all competition against another participant. We find that responses to the general WTC question are strongly associated with behavior in the incentivized task: 64 percent of participants who strongly agree with the general WTC statement enter the competition, compared to only 24 percent of those who strongly disagree ($p < 0.001$).

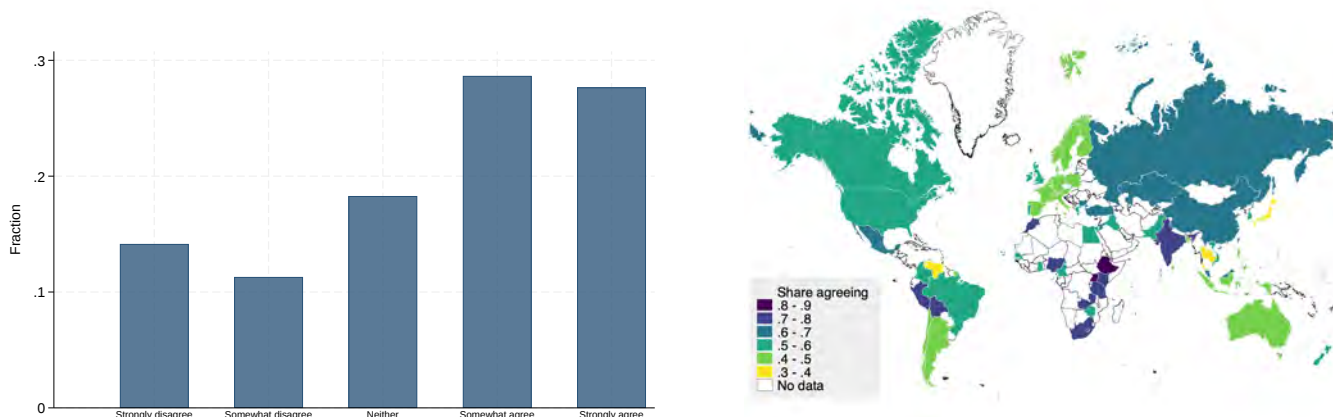
Further details on the sample, experimental procedures, preregistered hypotheses, and additional analyses are provided in Section C of the Online Appendix.

Background variables and data linkages. We link our survey measures to Gallup background data on respondents’ individual characteristics. The main variables used in our analysis are gender, educational attainment, income, and age. Because education systems and income measures differ across countries, we harmonize these two variables to facilitate cross-country comparisons: educational attainment is standardized within country, and income is converted into within-country quintiles. Some of the analyses additionally control for religiosity and religion, marital status, and place of residence. Section D in the Online Appendix describes all individual-level background variables in detail, and Online Appendix Table A1 reports summary statistics for the global sample.

We also link the country-level averages of our survey measures to external country indicators. First, we examine how willingness to compete and attitudes toward children’s willingness to compete are associated with inequality, population growth, and economic development. As a measure of income inequality, we use the Gini coefficient from the Standardized World Income Inequality Database (Solt, 2016). To capture broader social inequality, we use the Egalitarian Democracy Index (Pemstein et al., 2018) from the Quality of Government (QoG) dataset (Dahlberg et al., 2020), which measures the extent to which rights, resources, and access to power are distributed equally across social groups and, importantly for our analyses, provides historical coverage from the 1940s onward. We measure population growth and GDP per capita using the 2023 Maddison Project Database (Bolt and Van Zanden, 2025).

Second, we examine how gender differences in willingness to compete and attitudes toward children’s willingness to compete are related to gender inequality. We use the UN Gender Inequality Index (GII), which is available for recent decades, and the Women’s Political Empowerment Index (Pemstein et al., 2018) from the QoG dataset (Dahlberg et al., 2020), which also provides historical coverage from the 1940s onward and therefore allows us to relate attitudes to the conditions people experienced during adolescence. The two measures exhibit a strong contemporary cross-country correlation ($r = 0.70; p < 0.001$). Appendix E provides further details on all country-

Figure 2: Willingness to compete across the globe



Note: This figure shows the distribution of responses to the statement “You are generally willing to compete against others.” The histogram on the left shows the full distribution of responses across the five answer options. The map on the right shows, for each country, the share of respondents who express a willingness to compete by answering either “strongly agree” or “somewhat agree.”

level secondary data sources.

3 Global patterns

We begin by describing willingness to compete (WTC) and attitudes toward children’s WTC at the global and country levels and examining how they vary with individual background characteristics. These descriptive patterns reveal striking global regularities alongside substantial cross-country variation. In the following sections, we examine whether this variation is systematically related to broader economic and social conditions, both across countries and across cohorts within countries.

3.1 Willingness to compete

Figure 2 summarizes people’s willingness to compete (WTC), showing both the global distribution of responses to the statement “You are generally willing to compete against others” (left panel) and the substantial cross-country variation (right panel).² A majority of people express a willingness to compete: 56 percent (strongly or somewhat) agree, while only 25 percent disagree. At the same time, the map reveals substantial cross-country differences and clear regional patterns. Willingness to compete is highest in Sub-Saharan Africa, with Ethiopia reaching 84 percent, and is also high in much of South Asia. It is relatively low in Europe—particularly in Belgium, Italy, France, and the Nordic countries—with the United States ranking above most European countries. East and Southeast Asia exhibit considerable heterogeneity, ranging from relatively high willingness to compete in countries such as China and Vietnam to only 31 percent in Japan.

Table 1 reports OLS regressions relating willingness to compete (WTC) to respondent characteristics, controlling for country fixed effects. We find that the main individual-level patterns documented in the existing WTC literature extend to our global sample. Men are 12.3 percentage points more likely than women to agree with the WTC statement, relative to a baseline agreement rate of 51 percent among women (Column 1). Column 2 adds willingness to take risks and confidence in one’s own abilities, both of which are strongly positively associated with WTC. Column 3 adds education, income, and age, showing that WTC is higher among more educated and higher-income

²Figure A1 shows the willingness to compete by country both for the binary and standardized measure. Corresponding summaries for willingness to take risks and confidence in one’s own abilities are reported in Figure A2.

Table 1: Correlates of WTC in the global sample

	(1)	(2)	(3)	(4)	(5)
Men	0.123*** (0.005)	0.089*** (0.005)	0.113*** (0.005)	0.086*** (0.005)	0.087*** (0.005)
Willing to take risk		0.266*** (0.005)		0.249*** (0.005)	0.249*** (0.005)
Confident		0.245*** (0.007)		0.245*** (0.007)	0.242*** (0.007)
Education level (std)			0.035*** (0.003)	0.021*** (0.002)	0.021*** (0.002)
Income quintile			0.023*** (0.002)	0.012*** (0.002)	0.013*** (0.002)
Age			-0.003*** (0.000)	-0.002*** (0.000)	-0.002*** (0.000)
Country FE	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	No	No	Yes
Observations	65997	65461	63538	63007	61664
Adjusted R^2	0.067	0.189	0.090	0.198	0.201

Note: This table reports coefficients from OLS regressions with willingness to compete (WTC), measured as a binary indicator for agreeing (somewhat or strongly) with the statement “You are generally willing to compete against others,” as the dependent variable. The measures of willingness to take risks and confidence in one’s own abilities are coded analogously as binary indicators for agreeing with the corresponding statements. “Education” is standardized within country, “Income” is measured in within-country quintiles, and “Age” is measured in years. All regressions include country fixed effects. Additional controls include a binary indicator for religiosity, religion fixed effects, a binary indicator for being married, and the urbanity of the place of residence (on a scale from 1-4). All regressions use population weights. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

respondents and lower among older respondents.³ None of these variables, however, eliminates the gender gap in WTC. The associations remain essentially unchanged in a joint specification including willingness to take risks, confidence in one’s own abilities, education, income, and age (Column 4), and after additionally controlling for religiosity, religion, marital status, and place of residence (Column 5). Even in the full specification, the men–women WTC gap remains substantial, at 8.7 percentage points.⁴

Figure 3 examines these associations separately for each of the 62 countries.⁵ The results reveal striking near-universal patterns, but also substantial cross-country variation in their magnitude. The upper-left panel of Figure 3 shows the estimated gender gap in the share agreeing with the WTC statement. Men are more willing to compete than women in all but two countries (China and Bulgaria), and the estimated men–women WTC gap is statistically significant ($p < 0.05$) in the vast majority of countries. The estimated gap ranges from -7 percentage points in China to more than 30 percentage points in the United States and Egypt.⁶

The upper-right and middle-left panels report the associations with education and income, respectively. WTC is positively associated with education in all but three countries and with income in all but six countries. The middle-right panel shows that older respondents are less willing to compete than younger respondents in all but five countries. Finally, the lower panels show that WTC is positively associated with willingness to take risks and confidence in every country.⁷

³Figure A3 shows that willingness to compete declines approximately linearly with age for both men and women, with the gender gap remaining roughly constant across age groups (see Flory et al. (2018) on the relationship between competitiveness, gender, and age).

⁴Table A2 shows that the main results are robust to using standardized WTC as the dependent variable. Table A3 shows that they are also robust to restricting the sample in all specifications to respondents for whom all background variables are available.

⁵Figure A4 presents the same estimates as geographical maps, highlighting their regional distribution across countries. Figure A5 shows that these patterns are robust to using standardized WTC.

⁶The finding that women are more willing to compete than men in China is noteworthy in light of earlier experimental evidence showing no significant gender gap in willingness to compete among Han Chinese participants (Zhang, 2012, 2019).

⁷Figure A6 reports the association between gender and willingness to take risks and confidence. Consistent with earlier evidence on gender differences in risk preferences and confidence (Croson and Gneezy, 2009; Niederle, 2016), men are more willing to take risks than women in 58 out of 62 countries, replicating Falk and Hermle (2018), and report greater confidence in 56 out of 62 countries. China is again an interesting exception, with women reporting greater willingness to take risks and confidence than men.

It is interesting to examine whether the substantial cross-country variation in the gender gap mainly reflects variation in the gender differences in willingness to take risks and confidence. Figure A7 shows that this is not the case. The country-specific associations between WTC and the background characteristics are robust to controlling for both willingness to take risks and confidence. In particular, the men–women WTC gap remains positive in all but three countries and statistically significant ($p < 0.05$) in the large majority of countries. Although somewhat smaller than in the unconditional analysis, the estimated men–women WTC gap ranges from essentially zero to about 24 percentage points, with the United States and Egypt continuing to exhibit the largest gender gaps in our sample. The country-specific associations with education, income, and age are likewise little changed after controlling for willingness to take risks and confidence.

3.2 Attitudes toward the importance of children being willing to compete

We now turn to adults’ attitudes toward the importance of children being willing to compete, which we interpret as indirect evidence on the socialization of competitiveness across countries. The gender of the child in the question was randomly assigned across respondents; we refer to the difference in agreement between respondents asked about boys and those asked about girls as the boys–girls socialization gap.

Figure 4 summarizes adults’ attitudes toward the importance of children being willing to compete, showing both the global distribution of responses (left panel) and the substantial cross-country variation (right panel). A majority of people (63 percent) strongly or somewhat agree that it is generally important for children to be willing to compete, while only 18 percent disagree. At the same time, there are substantial cross-country differences and clear regional patterns. Agreement is generally highest in Africa, with Morocco reaching 90 percent, while Russia also stands out as one of the countries where adults attach the greatest importance to children being willing to compete. The United States ranks above most European countries, where support is relatively low, particularly in the Nordic countries. Within East Asia, Japan stands out as an exception, with only 35 percent agreeing that it is generally important for children to be willing to compete. Some children thus grow up in countries where only about one-third of adults believe it is important to be willing to compete, whereas others grow up in countries where roughly nine out of ten adults share that view.

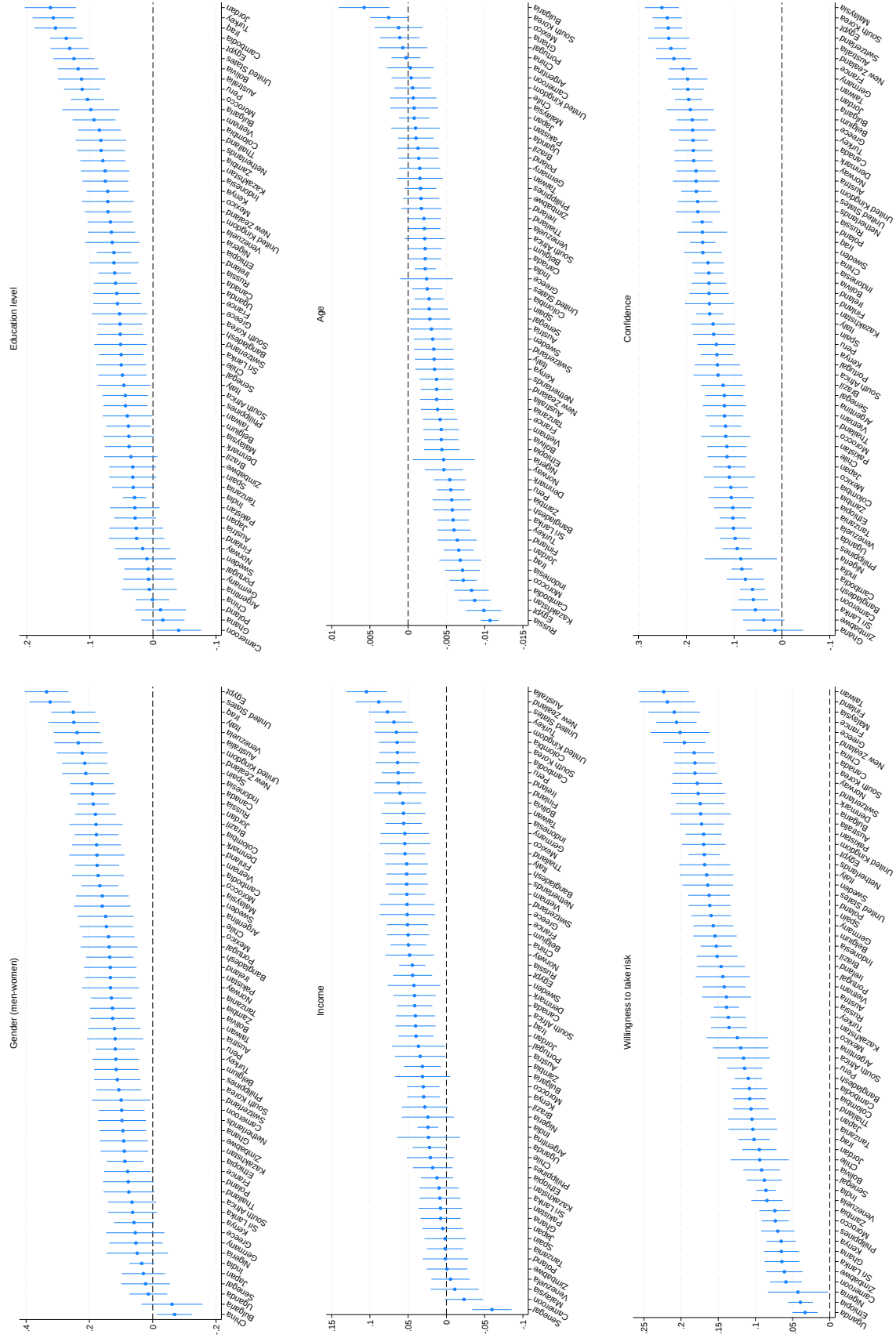
Table 2 reports OLS regressions relating attitudes toward the importance of children being willing to compete to the child’s gender and respondent characteristics, controlling for country fixed effects.⁸ We find little evidence of a boys–girls socialization gap in the global sample. Respondents are as likely to agree that it is important for girls to be willing to compete as for boys (Column 1), and this remains essentially unchanged across specifications (Columns 2–4). Column 2 adds respondents’ demographic characteristics. Men, respondents who are more highly educated, respondents who have higher incomes, and respondents who are older place greater importance on children being willing to compete. Column 3 additionally includes respondents’ own willingness to compete, which is by far the strongest correlate: respondents who are themselves more willing to compete also place substantially greater importance on children being willing to compete. Column 4 further controls for religiosity, religion, marital status, and place of residence, with little effect on the estimated associations.

Columns 5–8 report the corresponding analyses separately for male and female respondents. Men place slightly greater importance on boys being willing to compete than on girls, whereas women place slightly greater importance on girls being willing to compete than on boys. At the same time, men place greater importance on children being willing to compete than women, regardless of whether the child is a boy or a girl.⁹ The associations with education, income, age, and respondents’ own willingness to compete are otherwise very similar across men and women.

⁸Table A4 shows that the main results are robust to using standardized responses rather than the share agreeing as the dependent variable. Table A5 shows that they are also robust to restricting the sample in all specifications to respondents for whom all background variables are available.

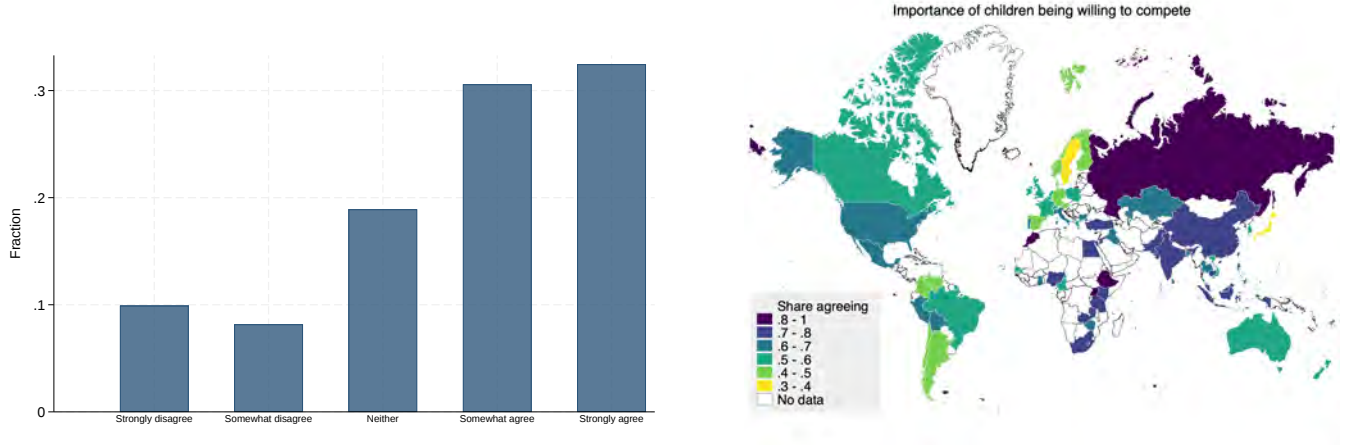
⁹Figure A9 reports attitudes toward the importance of children being willing to compete, by respondent gender and country.

Figure 3: Correlates of WTC by country



Note: This figure shows the association between willingness to compete (WTC) and individual characteristics separately for each country. Each point reports the coefficient from a country-specific OLS regression, where the dependent variable is a binary indicator for agreeing with the statement "You are generally willing to compete against others" and the explanatory variable is the corresponding characteristic shown in the panel title (male, education, income, age, willingness to take risks, or confidence in one's own abilities). All regressions use population weights. Vertical lines indicate 95 percent confidence intervals based on robust standard errors.

Figure 4: Attitudes toward the importance of children being willing to compete across the globe



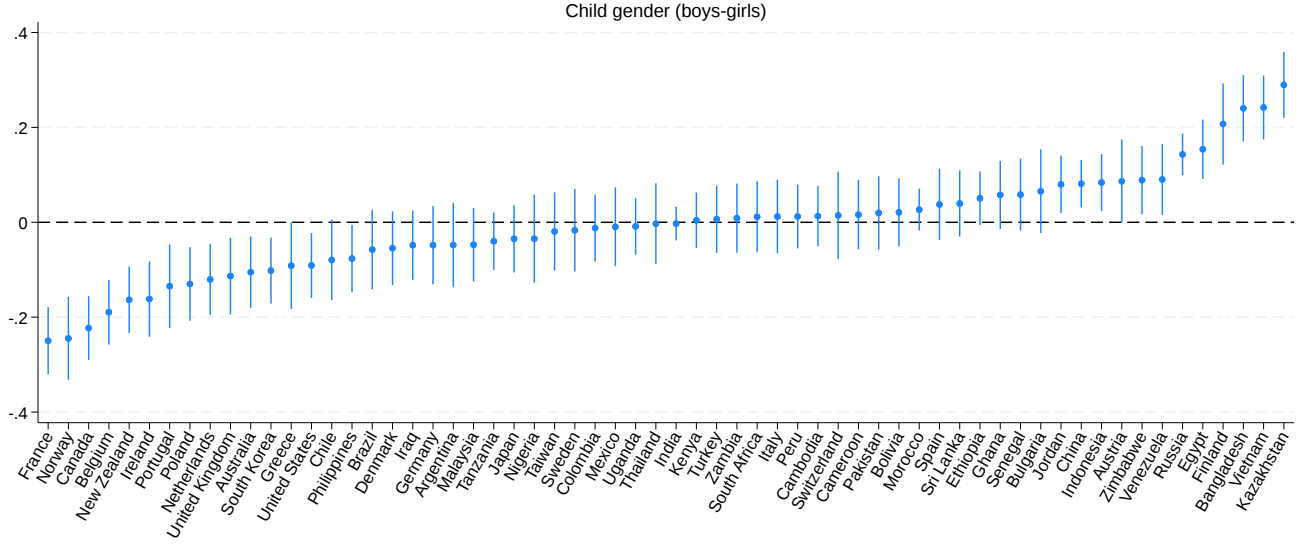
Note: This figure shows the distribution of responses to the statement “It is generally important for boys/girls to be willing to compete against others,” where the gender of the child was randomly assigned across respondents and each respondent was asked about only one gender. The histogram on the left shows the full distribution of responses across the five answer options. The map on the right shows, for each country, the share of respondents who agree with the statement by answering either “strongly agree” or “somewhat agree.”

