

American Psychologist

The Gender Gap in the Care Economy Is Larger in Highly Developed Countries: Sociocultural Explanations for Paradoxical Findings

Katharina Block, Maria I. T. Olsson, Sanne van Grootel, Carolin Schuster, Loes Meeussen, Colette Van Laar, Sarah Martiny, Alyssa Croft, Molly Shuyi Sun, Sheila Wee, Mare Ainsaar, Lianne Aarntzen, Magdalena Adamus, Joel Anderson, Ciara Atkinson, Mohamad Avicenna, Przemysław Bąbel, Markus Barth, Tessa M. Benson-Greenwald, Edona Maloku, Jacques Berent, Hilary B. Bergsieker, Monica Biernat, Andreea G. Bîrneanu, Blerta Bodinaku, Janine Bosak, Jennifer Bosson, Marija Branković, Julius Burkauskas, Vladimíra Čavojová, Sapna Cheryan, Eunsoo Choi, Incheol Choi, Carlos C. Contreras-Ibáñez, Andrew Coogan, Ivan Danyliuk, Ilan Dar-Nimrod, Nilanjana Dasgupta, Soledad de Lemus, Thierry Devos, Marwan Diab, Amanda B. Diekman, Maria Efremova, Léila Eisner, Anja Eller, Rasa Erentaitė, Denisa Fedáková, Renata Franc, Leire Gartzia, Alin Gavreliuc, Dana Gavreliuc, Julija Gecaite-Stonciene, Adriana L. Germano, Ilaria Giovannelli, Renzo Gismondi Diaz, Lyudmila Gitikhmayeva, Abiy Menkir Gizaw, Biljana Gjoneska, Omar Martínez González, Roberto González, Isaac David Grijalva, Derya Güngör, Marie Gustafsson Sendén, William Hall, Charles Harb, Bushra Hassan, Tabea Hässler, Diala R. Hawi, Levke Henningsen, Annedore Hoppe, Keiko Ishii, Ivana Jakšić, Alba Jasini, Jurgita Jurkevičienė, Kaltrina Kelmendi, Teri A. Kirby, Yoko Kitakaji, Natasza Kosakowska-Berezecka, Inna Kozytska, Clara Kulich, Eva Kundtová-Klocová, Filiz Kunuroglu, Christina Lapytskaia Aidy, Albert Lee, Anna Eneroth, Wilson López-López, Liany Luzvinda, Fridanna Maricchiolo, Delphine Martinot, Rita Anne McNamara, Alyson Meister, Tizita Lemma Melka, Narseta Mickuviene, María Isabel Miranda-Orrego, Thadeus Mkamwa, James Morandini, Thomas Morton, David Mrisho, Jana Nikitin, Sabine Otten, Maria Giuseppina Pacilli, Elizabeth Page-Gould, Ana Perandrés-Gómez, Jon Pizarro, Nada Pop-Jordanova, Joanna Pyrkosz-Pacyna, Samir Qouta, TamilSelvan Ramis, Nitya Rani, Sandrine Redersdorff, Isabelle Régner, Emma A. Renström, Adrian Rivera-Rodriguez, Tania E. Rocha-Sánchez, Tatiana Ryabichenko, Rim Saab, Kiriko Sakata, Adil Samekin, Tracy Sánchez-Pachecho, Carolin Scheifele, Marion K. Schulmeyer, Sabine Sczesny, David Sirlopú, Vanessa Smith-Castro, Kadri Soo, Federica Spaccatini, Jennifer R. Steele, Melanie C. Steffens, Ines Sucic, Joseph Vandello, Laura Maria Velásquez-Díaz, Melissa Vink, Eva Vives, Turuwark Zalalam Warkineh, Iris Žeželj, Xiaoxiao Zhang, Xian Zhao, and Toni Schmader

Online First Publication, October 16, 2025. <https://dx.doi.org/10.1037/amp0001512>

