# **Supplementary Information for**

The Gender Gap in the Care Economy is Larger in Highly Developed Countries: Socio-Cultural Explanations for Paradoxical Findings

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### **SECTION 1:**

## Study 1 Exploratory Variables & Analyses

### **Analyses with Alternative Development Indicators**

As stated in the main paper, HDI is our preferred indicator of country-level development since it encompasses several dimensions of development that should relate both to structural forces and cultural beliefs. For exploratory purposes, we conducted additional analyses with alternative country-level indicators of development focusing on economic wealth (GDP) and labor market structure (PILMS).

GDP. Gross Domestic Product (GDP; obtained from the Human Development Program website) provides a country-level indicator of economic wealth. For consistency with other indicators, we chose to use GDP data from 2017. While we initially thought we would have to transform this variable due to a non-normal distribution, skewness (0.83) and kurtosis (-0.56) for this variable were acceptable in our sample (George & Mallery, 2003), leading us not to transform it.

**PILMS.** Post-Industrial Market Structure (PILMS, 2017 data) has been used by past research (Charles, 1992, 2003) to reflect the complex and hierarchical nature of labor markets. Following past research, our measure of this construct consisted of two indicators: a) the percentage of all workers who are in the service industry, and b) the percentage of all workers who are waged or salaried workers. Data on these two indicators, r = .88, p < .001, were obtained from the World Bank, standardized, and then averaged.

**Results.** Results from linear regression analyses are presented in Table S1. When

predicting the percentage of women in the care economy, both HDI and PILMS reveal evidence of a development paradox, whereas GDP shows similar but non-significant patterns. When predicting women's representation in STEM, only PILMS (but not HDI or GDP) predicted the non-paradoxical pattern whereby (controlling for women's labor market participation) a stronger post-industrial labor market structure predicted a higher percentage of women in STEM occupations.

**Table S1**Study 1 Analyses Comparing HDI, GDP, and PILMS as Predictors of the Development Paradox

		% women	n care economy			% won	nen STEM	
Variable	В	SE	95% CI	p	В	SE	95% CI	p
Model A	·							
HDI	4.42	0.96	2.50 - 6.33	<.001	1.17	0.72	-0.26 – 2.60	.107
% women in labor force	3.69	0.96	1.77 – 5.60	<.001	2.72	0.72	1.29 – 4.15	<.001
Model B	·							
GDP	0.58	1.09	-1.60 – 2.76	.596	-0.56	0.72	-2.00 – 0.88	.443
% women in labor force	4.93	1.09	2.75 – 7.10	<.001	3.26	0.72	1.82 - 4.70	<.001
Model C								
PILMS	4.00	0.95	2.11 – 5.90	<.001	1.49	0.68	0.12 - 2.86	.033
% women in labor force	4.23	0.95	2.34 – 6.13	<.001	2.77	0.68	1.40 – 4.14	<.001

# **SECTION 2: Study 1 - Additional analyses on gender equality**

We conducted additional analyses to examine whether specific indicators of gender equality would show a gender equality paradox (over and above HDI) either for the gender segregation in the care economy or in STEM. Specifically, it was important to assess whether other broad gender equality predictors (aside from GGGI) or specific gender equality indicators that do not take into account women's participation in education and the labor market, might be better predictors of paradoxical patterns. We thus tested whether different measures of both broad gender equality and equality more specific to the health sphere and/or in the political sphere would predict gender segregation better than development (HDI). Step 1 and 2 in Table S2 represent analyses from the main manuscript, additionally we then ran regression models that tested whether HDI remained a significant predictor when adding the political equality submeasure of the GGGI (Step 3a), the health equality sub-indicator of the GGGI (Step 3b), the Gender Equity Index (GEI; European Institute for Gender Equality, 2017, Step 3c), or the Gender Inequality Index (GII; United Nations Human Development Program, 2017, Step 3d). The results from these analyses, detailed in Table S2, suggest that none of the tested gender equality predictor overrode the development paradox for the care economy (i.e., HDI remained the strongest predictor of more women in the care economy). Interestingly, gender equality in the political sphere predicted more gender equality in the care economy (i.e., more men in the care economy), whereas gender equality in the health sphere predicted less gender equality in the care economy (i.e., fewer men in the care economy). For STEM, no paradoxical patterns

were found and indeed more gender equality in the health sphere predicted more gender equality (i.e., more women) in STEM.

 Table S2

 Study 1 Linear Regression Analyses Predicting Gender Segregation in Labor Markets from Economic Development (HDI) and Different Gender Equality Indices (GGGI subindices; N = 70

		% women	n care economy			% w	omen STEM	
<b>Labor Market Indicator</b>	В	SE	95% CI	p	В	SE	CI	p
Step 1								
HDI	5.60	1.00	3.61 – 7.59	<.001	2.04	0.74	0.56 - 3.52	.008
Step 2								
HDI	4.42	0.96	2.50 - 6.33	<.001	1.17	0.72	-0.26 – 2.60	.107
% women in labor force	3.69	0.96	1.77 – 5.60	<.001	2.72	0.72	1.29 – 4.15	<.001
Step 3a (Political GGGI)								
HDI	4.83	0.95	2.93 – 6.72	<.001	1.28	0.73	-0.18 - 2.74	.085
% women in labor force	4.07	0.95	2.18 – 5.97	<.001	2.82	0.73	1.36 – 4.28	<.001
Political representation	-2.06	0.93	-3.920.20	.031	-0.56	0.72	-1.99 – 0.87	.439
Step 3b (Health GGGI)	1							

HDI	5.12	0.86	3.39 – 6.84	<.001	1.57	0.68	0.21-2.94	.025
% women in labor force	2.36	0.90	0.56 – 4.16	.011	1.96	0.71	0.54 - 3.38	.008
Health	3.78	0.86	2.08-5.49	<.001	2.16	0.68	0.81 - 3.51	.002
Step 3c - Gender Equity Index <sup>1</sup>								
HDI	4.41	1.19	2.03-6.78	<.001	0.77	0.90	-1.03–2.56	.398
% women in labor force	2.70	1.29	0.12-5.29	.041	1.79	0.98	-0.16–3.75	.072
GEI	1.58	1.58	-1.58-4.74	.320	1.52	1.20	-0.88–3.91	.210
Step 3d - Gender Inequality Index								
HDI	6.33	1.98	2.38-10.28	.002	0.85	1.49	-2.12–3.83	.568
% women in labor force	4.22	1.07	2.08-6.37	<.001	2.63	0.81	1.01-4.24	.002
GII	2.37	2.14	-1.91–6.65	.273	-0.39	1.61	-3.61–2.83	.808

 $<sup>^{1}</sup>$  N = 66

**Table S3**Study 1 Correlations for All Country-Level Indicators

		1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	GDP	-	-	-	-	-	-	-	-	-
2.	HDI	.74***	-	-	-	-	-	-	-	-
3.	PILMS	.67***	.88***	-	-	-	-	-	-	-
4.	% women in labor force	.30*	.32**	.22	-	-	-	-	-	-
5.	GGGI overall	.42***	.33**	.23	.62***	-	-	-	-	-
6.	GGGI political	.38**	.26*	.16	.25*	.87***	-	-	-	-
7.	GGGI health	26*	07	01	.29*	.14	04	-	-	-
8.	% women in care economy	.21	.56***	.49***	.51***	.30*	.02	.41***	-	-
9.	% women in STEM	.07	.32**	.32**	.48***	.32**	.08	.41***	.72***	-

 $\it Note.$  Correlations computed using Pearson-method with pairwise-deletion. \* $\it p$  < .05 \*\* $\it p$  < .01\*\*\* $\it p$  < .001, two-tailed.

### **SECTION 3:**

## **Study 2 Deviations from the Pre-Registration**

We pre-registered a number of hypotheses as well as a detailed data analysis plans before the end of data collection

(https://osf.io/aqfe9/?view\_only=c1e1da78e39f473bb79d78da2dd9f92c). Although we tried to anticipate a number of major decisions with this complex dataset, we had to make small deviations from our pre-registered plans after the data were collected and preliminary analyses began. These deviations, detailed below, did not substantially affect how our key hypotheses were tested, and should not change substantive conclusions.

Countries Retained. To test our hypotheses about country-level gender differences, we had initially planned to have at least 50 participants per gender in each country after exclusions. A sample of at least 50 men and 50 women in a given country provides 80% power to detect a medium sized (d = 0.50) gender difference, which we felt was an adequate starting point and reasonable given realistic constraints of obtaining samples from so many countries. One country, Denmark, fell slightly short of this goal with 42 men after exclusions. Because country-level degrees of freedom are extremely valuable in our planned analyses and because Denmark was only 8 participants under the goal, we opted (before analyses began) to retain the sample from Denmark and included Danish data in all analyses.

**Excluding "Stray" Participants.** We had instructed collaborators to only collect data from their home institutions, with some collaborators granted permission to collect data from 2 to 4 universities with the stipulation to get roughly equal numbers from each (leading to higher

overall sample sizes). However, a few participants who indicated currently attending high school (as far as we could identify with their write-in response) or a university that was not planned to be included made it into the dataset. Because we planned to control for university-level variation in demographics, we made the decision (before analyses began) to exclude any participants attending high school or universities represented in our sample by less than 6 participants. This only excluded 0.75% of our data (after accounting for all other exclusions).