Table 2: Correlates of attitudes toward the importance of children being willing to compete in the global sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	all	all	all	all	men	men	women	women
Boys	-0.003 (0.005)	-0.002 (0.005)	0.001 (0.004)	-0.004 (0.005)	0.033*** (0.007)	0.033*** (0.006)	-0.036*** (0.007)	-0.031*** (0.006)
Men		0.066*** (0.005)	0.020*** (0.005)	0.021*** (0.005)				
Education level (std)		0.021*** (0.003)	0.009*** (0.002)	0.009*** (0.002)	0.022*** (0.004)	0.011*** (0.003)	0.021*** (0.004)	0.008** (0.003)
Income quintile		0.019*** (0.002)	0.010*** (0.002)	0.010*** (0.002)	0.021*** (0.003)	0.011*** (0.002)	0.016*** (0.002)	0.009*** (0.002)
Age		0.000*** (0.000)	0.002*** (0.000)	0.001*** (0.000)	0.000 (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.002*** (0.000)
Willingness to compete (std)			0.167*** (0.002)	0.166*** (0.002)		0.168*** (0.004)		0.164*** (0.003)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	No	Yes	No	No	No	No
Observations	65843	63311	62876	61540	29633	29503	33678	33373
Adjusted R^2	0.062	0.072	0.188	0.192	0.062	0.179	0.081	0.195

Note: This table reports coefficients from OLS regressions with a binary indicator for agreeing (somewhat or strongly agree) with the statement “It is generally important for boys/girls to be willing to compete against others” as the dependent variable. “Boys” is a binary indicator for whether the statement refers to a boy rather than a girl. “Men” is a binary indicator for whether the respondent is a man. “Education” is standardized within country, “Income” is measured in within-country quintiles, “Age” is measured in years, and “Willingness to compete” is standardized within country. All regressions include country fixed effects. Columns (5) and (6) report results for the subsample of male respondents, and Columns (7) and (8) for the subsample of female respondents. Additional controls include a binary indicator for religiosity, religion fixed effects, a binary indicator for being married, and the urbanity of the place of residence (on a scale from 1-4). All regressions use population weights. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 5: Boys–girls socialization gap by country



Note: This figure shows the estimated boys–girls socialization gap separately for each country. It reports the estimated coefficient on the indicator “Child gender = male” from country-specific OLS regressions, where the dependent variable is a binary indicator for agreeing (somewhat or strongly) with the statement “It is generally important for boys/girls to be willing to compete against others.” All regressions use population weights. Vertical lines indicate 95 percent confidence intervals based on robust standard errors.

Figure 5 shows the estimated boys–girls socialization gap by country.¹⁰ The absence of a boys–girls socialization gap in the global sample masks striking cross-country heterogeneity. At one extreme, respondents in France are nearly 25 percentage points more likely to agree that it is important for girls to be willing to compete, whereas at the other extreme respondents in Kazakhstan are 29 percentage points more likely to agree that it is important for boys to be willing to compete. In Section 5, we relate this cross-country variation in the estimated boys–girls socialization gap to gender equality.

4 Attitudes toward competition: inequality and population growth

In this section, we examine potential explanations for the substantial cross-country differences we have documented in both adults’ willingness to compete and the importance they attach to children being willing to compete. We focus on two features of the environment that plausibly increase the value of being willing to compete: inequality and population growth. In more unequal societies, relative success matters more, raising the stakes of entering—or shying away from—competition. This may make individuals more willing to compete themselves and increase the importance they attach to children developing a willingness to compete. Rapid population growth may similarly increase the value of being willing to compete by intensifying competition for scarce opportunities in education, the labor market, and other domains, with corresponding implications for both individuals’ own willingness to compete and the importance they attach to children’s willingness to compete.

¹⁰Figure A10 presents the boys–girls socialization gap as geographical maps, and Figure A11 shows that the substantial cross-country heterogeneity in the boys–girls socialization gap is robust to using standardized responses rather than the share agreeing as the dependent variable. Figure A12 reports the corresponding country-specific estimates for education, income, age, and willingness to compete, while Figure A13 presents these estimates as geographical maps. In the vast majority of countries, people who are more highly educated, have higher incomes, and are themselves more willing to compete attach greater importance to children being willing to compete. For age, the estimated association is positive in some countries and negative in others.

We investigate these ideas in two complementary ways. First, we examine whether contemporary levels of inequality and population growth are associated with average attitudes toward competition across countries. Second, we exploit variation in formative exposure across birth cohorts and countries, asking whether individuals who experienced higher inequality or faster population growth during their formative years hold different attitudes toward competition later in life. The analysis includes country and birth-year fixed effects, thereby absorbing time-invariant differences across countries and common differences across birth cohorts. Although it cannot rule out that changes in formative exposure are correlated with other country-specific changes across cohorts, it provides a complementary individual-level perspective to the cross-country comparisons.

4.1 Cross-country patterns in attitudes toward competition: inequality and population growth

Figure 6 presents cross-country associations between willingness to compete, inequality, population growth, and economic development. The two upper panels show that WTC is positively associated with the Gini coefficient and negatively associated with the Egalitarian Democracy Index, suggesting that people tend to be more willing to compete in more unequal societies. The lower-left panel shows a similarly strong positive association between WTC and recent population growth. Finally, the lower-right panel shows that WTC is lower in richer countries.

Because inequality and population growth are themselves closely related to economic development, the upper panel of Table 3 examines these relationships in a regression framework, allowing us to assess their associations with WTC both separately and jointly.¹¹ We observe that the associations with both the Gini coefficient and the Egalitarian Democracy Index become weaker when estimated jointly with GDP and are no longer statistically significant, although both remain in the expected direction. Population growth remains positively associated with WTC across specifications, including when estimated jointly with GDP and either measure of inequality. The association between GDP and WTC becomes small and statistically insignificant when population growth is included.

Figure 7 shows very similar patterns for attitudes toward the importance of children being willing to compete. The two upper panels show that these attitudes are positively associated with the Gini coefficient and negatively associated with the Egalitarian Democracy Index, suggesting that adults in more unequal societies attach greater importance to children being willing to compete. The lower-left panel shows a similarly strong positive association with recent population growth, while the lower-right panel shows that these attitudes are less prevalent in richer countries. The lower panel of Table 3 examines these relationships in a regression framework. The positive association with the Gini coefficient becomes weaker and is no longer statistically significant when estimated jointly with GDP, while the negative association with the Egalitarian Democracy Index remains strong and statistically significant across specifications. Population growth is positively associated with the importance attached to children being willing to compete but the association becomes weaker when estimated jointly with GDP. The association with GDP becomes statistically insignificant when estimated jointly with the Egalitarian Democracy Index.

4.2 Exposure during the formative years: inequality and population growth

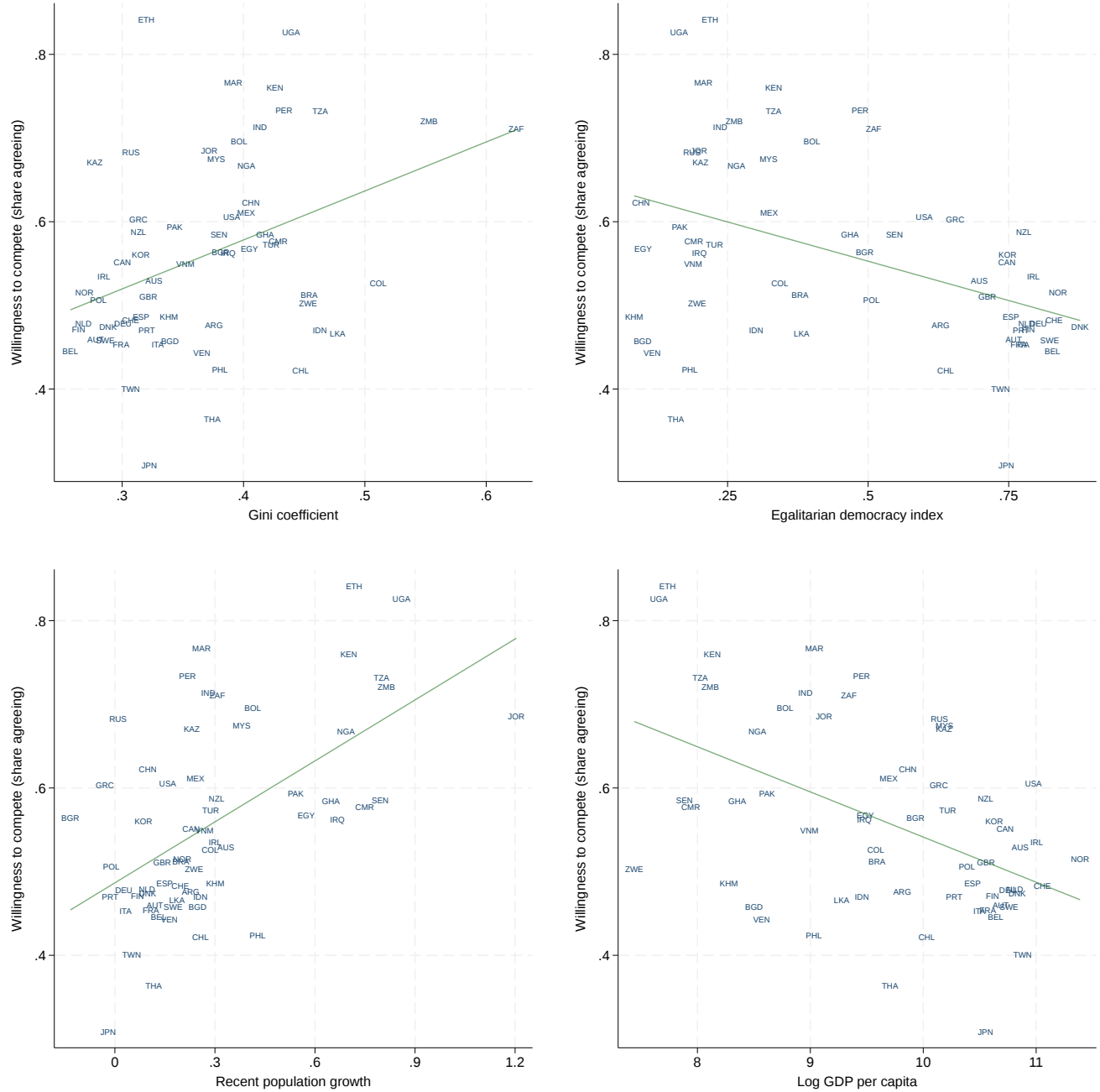
We next examine whether individuals exposed to different levels of inequality and population growth during their formative years differ in their attitudes toward competition.¹² Specifically, we estimate

$$Y_{ict} = \alpha_c + \gamma_t + \beta X_{ct} + \delta' Z_i + \varepsilon_{ict}, \quad (1)$$

¹¹Table A6 shows similar, though less precisely estimated, patterns using country averages of standardized responses.

¹²This approach builds on recent work exploiting country-cohort-specific variation in exposure to democracy to study support for democracy (Fuchs-Schündeln and Schündeln, 2015; Acemoglu et al., 2025) and universalism (Cappelen, Enke, and Tungodden, 2025).

Figure 6: Cross-country associations of WTC with inequality and population growth



Note: The panels show cross-country scatter plots. The x-axis shows, respectively, the Gini coefficient, the Egalitarian Democracy Index, population growth over the past 20 years, and log GDP per capita. The y-axis gives the share of respondents who agree (somewhat or strongly) with the statement "You are generally willing to compete against others." The green lines show the linear least-squares fit. Population weights are used for calculating the country averages.

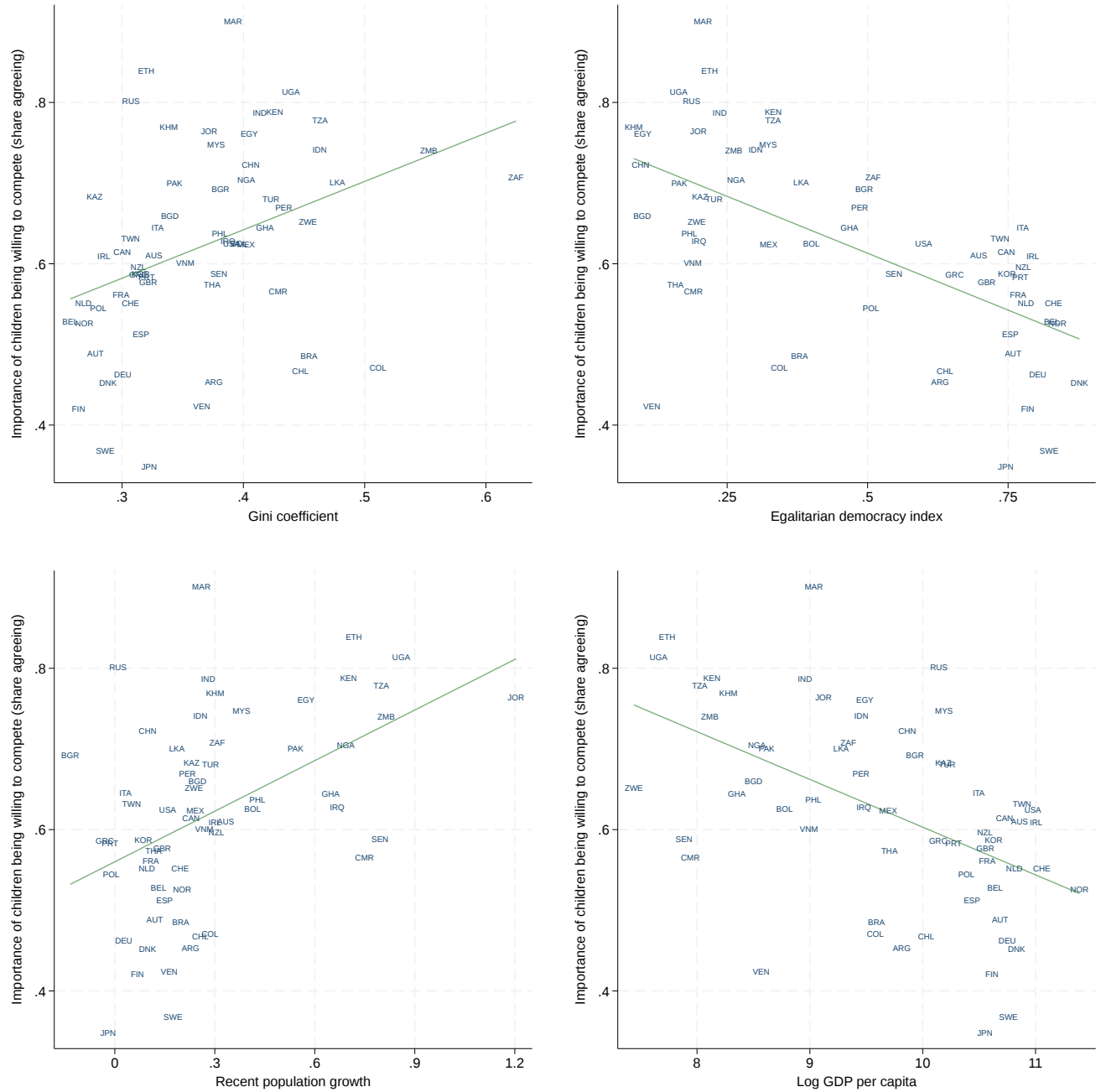
Table 3: Cross-country regressions of attitudes toward competition on inequality and population growth

Willingness to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini index	0.585*** (0.157)				0.219 (0.225)			0.197 (0.215)	
Egal Democracy		-0.188*** (0.050)				-0.062 (0.074)			-0.075 (0.073)
Pop growth			0.243*** (0.047)				0.188*** (0.056)	0.185*** (0.055)	0.191*** (0.058)
GDP				-0.054*** (0.013)	-0.045** (0.019)	-0.042** (0.020)	-0.021 (0.015)	-0.013 (0.018)	-0.006 (0.020)
Observations	62	62	62	62	62	62	62	62	62
R^2	0.146	0.185	0.326	0.241	0.254	0.250	0.345	0.356	0.359

Importance of children being willing to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini index	0.600*** (0.184)				0.176 (0.209)			0.164 (0.209)	
Egal Democracy		-0.282*** (0.047)				-0.242*** (0.062)			-0.249*** (0.060)
Pop growth			0.209*** (0.046)				0.099 (0.061)	0.098 (0.060)	0.112* (0.058)
GDP				-0.059*** (0.012)	-0.052*** (0.016)	-0.014 (0.015)	-0.042** (0.016)	-0.035* (0.019)	0.008 (0.015)
Observations	62	62	62	62	62	62	62	62	62
R^2	0.139	0.380	0.219	0.264	0.272	0.386	0.290	0.297	0.421

Note: This table reports OLS regressions relating country averages of attitudes toward competition to country-level inequality and population growth. The dependent variable in the upper panel is the share of respondents who agree (somewhat or strongly) with the statement “You are generally willing to compete against others.” The dependent variable in the lower panel is the share of respondents who agree (somewhat or strongly) with the statement “It is generally important for boys/girls to be willing to compete against others.” The Gini coefficient measures income inequality, the Egalitarian Democracy Index measures equality in the distribution of rights, resources, and access to power, population growth is the total population growth rate over the past 20 years, and GDP is measured as log GDP per capita. Population weights are used for calculating the country averages. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 7: Cross-country associations of attitudes toward the importance of children being willing to compete with inequality and population growth



Note: The panels show cross-country scatter plots. The x-axis shows, respectively, the Gini coefficient, the Egalitarian Democracy Index, population growth over the past 20 years, and log GDP per capita. The y-axis shows the share of respondents who agree (somewhat or strongly) with the statement “It is generally important for boys/girls to be willing to compete against others.” The green lines show the linear least-squares fit. Population weights are used for calculating the country averages.

Table 4: Attitudes toward competition: exposure to inequality and population growth

Willingness to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini	0.297** (0.134)				0.286* (0.149)			0.207 (0.147)	
Egal Democracy		-0.111** (0.052)				-0.111** (0.052)			-0.110** (0.049)
Pop growth			0.194*** (0.061)				0.214*** (0.059)	0.278*** (0.077)	0.203*** (0.061)
GDP				-0.008 (0.024)	0.005 (0.031)	0.001 (0.022)	-0.011 (0.022)	0.006 (0.030)	-0.000 (0.020)
Country & age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	52453	61483	58031	62674	52453	61478	57886	49186	56753
Adjusted R^2	0.096	0.095	0.091	0.094	0.096	0.095	0.092	0.096	0.094

Importance of children being willing to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini	0.478** (0.232)				0.487** (0.231)			0.465* (0.249)	
Egal Democracy		-0.170*** (0.056)				-0.170*** (0.054)			-0.171*** (0.054)
Pop growth			0.172** (0.082)				0.186** (0.079)	0.211** (0.104)	0.166* (0.084)
GDP				0.002 (0.028)	-0.004 (0.037)	0.006 (0.026)	0.003 (0.030)	0.001 (0.039)	0.007 (0.026)
Country & birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	52263	61275	57825	62450	52263	61271	57683	49006	56564
Adjusted R^2	0.082	0.077	0.077	0.077	0.082	0.077	0.077	0.083	0.078

Note: This table reports coefficients from OLS regressions of attitudes toward competition on inequality and population growth experienced during ages 11–20. The dependent variable in the upper panel is a binary indicator for agreeing (somewhat or strongly agree) with the statement “You are generally willing to compete against others.” The dependent variable in the lower panel is a binary indicator for agreeing (somewhat or strongly agree) with the statement “It is generally important for boys/girls to be willing to compete against others.” The Gini coefficient, Egalitarian Democracy Index, and population growth are standardized. All regressions include country and birth-year fixed effects and control for respondent gender; regressions in the lower panel additionally control for the gender of the child in the question. The sample is restricted to respondents born in the country in which they were surveyed and for whom the relevant exposure measure is available for at least five of the ten years from ages 11 to 20. Standard errors clustered at the country level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

where Y_{ict} is, for individual i in country c born in year t , the WTC or the importance they attach to children being willing to compete, α_c are country fixed effects, γ_t are birth-year fixed effects, and X_{ct} is the average level of the Gini coefficient, the Egalitarian Democracy Index, population growth, or per capita GDP experienced by cohort t in country c during ages 11–20.¹³ Z_i includes respondent gender and, for regressions on the importance of children being willing to compete, the gender of the child in the question. The identifying variation thus comes from cohorts within the same country being exposed to different conditions during their formative years, relative to the exposure of the same birth cohorts in other countries.¹⁴

Table 4 reports the results. The upper panel shows that individuals who experienced higher levels of inequality or faster population growth during ages 11–20 are more willing to compete later in life. The Egalitarian Democracy and population-growth estimates remain significant across specifications, while the Gini estimate remains stable in magnitude but loses significance when population growth is added. By contrast, GDP during individuals’ formative years is not significantly associated with WTC. The lower panel shows a closely related pattern for attitudes

¹³Figures A14–A18 show that there is sizeable variation within countries over time in all the indicators used in the exposure analysis.