CITATION

Block, K., Olsson, M. I. T., van Grootel, S., Schuster, C., Meeussen, L., Van Laar, C., Martiny, S., Croft, A., Sun, M. S., Wee, S., Ainsaar, M., Aarntzen, L., Adamus, M., Anderson, J., Atkinson, C., Avicenna, M., Bąbel, P., Barth, M., Benson-Greenwald, T. M., Maloku, E., Berent, J., Bergsieker, H. B., Biernat, M., Bîrneanu, A. G., Bodinaku, B., Bosak, J., Bosson, J., Branković, M., Burkauskas, J., Čavojová, V., Cheryan, S., Choi, E., Choi, I., Contreras-Ibáñez, C. C., Coogan, A., Danyliuk, I., Dar-Nimrod, I., Dasgupta, N., de Lemus, S., Devos, T., Diab, M., Diekman, A. B., Efremova, M., Eisner, L., Eller, A., Erentaitė, R., Fedáková, D., Franc, R., Gartzia, L., Gavreliuc, A., Gavreliuc, D., Gecaite-Stonciene, J., Germano, A. L., Giovannelli, I., Gismondi Diaz, R., Gitikhmayeva, L., Menkir Gizaw, A., Gjoneska, B., González, O. M., González, R., Grijalva, I. D., Güngör, D., Gustafsson Sendén, M., Hall, W., Harb, C., Hassan, B., Hässler, T., Hawi, D. R., Henningsen, L., Hoppe, A., Ishii, K., Jakšić, I., Jasini, A., Jurkevičienė, J., Kelmendi, K., Kirby, T. A., Kitakaji, Y., Kosakowska-Berezecka, N., Kozytska, I., Kulich, C., Kundtová-Klocová, E., Kunuroglu, F., Lapytskaia Aidy, C., Lee, A., Eneroth, A., López-López, W., Luzvinda, L., Maricchiolo, F., Martinot, D., McNamara, R. A., Meister, A., Melka, T. L., Mickuviene, N., Miranda-Orrego, M. I., Mkamwa, T., Morandini, J., Morton, T., Mrisho, D., Nikitin, J., Otten, S., Pacilli, M. G., Page-Gould, E., Perandrés-Gómez, A., Pizarro, J., Pop-Jordanova, N., Pyrkosz-Pacyna, J., Qouta, S., Ramis, T., Rani, N., Redersdorff, S., Régner, I., Renström, E. A., Rivera-Rodriguez, A., Rocha-Sánchez, T. E., Ryabichenko, T., Saab, R., Sakata, K., Samekin, A., Sánchez-Pachecho, T., Scheifele, C., Schulmeyer, M. K., Sczesny, S., Sirlopú, D., Smith-Castro, V., Soo, K., Spaccatini, F., Steele, J. R., Steffens, M. C., Sucic, I., Vandello, J., Velásquez-Díaz, L. M., Vink, M., Vives, E., Warkineh, T. Z., Žeželj, I., Zhang, X., Zhao, X., & Schmader, T. (2025). The gender gap in the care economy is larger in highly developed countries: Sociocultural explanations for paradoxical findings. *American Psychologist*. Advance online publication. <https://dx.doi.org/10.1037/amp0001512>

The Gender Gap in the Care Economy Is Larger in Highly Developed Countries: Sociocultural Explanations for Paradoxical Findings