Fixing Effects of Control Variables. We had initially planned to allow the effects of demographic control variables (i.e., age, subjective socioeconomic status (SES), major, university status) to vary by university. However, these models proved too complex (as too many slopes were allowed to vary) and did not converge in most instances. Because the effects of control variables are not substantive to our questions, but may account for some variance in career interest, we fixed slopes for all control variables (and, as planned, we controlled for deviation within as well as between universities), which allowed us to control for individual and university-level variance in these demographics.

Alternate Measure of "Prosocial" Values. We obtained data on gender differences in "pro-sociality" from Falk and Hermle's (2018) report using data from the Global Preference Survey. We had preregistered exploratory analyses to examine whether country-level gender differences in pro-sociality would predict gender differences in care economy interest (similar to our predictions for communal values). However, in the pre-registration, we stated our reservation that these pro-sociality items (e.g., an item asking for the value of a thank-you gift that the respondent is willing to give in return for help by a stranger) are likely related to, but

distinct from, "communal values", which were our key focus. (From our pre-registration: "...Falk & Hermle (2018) have data on country-level gender differences in values that are *similar* to what we conceptualise as communal values. Whereas these data are representative on the country-level, they do not exactly fit the kind of communal values we think would best predict care economy/STEM interest, thus not being the ideal way to test our hypothesis."). In addition, because we did not have a score from Falk and Hermle's data for 15 of our 49 countries, a large amount of data (31%) had to be imputed on this measure. Because of these compounding uncertainties, we provide these exploratory analyses here rather than in the main paper. Our analyses suggest that this measure of pro-sociality did not significantly predict country-level gender differences in care economy interest, either alone, B = 0.04, SE = 0.03, t(47.27) = 1.40, p = .199, CI.95 [-.02, .10], or when controlling for the effect of HDI, B = -0.001, SE = 0.03, t(46.79) = -0.12, p = .682, CI.95[-.06, .06]. Patterns of these interactions were, however, in the same direction as for gender differences in communal values.

Additional Analyses Controlling for Agentic Values. Although not pre-registered, we thought it was important to run additional models examining whether gender differences in communal values would still predict gender differences in care economy interest after controlling for dominance and competence (i.e., agentic) values. This allowed us to isolate the unique effect of communal values, which was a significant predictor with or without these controls. These analyses do not change the interpretation of our pre-registered results, but rather add more certainty as additional robustness checks (see Table S13).

### **SECTION 4:**

## **Study 2 Additional Details on Variables**

#### Variables

Career interest. Our key measure of career interest described in the main paper was preceded by the following general instruction: "People can have interests in many different things, including things they are not currently doing themselves. Even if we choose one career for ourselves, there might be other careers we could imagine for ourselves. In this question, we are NOT asking which profession you currently expect to have in your future. Instead, we would like you to consider each career on this list separately and think about whether you could imagine that career being of interest to you."

Perceived Relative Pay of Care Economy Careers. As an exploratory variable, we also included a measure of the perceived relative pay of care economy careers in our survey.

Participants were asked: "Compared to the average pay of all jobs in [country], how well-paid is [career]?" Participants then rated each of the three care economy careers on a scale ranging from 0 (lowest paying job) to 100 (highest paying job). The ratings for these three careers were averaged into a composite score of perceived relative pay of care economy careers. Country-level perceived relative pay of care economy careers was obtained by extracting country-level intercepts on this variable from a multi-level model controlling for age, subjective SES, major, and university status. Parallel procedures were employed for the measure perceived relative pay of STEM careers.

Age. Participants reported their age in response to the following question: "How old are

you?"

Subjective SES. Participants were asked to indicate their subjective socio-economic status (SES) on the MacArthur Subjective Status Scale (Adler et al., 2000). Specifically, we asked: "Please think about where your family stands in comparison to others in [country]. This ladder conceptually represents society where those with the highest socioeconomic status (Rung 10; i.e., those with the most money, highest education, and best jobs) are at the top and those with the lowest socioeconomic status (Rung 1; i.e., those with the least money, least education, and worst jobs) are at the bottom. Please choose the number that best represents where your family is on this ladder compared to others in [country]." Participants gave their answer on a scale ranging from 1 (low SES) to 10 (high SES). In Belgium and the Netherlands, the scale erroneously ranged from 0 to 10. To make the scale comparable across sites, 0 was recoded as 1 (affecting a total of 3 responses).

Major. To be able account for participants' field of study, we asked: "What field most closely describes your major or aspired major? If you have not decided yet, please select what is most likely out of the choices." Participants had a choice of the following options, which (in line with pre-registered procedures) were later coded into five broad categories: "Science (Chemistry, Biology, etc.)", "Mathematics/Statistics", "Computer Science", "Engineering" (all coded as "STEM" category); "Psychology (General)", "Psychology with the goal to be a clinical practitioner", "Medicine with goal to become doctor", "Other Health/Social work professions", "Education/Teaching" (all coded as "Care Economy Field" category); "Other Social Sciences (History, Sociology, etc.)" (coded as "Social Sciences" category); "Business" (coded as

"Business" category); "Law", "Sport Sciences", "Fine Arts (Music, Painting, Literature)", "Theology/Religious Studies", and "Other" (all coded as "Other" category). These five categories were effect coded for all statistical models.

**Degree Progress.** Based on participants' self-reported year of study and what that meant for their degree progress in their country (e.g., in some countries major is declared at year 1, in some in year 2, etc.), participants were assigned a score between 1 and 3 for degree progress; 1 = Undergraduate - major NOT declared, 2 = Undergraduate - major declared, 3 = Master student.

University Status. In the site survey sent to each collaborator after data collection, collaborators rated each university from which they collected data on the following question: "How would you best describe the status of [name of university] in relation to other universities in your country? Think of the ladder below as representative of the standing of different universities in your country. At the top of the ladder are the universities which are the best offthose which have the most prestige, the best academic ranking, and whose graduates get the most attractive jobs. At the bottom are the universities which are the worst off - those which have the least prestige, the worst academic ranking, and whose graduates get the least attractive jobs. The higher up your university is on this ladder, the closer it is to the top universities; the lower your university is, the closer it is to the worse off universities. Where would you place your university on this ladder?". Ratings were made on a 5-point scale ranging from 1 (lowest) to 5 (highest).

**Degree Requirements.** Countries vary in what kind of degree people require to pursue

specific careers. We initially suspected that the specific level of degree requirement in a country for a given care economy or STEM career could relate to baseline interest. For example, in a country where nursing is not a university degree, university students should be generally less interested in nursing, as they might not be in university if they wanted to become a nurse. Thus, in the site survey, we asked our collaborators to report the required degree in their respective country for each care economy career we asked about. Answers were coded on a 0-3 scale; 0 = 2 Zero of the careers require a university degree, 1 = 2 One of the careers requires a university degree, 2 = 2 Two of the careers require a university degree, 3 = 2 Three (all) of the careers require a university degree. In line with pre-registered procedures, we conducted analyses to examine whether this variable would predict levels of interest in care economy careers. Since this variable did not predict care economy interest, 2 = 2 and 2 and 3 and 4 are 4 and 4 and 4 are 4 and

**GDP.** See Section 1.

**PILMS.** See Section 1.

Country-Level Indicators of Gender Equality. Several country-level indicators included in our dataset captured aspects of gender equality across countries. Broad gender equality was measured with the Global Gender Gap Index (GGGI, 2017 data, scale ranges from 0 - 1; Schwab et al., 2017), which captures gender gaps in health, education, economic advancement, and political representation (higher values indicate greater economic and social

gender equality). To better capture the specific effect of women in power positions, we also examined the political and economic sub-indices of the GGGI (combined into an index we called "female empowerment"). Finally, to capture cross-national variability in policies and practices that alleviate work-life conflict we also assessed the percentage of women working part-time (from ILO, 2017 data; International Labour Office, 2017), leave available to mothers (i.e., days of maternity leave added to the days of total parental leave, subtracting out days of leave exclusive to fathers; International Labour Office, 2013), and leave available to fathers (i.e., days of paternity leave added to the days of parental leave exclusive to fathers; International Labour Office, 2013).

Self-Expression Measure. Two sources provided measures of country-level self-expression values: the World Value Survey (WVS) and Schwartz's (2008) data on cultural values. The self-expression scale from the WVS combines five variables: 1. Respondent gives priority to economic and physical security over self-expression and quality of life, 2. Respondent describes themselves as not very happy, 3. Respondent believes homosexuality is never justifiable, 4. Respondent has not and would not sign a petition, and 5. Respondent believes that you have to be very careful about trusting people. As these items are reverse-coded before they are combined. Thus, higher scores on this measure indicate stronger self-expression (vs. survival) values. Schwartz's measure of intellectual autonomy is a composite score of the extent to which respondents value four constructs: 1. Freedom, 2. Creativity, 3. Broad Mindedness, 4. Curiosity. As per our pre-registration, we standardized and combined these two measures into an overall measure of "self-expression culture". In additional exploratory analysis, we focused on

Schwartz's measure of "affective autonomy" (i.e., the extent to which people in a culture are allowed to make free choices to seek affectively positive experiences; Schwartz, 1999).