¹⁴Because birth year and age coincide in our cross-section, the birth-year fixed effects absorb age and cohort effects jointly, to the extent that these are common across countries. Country-specific deviations from this common profile may also reflect cohort patterns that covary with formative exposure for reasons unrelated to it.

toward the importance of children being willing to compete. Individuals who experienced higher inequality or faster population growth during their formative years also attach greater importance to children being willing to compete, with the associations displaying similar robustness across specifications. While some estimates become less precise in the more demanding specifications, the overall pattern is remarkably consistent across the two outcomes.¹⁵

The results in this section provide consistent evidence of a relationship between the economic environment and attitudes toward competition. The cross-country patterns show that greater inequality and faster population growth are associated with greater willingness to compete and with attaching greater importance to children being willing to compete, and the individual-level cohort analysis provides further support for these relationships by exploiting variation in formative exposure across cohorts and countries. These findings are consistent with attitudes toward competition being shaped, at least in part, by the environment during the formative years—by the stakes attached to relative success and the intensity of competition for opportunities. We emphasize, however, that we cannot rule out that both the cross-country differences and variation in formative exposure are correlated with other features of the environment not captured in our analysis.

5 Gender gaps in attitudes toward competition and gender inequality

In this section, we examine how gender gaps in attitudes toward competition relate to gender equality across countries and to the gender equality individuals experienced while growing up. We have shown that men are more willing to compete than women in essentially every country, while the relative importance attached to boys' and girls' willingness to compete varies substantially across countries. Greater gender equality may shape both patterns. Women have greater opportunities to benefit from competitive environments in more gender-equal societies, which may encourage competitive preferences and reduce the gender gap in willingness to compete. At the same time, greater gender equality may weaken traditional gender norms that place greater emphasis on competitiveness for men than for women, potentially reducing men's willingness to compete. Greater gender equality may also affect how adults respond to gender differences in competitiveness when socializing children, potentially shaping both the magnitude and direction of the importance they attach to boys versus girls being willing to compete.

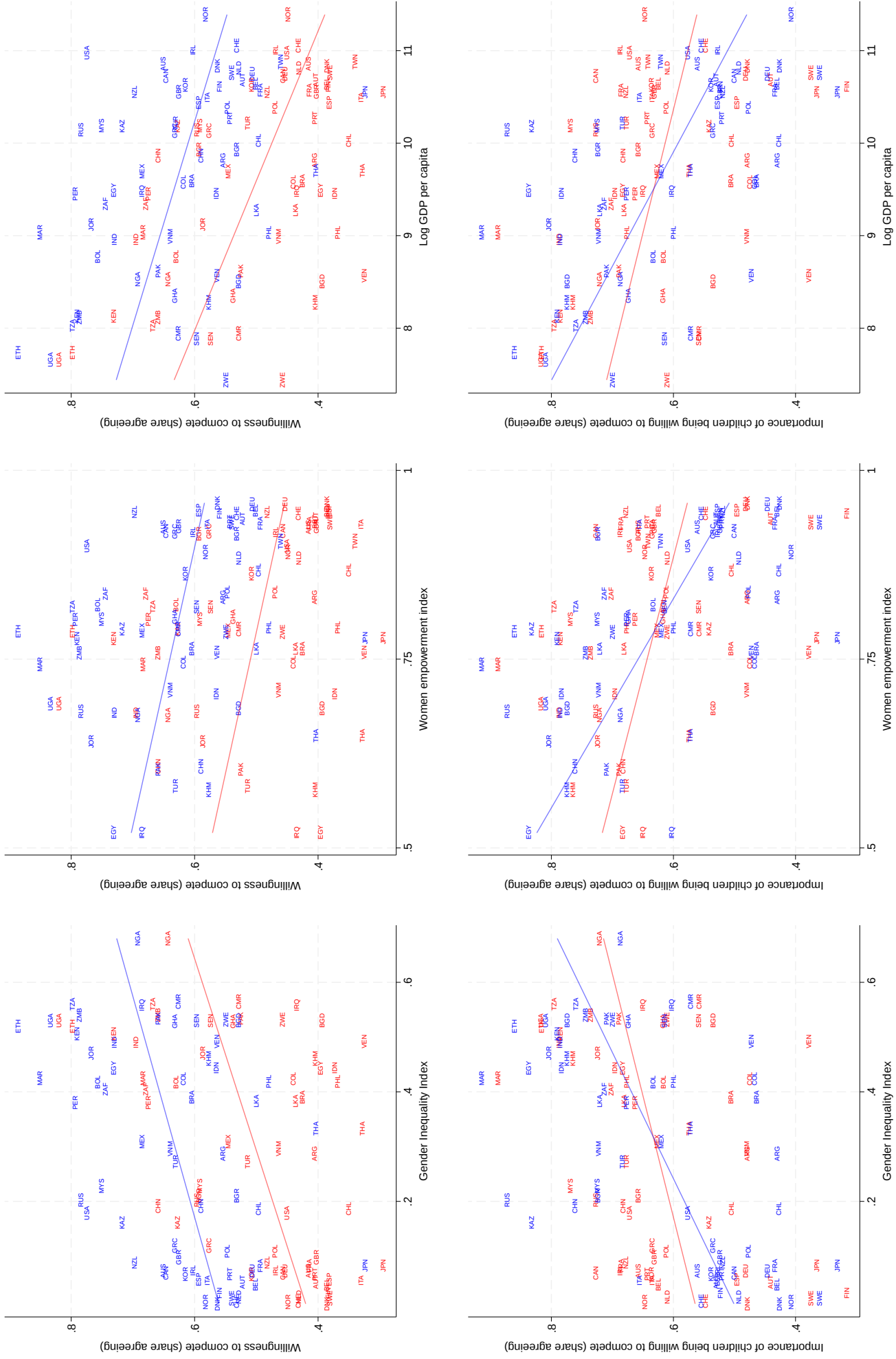
5.1 Cross-country patterns in gender gaps: gender equality

The upper panels of Figure 8 show how men's and women's willingness to compete varies with gender inequality and economic development across countries. The upper-left and upper-middle panels reveal a strikingly similar pattern: willingness to compete is lower for both men and women in more gender-equal societies, implying little systematic variation in the gender gap across the gender-equality distribution. The upper-right panel shows that willingness to compete is also lower in richer countries for both genders, with a more pronounced decline among women, resulting in a slightly larger men–women gap in richer countries. The left part of Table 5 examines these patterns in a regression framework. In specifications that include GDP, the estimated association between the Gender Inequality Index and the men–women gap in willingness to compete is positive; the corresponding estimate for the Women Empowerment Index has the expected negative sign but is not statistically significant. GDP is positively associated with a larger men–women gap in willingness to compete across specifications.

The lower panels of Figure 8 reveal a clear pattern in attitudes toward children's willingness to compete. In less gender-equal countries, people tend to attach greater importance to boys than to girls being willing to compete,

¹⁵The results are also robust to using the full response scales, standardized within countries, rather than binary indicators for agreement (Table A7). Figure A16 shows unusually large jumps in population growth rates in some years for a small number of countries (Peru, Jordan, Ghana, Kazakhstan, and Cambodia). Table A8 shows that, rather than being driven by these observations, the estimated association with population growth exposure becomes stronger—larger in magnitude and more precisely estimated—when these countries are dropped from the sample.

Figure 8: Gender differences in attitudes toward competition and gender inequality at the country level



Note: This figure shows, by gender, cross-country associations between attitudes toward competition and measures of gender inequality and economic development. In the top row, the y-axis shows the share of men and women who agree (somewhat or strongly) with the statement "You are generally willing to compete against others." In the bottom row, the y-axis shows the share of respondents who agree (somewhat or strongly) with the statement "It is generally important for boys/girls to be willing to compete against others." The x-axis shows, respectively, the Gender Inequality Index, the Women Empowerment Index, and log GDP per capita. Population weights are used for calculating the country averages. The red and blue lines show the linear least-squares fits. In the top row, red denotes responses by women and blue responses by men; in the bottom row, red denotes responses to the question about girls and blue responses to the question about boys.

Table 5: Cross-country regressions of the men–women WTC gap and the boys–girls socialization gap on gender inequality

	Willingness to compete Men-Women					Importance of children being willing to compete Boys-Girls				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Gender inequality	-0.037 (0.044)			0.293** (0.137)		0.209*** (0.066)			-0.018 (0.148)	
Empowerment		-0.004 (0.112)			-0.123 (0.141)		-0.402*** (0.112)			-0.273** (0.114)
GDP			0.016** (0.007)	0.069*** (0.024)	0.024** (0.011)			-0.044*** (0.011)	-0.047* (0.026)	-0.026** (0.011)
Observations	61	62	62	61	62	61	62	62	61	62
R^2	0.010	0.000	0.050	0.139	0.075	0.144	0.189	0.171	0.174	0.231

Note: This table reports OLS regressions relating the country-level men–women gap in willingness to compete and the boys–girls socialization gap to country-level gender inequality, women empowerment, and log GDP per capita. The dependent variable in Columns (1)–(5) is the difference between men and women in the share of respondents who agree (somewhat or strongly) with the statement “You are generally willing to compete against others.” The dependent variable in Columns (6)–(10) is the difference between the share of respondents who agree (somewhat or strongly) with the statement “It is generally important for boys to be willing to compete against others” and the share who agree (somewhat or strongly) with the corresponding statement about girls. Gender inequality is measured by the UN Gender Inequality Index (with Taiwan missing), women empowerment by the Women Empowerment Index, and GDP per capita is measured in logs. Population weights are used for calculating the country averages. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

whereas in more gender-equal countries the pattern reverses, with greater importance attached to girls competing.¹⁶ A similar reversal is visible across levels of economic development, with attitudes shifting from attaching greater importance to boys being willing to compete in poorer countries toward attaching greater importance to girls in richer countries. The right part of Table 5 shows the corresponding regression analysis. We observe that the negative association between the Women Empowerment Index and the boys–girls socialization gap remains when estimated jointly with GDP, while the association with the Gender Inequality Index becomes small and statistically insignificant. GDP is negatively associated with the boys–girls socialization gap across specifications.

5.2 Exposure during the formative years: gender equality

We finally apply the cohort-exposure design introduced in Section 4.2 to examine whether gender differences in attitudes toward competition vary with the level of gender equality individuals experienced during their formative years. We focus on the Women Empowerment Index, for which we have rich historical data, and measure exposure by the average value of the index during ages 11–20. In addition to estimating the relationship separately for women and men, we estimate specifications on the full sample that interact gender with formative exposure. We similarly examine whether exposure to gender equality is associated with differences in the importance respondents attach to boys versus girls being willing to compete.

Table 6 reports the results. The upper panel shows that individuals exposed to greater gender equality during their formative years are less willing to compete later in life, with a substantially stronger association for men than for women (columns 1–3). Consequently, the men–women gap in willingness to compete is smaller among cohorts that experienced greater gender equality during their formative years. By contrast, variation in exposure to GDP is not significantly associated with the men–women gap (columns 4–6). When exposure to gender equality and GDP are included jointly, the associations between gender equality and men’s and women’s willingness to compete, and consequently the men–women gap, remain essentially unchanged (columns 7–9).

¹⁶A possible interpretation for this pattern is that socialization attitudes tend to reinforce existing gender differences in willingness to compete in less gender-equal societies, while tending to counteract them in more gender-equal societies. Consistent with this interpretation, Figure A19 shows that the association between the men–women WTC gap and the boys–girls socialization gap differs by gender equality: the two gaps are positively associated in more gender-unequal countries and negatively associated in more gender-equal countries.

Table 6: Exposure to gender inequality during the formative years and gender gaps in attitudes towards competition

Willingness to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Women	Men	All	Women	Men	All	Women	Men	All
Empowerment	-0.070 (0.063)	-0.204*** (0.066)	-0.070 (0.063)				-0.069 (0.064)	-0.207*** (0.065)	-0.069 (0.064)
Men $\times$ Empowerment			-0.134** (0.062)						-0.138** (0.061)
GDP				0.004 (0.026)	-0.018 (0.026)	0.004 (0.026)	0.012 (0.023)	-0.017 (0.024)	0.012 (0.023)
Men $\times$ GDP						-0.022 (0.022)			-0.028 (0.020)
Country & birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	32679	28794	61473	33456	29216	62672	32677	28792	61469
Adjusted R^2	0.094	0.077	0.100	0.092	0.075	0.098	0.094	0.077	0.100

Importance of children being willing to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Girls	Boys	All	Girls	Boys	All	Girls	Boys	All
Empowerment	-0.101 (0.064)	-0.266*** (0.059)	-0.101 (0.064)				-0.101 (0.065)	-0.266*** (0.060)	-0.101 (0.065)
Boys $\times$ Empowerment			-0.165*** (0.058)						-0.165*** (0.058)
GDP				-0.004 (0.028)	0.006 (0.033)	-0.004 (0.028)	0.000 (0.028)	0.000 (0.030)	0.000 (0.028)
Boys $\times$ GDP						0.011 (0.024)			0.000 (0.022)
Country & birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	30527	30739	61266	31112	31334	62446	30527	30735	61262
Adjusted R^2	0.070	0.105	0.088	0.069	0.106	0.088	0.070	0.105	0.088

Note: This table shows results from OLS regressions of individual indicators of attitudes toward competition on gender equality experienced during ages 11–20. The dependent variable in the upper panel is a binary indicator for agreeing with the statement “You are generally willing to compete against others.” The dependent variable in the lower panel is a binary indicator for agreeing with the statement “It is generally important for boys/girls to be willing to compete against others.” All regressions control for country fixed effects and birth-year fixed effects (interacted with gender in columns (3), (6) and (9)). In the lower panel we additionally control for the gender of the respondent. Women empowerment is measured by the Women Empowerment Index and GDP per capita is measured in logs. The sample consists of respondents born in the country in which they were surveyed and for whom the indicator in question is available for at least five out of the ten years from 11 to 20. Standard errors clustered at the country level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The lower panel reveals an equally pronounced pattern for attitudes toward children’s willingness to compete. Individuals exposed to greater gender equality during their formative years attach less importance to children being willing to compete, but the association is substantially stronger when respondents are asked about boys than when they are asked about girls (columns 1–3). Consequently, the boys–girls socialization gap is smaller among cohorts exposed to greater gender equality. By contrast, variation in exposure to GDP is not significantly associated with the boys–girls socialization gap (columns 4–6). When exposure to gender equality and GDP are included jointly, the associations between gender equality and the importance attached to boys’ and girls’ willingness to compete, and consequently the boys–girls socialization gap, remain essentially unchanged (columns 7–9).¹⁷

Taken together, these results provide strong evidence that gender differences in attitudes toward competition vary systematically with exposure to gender equality during the formative years. Greater gender equality is associated with a smaller men–women gap in willingness to compete because men’s willingness to compete declines more strongly than women’s. Similarly, greater gender equality is associated with a smaller boys–girls socialization gap because individuals exposed to greater gender equality attach less importance to children being willing to compete, with a substantially larger decline in the importance attached to boys. These findings are in line with the patterns observed in the cross-country analysis, but the country-cohort analysis reveals an even stronger relationship between gender equality and gender gaps in attitudes toward competition.

6 Conclusion

This paper provides a global perspective on willingness to compete and the socialization of competitiveness. Three broad conclusions emerge. First, the individual-level patterns emphasized in the existing literature are remarkably robust across the world. Men are more willing to compete than women in every country except China and Bulgaria; WTC is positively associated with education and income and negatively associated with age in almost every country; and its positive associations with risk tolerance and confidence hold in every country in our sample. Despite these global regularities, there is substantial cross-country variation in levels of WTC and in the strength of its associations with individual characteristics.

Second, this cross-country variation is systematically related to the economic and social environment. People tend to be more willing to compete and to attach greater importance to children being willing to compete in more unequal societies and in countries with faster population growth. Our country-cohort analysis provides complementary evidence: cohorts exposed to greater inequality or faster population growth during their formative years are more willing to compete and attach greater importance to children being willing to compete. These patterns are consistent with inequality raising the stakes of relative success and population growth intensifying competition for educational and labor-market opportunities, thereby increasing the value of being willing to compete.

Third, our findings highlight the importance of the social environment for gender differences in attitudes toward competition. Although men are more willing to compete than women almost universally, there is substantial variation across countries in the magnitude of this gap and even greater variation in whether adults attach greater importance to boys or girls being willing to compete. These gender differences vary systematically with gender equality. Most notably, our within-country cohort analysis shows that cohorts exposed to greater gender equality during their formative years exhibit both a smaller men–women WTC gap and a smaller boys–girls socialization gap later in life.

Taken together, our findings suggest that willingness to compete is neither a narrowly culture-specific phenomenon nor an invariant individual trait. Its basic individual-level correlates are remarkably similar across societies, yet both its prevalence and the importance societies attach to cultivating it vary systematically with the

¹⁷Table A10 shows that the findings, both for the men–women gap in willingness to compete and the boys–girls socialization gap, are robust to using the full five-point response scales, standardized within countries. Table A11 shows that they are also robust to controlling for exposure to egalitarian democracy and population growth.

economic and social environment. Our socialization results further suggest that these environments may shape not only individuals' own willingness to compete but also the values transmitted to the next generation. While our research design does not establish that the relationships we document are causal, the consistency of the patterns across countries and across cohorts within countries points to the environment during the formative years as a potentially important source of variation in attitudes toward competition.

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Online Appendix

A Additional Tables and Figures

Table A1: Background variables: Summary statistics

	Mean	Std. Dev.	Min	Max	N
Men	0.462	0.499	0.00	1.00	66,710
Age (years)	41.963	16.782	15.00	100.00	66,785
Education level (standardised)	0.000	1.000	-5.41	4.80	66,728
Income quintile (1–5)	2.926	1.433	1.00	5.00	64,371
Urban	2.616	1.138	1.00	4.00	66,785
Married	0.483	0.500	0.00	1.00	66,542
Religious	0.618	0.486	0.00	1.00	65,548
Secular	0.173	0.378	0.00	1.00	66,785
Catholic	0.206	0.405	0.00	1.00	66,785
Protestant	0.100	0.300	0.00	1.00	66,785
Orthodox Cr.	0.045	0.208	0.00	1.00	66,785
Non-specified Cr.	0.083	0.275	0.00	1.00	66,785
Muslim	0.193	0.395	0.00	1.00	66,785
Hindu	0.044	0.206	0.00	1.00	66,785
Buddhist	0.061	0.239	0.00	1.00	66,785
Other religion	0.020	0.140	0.00	1.00	66,785

Note: This table reports descriptive statistics for the individual-level variables from the Gallup World Poll used in the analyses. “Men” is a binary indicator equal to one if the respondent reported being male and zero if the respondent reported being female. The variable is coded as missing for the 75 respondents who selected “Other”. “Education level (standardized)” is the respondent’s education level, standardized at the country level to account for differences in education categories across countries. “Income quintile (1–5)” is the respondent’s within-country income quintile. For some countries, the variable is provided by Gallup; for others, we construct it from the sample distribution of continuous income. “Age (years)” is age in years. “Urban,” “Married,” and “Religious” are binary indicators for living in an urban area, being married, and self-reporting as religious. “Religion” is categorized as Secular, Catholic, Protestant, Orthodox Christian, Unspecified Christian, Muslim, Hindu, Buddhist, Other, or Missing.