Katharina Block¹, Maria I. T. Olsson², Sanne van Grootel³, Carolin Schuster⁴, Loes Meeussen^{3, 5}, Colette Van Laar³, Sarah Martiny⁶, Alyssa Croft⁷, Molly Shuyi Sun⁸, Sheila Wee⁹, Mare Ainsaar¹⁰, Lianne Aarntzen¹¹, Magdalena Adamus¹², Joel Anderson¹³, Ciara Atkinson¹⁴, Mohamad Avicenna¹⁵, Przemysław Bąbel¹⁶, Markus Barth¹⁷, Tessa M. Benson-Greenwald¹⁸, Edona Maloku¹⁹, Jacques Berent²⁰, Hilary B. Bergsieker²¹, Monica Biernat²², Andreea G. Bîrceanu²³, Blerta Bodinaku²⁴, Janine Bosak²⁵, Jennifer Bosson²⁶, Marija Branković^{27, 28}, Julius Burkauskas²⁹, Vladimíra Čavojová¹², Sapna Cheryan³⁰, Eunsoo Choi³¹, Incheol Choi³², Carlos C. Contreras-Ibáñez³³, Andrew Coogan^{34, 35}, Ivan Danyliuk³⁶, Ilan Dar-Nimrod³⁷, Nilanjana Dasgupta³⁸, Soledad de Lemus³⁹, Thierry Devos⁴⁰, Marwan Diab⁴¹, Amanda B. Diekman⁴², Maria Efremova⁴³, Léila Eisner⁴⁴, Anja Eller⁴⁵, Rasa Erentaitė⁴⁶, Denisa Fedáková¹², Renata Franc⁴⁷, Leire Gartzia⁴⁸, Alin Gavreliuc²³, Dana Gavreliuc²³, Julija Gecaite-Stonciene²⁹, Adriana L. Germano⁴⁹, Ilaria Giovannelli⁵⁰, Renzo Gismondi Diaz⁵¹, Lyudmila Gitikhmayeva⁵², Abiy Menkir Gizaw⁵³, Biljana Gjoneska⁵⁴, Omar Martínez González⁵⁵, Roberto González⁵⁵, Isaac David Grijalva⁵⁶, Derya Güngör³, Marie Gustafsson Sendén⁵⁷, William Hall⁵⁸, Charles Harb⁵⁹, Bushra Hassan⁶⁰, Tabea Hässler⁴⁵, Diala R. Hawi⁵⁹, Levke Henningsen⁶¹, Annedore Hoppe⁶², Keiko Ishii⁶³, Ivana Jakšić²⁷, Alba Jasini³, Jurgita Jurkevičienė⁴⁶, Kaltrina Kelmendi⁶⁴, Teri A. Kirby⁶⁵, Yoko Kitakaji⁶⁶, Natasza Kosakowska-Berezecka⁶⁷, Inna Kozytska³⁶, Clara Kulich²⁰, Eva Kundtová-Klocová⁶⁸, Filiz Kunuroglu⁶⁹, Christina Lapytskaia Aidy⁷⁰, Albert Lee⁷¹, Anna Eneroth⁷², Wilson López-López⁷³, Liany Luzvinda¹⁵, Fridanna Maricchiolo⁷⁴, Delphine Martinot⁷⁵, Rita Anne McNamara⁷⁶, Alyson Meister⁷⁷, Tizita Lemma Melka⁵³, Narseta Mickuviene²⁹, María Isabel Miranda-Orrego⁵⁶, Thadeus Mkamwa⁷⁸, James Morandini³⁷, Thomas Morton⁷⁹, David Mrisho⁷⁸, Jana Nikitin⁸⁰, Sabine Otten⁸¹, Maria Giuseppina Pacilli⁸², Elizabeth Page-Gould⁸, Ana Perandrés-Gómez³⁹, Jon Pizarro⁸³, Nada Pop-Jordanova⁵⁴, Joanna Pyrkosz-Pacyna⁸⁴, Samir Qouta⁸⁵, TamilSelvan Ramis⁸⁶, Nitya Rani⁸⁷, Sandrine Redersdorff⁷⁵, Isabelle Régner⁸⁸, Emma A. Renström⁸⁹, Adrian Rivera-Rodriguez⁹⁰, Tania E. Rocha-Sánchez⁴⁵, Tatiana Ryabichenko⁴³, Rim Saab^{91, 92}, Kiriko Sakata⁶⁶, Adil Samekin⁹³, Tracy Sánchez-Pachecho^{94, 95}, Carolin Scheifele^{3, 96}, Marion K. Schulmeyer⁵¹, Sabine Sczesny⁹⁷, David Sirlopú⁹⁸, Vanessa Smith-Castro⁹⁵, Kadri Soo¹⁰, Federica Spaccatini⁸², Jennifer R. Steele⁷⁰, Melanie C. Steffens⁹⁶, Ines Sucic⁴⁷, Joseph Vandello²⁶, Laura Maria Velásquez-Díaz⁷³, Melissa Vink¹¹, Eva Vives⁷⁵, Turuwark Zalalam Warkineh⁵³, Iris Žeželj²⁷, Xiaoxiao Zhang⁹⁹, Xian Zhao¹⁰⁰, and Toni Schmader¹⁰¹