### **Multi-Level Scale Reliability**

As per our pre-registration, we went through a number of steps to ensure that the key scales from our survey showed good reliability in most, if not all, countries in our sample. Evidence for good fit based on multilevel confirmatory factor analyses as well as additional examination of Cronbach's alphas by country is summarized below.

Care Economy Interest. Multi-level confirmatory factor analyses for each of the two interest items (affinity and career-fit) using structural equation modelling (SEM) yielded excellent fit for a two-factor (care economy vs. STEM) model,  $CFI_{affinity} = .99$ ,  $RMSEA_{affinity} = .06$ ,  $SRMR_{affinity} = .03$ , and  $CFI_{fit} = .99$ ,  $RMSEA_{fit} = .07$ ,  $SRMR_{fit} = .03$ , respectively.

Constraining loadings to be constant across countries did not substantially reduce fit for affinity,  $CFI_{affinity} = .97$ ,  $RMSEA_{affinity} = .07$ ,  $SRMR_{affinity} = .08$ , or for the fit items,  $CFI_{fit} = .98$ ,  $RMSEA_{fit} = .08$ ,  $SRMR_{fit} = .10$ . Overall, most of the countries in our sample showed acceptable fit (all countries'  $CFI_{S} > .90$ ,  $RMSEA_{S} < .10$ ,  $SRMR_{S} < .10$ ) for care economy affinity (100% of countries pass thresholds) and care economy fit (78% of countries pass thresholds). Note that the lowest reliabilities are coming from Ethiopia, which was excluded in additional exploratory analyses to show that results hold without this country.

**Values.** A confirmatory factor analysis in SEM supported our pre-registered plan to treat communal, dominance, and competence items as three distinct value categories, CFI = .95, RMSEA = .09, SRMR = .05. Constraining loadings to be constant across countries did not

substantially reduce fit, CFI = .91, RMSEA = .11, SRMR = .12. The averages of the three standardized items for each value form highly reliable scores (average  $\alpha_{communal} = .86$ ; range<sub>communal</sub> = .70-.94, average  $\alpha_{dominance} = .80$ ; range<sub>dominance</sub> = .49-.91, average  $\alpha_{competence} = .71$ ; range<sub>competence</sub> = .44-.89, respectively). Note that the lowest reliabilities are again coming from Ethiopia, which was excluded in additional exploratory analyses to show that results hold without this country.

# SECTION 5: Study 2 Summary Statistics of Key Variables

**Table S4** *Means and Standard Deviations for Key Individual-Level Variables* 

Variable	$M_{ m overall}(SD)$	$M_{\mathrm{men}}(SD)$	Mwomen(SD)
1. Care economy interest	0.00 (0.90)	-0.31 (0.93)	0.18 (0.84)
2. STEM interest	0.00 (0.88)	0.22 (0.84)	-0.13 (0.87)
3. Communal values	0.00 (0.89)	-0.21 (0.96)	0.12 (0.81)
4. Dominance values	0.00 (0.86)	0.10 (0.87)	-0.06 (0.85)
5. Competence values	0.00 (0.77)	-0.02 (0.79)	0.01 (0.76)
6. Age	20.52 (2.38)	20.90 (2.26)	20.30 (2.26)
7. Subjective SES	6.11 (1.59)	6.12 (1.66)	6.10 (1.55)
8. Degree progress	1.88 (0.56)	1.92 (0.57)	1.86 (0.55)

*Note*. Means of variables 1-5 are zero and standard deviations are close to one since these variables were created by first standardizing each individual item and then averaging the three standardized items into a composite score.

**Table S5**Correlations of Key and Exploratory Country-Level Variables

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Gender differences care economy interest	-	-	-	-	-	-	-	-	-	-	-
2.	Gender differences STEM interest	24	-	-	-	-	-	-	-	-	-	-
3.	HDI	.39**	07	-	-	-	-	-	-	-	-	-
4.	GDP	.24	08	.79***	-	-	-	-	-	-	-	-
5.	PILMS	.35*	07	.91***	.71***	-	-	-	-	-	-	-
6.	GGGI	.30*	.08	.61***	.61***	.49***	-	-	-	-	-	-
7.	Gender differences communal values	.58***	03	.35*	.22	.28	.53***	-	-	-	-	-
8.	Gender differences competence values	.15	16	01	.04	.04	05	.25	-	-	-	-
9.	Gender differences dominance values	.07	00	03	08	.02	14	10	.41**	-	-	-
10.	Individualism	.39**	20	.73***	.72***	.71***	.50***	.38**	.13	02	-	-
11.	Self-expression	.05	.04	.72***	.78***	.63***	.69***	.20	12	11	.68***	-

*Note.* These correlations were run on each of the 10 imputed datasets of country-level variables and then averaged across these imputed datasets. Scores for gender differences in care economy preference and gender differences in communal values are country-level estimates of the gender effect extracted from multi-level models adjusting for individual- and site-level demographics. \*p < .05, \*\*p < .01, \*\*\*p < .001.

# **SECTION 6:**

# Study 2 Additional Analyses on the Development Paradox

On an exploratory basis, we used two alternative indicators of economic development to further probe H1: PILMS (Charles, 2003), B = 0.07, SE = 0.03, t(52.83) = 2.66, p = .011, CI.95 [0.01, 0.13], and GDP, B = 0.04, SE = 0.03, t(39.76) = 1.60, p = .119, CI.95 [-0.02, 0.10]. Both yielded similar interaction patterns with gender, though the interaction for GDP did not reach statistical significance (see Table S6).

 Table S6

 Different Development Indicators Predicting Gender Differences in Care Economy Interest

Development indicator		HDI			PILMS			GDP	
	В	SE	p	В	SE	p	В	SE	p
Step 1									
Gender	0.34	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001
Development	0.87	0.31	.008	0.06	0.04	.025	0.12	0.04	.003
Step 2									
Gender x Development	0.64	0.22	.005	0.07	0.03	.011	0.04	0.03	.119
Step 3									
Gender x Development	-	-	-	-0.01	0.07	.831	-0.05	0.04	.289
Gender x HDI	-	-	-	0.74	0.60	.189	0.94	0.35	.012

*Note.* This table shows results for multilevel modelling analyses where different measures relating to economic development are used as predictors of gender difference in care economy interest alone (Step 2), and over and above HDI (Step 3). The top row specifies which development indicator is used in each analysis. HDI = Human Development Index, PILMS = Post-Industrial Labor Market Structure (see Section 1 for more details), GDP = Gross Domestic Product. All analyses contain the same control variables. Control variables are omitted here for the sake of readability, but can be found in Table S13.

### **SECTION 7:**

## Study 2 Additional Analyses on the Gender Equality vs. Development Paradox

Additional pre-registered analyses tested whether different indicators of gender equality could predict the gender gap in care economy interest better than HDI. As pre-registered, we obtained the following measures of overall gender equality (GGGI, 2017; Schwab et al., 2017), female empowerment (i.e., an average of the economic and political sub-scores of the GGGI), days of maternity leave available in a country (International Labour Office, 2013), days of paternity leave available in a country (International Labour Office, 2013), percentage of women working part-time in a country (International Labour Office, 2017), and percentage of male workers in care-economy careers (i.e., an average of the percentage of men in the occupational categories "healthcare" and "education"; International Labour Office, 2017).

Analyses summarized in Table S7 suggested that there was little evidence for a distinct "gender equality paradox". When entering indicators of gender equality as sole predictors of the gender gap in care economy interest, a number of these indicators predicted a greater gender gap in care economy interest, in line with past evidence (e.g., Stoet & Geary, 2018). When entering different indicators of gender equality together with HDI, however, no indicator of gender equality predicted the size of the gender gap in care economy interest better than HDI itself. Specifically, the effects of HDI predicting a larger gender gap in care economy interest remained of similar magnitude and statistically significant or marginal (not surprising given lowered degrees of freedom) after accounting for gender equality indices. This finding suggests that

women's higher interest in care economy careers in more developed countries is likely not a function of broader encouragement of rights and/or opportunities for women in these countries. One notable exception is that incentives for women to segregate into more family-friendly occupations (i.e., those offering leave) could play a role in career choices, even over and above general economic development.