Table A2: Correlates of WTC (std) in the global sample

	(1)	(2)	(3)	(4)	(5)
Men	0.292*** (0.010)	0.197*** (0.009)	0.273*** (0.010)	0.192*** (0.010)	0.195*** (0.010)
Willingness to take risk (std)		0.308*** (0.006)		0.290*** (0.006)	0.290*** (0.006)
Confidence (std)		0.178*** (0.005)		0.175*** (0.006)	0.173*** (0.006)
Education level (std)			0.074*** (0.005)	0.042*** (0.005)	0.042*** (0.005)
Income quintile			0.052*** (0.004)	0.028*** (0.004)	0.029*** (0.004)
Age			-0.007*** (0.000)	-0.005*** (0.000)	-0.005*** (0.000)
Country FE	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	No	No	Yes
Observations	65997	65461	63538	63007	61664
Adjusted R^2	0.024	0.182	0.054	0.193	0.195

Note: This table reports coefficients from OLS regressions with standardized willingness to compete (WTC), measured from responses to the statement “You are generally willing to compete against others” and standardized within country, as the dependent variable. The measures of willingness to take risks and confidence in one’s own abilities are standardized analogously within countries. “Education” is standardized within country, “Income” is measured in within-country quintiles, and “Age” is measured in years. All regressions include country fixed effects. Additional controls include a binary indicator for religiosity, religion fixed effects, a binary indicator for being married, and the urbanity of the place of residence (on a scale from 1-4). All regressions use population weights. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A3: Correlates of WTC in the global sample: constant sample across specifications

	(1)	(2)	(3)	(4)	(5)
Men	0.120*** (0.005)	0.087*** (0.005)	0.113*** (0.005)	0.086*** (0.005)	0.087*** (0.005)
Willing to take risk		0.267*** (0.005)		0.250*** (0.005)	0.249*** (0.005)
Confident		0.247*** (0.007)		0.245*** (0.007)	0.242*** (0.007)
Education level (std)			0.034*** (0.003)	0.021*** (0.002)	0.021*** (0.002)
Income quintile			0.023*** (0.002)	0.012*** (0.002)	0.013*** (0.002)
Age			-0.003*** (0.000)	-0.002*** (0.000)	-0.002*** (0.000)
Country FE	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	No	No	Yes
Observations	61664	61664	61664	61664	61664
Adjusted R^2	0.067	0.188	0.091	0.199	0.201

Note: This table reports coefficients from OLS regressions with willingness to compete (WTC), measured as a binary indicator for agreeing (somewhat or strongly) with the statement “You are generally willing to compete against others,” as the dependent variable. The measures of willingness to take risks and confidence in one’s own abilities are coded analogously as binary indicators for agreeing with the corresponding statements. “Education” is standardized within country, “Income” is measured in within-country quintiles, and “Age” is measured in years. All regressions include country fixed effects. Additional controls include a binary indicator for religiosity, religion fixed effects, a binary indicator for being married, and the urbanity of the place of residence (on a scale from 1-4). Gallup-provided population weights were used. Robust standard errors are reported in parentheses. The sample is restricted to observations for which all background variables are available. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A4: Correlates of attitudes toward the importance of children being willing to compete (std) in the global sample

	(1) all	(2) all	(3) all	(4) all	(5) men	(6) men	(7) women	(8) women
Boys	-0.011 (0.010)	-0.008 (0.010)	-0.002 (0.009)	-0.012 (0.010)	0.069*** (0.014)	0.068*** (0.013)	-0.084*** (0.014)	-0.071*** (0.013)
Men		0.163*** (0.010)	0.051*** (0.010)	0.054*** (0.010)				
Education level (std)		0.044*** (0.005)	0.015*** (0.005)	0.015*** (0.005)	0.044*** (0.008)	0.020*** (0.007)	0.047*** (0.008)	0.014** (0.007)
Income quintile		0.039*** (0.004)	0.018*** (0.004)	0.018*** (0.004)	0.039*** (0.005)	0.015*** (0.005)	0.036*** (0.005)	0.018*** (0.005)
Age		0.001* (0.000)	0.004*** (0.000)	0.003*** (0.000)	-0.000 (0.000)	0.003*** (0.000)	0.001*** (0.000)	0.004*** (0.000)
Willingness to compete (std)			0.406*** (0.006)	0.405*** (0.006)		0.408*** (0.008)		0.400*** (0.008)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	No	Yes	No	No	No	No
Observations	65843	63311	62876	61540	29633	29503	33678	33373
Adjusted R^2	0.001	0.015	0.173	0.176	0.019	0.178	0.012	0.166

Note: This table reports coefficients from OLS regressions with standardized agreement with the statement “It is generally important for boys/girls to be willing to compete against others,” measured from responses to the statement and standardized within country, as the dependent variable. “Child gender = male” is a binary indicator for whether the statement refers to a boy rather than a girl. “Education” is standardized within country, “Income” is measured in within-country quintiles, “Age” is measured in years, and “Willingness to compete” is standardized within country. All regressions include country fixed effects. Columns (5) and (6) report results for the subsample of male respondents, and Columns (7) and (8) for the subsample of female respondents. Additional controls include a binary indicator for religiosity, religion fixed effects, a binary indicator for being married, and the urbanity of the place of residence (on a scale from 1-4). All regressions use population weights. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A5: Correlates of attitudes toward the importance of children being willing to compete in the global sample: constant sample across specifications

	(1) all	(2) all	(3) all	(4) all	(5) men	(6) men	(7) women	(8) women
Child gender = male	-0.010*** (0.004)	-0.011*** (0.004)	-0.009*** (0.003)	-0.009*** (0.003)	0.022*** (0.005)	0.023*** (0.005)	-0.040*** (0.005)	-0.037*** (0.005)
Men		0.066*** (0.004)	0.021*** (0.004)	0.022*** (0.004)				
Education level (std)		0.020*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.020*** (0.003)	0.009*** (0.003)	0.021*** (0.003)	0.009*** (0.003)
Income quintile		0.019*** (0.001)	0.010*** (0.001)	0.010*** (0.001)	0.019*** (0.002)	0.010*** (0.002)	0.018*** (0.002)	0.010*** (0.002)
Age		0.000*** (0.000)	0.002*** (0.000)	0.001*** (0.000)	0.000 (0.000)	0.001*** (0.000)	0.000** (0.000)	0.002*** (0.000)
Willingness to compete (std)			0.167*** (0.002)	0.165*** (0.002)		0.173*** (0.003)		0.161*** (0.002)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	No	Yes	No	No	No	No
Observations	61438	61438	61438	61438	28870	28870	32568	32568
Adjusted R^2	0.066	0.078	0.193	0.195	0.063	0.185	0.090	0.198

Note: This table reports coefficients from OLS regressions with a binary indicator for agreeing (somewhat or strongly agree) with the statement “It is generally important for boys/girls to be willing to compete against others” as the dependent variable. “Child gender = male” is a binary indicator for whether the statement refers to a boy rather than a girl. “Education” is standardized within country, “Income” is measured in within-country quintiles, “Age” is measured in years, and “Willingness to compete” is standardized within country. All regressions include country fixed effects. Columns (5) and (6) report results for the subsample of male respondents, and Columns (7) and (8) for the subsample of female respondents. Additional controls include a binary indicator for religiosity, religion fixed effects, a binary indicator for being married, and the urbanity of the place of residence (on a scale from 1-4). Robust standard errors are reported in parentheses. All regressions use population weights. The sample is restricted to observations for which all control variables are available. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A6: Cross-country regressions of attitudes toward competition (level) on inequality and population growth

Willingness to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini index	0.856 (0.514)				0.556 (0.817)			0.480 (0.763)	
Egal Democracy		-0.098 (0.164)				0.184 (0.225)			0.142 (0.223)
Pop growth			0.496*** (0.143)				0.626*** (0.210)	0.620*** (0.207)	0.618*** (0.203)
GDP				-0.060 (0.048)	-0.037 (0.070)	-0.095 (0.067)	0.050 (0.053)	0.069 (0.067)	0.021 (0.067)
Observations	62	62	62	62	62	62	62	62	62
R^2	0.037	0.006	0.163	0.036	0.046	0.045	0.176	0.184	0.181

Importance of children being willing to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini index	0.808 (0.527)				0.153 (0.714)			0.113 (0.702)	
Egal Democracy		-0.448*** (0.147)				-0.437** (0.189)			-0.461** (0.186)
Pop growth			0.406*** (0.132)				0.331* (0.186)	0.330* (0.187)	0.355* (0.188)
GDP				-0.086** (0.038)	-0.080 (0.054)	-0.004 (0.049)	-0.028 (0.050)	-0.024 (0.062)	0.063 (0.051)
Observations	62	62	62	62	62	62	62	62	62
R^2	0.035	0.134	0.115	0.078	0.079	0.134	0.119	0.120	0.181

Note: This table reports OLS regressions relating country averages of attitudes toward competition to country-level inequality and population growth. The dependent variable in the upper panel is average willingness to compete (WTC), measured from responses to the statement “You are generally willing to compete against others” and standardized within countries. The dependent variable in the lower panel is the average response to the statement “It is generally important for boys/girls to be willing to compete against others”. Population weights are used for calculating the country averages. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A7: Attitudes toward competition (std): exposure to inequality and population growth

Willingness to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini	0.682** (0.285)				0.664** (0.318)			0.457 (0.305)	
Egal Democracy		-0.257** (0.101)				-0.258** (0.101)			-0.244** (0.097)
Pop growth			0.361** (0.141)				0.415*** (0.140)	0.580*** (0.177)	0.393*** (0.138)
GDP				-0.010 (0.050)	0.008 (0.062)	0.013 (0.046)	-0.013 (0.049)	0.021 (0.062)	0.015 (0.042)
Country & age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	52453	61483	58031	62674	52453	61478	57886	49186	56753
Adjusted R^2	0.032	0.034	0.035	0.035	0.032	0.034	0.034	0.032	0.034

Importance of children being willing to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini	1.027** (0.432)				1.017** (0.418)			0.952** (0.445)	
Egal Democracy		-0.362*** (0.107)				-0.365*** (0.104)			-0.373*** (0.105)
Pop growth			0.215 (0.179)				0.239 (0.168)	0.348 (0.209)	0.193 (0.175)
GDP				0.025 (0.057)	0.005 (0.064)	0.036 (0.051)	0.036 (0.063)	0.030 (0.069)	0.049 (0.055)
Country & age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	52263	61275	57825	62450	52263	61271	57683	49006	56564
Adjusted R^2	0.009	0.009	0.009	0.008	0.009	0.009	0.009	0.010	0.010

Note: This table reports coefficients from OLS regressions of attitudes toward competition on inequality and population growth experienced during ages 11–20. The dependent variable in the upper panel is the degree of agreement with the statement “You are generally willing to compete against others”, standardized at the country level. The dependent variable in the lower panel is the degree of agreement with the statement “It is generally important for boys/girls to be willing to compete against others”, standardized at the country level. The Gini coefficient, Egalitarian Democracy Index, and population growth are standardized. All regressions include country and birth-year fixed effects and control for respondent gender; regressions in the lower panel additionally control for the gender of the child in the question. The sample is restricted to respondents born in the country in which they were surveyed and for whom the relevant exposure measure is available for at least five of the ten years from ages 11 to 20. Standard errors clustered at the country level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A8: Attitudes toward competition: exposure to inequality and population growth (restricted country sample)

Willingness to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini	0.344** (0.141)				0.332** (0.158)			0.247 (0.152)	
Egal Democracy		-0.101* (0.053)				-0.102* (0.053)			-0.098* (0.050)
Pop growth			0.301*** (0.071)				0.297*** (0.069)	0.364*** (0.086)	0.289*** (0.070)
GDP				-0.003 (0.024)	0.006 (0.031)	0.007 (0.022)	-0.005 (0.023)	0.012 (0.030)	0.008 (0.019)
Country & birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	49345	57168	53953	58197	49345	57164	53948	46247	52966
Adjusted R^2	0.095	0.094	0.090	0.092	0.095	0.094	0.090	0.095	0.092

Importance of children being willing to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gini	0.489* (0.245)				0.497** (0.243)			0.467* (0.262)	
Egal Democracy		-0.159*** (0.058)				-0.160*** (0.057)			-0.160*** (0.056)
Pop growth			0.271*** (0.097)				0.275*** (0.092)	0.327*** (0.113)	0.253** (0.100)
GDP				0.004 (0.029)	-0.004 (0.038)	0.009 (0.026)	0.008 (0.031)	0.007 (0.039)	0.013 (0.028)
Country & age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	49168	56992	53772	58008	49168	56989	53768	46079	52800
Adjusted R^2	0.084	0.081	0.080	0.080	0.084	0.081	0.080	0.085	0.081

Note: This table reports coefficients from OLS regressions of attitudes toward competition on inequality and population growth experienced during ages 11–20. The dependent variable in the upper panel is a binary indicator for agreeing (somewhat or strongly agree) with the statement “You are generally willing to compete against others.” The dependent variable in the lower panel is a binary indicator for agreeing (somewhat or strongly agree) with the statement “It is generally important for boys/girls to be willing to compete against others.” The Gini coefficient, Egalitarian Democracy Index, and population growth are standardized. All regressions include country and birth-year fixed effects and control for respondent gender; regressions in the lower panel additionally control for the gender of the child in the question. The sample is restricted to respondents born in the country in which they were surveyed and for whom the relevant exposure measure is available for at least five of the ten years from ages 11 to 20. In addition, we exclude observations from Peru, Jordan, Ghana, Kazakhstan, and Cambodia due to unusual jumps in recorded population growth in some years. Standard errors clustered at the country level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A9: Cross-country regressions of the men–women WTC gap in willingness to compete (std) and the boys–girls socialization gap (std) on gender inequality

	Willingness to compete					Importance of children being willing to compete				
	Men-Women					Boys-Girls				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Gender inequality	-0.140 (0.094)			0.595** (0.262)		0.601*** (0.148)			0.262 (0.358)	
Empowerment		0.064 (0.236)			-0.245 (0.297)		-1.138*** (0.262)			-0.833*** (0.278)
GDP			0.047*** (0.016)	0.154*** (0.047)	0.063** (0.024)			-0.115*** (0.025)	-0.071 (0.062)	-0.062** (0.025)
Observations	61	62	62	61	62	61	62	62	61	62
R ²	0.030	0.002	0.091	0.172	0.113	0.211	0.267	0.211	0.222	0.309

Note: This table reports OLS regressions relating the country-level men–women gap in willingness to compete and the boys–girls socialization gap to country-level gender inequality, women empowerment, and log GDP per capita. The dependent variable in Columns (1)–(5) is the difference between men and women in the degree of agreement with the statement “You are generally willing to compete against others”, standardized at the country level. The dependent variable in Columns (6)–(10) is the difference between the degree of agreement with the statement “It is generally important for boys to be willing to compete against others” and the degree of agreement with the corresponding statement about girls, standardized at the country level. Gender inequality is measured by the UN Gender Inequality Index, women empowerment by the Women Empowerment Index, and GDP per capita is measured in logs. Population weights are used for calculating the country averages. Robust standard errors are reported in parentheses.*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A10: Exposure to gender inequality during the formative years and gender differences in attitudes towards competition (std)

Willingness to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Women	Men	All	Women	Men	All	Women	Men	All
Empowerment	-0.070 (0.063)	-0.204*** (0.066)	-0.070 (0.063)				-0.069 (0.064)	-0.207*** (0.065)	-0.069 (0.064)
Men $\times$ Empowerment			-0.134** (0.062)						-0.138** (0.061)
GDP				0.004 (0.026)	-0.018 (0.026)	0.004 (0.026)	0.012 (0.023)	-0.017 (0.024)	0.012 (0.023)
Men $\times$ GDP						-0.022 (0.022)			-0.028 (0.020)
Country & birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	32679	28794	61473	33456	29216	62672	32677	28792	61469
Adjusted R^2	0.094	0.077	0.100	0.092	0.075	0.098	0.094	0.077	0.100

Importance of children being willing to compete									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Girls	Boys	All	Girls	Boys	All	Girls	Boys	All
Empowerment	-0.101 (0.064)	-0.266*** (0.059)	-0.101 (0.064)				-0.101 (0.065)	-0.266*** (0.060)	-0.101 (0.065)
Boys $\times$ Empowerment			-0.165*** (0.058)						-0.165*** (0.058)
GDP				-0.004 (0.028)	0.006 (0.033)	-0.004 (0.028)	0.000 (0.028)	0.000 (0.030)	0.000 (0.028)
Boys $\times$ GDP						0.011 (0.024)			0.000 (0.022)
Country & birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	30527	30739	61266	31112	31334	62446	30527	30735	61262
Adjusted R^2	0.070	0.105	0.088	0.069	0.106	0.088	0.070	0.105	0.088

Note: This table shows results from OLS regressions of individual indicators of attitudes towards competition on gender inequality experienced during ages 11-20. The dependent variable in the upper panel is the degree of agreement with the statement “You are generally willing to compete against others”, standardized at the country level. The dependent variable in the lower panel is the degree of agreement with the statement “It is generally important for boys/girls to be willing to compete against others”, standardized at the country level. The gender of the child in the question was randomized across respondents. All regressions control for country fixed effects and age-in-years fixed effects (interacted with gender in columns 3, 6 and 9). In the lower panel we additionally control for the gender of the respondent. Women empowerment is measured by the Women Empowerment Index and GDP per capita is measured in logs. The sample consists of respondents born in the country in which they were surveyed and for whom the indicator in question is available for at least five out of ten life years from 11 to 20. Standard errors clustered at the country level are reported in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A11: Exposure to gender inequality during the formative years and the gender gaps in attitudes towards competition (extended table)

Willingness to compete

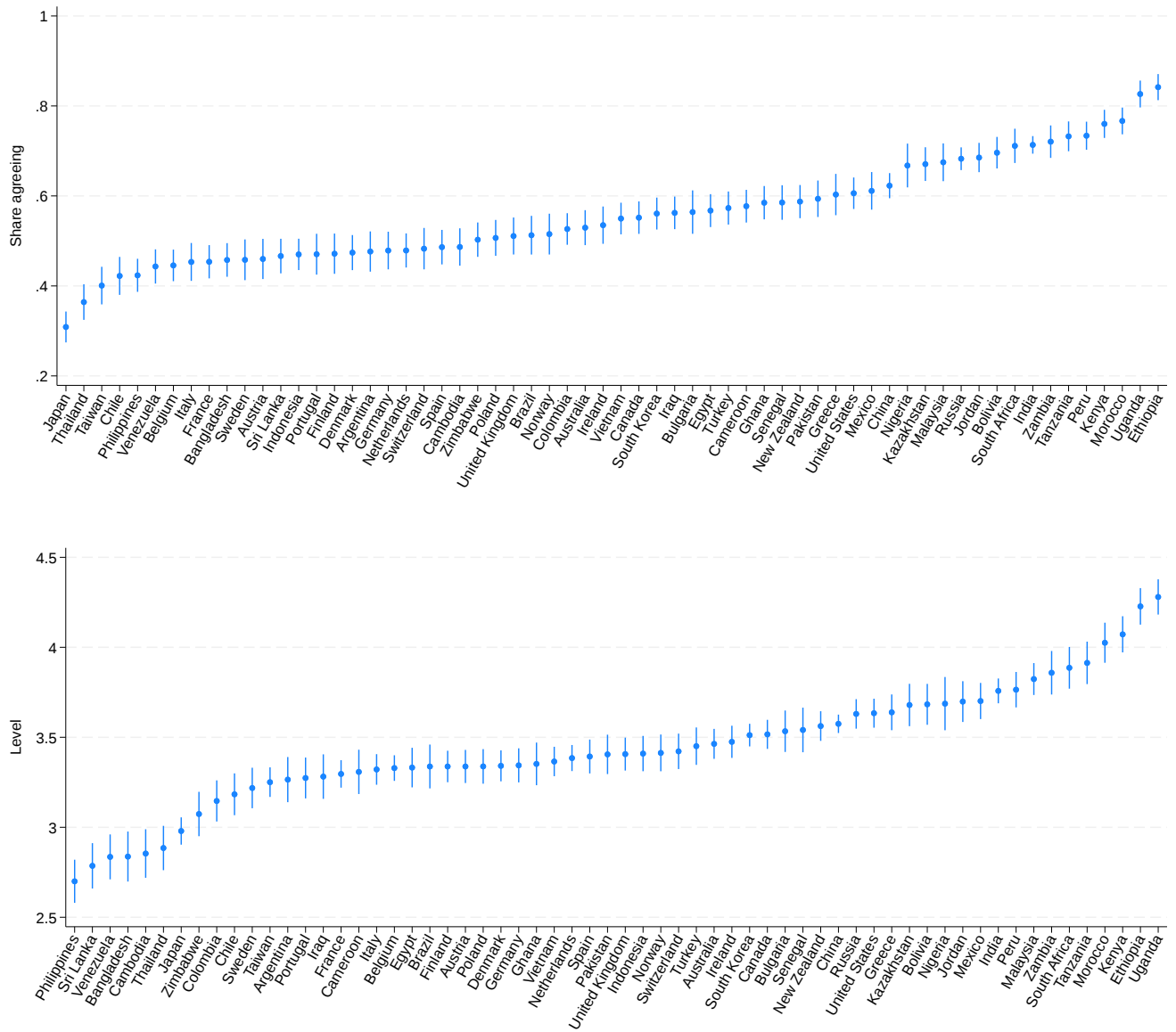
	(1) Women	(2) Men	(3) All	(4) Women	(5) Men	(6) All	(7) Women	(8) Men	(9) All	(10) Women	(11) Men	(12) All	(13) Women	(14) Men	(15) All
Empowerment	-0.070 (0.063)	-0.204*** (0.066)	-0.070 (0.063)	-0.069 (0.064)	-0.207*** (0.065)	-0.069 (0.064)	0.008 (0.106)	-0.148 (0.090)	0.008 (0.106)	-0.058 (0.060)	-0.195*** (0.069)	-0.058 (0.060)	0.034 (0.101)	-0.128 (0.090)	0.034 (0.101)
Men × Empowerment			-0.134** (0.062)			-0.138** (0.061)			-0.156 (0.099)			-0.137** (0.061)			-0.162 (0.098)
GDP				0.012 (0.023)	-0.017 (0.024)	0.012 (0.023)							0.010 (0.022)	-0.013 (0.024)	0.010 (0.022)
Men × GDP						-0.028 (0.020)									-0.023 (0.023)
Egal Democracy							-0.085 (0.092)	-0.061 (0.076)	-0.085 (0.092)				-0.097 (0.087)	-0.076 (0.073)	-0.097 (0.087)
Men × Egal Democracy									0.024 (0.071)						0.021 (0.072)
Pop growth										0.180** (0.071)	0.183** (0.070)	0.180** (0.071)	0.196*** (0.071)	0.181** (0.070)	0.196*** (0.071)
Men × Pop growth												0.003 (0.083)			-0.015 (0.079)
Country & age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	32679	28794	61473	32677	28792	61469	32679	28794	61473	30191	26556	56747	30189	26555	56744
Adjusted R^2	0.094	0.077	0.100	0.094	0.077	0.100	0.094	0.077	0.100	0.090	0.075	0.098	0.090	0.076	0.098