¹ Department of Psychology, University of Amsterdam

² Department of Psychology, University of Inland Norway

³ Center for Social and Cultural Psychology, Katholieke Universiteit Leuven

⁴ Department of Psychology, Leuphana University

⁵ Institute of Psychology, Thomas More University

⁶ Department of Applied Psychology, UiT The Arctic University of Norway

⁷ Department of Psychology, Simon Fraser University

⁸ Department of Psychology, University of Toronto

⁹ Department of Psychology, Singapore Management University

¹⁰ Institute of Social Studies, University of Tartu

¹¹ Department of Social, Health and Organizational Psychology, Utrecht University

¹² Institute of Experimental Psychology, Slovak Academy of Sciences

¹³ Australian Research Centre in Sex, Health and Society, La Trobe University

¹⁴ Department of Psychology, University of Arizona

¹⁵ Department of Psychology, State Islamic University Syarif Hidayatullah Jakarta


¹⁶ Institute of Psychology, Jagiellonian University


- ¹⁷ Department of Social Psychology, Bielefeld University of Applied Sciences
- ¹⁸ Department of Psychology, University of Pittsburgh
- ¹⁹ Department of Psychology, Rochester Institute of Technology
- ²⁰ School of Psychology, University of Geneva
- ²¹ Department of Psychology, University of Waterloo
- ²² Department of Psychology, University of Kansas
- ²³ Department of Social Work, West University of Timisoara
- ²⁴ Department of Psychology-Pedagogy, University of Tirana
- ²⁵ Department of Human Resource Management and Organisational Behaviour, Dublin City University
- ²⁶ Department of Psychology, University of South Florida
- ²⁷ Institute of Philosophy and Social Theory, University of Belgrade
- ²⁸ Department of Psychology, Singidunum University
- ²⁹ Institute of Neuroscience, Lithuanian University of Health Sciences
- ³⁰ Department of Psychology, University of Washington
- ³¹ Department of Psychology, Korea University
- ³² Department of Psychology, Seoul National University
- ³³ Department of Sociology, Universidad Autónoma Metropolitana
- ³⁴ Department of Psychology, Maynooth University
- ³⁵ Department of Psychology, National University of Ireland
- ³⁶ Department of General and Experimental Psychology, Taras Shevchenko National University of Kyiv
- ³⁷ School of Psychology, University of Sydney
- ³⁸ Department of Psychological and Brain Sciences, University of Massachusetts, Amherst
- ³⁹ Department of Social Psychology, Universidad de Granada
- ⁴⁰ Department of Psychology, San Diego State University
- ⁴¹ Department of Psychology, Stellenbosch University
- ⁴² Department of Psychological and Brain Sciences, Indiana University Bloomington
- ⁴³ School of Psychology, Higher School of Economics, National Research University
- ⁴⁴ Department of Psychology, University of Zurich
- ⁴⁵ School of Psychology, Universidad Nacional Autónoma de México
- ⁴⁶ Institute of Social Sciences, Humanities and Arts, Kaunas University of Technology
- ⁴⁷ Department of Psychology, Institute of Social Sciences Ivo Pilar
- ⁴⁸ Department of Management, University of Deusto
- ⁴⁹ Department of Organizational Behavior, Yale University
- ⁵⁰ Department of Neuroscience and Imaging, Università degli Studi "G. D'Annunzio" Chieti – Pescara
- ⁵¹ Department of Psychology, Universidad Privada de Santa Cruz de la Sierra
- ⁵² Department of Psychology, L. N. Gumilyov Eurasian National University
- ⁵³ Department of Adult Education and Community Development, Bahir Dar University
- ⁵⁴ Department of Social Sciences, Macedonian Academy of Sciences and Arts
- ⁵⁵ Department of Social Sciences, Pontificia Universidad Católica de Chile
- ⁵⁶ School of Clinical Psychology, Pontificia Universidad Católica del Ecuador
- ⁵⁷ Department of Psychology, Stockholm University
- ⁵⁸ Department of Psychology, Brock University
- ⁵⁹ Department of Psychology, Doha Institute for Graduate Studies
- ⁶⁰ School of Psychology, International Islamic University Islamabad
- ⁶¹ Department of Management, University of Exeter
- ⁶² Institute of Psychology, University of Leipzig
- ⁶³ Department of Cognitive and Psychological Sciences, Nagoya University
- ⁶⁴ Department of Psychology, University of Prishtina "Hasan Prishtina"
- ⁶⁵ Department of Psychological Sciences, Purdue University
- ⁶⁶ Institute for Diversity and Inclusion, Hiroshima University
- ⁶⁷ Institute of Psychology, University of Gdańsk
- ⁶⁸ Department for the Study of Religions, Masaryk University
- ⁶⁹ Department of Psychology, İzmir Kâtip Çelebi University
- ⁷⁰ Department of Psychology, York University
- ⁷¹ Division of Psychology, Nanyang Technological University
- ⁷² Department of Psychology, Lund University
- ⁷³ Department of Psychology, Pontificia Universidad Javeriana