**Table S7**Effects of Gender Equality vs. HDI in Predicting Gender Differences in Care Economy Interest

Equality indicator	GGGI			Female	e empow	erment	Ma	aternity l	eave	Pat	ternity le	eave	% wom	en time	part-	% mei	ı care-ec	conomy
	В	SE	p	В	SE	p	В	SE	p	В	SE	p	В	SE	p	В	SE	p
Step 1																		
Gender	0.34	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001
Equality indicator	2.17	0.60	.001	0.14	0.04	.002	-0.06	0.03	.055	0.002	0.002	.377	0.01	0.002	.004	0.07	0.17	.644
Step 2																		
Gender x Equality indicator	0.99	0.44	.034	0.06	0.03	.052	0.06	0.02	.010	0.001	0.002	.601	-0.002	0.002	.296	0.21	0.11	.287
Step 3																		
Gender x Equality indicator	0.35	0.54	.531	0.02	0.03	.532	0.05	0.02	.038	-0.001	0.001	.735	-0.004	0.002	.031	0.15	0.12	.350
Gender x HDI	0.54	0.27	.059	0.55	0.25	.038	0.57	0.22	.012	0.71	0.23	.003	0.78	0.22	.001	0.52	0.24	.088

Note. Results from multilevel models testing different gender equality indicators as moderators of gender differences in care economy interest alone (Step 2), and over and above HDI (Step 3). Main effects are included at each step, but omitted for readability. GGGI = Global Gender Gap Index, female empowerment = political and economic sub-indices of the GGGI, maternity leave = days of maternity leave available in a given country, paternity leave = days of paternity leave available in a given country, % women part-time = percentage of employed women working part time in a given country, % men in care economy = percentage of men employed in healthcare and education sectors (broadly defined according to ILO) in a given country. All analyses contain the same control

variables. Control variables are omitted here for the sake of readability, but can be found in Table S13. Coefficients for maternity leave and paternity leave are standardized because the variable has a large range and standard deviation. Analyses on these two variables also had 48 instead of 49 countries since we did not impute missing data on these exploratory variables.

### **SECTION 8:**

### **Study 2 Robustness Checks for Key Results**

Although the main paper detailed the pre-registered analyses, we also conducted additional exploratory robustness checks after we had examined our key predicted effects (Model 1, Tables S8 and S9).

First, it is plausible that the inclusion of items about perceived career-fit (e.g., "A career in social work would match my values.") in our overall career interest measure could artificially inflate the relationship of this measure with communal values, because it specifically assessed interest in a career in terms of how much the career is congruent with one's personal values. (Note that this account of our results does not address why cross-cultural variations in communal values predicted country-level gender differences in care economy interest better than cross-cultural variations in competence and dominance values). However, as summarized in Tables S8 and S9 (Model 2), the results for the original models are essentially unchanged if we use only the most face valid measure of career affinity ("In another life, I could imagine [career] being an interesting career for me.") as the outcome measure for care economy interest.

Second, we found that one country in our sample, Ethiopia, was an outlier in two ways: 1. Ethiopia was the only country to score 3 SDs below the mean of HDI in our sample, suggesting that it is an outlier on economic development, 2. Though overall confirmatory factor analyses suggested that scales fitted well across countries (see SI Section 3), Ethiopia consistently had much lower scale reliabilities than other countries (notably  $\alpha = .21$  for the measure of care-economy career affinity which was part of our key outcome). However, as

summarized in Tables S8 and S9 (Model 3), our original model was robust even when we excluded Ethiopia from the analyses.

Third, to gain a more precise focus on interest in care economy careers (as opposed to reporting higher career interest generally or the ability to imagine oneself in a range of careers), we also re-ran models controlling for individual variability in STEM interest. Again, as seen in Tables S8 and S9 (Model 4), results on care economy interest outcome were robust even when controlling for STEM interest.

Fourth, some might argue that care economy careers are paid more in some countries than others, and that this could explain the effects of HDI. Therefore, we repeated our analyses with country-level perceived relative pay of care economy careers (see Section 2 for variable details). Results are summarized in Table S8 (Model 6). These analyses suggested that people in countries where care economy careers are perceived as higher in pay tended to show a significantly higher mean level of interest in care economy careers. However, our predicted gender by HDI interaction held controlling for the perceived pay variable.

Finally, as summarized in Tables S8 and S9 (Model 5), results were also robust to controlling for a country's population size in 2017, indicating that the effects of economic development are not merely a function of living in a larger, more populous country.

 Table S8

 Evidence for Robustness of Gender x HDI Predicting Care Economy Interest

		<b>Model 1</b> Original		Model 2: Affinity only measure				<b>Model 3:</b> Exclude Ethiopia			Model 4: Control for STEM interest <sup>a</sup>			Model 5 ol for pop size <sup>b</sup>	i: oulation	Contro	Model 6: Control for perceived relative pay (country- level)		
Variable	В	SE	p	В	SE	p	В	SE	p	В	SE	p	В	SE	p	В	SE	p	
Step 1	•																		
Gender	0.34	0.03	<.001	0.24	0.02	<.001	0.35	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001	
HDI	0.87	0.31	.008	0.52	0.24	.037	0.87	0.35	.016	0.87	0.31	.008	0.87	0.31	.008	0.87	0.31	.008	
Step 2																			
Gender x HDI	0.64	0.22	.005	0.49	0.19	.016	0.57	0.24	.024	0.61	0.22	.009	0.64	0.22	.005	0.64	0.20	.005	
STEM interest	-	-	-	-	-	-	-	-	-	0.17	0.01	<.001	-	-	-	-	-	-	
Population size	-	-	-	-	-	-	-	-	-	-	-	-	-0.01	0.02	.796	-	-	-	
Perceived pay <sup>c</sup>	_	-	-	_	-	-	-	-	-	-	-	-	-	-	-	.01	0.1	.359	

*Note.* All analyses contain the same control variables. Control variables are omitted here for the sake of readability, but can be found in Table S13. STEM interest was entered as an individual-level predictor, whereas population size was entered as a country-level predictor.

<sup>&</sup>lt;sup>a</sup> Degrees of freedom for the model controlling for STEM interest are slightly lower because a number of participants from Ireland (n = 87) were missing this measure.

 $<sup>^{\</sup>rm b}B$  for population size is a standardized coefficient since the raw coefficient was < .001, which is not surprising given that population size has a large standard deviation.

<sup>&</sup>lt;sup>c</sup> Perceived relative pay is the country-level intercept of this variable controlling for individual- and site-level demographics. However, results when entering perceived pay as an individual (Level 1) predictor are the same (i.e., the gender x HDI interaction holds).

 Table S9

 Evidence for Robustness of Gender x Country-Level Gender Differences in Communal Values Predicting Care Economy Interest

		<b>Model 1</b> Origina		Model 2: Affinity only Measure				Model 3: Exclude Ethiopia			Model 4: Control for STEM interest <sup>a</sup>			Model 5: Control for population size <sup>b</sup>			<b>Model 6:</b> Control for perceived relative pay <sup>c</sup>		
Variable	В	SE	p	В	SE	p	В	SE	p	В	SE	p	В	SE	p	В	SE	p	
Step 1																			
Gender	0.34	0.03	<.001	0.24	0.02	<.001	0.35	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001	
HDI	0.83	0.31	.016	0.40	0.26	.060	0.82	0.38	.037	0.83	0.31	.016	0.83	0.31	.016	0.83	0.31	.016	
Gender differences in communal values	0.29	0.31	.357	0.04	0.24	.871	0.28	0.32	.384	0.29	0.31	.357	0.29	0.31	.357	0.29	0.31	.357	
Step 2																			
Gender x Gender differences in communal values	0.75	0.19	<.001	0.60	0.17	.001	0.77	0.19	<.001	0.74	0.20	.001	0.75	0.19	<.001	0.75	0.19	<.001	
Gender x HDI	0.41	0.20	.052	0.30	0.18	.116	0.28	0.23	.227	0.39	0.22	.078	0.41	0.20	.052	0.41	0.20	.053	
STEM interest	-	-	-	-	-	-	-	-	-	0.17	0.04	<.001	-	-	-	-	-	-	
Population size	-	-	-	-	-	-	-	-	-	-	-	-	-0.002	0.03	.948	-	-	-	
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Perceived pay	-		.01	0.01	.302
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*Note.* All analyses contain the same control variables. Control variables are omitted here for the sake of readability, but can be found in Table S13. STEM interest was entered as an individual-level predictor, whereas population size was entered as a country-level predictor.

<sup>&</sup>lt;sup>a</sup> Degrees of freedom for the model controlling for STEM interest are slightly lower because a number of participants from Ireland (n = 87) were missing this measure.

 $<sup>^{\</sup>rm b}B$  for population size is a standardized coefficient, since the raw coefficient was < .001, which is not surprising given that population size has a large standard deviation.

<sup>&</sup>lt;sup>c</sup> Perceived relative pay is the country-level intercept of this variable controlling for individual- and site-level demographics. Note, however, that convergence problems in this model suggested that entering this additional predictor might be overfitting the data. Additionally, results when entering perceived pay as an individual (Level 1) predictor are the same (i.e., the gender x HDI interaction holds).

### **SECTION 9:**

## **Study 2 Alternative Self-Expression Measures**

Below we detail analyses comparing our pre-registered measure of country-level self-expression that combined data from the WVS and Schwartz's intellectual autonomy measure (Model A) with analyses that only used Schwartz's intellectual autonomy measure (Model B) or Schwartz's affective autonomy measure (Model C). As summarized in Table S10a, none of the self-expression measures moderated gender differences in care economy interest. Furthermore, as summarized in Table S10b, in no case did controlling for any of these self-expression measures statistically account for the development paradox (i.e., the gender x HDI interaction). Finally, after accounting for HDI (as before), none of the measures showed the paradoxical pattern whereby greater country-level self-expression predicted a wider gender gap in care economy interest. Rather, our full measure of self-expression as well as the intellectual autonomy measure related to smaller gender differences in care economy interest once we accounted for HDI. Affective autonomy was also unrelated to care economy interest.