Importance of children being willing to compete

	(1) Girls	(2) Boys	(3) All	(4) Girls	(5) Boys	(6) All	(7) Girls	(8) Boys	(9) All	(10) Girls	(11) Boys	(12) All	(13) Girls	(14) Boys	(15) All
Empowerment	-0.094 (0.063)	-0.266*** (0.059)	-0.101 (0.064)	-0.101 (0.065)	-0.266*** (0.060)	-0.101 (0.065)	0.022 (0.092)	-0.162* (0.095)	0.022 (0.092)	-0.109 (0.069)	-0.236*** (0.058)	-0.109 (0.069)	0.033 (0.089)	-0.102 (0.084)	0.033 (0.089)
Boys × Empowerment			-0.165*** (0.058)			-0.165*** (0.058)			-0.184** (0.089)			-0.128** (0.056)			-0.135 (0.082)
GDP				0.000 (0.028)	0.000 (0.030)	0.000 (0.028)							0.006 (0.029)	0.007 (0.028)	0.006 (0.029)
Boys × GDP						0.000 (0.022)									0.002 (0.025)
Egal Democracy							-0.134 (0.091)	-0.115 (0.095)	-0.134 (0.091)				-0.152* (0.082)	-0.144* (0.085)	-0.152* (0.082)
Boys × Egal Democracy									0.019 (0.070)						0.007 (0.065)
Pop growth										0.044 (0.109)	0.231*** (0.083)	0.044 (0.109)	0.062 (0.113)	0.250*** (0.085)	0.062 (0.113)
Boys × Pop growth												0.187 (0.113)			0.188* (0.112)
Country & age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	30568	30739	61266	30527	30735	61262	30527	30739	61266	28206	28353	56559	28206	28350	56556
Adjusted R^2	0.069	0.105	0.088	0.070	0.105	0.088	0.071	0.105	0.088	0.070	0.106	0.089	0.071	0.107	0.089

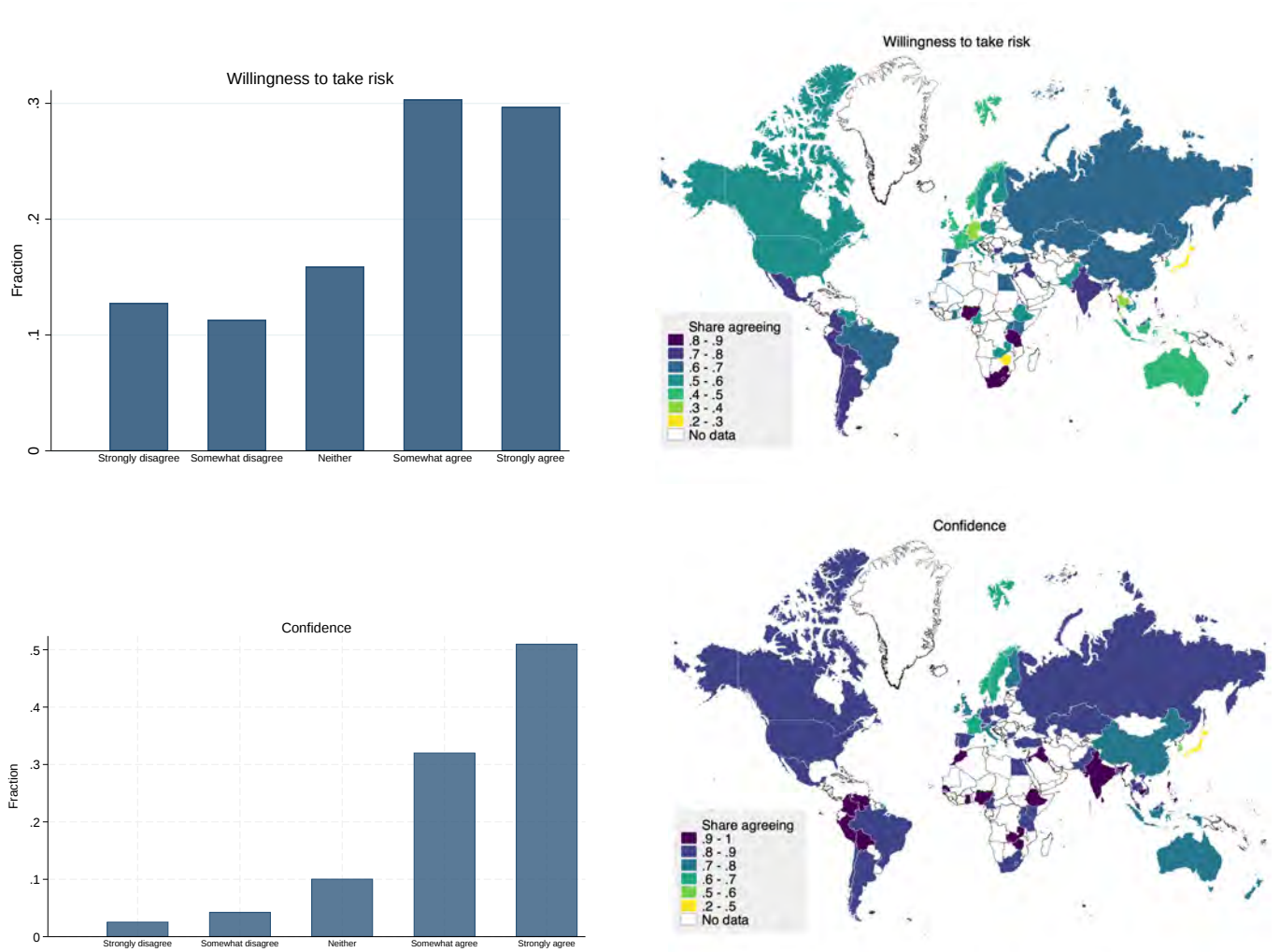
Note: This table shows results from OLS regressions of individual indicators of attitudes toward competition on gender equality experienced during ages 11–20. The dependent variable in the upper panel is a binary indicator for agreeing with the statement “You are generally willing to compete against others.” The dependent variable in the lower panel is a binary indicator for agreeing with the statement “It is generally important for boys/girls to be willing to compete against others.” All regressions control for country fixed effects and birth-year effects (interacted with gender in columns (3), (6) and (9)). In the lower panel we additionally control for the gender of the respondent. Women empowerment is measured by the Women Empowerment Index and GDP per capita is measured in logs. The sample consists of respondents born in the country in which they were surveyed and for whom the indicator in question is available for at least five out of the ten years from 11 to 20. Standard errors clustered at the country level are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure A1: Willingness to compete across the world



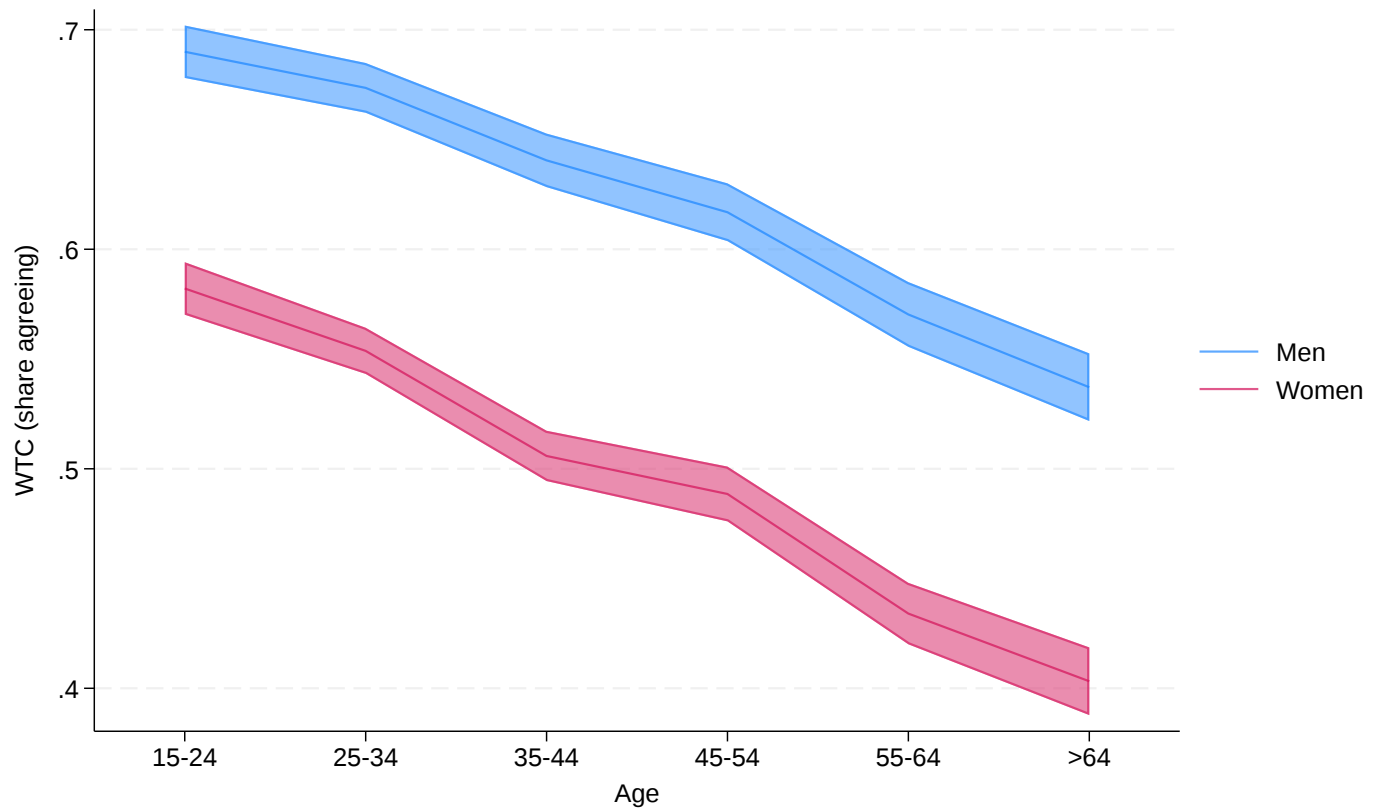
Note: This figure shows average willingness to compete in each country. The upper panel shows the share of respondents who agree with the statement "You are generally willing to compete against others." The lower panel shows the average answer to the statement (on a scale from 1-5). Population weights are used for calculating the country averages. Error bars indicate 95% confidence intervals from OLS regressions with robust standard errors.

Figure A2: Risk and confidence across the world



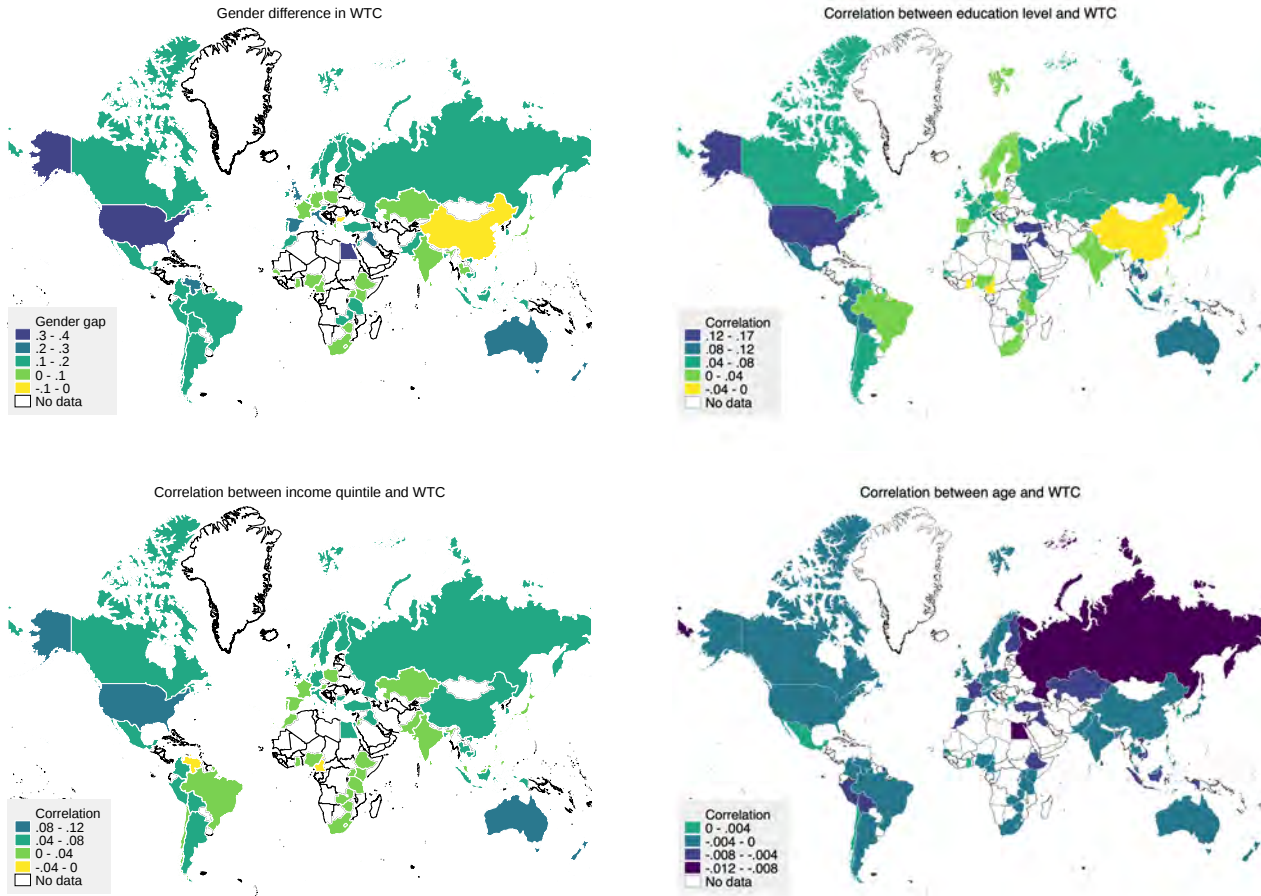
Note: This figure shows the distribution of responses to the statements “You are generally willing to take risks” (upper panels) and “You generally have confidence in your abilities” (lower panels). The histograms on the left show the full distribution of responses across the five answer options for each statement. The maps on the right show, for each country, the proportion of respondents who agree (strongly or somewhat) with the corresponding statement.

Figure A3: WTC by gender and age



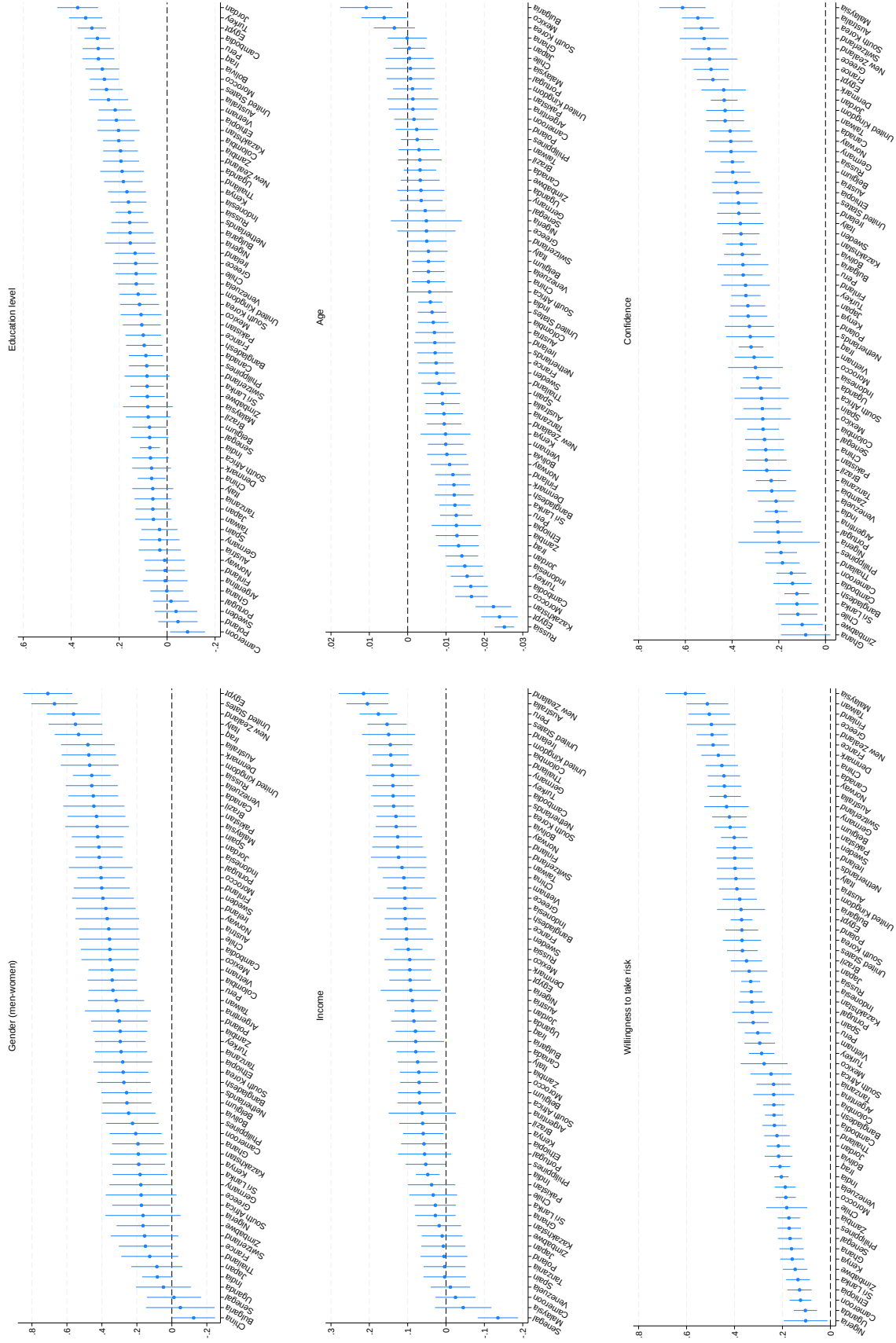
Note: This figure shows the share of respondents who agree with the willingness-to-compete statement by gender and age. The reported levels of WTC and 95% confidence intervals are estimated from OLS regressions controlling for country fixed effects. Confidence intervals are based on robust standard errors.

Figure A4: Correlates of WTC (share agreeing) by country



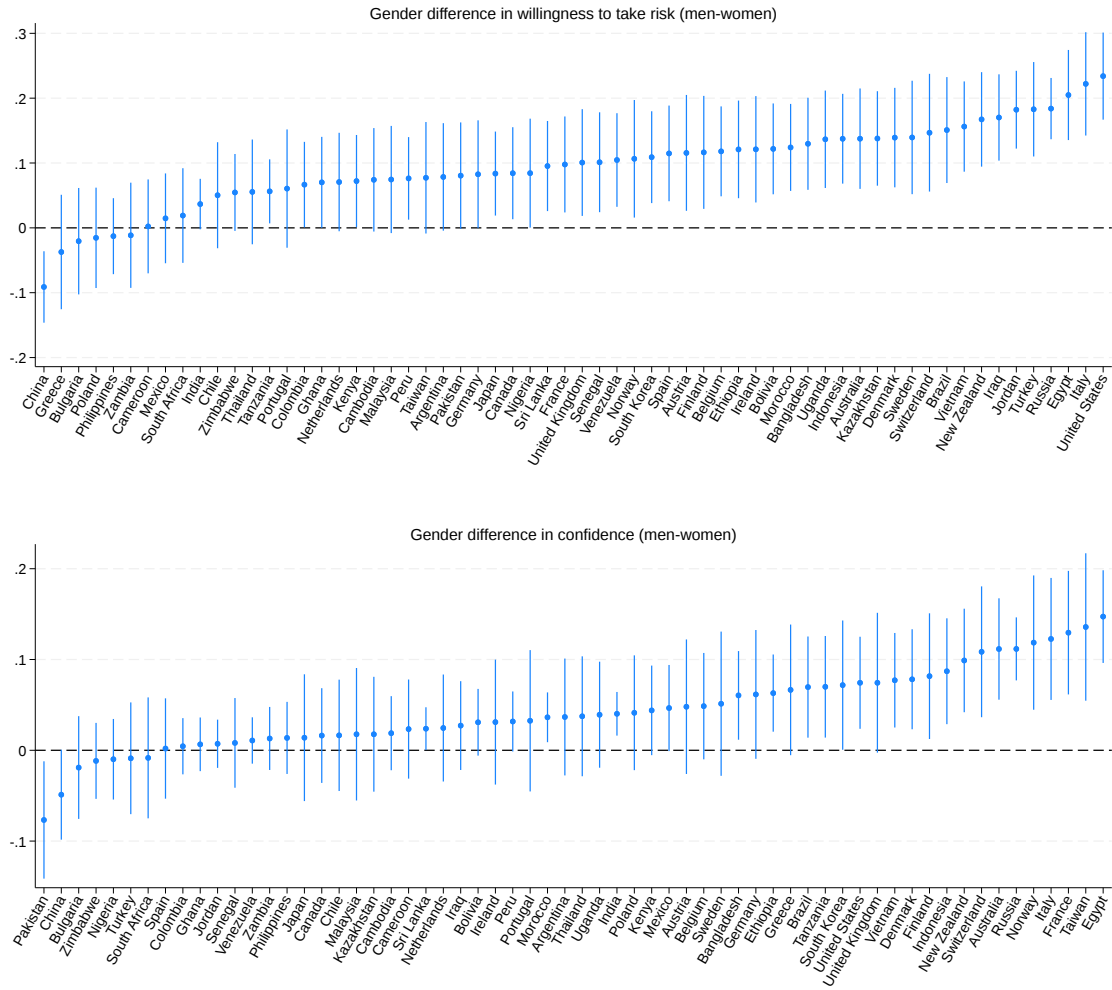
Note: This figure maps the country-specific regression coefficients relating willingness to compete (WTC) to gender (men versus women), education, income, and age. All regressions use population weights. For each country, the color represents the estimated coefficient from an OLS regression in which the dependent variable is a binary indicator for agreeing with the statement “You are generally willing to compete against others” and the explanatory variable is the corresponding characteristic.

Figure A5: Correlates of WTC (std) by country



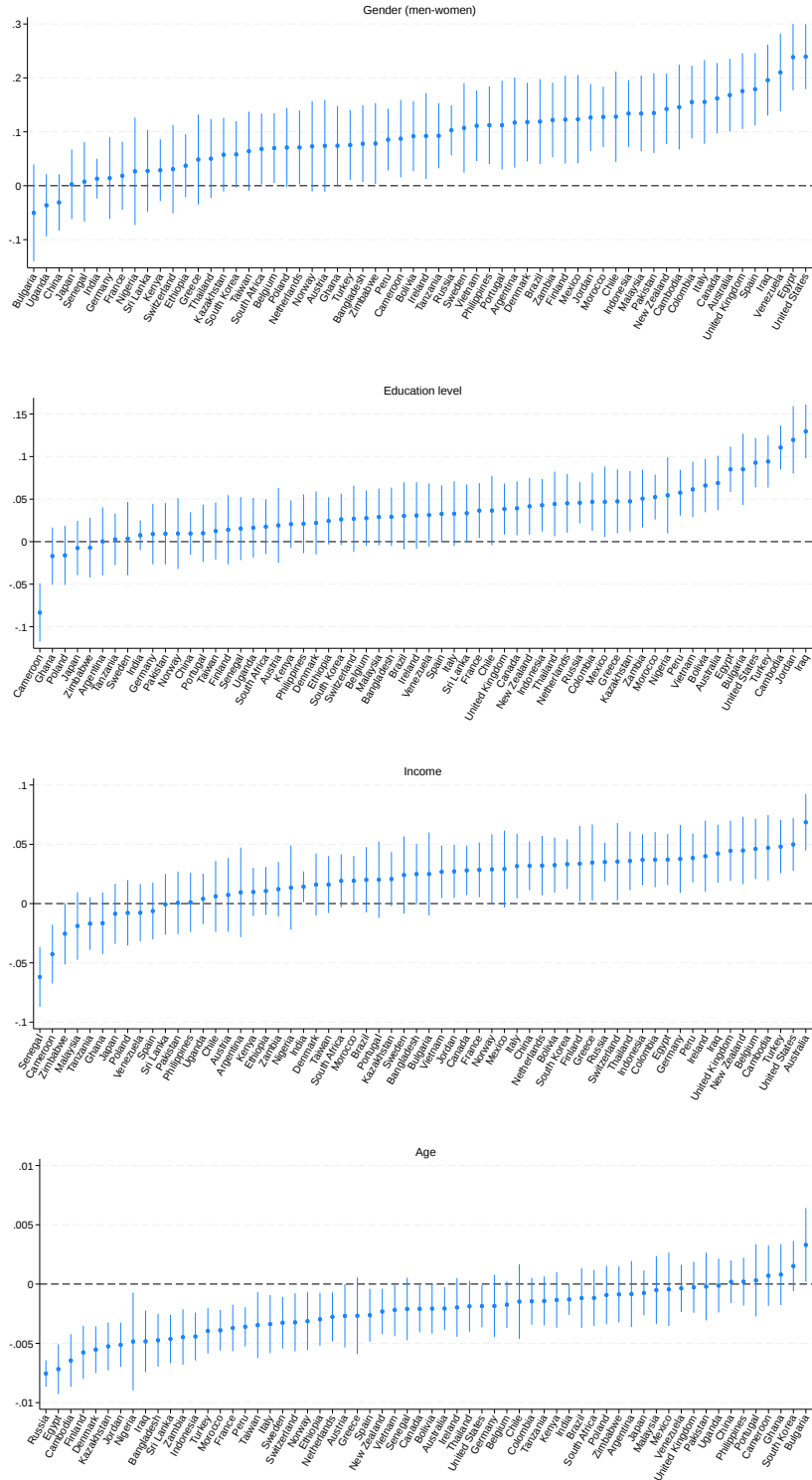
Note: This figure shows the association between willingness to compete (WTC) and individual characteristics separately for each country. Each point reports the coefficient from a country-specific OLS regression, where the dependent variable is standardized willingness to compete (WTC), measured from responses to the statement “You are generally willing to compete against others” and standardized within country, and the explanatory variable is the corresponding characteristic shown in the panel title (male, education, income, age, willingness to take risks, or confidence in one’s own abilities). All regressions use population weights. Vertical lines indicate 95 percent confidence intervals based on robust standard errors.

Figure A6: Gender differences in willingness to take risks and confidence by country



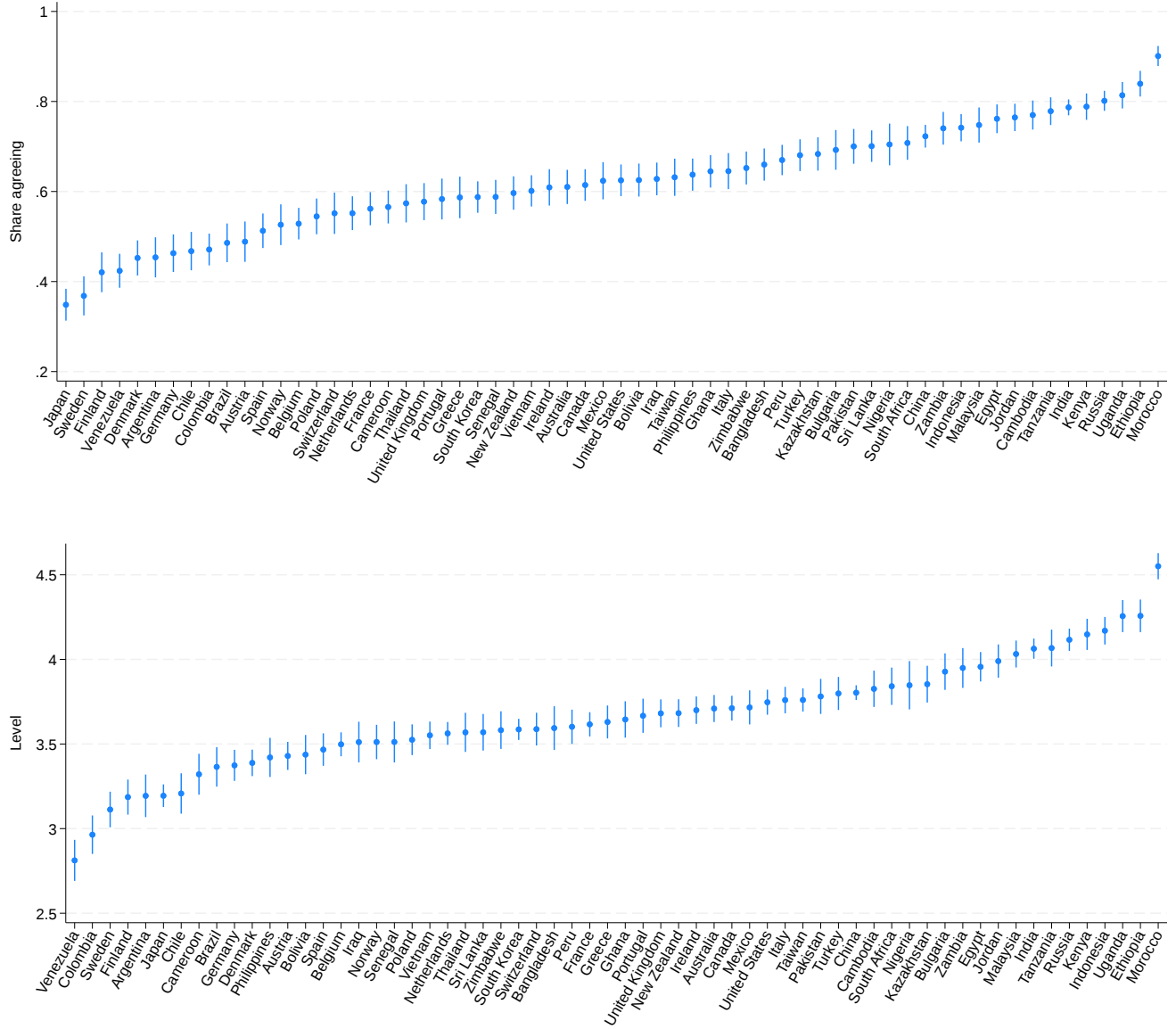
Note: This figure shows the association between gender and willingness to take risks (upper panel) and confidence in one's own abilities (lower panel) separately for each country. Each point reports the coefficient on the male indicator from a country-specific OLS regression, where the dependent variable is a binary indicator for agreeing with the corresponding statement. All regressions use population weights. Vertical lines indicate 95 percent confidence intervals based on robust standard errors.

Figure A7: Correlates of WTC by country, controlling for willingness to take risk and confidence



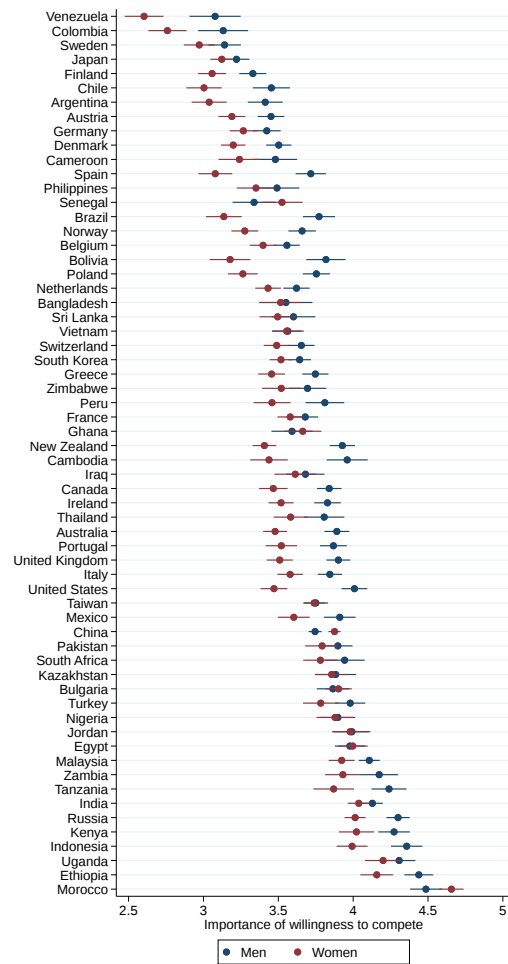
Note: This figure shows the association between willingness to compete (WTC) and individual characteristics after controlling for willingness to take risks and confidence, separately for each country. Each point reports the coefficient from a country-specific OLS regression, where the dependent variable is a binary indicator for agreeing with the statement “You are generally willing to compete against others,” the explanatory variable is the characteristic shown in the panel title (male, education, income, or age), and additional controls are binary indicators for agreeing with the statements on willingness to take risks and confidence in one’s own abilities. All regressions use population weights. Vertical lines indicate 95 percent confidence intervals based on robust standard errors.

Figure A8: The importance of children being willing to compete across the world



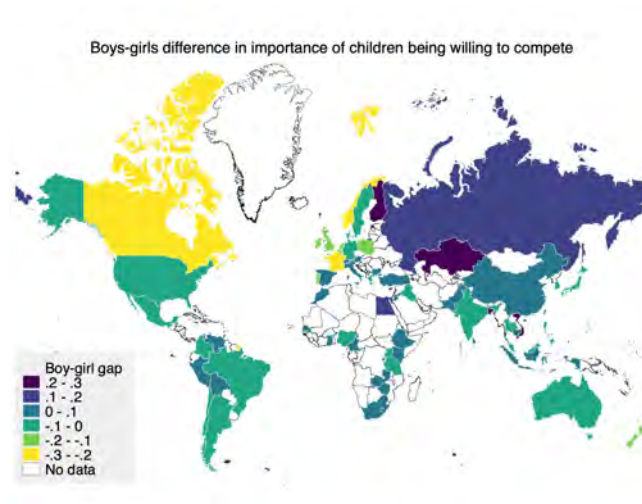
Note: This figure shows average importance attached to children being willing to compete in each country. The upper panel shows the share of respondents who agree with the statement “It is generally important for boys/girls to be willing to compete against others” The lower panel shows the average answer to the statement (on a scale from 1-5). Population weights are used to calculate country averages. Error bars indicate 95% confidence intervals from OLS regressions with robust standard errors.

Figure A9: Attitudes toward the importance of children being willing to compete by respondent gender and country



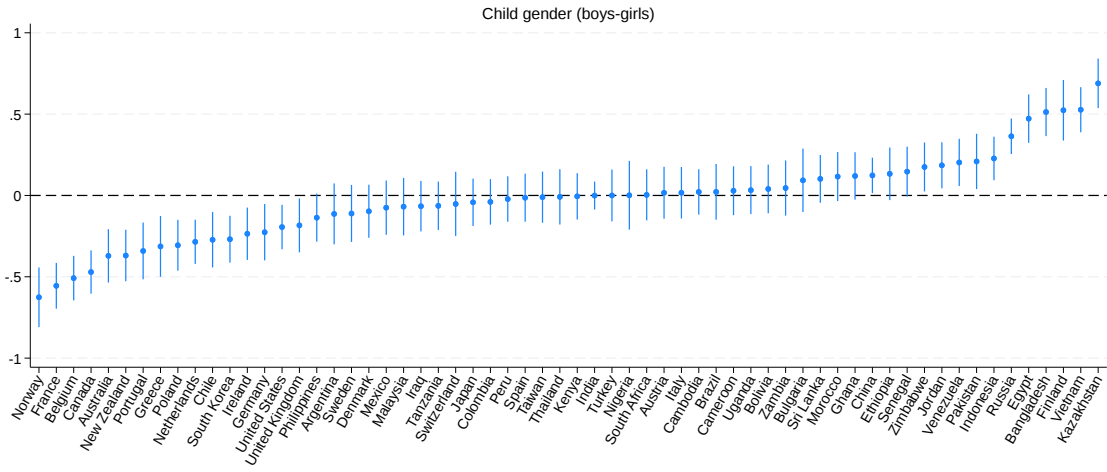
Note: This figure shows the average level of agreement with the statement “It is generally important for boys/girls to be willing to compete against others,” separately for male and female respondents in each country. For each country, the reported estimates are predicted values from an OLS regression including country fixed effects. Vertical lines indicate 95% confidence intervals based on robust standard errors.

Figure A10: Boys–girls socialization gap (share agreeing) by country



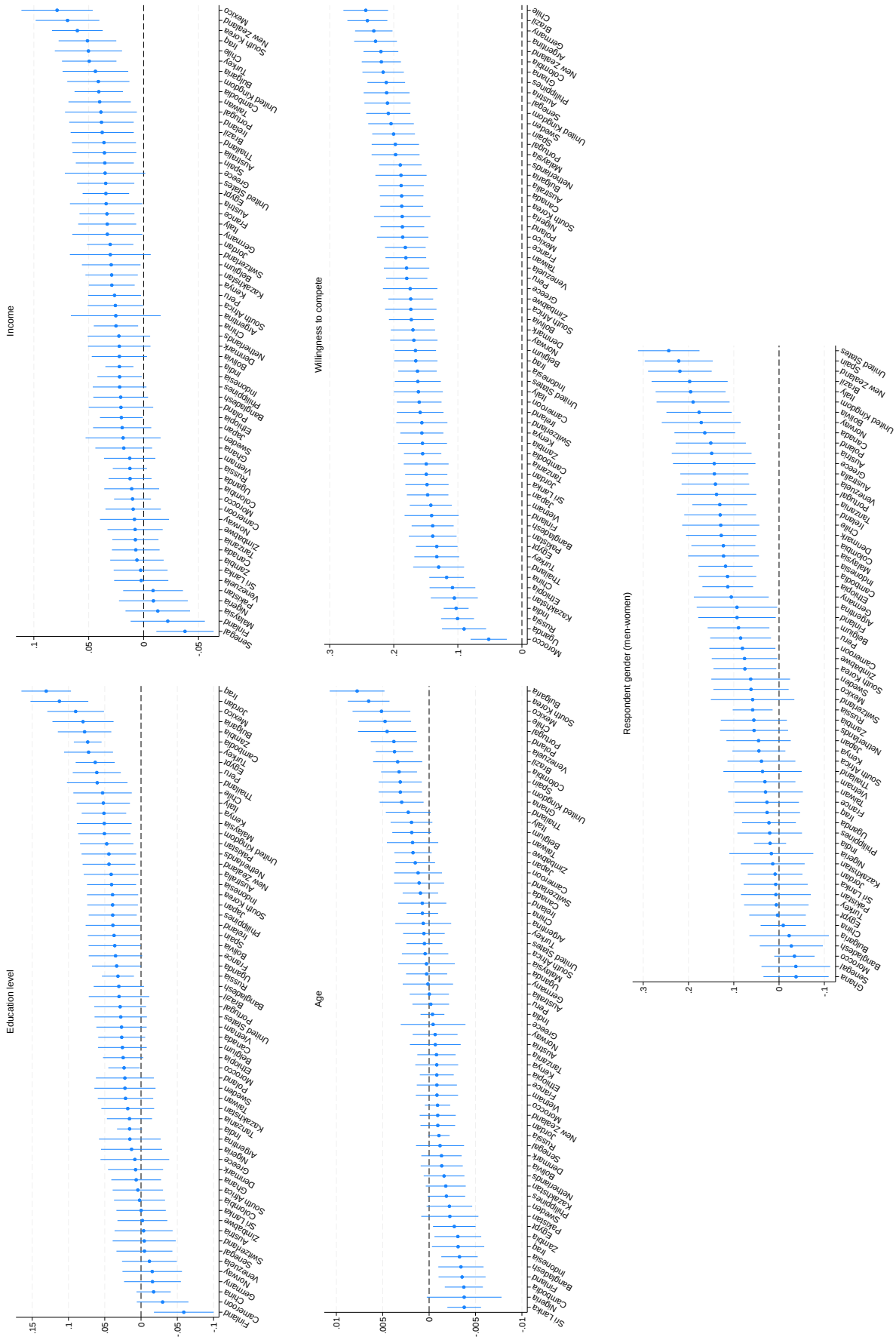
Note: This figure maps the estimated boys–girls socialization gap separately for each country. For each country, the color represents the estimated coefficient on the indicator “Child gender = male” from a country-specific OLS regression, where the dependent variable is a binary indicator for agreeing (somewhat or strongly) with the statement “It is generally important for boys/girls to be willing to compete against others.” Gallup-provided population weights were used.