 Table S10a

 Alternative Measures of Self-Expression as Moderators of Gender Differences in Care Economy Interest, without Controlling for HDI

Self-expression indicator	Model A: Full measure (pre-registered WVS + Intellectual Autonomy)		Model B: Intellectual autonomy			Model C: Affective autonomy			
	В	SE	p	В	SE	p	В	SE	p
Gender	0.34	0.03	<.001	0.34	0.03	<.001	0.34	0.03	<.001
Self-expression indicator	.15	.04	<.001	.09	.04	.038	.04	.40	.350
Gender x Self-expression indicator	.009	.003	.725	.007	.03	.735	.04	.03	.109

*Note.* All analyses contain the same control variables. Control variables are omitted here for the sake of readability, but can be found in Table S13. For ease of analyses, Schwarz values were standardized.

**Table S10b**Alternative Measures of Self-Expression as Moderators of Gender Differences in Care Economy Interest, over and above HDI

Self-expression indicator	<b>Model A:</b> Full measure			Model B: Intellectual autonomy			<b>Model C:</b> Affective autonomy		
	В	SE	p	В	SE	p	В	SE	p
Gender	0.34	0.02	<.001	0.34	0.02	<.001	0.34	0.02	<.001
HDI	-0.87	0.44	.059	-0.20	0.45	.644	0.27	0.50	.597
Self-expression indicator	0.23	0.06	<.001	0.10	0.05	.080	0.02	0.06	.715
Gender x HDI	1.19	0.29	<.001	1.01	0.26	<.001	0.70	0.30	.032
Gender x Self-expression indicator	-0.10	0.04	.016	-0.07	0.03	.048	-0.01	0.03	.574

*Note.* All analyses contain the same control variables. Control variables are omitted here for the sake of readability, but can be found in Table S13. For ease of analyses, Schwartz's values were standardized.

#### **SECTION 10:**

#### **Study 2 Parallel Analyses on STEM**

**Paradox in STEM?** Though this project was planned to focus on explaining country-level gender differences in care economy interest, we conducted parallel analyses on STEM interest (M = 0.00, SD = 0.88) as an outcome variable. There were two notable deviations in how we conducted these analyses. First, one country (Ireland) had a large amount of missing data due to the omission of a STEM item in the survey (that was later corrected, leaving only 87 participants with the variable completed). In addition, after initial models yielded convergence issues with error messages suggesting a variance close to zero (i.e., singularity, suggesting that the data might be over-fitted), we fixed the random intercept of university in all models for STEM, which successfully resolved this issue.

The results showed that after accounting for the same control variables as in the other analyses, women in the sample were on average less interested in STEM careers than were men, B = -0.24, t(42.82) = -9.27, p < .001,. As can be seen in Figure S1, this gender difference varied considerably by country (SD of gender effect = 0.15), with women in one country (Costa Rica) being descriptively more interested in STEM than men. However, as summarized in Table S11, none of the key economic or gender equality variables were significant predictors of gender differences in STEM interest, with or without controlling for HDI. We thus found no evidence for either a gender equality or economic development paradox in STEM interest of undergraduate students. While not the focus of the paper from the outset of this project, our failure to find a gender equality paradox or economic development paradox in the gender

segregation of STEM interest is in line with recent arguments that past evidence for gender equality paradoxes in math self-concept arise through illusory correlations (Marsh et al., 2020).

Communal Values and STEM interest. Despite the absence of a relationship between HDI and gender differences in STEM interest, we still wanted to explore whether country-level gender differences in communal values would predict gender differences in STEM interest, like they do on the individual level within countries (see Diekman et al., 2020 for a review). These analyses are summarized in Table S12. In contrast to what might be expected from past goal congruity theory work, we did not find that country-level gender differences in communal values moderated gender differences in STEM interest, either when entered alone (Model A), or when entered together with HDI (Model B). Further, neither country-level gender differences in dominance nor competence values moderated gender differences in STEM interest (Model C).

Individual Differences in Values Predicting Interest. Additionally, we explored whether higher individual communal values would, on average, predict lower STEM interest like they tend to do in North American samples (e.g., Diekman et al., 2020). For this, we entered individual-level communal values (standardised) as a predictor of STEM interest, accounting for individual- and site-level demographics (as we did in our key analyses). Results are summarized in Table S12. To get average effects, the slopes of gender and individual communal values were allowed to vary by country. In contrast to what has been found in North American samples, our international sample showed no significant relationship between communal values and STEM interest, B = 0.02, SE = .01, t(27.84) = 1.67, p = .106, CI.95[.00, .04]. However, exploratory analyses pitting communal values against dominance and competence values suggest that, across

nations, individuals (controlling for participant gender) with higher dominance values, B = 0.06, SE = .01, t(33.68) = 4.92, p < .001, and competence values, B = 0.06, SE = .01, t(28.01) = 7.20, p < .001, tend to be more interested in STEM careers. In contrast, and as reported in the main paper, individual differences in communal values (but not dominance and competence values) significantly predicted interest in care economy careers, B = 0.31, SE = .01, t(38.37) = 28.72, p < .001. Together, these patterns suggest that dominance and competence values predict STEM interest, but that only communal values predict the gender gap in care economy interest.

Table S11

Interactions of Gender with Different Country-Level Indicators Predicting STEM preference

Indicator		HDI			PILMS			GDP			GGGI	
	В	SE	p	В	SE	p	В	SE	p	В	SE	p
Step 1												
Indicator	-0.27	0.20	.182	-0.03	0.02	.270	-0.04	0.02	.121	-0.27	0.40	.510
Gender	-0.24	0.03	<.001	-0.24	0.03	<.002	-0.24	0.03	<.001	-0.24	0.03	<.001
Step 2												
Gender x Indicator	-0.11	0.23	.643	-0.01	0.03	.707	-0.01	0.03	.667	0.22	0.47	.639
Step 3	•											
Gender x Indicator	-	-	-	0.01	0.07	.924	-0.004	0.05	.929	0.56	0.58	.354
Gender x HDI	-	-	-	-0.15	0.59	.794	-0.09	0.39	.827	-0.27	0.29	.356

*Note*. Results from multilevel models testing the extent to which different variables moderate gender differences in STEM interest alone (Step 2), and over and above HDI (Step 3). HDI = Human Development Index, PILMS = Post-Industrial Labor Market Structure, GDP = Gross Domestic Product, GGGI = Global Gender Gap Index, Gender differences in communal values = country-level gender differences in communal values extracted from multi-level models accounting for individual- and site-level

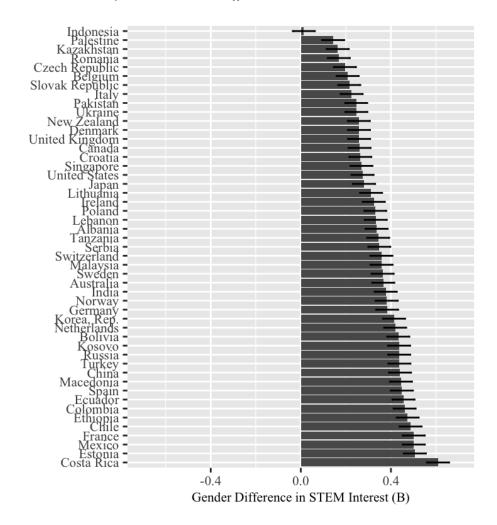
demographics. All analyses contain the same control variables. Control variables are omitted here for the sake of readability, but can be found in Table S13.

**Table S12**Values as Moderators of Gender Differences in STEM Interest

	Model A				Model B			Model C		
Variable	В	SE	p	В	SE	p	В	SE	p	
Gender	-0.24	0.03	<.001	-0.24	0.03	<.001	-0.24	0.03	<.001	
Communal differences	0.11	0.19	.557	0.21	0.20	.299	0.16	0.20	.430	
Dominance differences	-	-	-	-	-	-	0.24	0.32	.458	
Competence differences	-	-	-	-	-	-	0.43	0.30	.162	
HDI	-	-	-	-0.31	0.21	.140	-0.30	0.20	.141	
Gender x HDI	-	-	-	-0.09	0.25	.721	-0.11	0.24	.663	
Gender x Communal differences	-0.12	0.22	.586	-0.09	0.23	.708	0.00	0.24	.986	
Gender x Dominance differences	-	-	-	-	-	-	0.13	0.39	.741	
Gender x Competence differences	-	-	-	-	-	-	-0.53	0.36	.151	

Figure S1

Estimated Country-Level Gender Differences in STEM



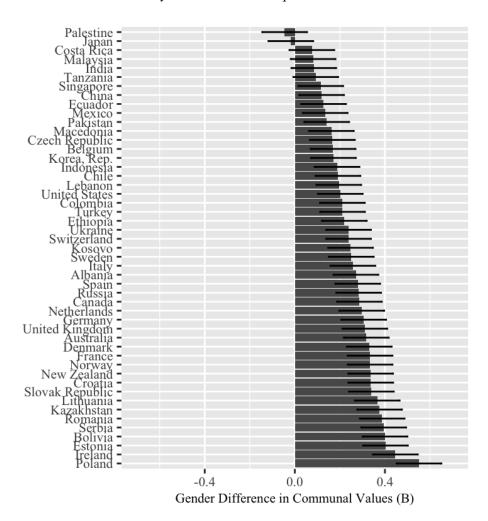
Note. Values graphed reflect estimated raw country-level coefficients (B) for gender predicting STEM interest (M = 0.00, SD = .88), extracted from a multi-level model accounting for the effects of individual- and site-level demographics. Gender coded 0 = men, 1 = women. Values below 0 mean that men reported more interest in STEM careers than women did. Error bars represent 95% confidence intervals.