Figure A11: Boys–girls socialization gap (std) by country



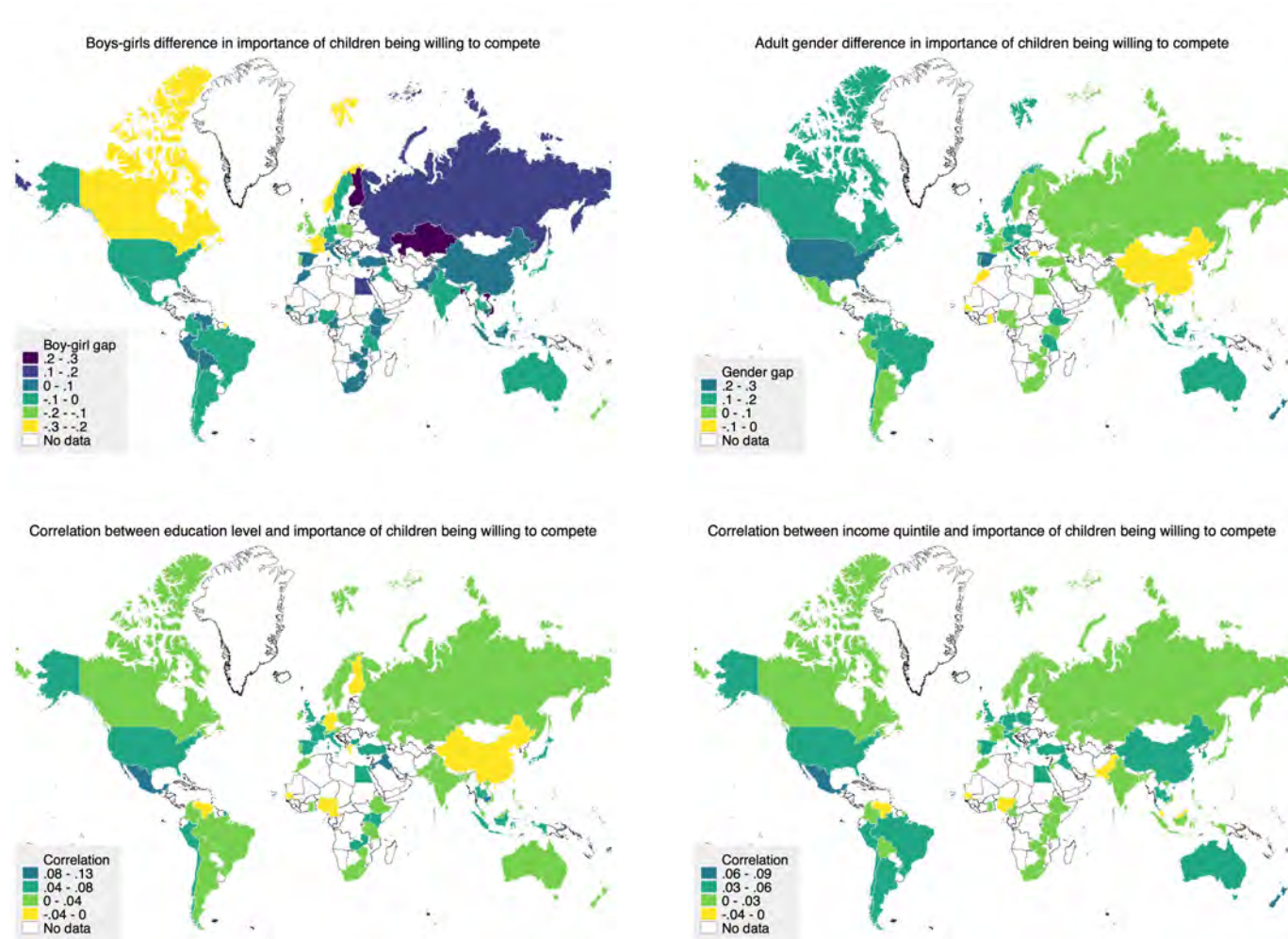
Note: This figure shows the estimated boys–girls socialization gap separately for each country. Each point reports the estimated coefficient on the indicator “Child gender = male” from a country-specific OLS regression, where the dependent variable is standardized agreement with the statement “It is generally important for boys/girls to be willing to compete against others,” measured from responses to the statement and standardized within countries. All regressions use population weights. Vertical lines indicate 95 percent confidence intervals based on robust standard errors.

Figure A12: Correlates of attitudes toward the importance of children being willing to compete by country



Note: This figure shows the association between attitudes toward the importance of children being willing to compete and individual characteristics separately for each country. Each point reports the coefficient from a country-specific OLS regression, where the dependent variable is a binary indicator for agreeing (somewhat or strongly) with the statement “It is generally important for boys/girls to be willing to compete against others,” and the explanatory variable is the corresponding characteristic shown in the panel title (education, income, age, and willingness to compete). Gallup-provided population weights were used. Vertical lines indicate 95 percent confidence intervals based on robust standard errors.

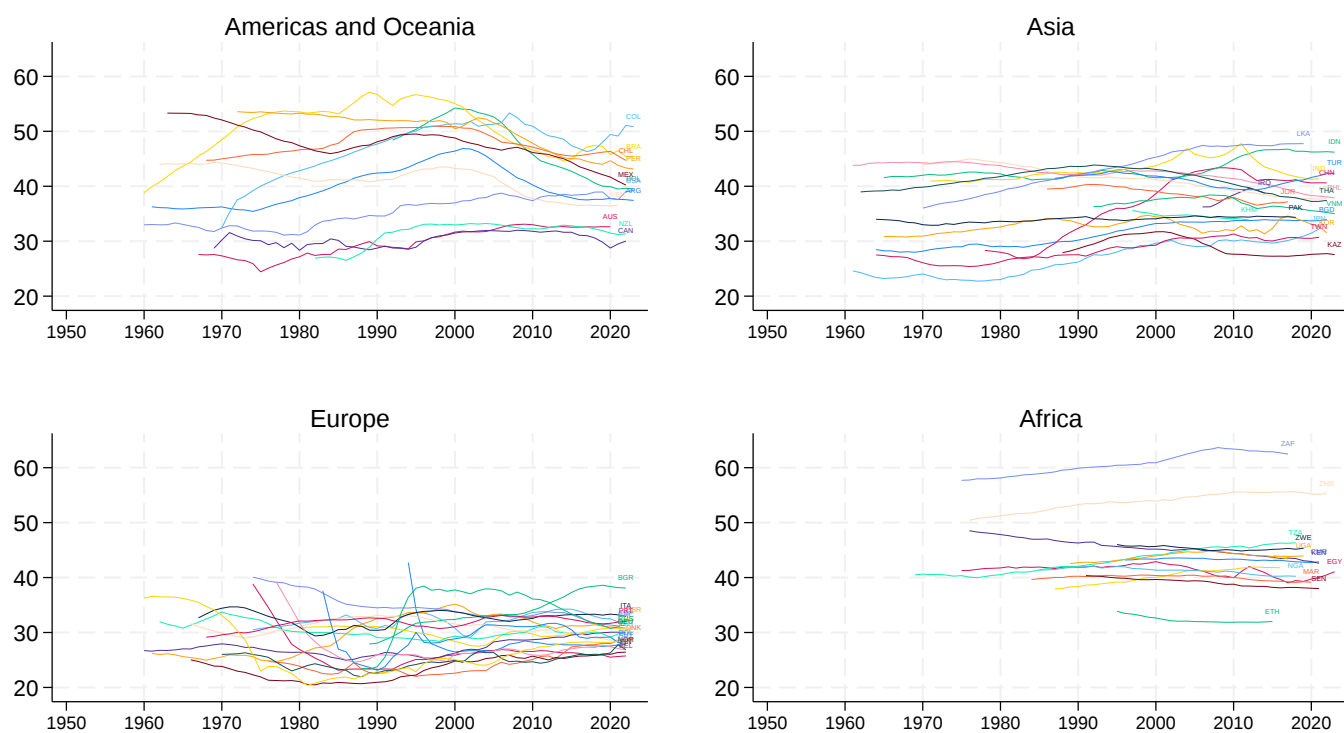
Figure A13: Correlates of attitudes toward the importance of children being willing to compete (share agreeing) by country



Note: This figure maps the country-specific regression coefficients relating attitudes toward the importance of children being willing to compete to individual characteristics. All regressions use population weights. For each country, the color represents the estimated coefficient from an OLS regression in which the dependent variable is a binary indicator for agreeing with the statement “It is generally important for boys/girls to be willing to compete against others” (somewhat or strongly agree) and the explanatory variable is the corresponding characteristic.

Figure A14: Within-country variation in the Gini coefficient over time

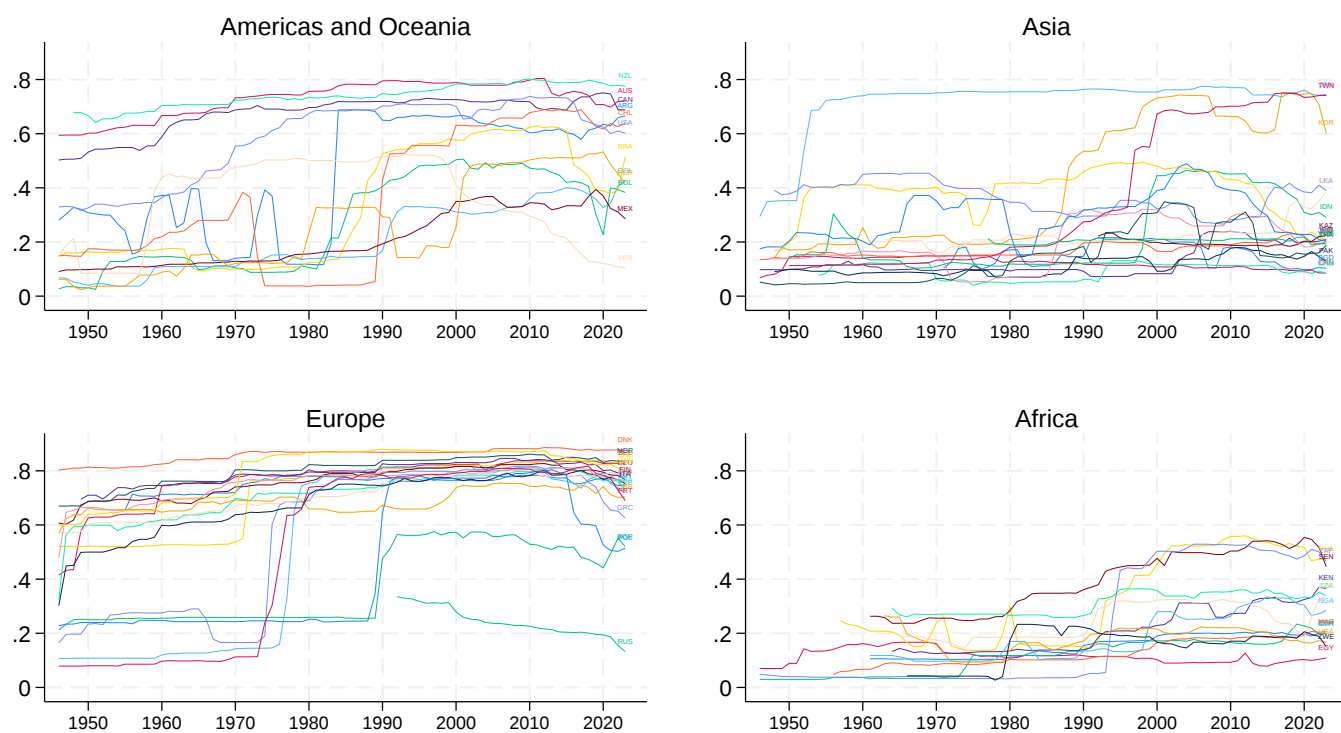
Gini Index



Note: The figure shows the Gini coefficient over time for each country, separately by region. Each line represents a country. The figure illustrates the within-country variation used to construct cohort-specific exposure to inequality during the formative years.

Figure A15: Within-country variation in the Egalitarian Democracy Index over time

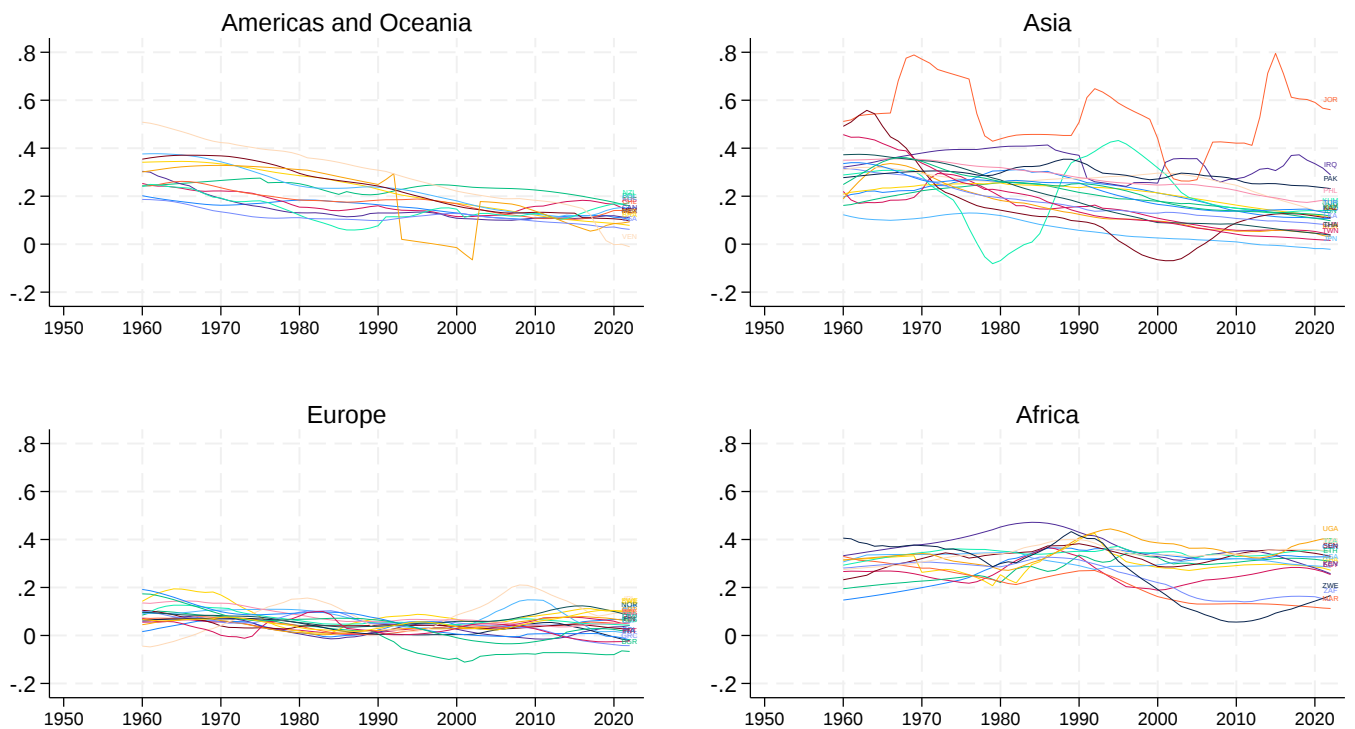
Egalitarian Democracy Index



Note: The figure shows the Egalitarian Democracy Index over time for each country, separately by region. Each line represents a country. The figure illustrates the within-country variation used to construct cohort-specific exposure to inequality during the formative years.

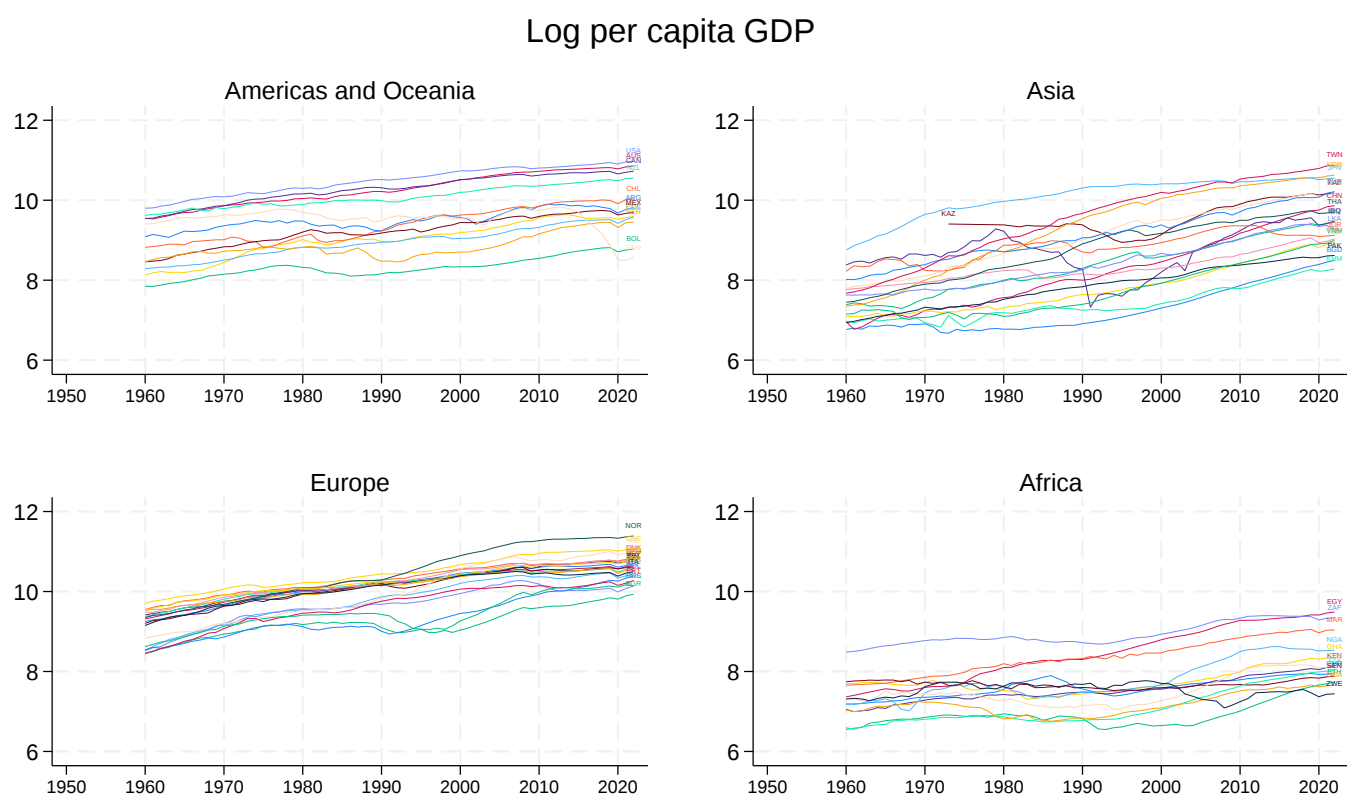
Figure A16: Within-country variation in population growth over time

Population growth over previous ten years



Note: The figure shows the variation in population growth over time for each country, separately by region. Each line represents a country. The figure illustrates the within-country variation used to construct cohort-specific exposure to inequality during the formative years.

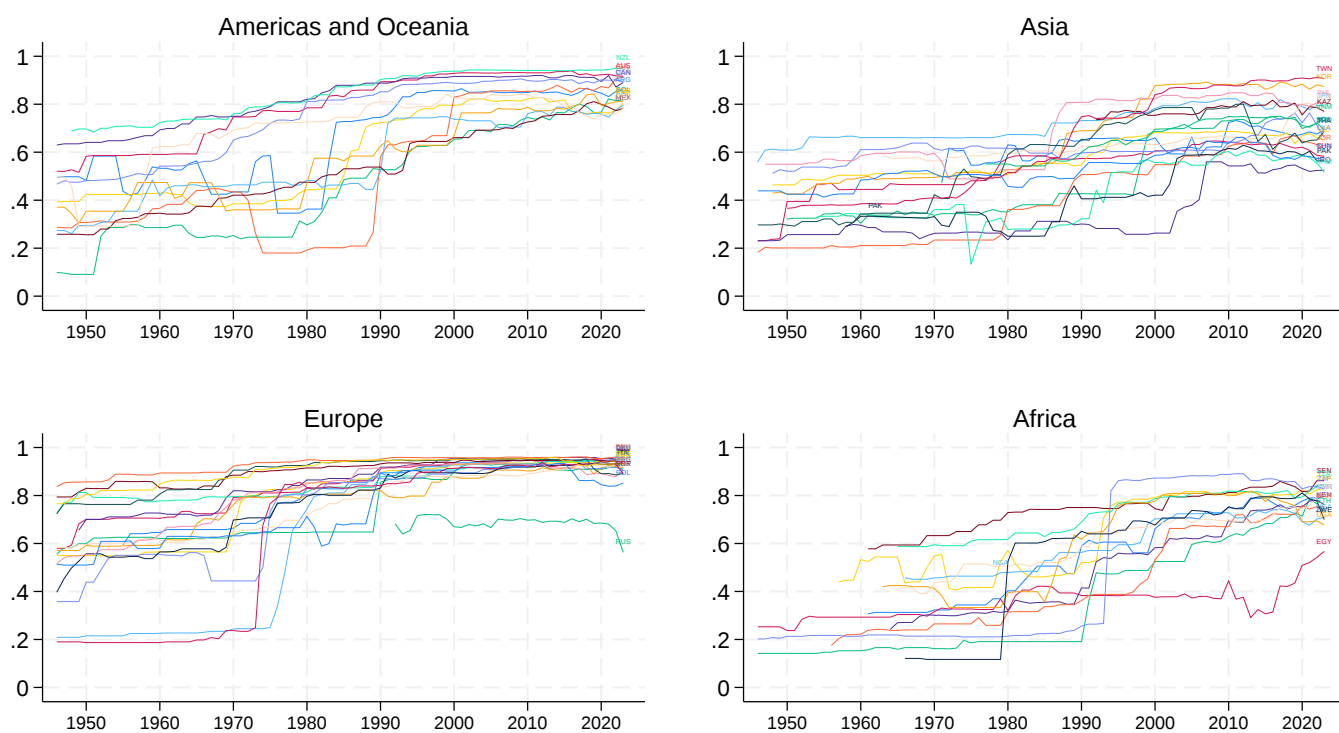
Figure A17: Within-country variation in GDP per capita over time



Note: The figure shows the variation in log per capita GDP over time for each country, separately by region. Each line represents a country. The figure illustrates the within-country variation used to construct cohort-specific exposure to inequality during the formative years.

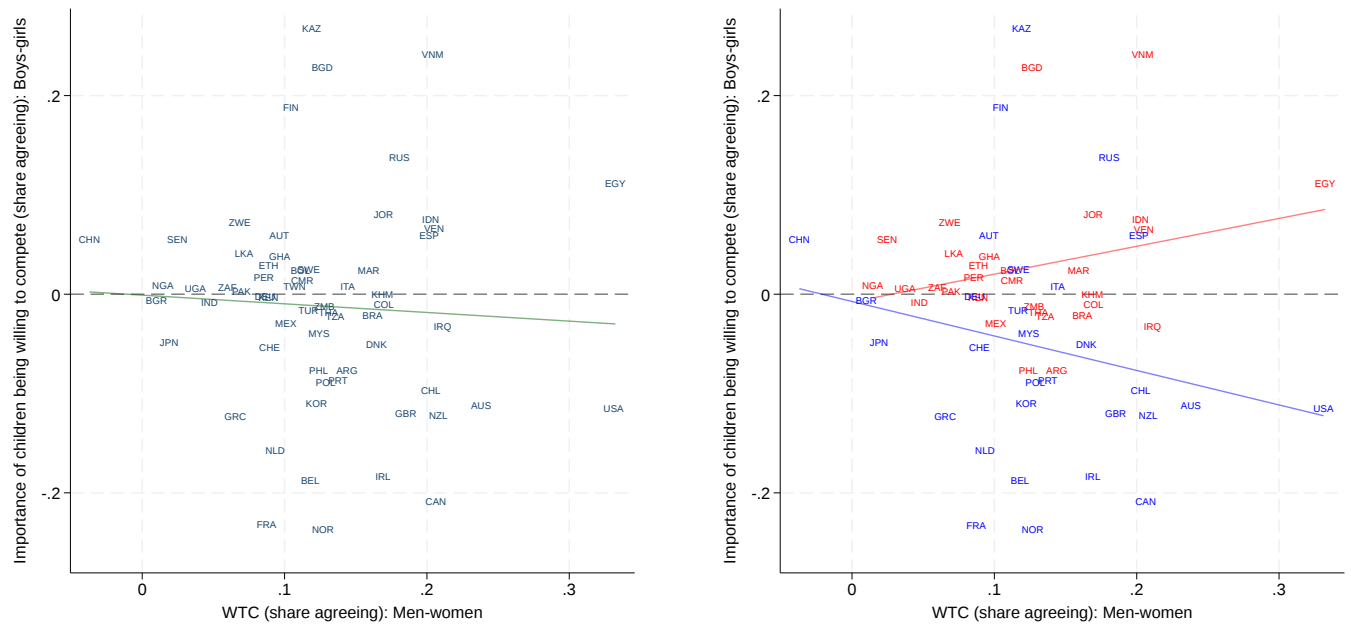
Figure A18: Within-country variation in the Women Empowerment Index over time

Women Empowerment Index



Note: The figure shows the variation in the Women Empowerment Index over time for each country, separately by region. Each line represents a country. The figure illustrates the within-country variation used to construct cohort-specific exposure to inequality during the formative years.

Figure A19: Men–women WTC gap and boys–girls socialization gap at the country level



Note: This figure shows the cross-country association between the men–women WTC gap and the boys–girls socialization gap. In the left panel, the x-axis shows the difference between men and women in the share who agree (somewhat or strongly) with the statement “You are generally willing to compete against others,” and the y-axis shows the difference between the share who agree (somewhat or strongly) with the statement “It is generally important for boys/girls to be willing to compete against others.” The green line shows the linear least-squares fit. The right panel shows the same relationship separately for countries above and below the median Gender Inequality Index, with separate linear least-squares fits for the two groups. Population weights are used for calculating the country averages.

B Sample: additional details

This section provides additional details on the survey modes, sampling design, and weighting procedures used to construct the sample described in Section 2.

B.1 Survey mode

The online surveys were conducted between August 23 and September 30, 2022. The face-to-face surveys were conducted by local professional enumerators between June 14, 2022, and February 7, 2023. Unless otherwise indicated, each country contributes a sample of approximately 1,000 respondents. For the three countries with substantially larger samples, the exact sample size is reported in parentheses.

Online surveys (31 countries): Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China (2,846), Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, South Korea, Spain, Sweden, Switzerland, Taiwan, the United Kingdom, and the United States.

Face-to-face surveys (31 countries): Bangladesh, Bolivia, Cambodia, Cameroon, Colombia, Egypt, Ethiopia, Ghana, India (3,000), Indonesia, Iraq, Jordan, Kazakhstan, Kenya, Morocco, Nigeria, Pakistan, Peru, the Philippines, the Russian Federation (2,006), Senegal, South Africa, Sri Lanka, Tanzania, Thailand, Turkey, Uganda, Venezuela, Vietnam, Zambia, and Zimbabwe.

B.2 Sampling design

Online. Online surveys relied on self-selected web panels. Gallup therefore set soft quota targets for key demographic characteristics (age, gender, and education) to ensure that the sample closely matched the population distribution and used a post-stratification weighting approach. The post-stratification variables included age, gender, region, education, income, urbanicity, employment, and landline phone usage. In Malaysia, ethnicity was included as an additional post-stratification variable. For the United States, three further variables were included: race, ethnicity, and party affiliation.

Face-to-face. Face-to-face surveys used a probability-based sampling design. Sampling units were stratified by population size and geography, and clustering was implemented through one or more stages of sampling. Where population data were available, sampling units were selected with probabilities proportional to population size; otherwise, simple random sampling was used. Within selected households, a single adult was selected at random, and survey weights adjusted for differential selection probabilities arising from household size.

B.3 Pre-registration

The data collection was pre-registered at <https://aspredicted.org/ae5hf.pdf>. The pre-registration also includes a pre-analysis plan for the analyses in Section 3 (Global Patterns). The cross-country and exposure analyses were not pre-registered.

C Follow-up Experiment

Sample and preregistration. The experiment was conducted on Prolific in November 2025 with a representative sample of the US population (N=1002). We preregistered three hypotheses (<https://aspredicted.org/eb7yv6.pdf>): (i) the general WTC measure is positively associated with the same WTC measure asked in three specific domains: work, school, and sports and games; (ii) the general WTC measure is positively associated with the competitiveness measure of Buser, Niederle, and Oosterbeek (2024) (hereafter BNO), which asks respondents to rate how competitive they consider themselves on a scale from 0 (“not competitive at all”) to 10 (“very competitive”); and (iii) the general WTC measure is positively associated with incentivized tournament entry.¹⁸ The full instructions for the follow-up experiment are provided in Appendix F.

Procedures. Participants first answered our general WTC question, followed by the same question for each of three specific domains: work, school, and sports and games. Second, they answered the BNO question. Third, participants were asked about the importance of children being willing to compete using the WTC question format and the importance of children being competitive using the BNO question format. Participants were randomly assigned to respond to both questions for either boys or girls. Finally, they participated in an incentivized tournament-entry task based on Niederle and Vesterlund (2007). In the first round, participants had two minutes to solve as many simple math problems as they could. Each problem required finding two two-digit numbers in a grid of nine numbers that summed to a target number, and participants earned \$0.25 for each correct answer. In the second round, participants completed the same task but chose between the \$0.25 piece rate and a tournament against another randomly selected participant. Participants who entered the tournament earned \$0.50 per correct answer if they outperformed the other participant and nothing otherwise. The key behavioral outcome is whether participants chose to enter the tournament.

Results. Table A12 reports the correlation matrix for all variables collected in the follow-up study. All measures are significantly correlated in the expected direction. In particular, the general WTC measure is strongly correlated with each of the three domain-specific WTC measures and positively correlated with both the BNO measure and incentivized tournament entry. We also find a strong positive correlation between the WTC- and BNO-based measures of the importance of children being willing to compete.

Table A12: Correlations among the WTC measures in the follow-up study

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Willingness to compete (Gallup)	1.00							
(2) Willingness to compete at work	0.65***	1.00						
(3) Willingness to compete at school	0.64***	0.70***	1.00					
(4) Willingness to compete in sports and games	0.60***	0.37***	0.45***	1.00				
(5) Willingness to compete (BNO)	0.72***	0.61***	0.59***	0.54***	1.00			
(6) Incentivized tournament entry	0.22***	0.15***	0.19***	0.16***	0.25***	1.00		
(7) Importance of children’s WTC (Gallup)	0.46***	0.40***	0.39***	0.33***	0.47***	0.19***	1.00	
(8) Importance of children’s WTC (BNO style)	0.50***	0.45***	0.44***	0.34***	0.60***	0.20***	0.79***	1.00

Note: This table reports Pearson correlation coefficients for the measures collected in the follow-up study. General WTC is measured using our five-point WTC question. The domain-specific WTC measures ask the same question with respect to work, school, and sports and games. The BNO measure asks respondents to rate how competitive they consider themselves on an 11-point scale. The two children’s measures elicit views on the importance of boys’ or girls’ willingness to compete using the WTC and BNO question formats, respectively. Incentivized tournament entry is a binary indicator for choosing tournament compensation over the piece-rate payment. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A13 reports regressions of the general WTC measure on the three domain-specific WTC measures. The estimated coefficients are remarkably similar across the three domain-specific measures: a one-point increase in each

¹⁸We initially considered using the competitiveness measure of Buser, Niederle, and Oosterbeek (2024) in the global survey. However, the cognitive interviews and pilot studies revealed that the concept of “being competitive” was not consistently understood across countries, proved difficult to translate, and in some contexts carried different meanings. We therefore developed the WTC question used in the paper, which asks about a concrete behavioral disposition and proved easier to implement consistently across countries.

of the domain-specific measures is associated with almost a 0.6-point increase in the general WTC measure. All three measures remain highly significant when included jointly and after controlling for gender fixed effects.

Table A13: General WTC measure and domain-specific WTC in the follow-up study: regression analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Willingness to compete at work	0.592*** (0.025)			0.330*** (0.032)	0.578*** (0.022)			0.327*** (0.026)
Willingness to compete at school		0.577*** (0.026)		0.196*** (0.032)		0.563*** (0.022)		0.198*** (0.026)
Willingness to compete in sports and games			0.580*** (0.027)	0.357*** (0.025)			0.566*** (0.025)	0.350*** (0.022)
Gender FE	No	No	No	No	Yes	Yes	Yes	Yes
Observations	1002	1002	1002	1002	1002	1002	1002	1002
Adjusted R^2	0.428	0.405	0.364	0.599	0.436	0.420	0.366	0.599

Note: This table shows OLS regressions of the general WTC measure on the three domain-specific WTC measures. Columns (1)-(2) use WTC at work as the independent variable, columns (3)-(4) WTC at school, and columns (5)-(6) WTC in sports and games. The first column in each pair reports the baseline specification, and the second includes gender fixed effects. Columns (7)-(8) report regressions including all three domain-specific WTC measures simultaneously, without and with gender fixed effects. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Finally, Table A14 reports regressions of tournament entry on the general WTC measure. The estimates imply that a one-point increase in WTC is associated with about a 10-percentage-point increase in the likelihood of entering the tournament. This relationship is robust to controlling for gender and including first-round score fixed effects.

Table A14: General WTC and tournament entry in the follow-up study: regression analysis

	(1)	(2)	(3)
Willingness to compete (Gallup)	0.101*** (0.015)	0.101*** (0.015)	0.101*** (0.015)
Gender FE	No	Yes	Yes
Score FE	No	No	Yes
Observations	1002	1002	1002
Adjusted R^2	0.045	0.047	0.060

Note: This table reports OLS regressions where the dependent variable is a binary indicator for choosing tournament compensation over the piece-rate payment. The explanatory variable is the five-point response to the statement “You are generally willing to compete against others.” Columns (2) and (3) additionally control for gender and first-round score fixed effects, respectively, where first-round score is defined as the number of correctly solved problems in the first round. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

D 2022 Gallup World Poll: Background variables

We link our survey measures to Gallup background data on educational attainment, income, age, religion, marital status, and place of residence (urban/rural). Table A1 reports descriptive statistics for these variables.

Education. Because of differences across education systems, educational attainment in the Gallup background data is defined differently in each country, with a varying number of recorded education levels. To make educational attainment as comparable across countries as possible, we standardize education levels within country.

Income. Income information in the Gallup data is provided as income quintiles in some countries and in discrete categories of absolute income in others. To make income as comparable across countries as possible, we divide people in the latter group of countries into quintiles as well.

Age. Age is provided in years.

Religiosity and religion. Religiosity is recorded as a binary variable using the question: “Is religion an important part of your daily life?”. Religion is recorded using the question: “Please indicate what your religion currently is from the list below”.¹⁹ We classify respondents into the following categories: Secular, Catholic, Protestant, Orthodox Christian, Unspecified Christian, Muslim, Hindu, Buddhist, Other, and Missing. In addition to people who chose “Some other religion”, the Other category includes all religions with only a small number of adherents; the Missing category includes respondents who preferred not to answer the question.

Marital status. We code marital status into “married” and “not married”.²⁰

Place of residence. Place of residence is recorded in four categories: (1) a rural area or on a farm; (2) a small town or village; (3) a suburb of a large city; and (4) a large city. We code the first two categories as rural and the latter two as urban.

¹⁹Gallup gives the following options: Christianity (Catholic, Jehovah’s Witness, Unification Church, United Church of Christ, Latter Day Saints/Mormon, etc.); Islam; Hinduism; Buddhism; Judaism; Sikhism; Baha’i; Jainism; Shinto; Taoism; Confucianism; Primal, Animist, or Folk religion; Some other religion; No religion/Atheist/Agnostic; Prefer not to answer. Christians are asked to specify their church more precisely with the following options: Roman Catholic, Catholic; Protestant, Anglican, Evangelical, SDAs, Jehovah’s Witnesses, Quakers, AOG, Monophysite, AICs, Pentecostal, etc.; Eastern Orthodox, Orthodoxy, etc.; Just Christian; Prefer not to answer. In some (but not all) countries, Muslims are asked to specify the sect or school they most identify with.

²⁰“Not married” includes the following categories: Single/Never been married; Separated; Divorced; Widowed; Domestic partner.

E Secondary Data Sources

Gender inequality. Our first measure is the UN Gender Inequality Index (GII). This indicator is widely used but does not provide sufficient historical coverage for our analyses linking attitudes to conditions experienced during the formative years. We therefore also use the Women’s Political Empowerment Index (Pemstein et al., 2018) contained in the Gothenburg Quality of Government (QoG) dataset (Dahlberg et al., 2020), which has excellent coverage from the 1940s onward.²¹ The contemporary cross-country correlation coefficient between the two measures is $r = 0.70$; $p < 0.001$.

Economic and social inequality. Our measure of income inequality is the Gini coefficient, taken from the Standardized World Income Inequality Database (Solt, 2016). As a more comprehensive measure of social inequality, we use the Egalitarian Democracy Index (Pemstein et al., 2018) from the QoG dataset (Dahlberg et al., 2020), which combines broad country coverage with historical data extending back to the 1940s.²²

GDP per capita and population size. We take our measures of GDP per capita and population size from the 2023 Maddison Project Database (Bolt and Van Zanden, 2025).

²¹From the QoG codebook: “Women’s political empowerment is defined as a process of increasing capacity for women, leading to greater choice, agency, and participation in societal decision-making”.

²²From the QoG codebook: “The egalitarian principle of democracy holds that material and immaterial inequalities inhibit the exercise of formal rights and liberties, and diminish the ability of citizens from all social groups to participate. Egalitarian democracy is achieved when 1 rights and freedoms of individuals are protected equally across all social groups; and 2 resources are distributed equally across all social groups; 3 groups and individuals enjoy equal access to power. To make it a measure of egalitarian democracy, the index also takes the level of electoral democracy into account.”

F Follow-up experiment: Instructions

Welcome! Thank you for taking part in this study conducted by the NHH Norwegian School of Economics.

Study

This study takes about 10 minutes to complete (and must be finished within 40 minutes). You will be asked to answer a few questions and solve two sets of simple addition tasks.

No personal information will be collected. Your Prolific ID will only be used for processing payments. Participation is voluntary, and you can withdraw at any time without giving a reason. The study has been approved by the Institutional Review Board at the NHH Norwegian School of Economics.

Payment

You will receive a participation fee of 1.50 GBP (2 USD). You can also earn an additional bonus payment based on your decisions and performance.

Questions about the study

If you have any questions about this study, please contact us at thechoicelab@nhh.no.

Decision to take part

Please indicate whether you have read and understood the information above and agree to take part in this study.

- ☐ Yes, I have read and understood the information above, and I agree to take part in this study.
- ☐ No, I do not wish to take part.

To confirm you are paying attention, please answer the following question:

Which of the following is a piece of furniture used for sitting at a table?

- ☐ Refrigerator
- ☐ Chair
- ☐ Bicycle
- ☐ Toaster



We will now ask you some questions about yourself.



Please indicate to what extent you agree with the following statement:

You are generally willing to compete against others.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
☐	☐	☐	☐	☐



We would now like to ask you about your willingness to compete in different possible settings. If the setting does not apply to you currently, please answer based on how you think you would behave in such a setting.

You are willing to compete against others...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
... at work	☐	☐	☐	☐	☐
... at school	☐	☐	☐	☐	☐
... in sports and games	☐	☐	☐	☐	☐



How competitive do you consider yourself to be?

0 1 2 3 4 5 6 7 8 9 10

Please choose a value on this scale, where the value 0 means 'not competitive at all' and the value 10 means 'very competitive'.



Now, we will ask you two questions about children.



Please indicate to what extent you agree with the following statement:

It is generally important for boys to be willing to compete against others.

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
☐	☐	☐	☐	☐



Please indicate to what extent you agree with the following statement:

It is important for boys to be competitive.

0 1 2 3 4 5 6 7 8 9 10

Please choose a value on this scale, where the value 0 means 'not important at all' and the value 10 means 'very important'.



You will now be asked to solve simple addition tasks. An example of a task is shown below:

Score: 0 **Time Remaining: 21s**

37	96	14
52	15	11
10	22	29

29

For each task, find the two numbers in the table that add up to the number shown on the right.

On the next page, you can try three practice tasks, shown one at a time. There is no time limit for these practice tasks.



Select the two numbers that add up to the number on the right, and click Submit to move to the next task. To deselect a number, you can click on the selected number again.

Practice: 1/3

20	85	49
97	70	47
39	55	61

96

Submit

You have now completed the practice tasks.

Next, you will complete two timed sets of these tasks, with 2 minutes per set. You will earn 1 point per correctly solved task and may receive a bonus payment according to rules explained before each set.

After you have completed this survey, we will randomly select one of the two sets to determine your bonus.



Next, you will solve the first set of tasks. If this set is selected to determine your bonus payment, you will receive 0.25\$ for each correctly solved task.

By proceeding, you will start the 2-minute timer for the first set.



Please solve:

Score: 0 Time Remaining: 118s

19	42	50
65	63	47
31	43	71

69

Submit

Please solve:

Score: 6 Time Remaining: 1s

34	40	56
20	80	38
28	66	44

85

Time is up! Please click on the blue button to continue.

Next, you will solve the second set of tasks. If this set is selected to determine your bonus payment, it will depend on the following choice:

You must choose whether to compete against another participant or not.

- If you choose **to compete**: Your score this round will be compared to that of a **randomly chosen participant from the first round**.
 - You will earn **\$0.50** per correctly solved task if you get a higher score than your opponent.
 - You will earn **\$0** per correctly solved task if you get the same or a lower score than your opponent.
- If you choose **not to compete**: You will earn **\$0.25** per correctly solved task.

Please indicate whether you would like to compete.

☐ Yes, I would like to compete.

☐ No, I would not like to compete.

Please solve:

Score: 0 Time Remaining: 118s

63	83	50
40	49	68
46	73	39

79

Submit

You have now completed the two sets of addition tasks. Please answer the following questions about your background.



Please indicate your gender.

☒ Male

☐ Female

☐ Other



Please indicate your age.



Please state your annual income before tax.



What is your highest completed level of education?



You have now completed the study. Thank you very much for your participation! Any earned bonuses will be paid within three weeks.

We would be grateful for any comments you may have on the survey questions.