#### **SECTION 11:**

### Study 2 Additional Details on Analyses with Values

Figure S2

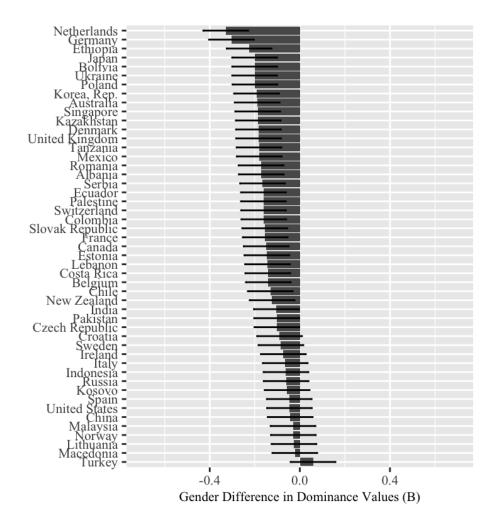
Cross-National Variability in the Gender Gap in Communal Values



*Note.* Values graphed reflect estimated raw country-level coefficients (B) for gender predicting communal values, extracted from a multi-level model accounting for the effects of individual-and site-level demographics. Gender coded 0 = men, 1 = women. Higher positive values indicate that women endorsed communal values more strongly than men did. Error bars represent 95% confidence intervals.

Figure S3

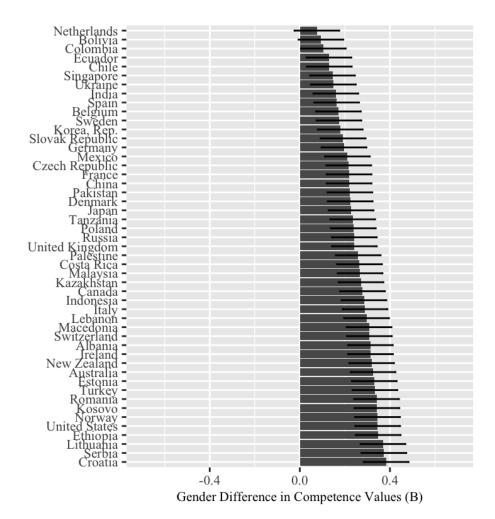
Cross-National Variability in the Gender Gap in Dominance Values



*Note.* Values graphed reflect estimated raw country-level coefficients (B) for gender predicting dominance values, extracted from a multi-level model accounting for the effects of individual-and site-level demographics. Gender coded 0 = men, 1 = women. Lower negative values indicate that men endorsed dominance values more strongly than women did. Error bars represent 95% confidence intervals.

Figure S4

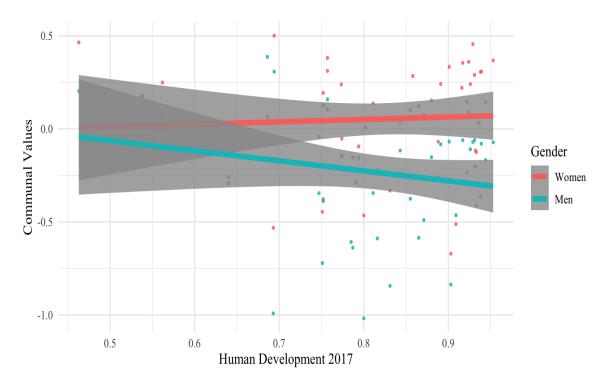
Cross-National Variability in the Gender Gap in Competence Values



*Note.* Values graphed reflect estimated raw country-level coefficients (B) for gender predicting competence values, extracted from a multi-level model accounting for the effects of individual-and site-level demographics. Gender coded 0 = men, 1 = women. Higher positive values indicate that women endorsed competence values more strongly than men did. Error bars represent 95% confidence intervals.

Figure S5

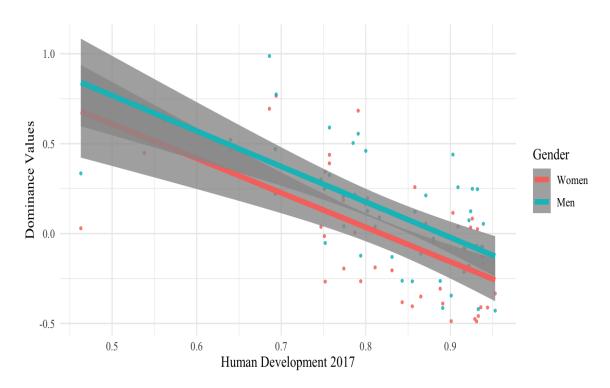
HDI x Gender Predicting Communal Values



*Note*. Graph shows how raw scores on communal values are predicted by HDI for men and women in a simple regression line. Plotted dots are averaged communal values for a given gender in a given country.

Figure S6

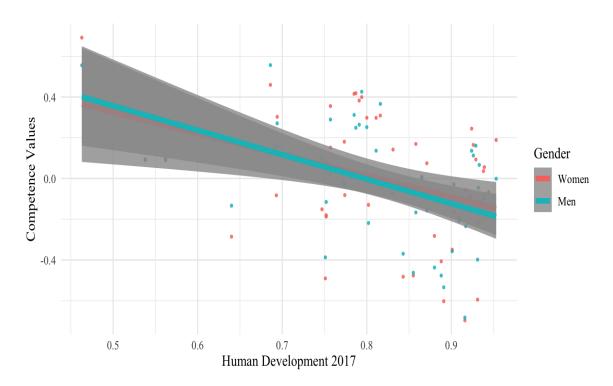
HDI x Gender Predicting Dominance Values



*Note*. Graph shows how raw scores on dominance values are predicted by HDI for men and women in a simple regression line. Plotted dots are averaged dominance values for a given gender in a given country.

Figure S7

HDI x Gender Predicting Competence Values



*Note*. Graph shows how raw scores on competence values are predicted by HDI for men and women in a simple regression line. Plotted dots are averaged competence values for a given gender in a given country.

 Table S13

 Gender x Country-Level Gender Differences in Values Predicting Care Economy Interest

		Model A		Model B				Model C	
Variable	В	SE	p	В	SE	p	В	SE	p
Step 1									
1. Age	0.010	0.003	0.003	0.010	0.003	0.003	0.010	0.003	0.003
2. Subjective SES	-0.01	0.004	.181	-0.01	0.004	.182	-0.01	0.004	.182
3. Degree progress	0.01	0.02	.507	0.01	0.02	.506	0.01	0.02	.508
4. Major - STEM	-0.23	0.01	<.001	-0.23	0.01	<.001	-0.23	0.01	<.001
5. Major - Social Science	0.22	0.02	<.001	0.22	0.02	<.001	0.22	0.02	<.001
6. Major - Business	-0.28	0.02	<.001	-0.28	0.02	<.001	-0.28	0.02	<.001
7. Major - Other	-0.02	0.02	.408	-0.02	0.02	.410	-0.02	0.02	.411
8. University mean age	-0.01	0.02	.694	-0.01	0.02	.531	-0.01	0.02	.509
9. University mean SES	-0.002	0.04	.965	-0.01	0.04	.864	-0.01	0.04	.823
10. University mean degree progress	0.07	0.07	.312	0.08	0.07	.270	0.08	0.07	.270

11. University status	-0.03	0.02	.101	-0.03	0.02	.094	-0.03	0.02	.093
12. Gender	0.34	0.02	<.001	0.34	.02	<.001	0.34	0.03	<.001
13. Communal differences	0.42	0.31	.183	0.29	0.31	.357	0.36	0.34	.294
14. HDI	-	-	-	0.83	0.33	.016	0.80	0.34	.023
15. Dominance differences	-	-	-	-	-	-	-0.05	0.55	.933
16. Competence differences	-	-	-	-	-	-	-0.44	0.52	.405
Step 2									
17. Gender x Communal differences	0.85	0.19	<.001	0.75	0.19	<.001	0.80	0.20	<.001
18. Gender x HDI	-	-	-	0.41	0.20	.052	0.41	0.21	.053
19. Gender x Dominance differences	-	-	-	-	-	-	0.40	0.32	.216

Note. Results from multilevel models testing whether country-level gender differences in communal values moderate country-level gender differences in care economy interest (Model A), over and above the effect of HDI (Model B), and over and above the effects of country-level gender differences in dominance and competence values (Model C). 1-3 are fixed individual level effects. 4-7 are effect codes corresponding to 4 major categories that were compared against care economy careers (reference group). 8-11 are fixed university-level effects. 13-16 are country-level variables. 17-20 are cross-level interactions. The effect of gender was allowed to vary

by country. Communal differences, competence differences, and dominance differences refer to country-level gender differences in each respective value extracted from multilevel models adjusting for individual- and site-level demographics.

Table S14

Cultural Indicators Predicting Gender Differences in Communal Values

Cultural indicator		HDI		I	ndividualis	m	Self	f-Expressio	on
	В	SE	p	В	SE	p	В	SE	p
Step 1									
Cultural indicator	-0.16	0.34	.649	0.002	0.001	.246	0.06	0.04	.227
Gender	0.24	0.03	<.001	0.24	0.03	<.001	0.24	0.03	<.001
Step 2									
Gender x Cultural indicator	0.57	0.23	.014	0.002	0.001	.011	0.04	0.03	.162
Step 3									
Gender x Cultural indicator	- -	-	-	0.002	0.001	.245	-0.02	0.04	.654
Gender x HDI	_	-	-	0.28	0.33	.417	0.68	0.33	.046

*Note*. Results from multi-levels models testing whether different cultural indicators moderate gender differences in communal values (Step 2), over and above HDI (Step 3). All analyses contain the same control variables. Control variables are omitted here for the sake of readability, but can be found in Table S13.

**Table S15**Cultural Indicators Predicting Gender Differences in Care Economy Interest

Cultural indicator	5	Self-expressio	n		Individualism	ı
	В	SE	p	В	SE	p
Step 1						
Gender	0.34	0.03	<.001	0.34	0.03	<.001
Cultural indicator	0.15	0.04	<.001	0.004	0.001	.005
Step 2						
Gender x Cultural indicator	0.01	0.03	.725	0.002	0.001	.014
Step 3						
Gender x Cultural indicator	-0.10	0.04	.016	0.001	0.001	.397
Gender x HDI	1.19	0.29	<.001	0.43	0.31	.215

*Note*. Results from multi-levels models testing whether different cultural indicators moderate gender differences in care economy interest (Step 2), over and above HDI (Step 3). All analyses contain the same control variables. Control variables are omitted here for the sake of readability, but can be found in Table S13.

#### **SECTION 12:**

#### **Sampling Information**

Study Coordination and Sampling Process. This large multinational project was made possible through the coordination and infrastructure provided by a core research team and a global network of collaborators who assisted with translation, recruitment, and data collection. The core team consisted of 9 researchers (faculty and graduate students) across 3 countries who collaborated on the initial design of the project (REDACTED NAMES). This core team defined the project scope and goals, designed a questionnaire to address our central research questions, and piloted this questionnaire in Canada, Belgium, Norway, and Germany to ensure reliable and valid measurements in different contexts. After the piloting process, the questionnaire was revised and finalized.

We subsequently began recruiting collaborators, starting with researchers who study gender-related processes from within the core team's professional networks. To ensure broad coverage of different regions of the world, we then contacted researchers from specific regions who had published in closely related research areas. Once collaborators committed, Drs. xx, xx, and xxx (REDACTED) coordinated translation procedures (see details in next section), survey set-up, and data collection with each of the collaborators. After obtaining ethics approval in line with the procedures required by each collaborator's country and institution, collaborators were responsible for meeting recruitment targets for the student population of their university.

We initially asked our collaborators to choose from two general sampling strategies: a) recruiting 160 psychology students, or b) recruiting 80 students from care economy-related majors and 80 students from STEM-related majors. However, this was not always possible to follow these sampling guidelines 100%. In light of this, we also pre-registered the current study with controls for participants' major in our analyses.

Since all participants were students at the collaborators' respective institutions, the vast majority of collaborators recruited students through their universities' participant pools, which offered study credit or small monetary compensation for completing the survey. While this mostly took place online, some universities required even online surveys to be taken in person (e.g., at the {university redacted}, students had to participate in some in-person studies, so a portion of participants completed the online survey on a computer while sitting in our lab room). In lieu of a formally established "research participant pool," some collaborators recruited students on their campus to participate. In isolated cases, this led to students from other institutions taking the survey, who were then excluded as per the pre-registration. At the end of data collection, each collaborator filled out a detailed questionnaire that asked specific questions about their institution, country, and data collection process.

**Translation Details.** The survey was originally first devised in English by the code-collaborator team and piloted in English, German, Dutch, and Norwegian to ensure scale reliability in different countries. For the other languages, collaborators who had published in English worked together in teams to produce a high-quality translation of the survey into their

native language. We required at least one collaborator who had published in English to do the initial translation and at least one other collaborator who had published in English to check the integrity of the translation. Table S16 details which languages were used by each collaborator team. Each team of collaborators completed a site questionnaire after data collection, in which they were asked to report how confident they were in the accuracy of their translation/the translated file they received on a scale that ranged from 1 (*not confident at all*) to 7 (*very confident*). Collaborators indicated a high degree of confidence on this question, range: 6-7; M = 6.41, and reported no systematic issues after the use of the survey.

**Table S16**Overview of Languages

Country code	Site_MainCollaboratorLastName	Language of survey
ALB	Albania_Jasini	Albanian
AUS	Australia_Anderson	English
AUS	Australia_DarNimrod	English
BEL	Belgium_Vangrootel	Dutch
BOL	Bolivia_Schulmeyer	Spanish
CAN	Canada_Block	English
CAN	Canada_Hall	English
CAN	Canada_Steele	English
CAN	Canada_Bergsieker	English
СНЕ	Switzerland_Kulich	French
СНЕ	Switzerland_Haessler	German
СНЕ	Switzerland_Nikitin	German
СНЕ	Switzerland_Sczesny	German
CHL	Chile_Gonzalez	Spanish
CHL	Chile_Sirlopu	Spanish
CHN	China_Zhao	Mandarin
COL	Colombia_Lopez	Spanish
COL	Colombia_Meister	Spanish
CRI	CostaRica_Smith-Castro	Spanish

CZE	Czech_Klocova	Czech
DEU	Germany_Hoppe	German
DEU	Germany_Steffens	German
DEU	Germany_Schuster	German
DNK	Denmark_Morton	Danish
ECU	Ecuador_Orrego	Spanish
ESP	Spain_Gartzia	Spanish
ESP	Spain_Lemus	Spanish
EST	Estonia_Ainsaar	Estonian
ETH	Ethiopia_Lemma	English
FRA	France_Redersdorff	French
FRA	France_Regner	French
GBR	UK_Kirby	English
HRV	Croatia_Sucic	Croatian
IDN	Indonesia_Avicenna	Indonesian
IND	India_Rani	English
IRL	Ireland_Bosak	English
ITA	Italy_Maricchiolo	Italian
JPN	Japan_Sakata	Japanese
JPN	Japan_Ishii	Japanese
KAZ	Kazakhstan_Samekin	Russian
KOR	Korea_Choi	Korean

LBN	Lebanon_Saab	English
LTU	Lithuania_Mickuviene	Lithuanian
LTU	Lithuania_Rasa	Lithuanian
MEX	Mexico_Eller	Spanish
MKD	Macedonia_Gjoneska	English
MYS	Malaysia_Ramis	English
NLD	Netherlands_Otten	Dutch
NLD	Netherlands_Vink	Dutch
NOR	Norway_Olsson	Norwegian
NZL	NewZealand_McNamara	English
PAK	Pakistan_Hassan	English
POL	Poland_Adamus	Polish
POL	Poland_Kosakowska	Polish
POL	Poland_Pyrkosz	Polish
PSE	Palestine_Marwan	Arabic
ROU	Romania_Birneanu	Romanian
RUS	Russia_Ryabichenko	Russian
SGP	Singapore_Lee	Mandarin
SRB	Serbia_Jaksic	Bosnian
SRB	Serbia_Zezelj	Bosnian
SVK	Slovakia_Fedakova	Slovak
SWE	Sweden_Back	Swedish

TUR	Turkey_Gungor	Turkish
TUR	Turkey_Kunurgu	Turkish
TZA	Tanzania_Mkamwa	English
UKR	Ukraine_Kozytska	Ukrainian
USA	USA_Croft	English
USA	USA_Xian	English
USA	USA_Bosson	English
USA	USA_Devos	English
USA	USA_Diekman	English
USA	USA_Germano	English
USA	USA_Rivera-Rodriguez	English
XKX	Kosovo_Maloku	Albanian

Additional Sample Characteristics. As seen in Tables S17a and S17b, sample sizes ranged from 119 participants (Tanzania: 53 men/66 women) to 3299 participants (USA: 1130 men/2169 women) per country. The 49 countries in our sample represent a variety of cultural regions spanning six continents, but have higher human development scores than the world on average ( $HDI_{mean} = .82$ , SD = .11, range = .46 - .82).

On average, participants in the sample were 20.52 years old (SD = 2.38). In addition, participants were either 1<sup>st</sup> year undergraduates (40.82%), 2<sup>nd</sup> year undergraduates (24.32%), 3<sup>rd</sup> year undergraduates (15.79%), 4th year undergraduates (8.6%), or master's students (6.88%). Participants indicated majoring in care-economy-related fields (60.1%), STEM (23.7%), business (6.30%), other social sciences (4.70%), and "other" majors (5.2%). Because our collaborators recruited varying numbers of participants from the different majors, it was particularly important for us to control for majors in all analyses. In the sample, 91.00% of participants self-identified as heterosexual.

**Table S17a**Participant Numbers after Exclusions by Country

Country	$N_{ m total}$	$N_{ m men}$	$N_{ m women}$
Albania	154	68	86
Australia	448	171	277
Belgium	382	95	287
Bolivia	335	169	166
Canada	1327	542	785
Chile	434	167	267
China	158	72	86
Colombia	402	185	217
Costa Rica	214	89	125
Croatia	416	228	188
Czech Republic	217	78	139
Denmark	156	42	114
Ecuador	176	87	89
Estonia	210	78	132
Ethiopia	203	96	107
France	427	163	264
Germany	677	217	460
India	148	73	75
Indonesia	251	85	166
Ireland	302	128	174
Italy	300	114	186
Japan	494	203	291

Kazakhstan	149	72	77
Korea, Rep.	155	88	67
Kosovo	238	97	141
Lebanon	185	78	107
Lithuania	180	79	101
Macedonia	159	71	88
Malaysia	340	82	258
Mexico	182	62	120
Netherlands	553	144	409
New Zealand	241	111	130
Norway	297	115	182
Pakistan	213	110	103
Palestine	119	50	69
Poland	508	146	391
Romania	234	88	146
Russia	182	78	104
Serbia	773	193	580
Singapore	208	90	118
Slovak Republic	266	108	158
Spain	375	168	207
Sweden	196	102	94
Switzerland	1085	376	709
Tanzania	119	66	53
Turkey	568	174	394
Ukraine	304	122	182
United Kingdom	281	54	227

United States	3299	1130	2169

**Table S17b**Participant Numbers After Exclusions by Country and University

Country	University	$N_{ m total}$	$N_{ m men}$	$N_{ m women}$
Albania	Polytech University of Tirana	26	0	26
Albania	University of Tirana	128	68	60
Australia	Australia Catholic University	174	85	89
Australia	University of Sydney	274	86	188
Belgium	KU Leuven (University of Leuven)	382	95	287
Bolivia	Universidad Privada de Santa Cruz de la Sierra UPSA	335	169	166
Canada	University of British Columbia	461	226	235
Canada	University of Toronto	228	86	142
Canada	University of Waterloo	318	121	197
Canada	York University	320	109	211
Chile	Mayor University	40	17	23
Chile	Pontifical Catholic University of Chile	174	67	107
Chile	Universidad de Chile	30	15	30
Chile	Universidad de Concepción	17	2	15
Chile	University of Desarrollo	173	81	92
China	Beijing Normal University	90	48	42
China	Nanjing Normal University	40	8	32
China	Shenzhen University	10	5	5
China	Sichuan Normal University	9	2	7
China	Southwest Jiaotong University	9	9	0
Colombia	Pontificia Universidad Javeriana	241	99	142
Colombia	Universidad de Los Andes	161	86	75

Costa Rica	University of Costa Rica	214	89	125
Croatia	University of Zagreb	416	228	188
Czech Republic	Brno University of Technology	27	19	8
Czech Republic	Masaryk University	190	59	131
Denmark	University of Copenhagen	156	42	114
Ecuador	Pontificia Universidad Católica del Ecuador	176	87	89
Estonia	University of Tartu	210	78	132
Ethiopia	Bahir Dar University	203	96	107
France	Aix-Marseille University	220	85	135
France	University of Clermont Auvergne	207	78	129
Germany	Friedrich-Alexander-University of Erlangen-Nürnberg	14	13	1
Germany	FSU Jena	9	1	8
Germany	Heidelberg University	18	10	8
Germany	JGU Mainz	7	1	6
Germany	Leuphana University	254	65	189
Germany	MLU Halle	6	1	5
Germany	University of Leipzig	158	78	80
Germany	University of Koblenz-Landau	201	46	155
Germany	University of Mannheim	10	2	8
India	Madras School of Social Work	68	29	39
India	Vellore Institute of Technology	80	44	36
Indonesia	State Islamic University Sunan Gunung Djati Banung	18	2	16
Indonesia	State Islamic University Syarif Hidayatullah Jakarta	197	75	122
Indonesia	University of Mercu Buana	7	1	6
Indonesia	University of Muhammadiyah	29	7	22
Ireland	Dublin City University	181	95	86

Ireland	Maynooth University	121	33	88
Italy	La Sapienza University	22	16	6
Italy	Roma Tre University	9	0	9
Italy	University of Perugia	269	98	171
Japan	Hiroshima University	243	95	148
Japan	Kobe University	179	73	106
Japan	Nagoya University	72	35	37
Kazakhstan	L.N. Gumilyov Eurasian National University	73	32	41
Kazakhstan	S. Toraighyrov Pavlodar State University	76	40	36
Korea, Rep.	Seoul National University	155	88	67
Kosovo	University for Business and Technology	14	14	0
Kosovo	University of Prishtina	224	83	141
Lebanon	American University of Beirut	185	78	107
Lithuania	Kauno Technologijos Universitetas	96	64	32
Lithuania	LSMU	84	15	69
Macedonia	European University of Skopje (Private)	16	8	8
Macedonia	Ss. Cyril and Methodius University of Skopje (Public)	143	63	80
Malaysia	HELP University	340	82	258
Mexico	UNAM	182	62	120
Netherlands	University of Groningen	330	81	249
Netherlands	Utrecht University	223	63	160
New Zealand	Victoria University of Wellington	241	111	130
Norway	UiT	297	115	182
Pakistan	Comsats University	96	67	29
Pakistan	International Islamic University Islamabad	101	34	67
Pakistan	University of Wah	16	9	7

Palestine	Islamic University of Gaza	119	50	69
Poland	AGH University of Science and Technology	196	72	124
Poland	Ignatianum Academy	9	0	9
Poland	Jagiellonian University	109	11	98
Poland	Pedagogical University of Krakow	6	1	5
Poland	University of Gdansk	188	33	155
Romania	Universitatea de Vest	234	88	146
Russia	Moscow City Teacher Training University	28	21	7
Russia	Moscow State University of Psychology and Education	15	3	12
Russia	National Research University Higher School of Economics	124	46	78
Russia	State Academic University for the Humanities	15	8	7
Serbia	Singidunum	6	5	1
Serbia	University of Belgrade	558	158	400
Serbia	University of Kragujevac	33	7	26
Serbia	University of Nisu	121	20	101
Serbia	University of Novi Sad	49	3	46
Serbia	University of Zagreb	6	0	6
Singapore	Nanyang Technological University	202	87	115
Singapore	National University of Singapore	6	3	3
Slovak Republic	Commenius University	77	9	68
Slovak Republic	Constantine the Philosopher University	21	7	14
Slovak Republic	Economic University	22	5	17
Slovak Republic	Masaryk University	1	0	1
Slovak Republic	Slovak University of Agriculture	17	12	5
Slovak Republic	Technical University Kosiciach	73	57	16
Slovak Republic	Technical University Trnave	13	3	10

Slovak Republic	The University of Presov	6	2	4
Slovak Republic	Univerzita Pavla Jozefa Safarika	36	13	23
Spain	Deusto Business School	205	87	118
Spain	University of Granada	170	81	89
Sweden	Chalmers University of Technology	10	9	1
Sweden	Lund University	22	6	16
Sweden	University of Gothenburg	164	87	77
Switzerland	Technical University of Zurich (ETH)	76	23	53
Switzerland	University of Basel	101	57	44
Switzerland	University of Bern	195	76	119
Switzerland	University of Geneva	387	95	292
Switzerland	University of Zurich	306	119	187
Switzerland	Zurich University of Applied Science	20	6	14
Tanzania	St. Augustine University of Tanzania	119	66	53
Turkey	Izmr Katip Celebi University	428	145	283
Turkey	Yasar University	140	29	111
Ukraine	Dragomanov University	9	9	0
Ukraine	Taras Shevchenko National University of Kyiv	295	113	182
United Kingdom	University of Exeter	281	54	227
United States	Indiana University	387	118	269
United States	Miami University	185	83	102
United States	San Diego State University	431	158	273
United States	University of Arizona	657	143	514
United States	University of Kansas	540	226	314
United States	University of Massachusetts Amherst	245	109	136
United States	University of South Florida	324	99	225

United States	University of Washington	530	194	336
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### **SECTION 13: Multiple Imputations**

As some countries in our sample had missing data on one or more country-level indicator(s), we pre-registered imputing missing values with multiple imputation procedures (m = 10 imputed datasets). To maximize the information that was available for imputations, we ran imputations with Amelia II in R, based on a larger dataset of countries including a number of cross-national variables that were relevant for different pre-registrations of the larger consortium (see https://osf.io/b52uv for an example). In accordance with procedures for working with imputed datasets, all analyses were repeated 10 times (one with each imputed version). The 10 results were then averaged. Notably, some variables had relatively higher degree of missingness (see Table S18). Given the degree to which some variables are imputed, results using those variables should be interpreted with caution.

**Table S18**Number of Missing Values (of 49 Countries) that were Imputed

Variable	$N_{ m missing}$
GDP	0
HDI	1
% of workers in wage and salaried positions	1
% of workers in the service industry	1
# parental leave weeks	1
# maternity leave days	1
GGGI overall score	2
% women in education	2
Individualism	11
Intellectual autonomy	11
% men in STEM	12
% women in care economy	12
Self-expression	14
Pro-sociality	15

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