- ⁷⁴ Department of Educational Sciences, Roma Tre University
- ⁷⁵ Laboratoire de Psychologie Sociale et Cognitive, Université Clermont Auvergne
- ⁷⁶ School of Psychological Sciences, Victoria University of Wellington
- ⁷⁷ Department of Organizational Behavior and Leadership, International Institute for Management Development Business School
- ⁷⁸ Department of Human Resource Management and Organizational Behaviour, Saint Augustine University of Tanzania
- ⁷⁹ Institute for Psychology, University of Copenhagen
- ⁸⁰ Department of Psychology, University of Vienna
- ⁸¹ Department of Psychology, University of Groningen
- ⁸² Department of Political Science, Università di Perugia
- ⁸³ Department of Management, Deusto Business School, University of Deusto
- ⁸⁴ Department of Economic Sociology and Social Communication, Akademia Górniczo-Hutnicza University of Science and Technology
- ⁸⁵ Department of Psychology, Islamic University of Gaza
- ⁸⁶ Department of Psychology, Sunway University
- ⁸⁷ Department of Management, Fanshaw College
- ⁸⁸ Centre de Recherche en Psychologie et Neurosciences, French National Centre for Scientific Research, Aix Marseille University
- ⁸⁹ Department of Psychology, Kristianstad University
- ⁹⁰ Department of Psychology and Brain Sciences, Northwestern University
- ⁹¹ School of Psychology, American University of Beirut
- ⁹² Department of Psychology, University of Sussex
- ⁹³ Department of Psychology, Maqsut Narikbayev KAZGUU University
- ⁹⁴ Institute of Cognitive Sciences, Osnabrück University
- ⁹⁵ Institute of Psychological Research, University of Costa Rica
- ⁹⁶ Department of Psychology, RPTU University Kaiserslautern-Landau
- ⁹⁷ Department of Social Neuroscience and Social Psychology, University of Bern
- ⁹⁸ Faculty of Psychology and Humanities, Universidad San Sebastián
- ⁹⁹ School of Psychology, Shenzhen University
- ¹⁰⁰ Department of Psychology, Ohio University
- ¹⁰¹ Department of Psychology, University of British Columbia

Despite the growing demand for *care economy* employees (e.g., nurses, teachers, and social workers), men remain underrepresented in these careers. While economically developed countries support more equal rights for women and men, their labor markets are highly gender segregated (Charles, 1992, 2003). We conducted a focused investigation of this paradoxical pattern in the care economy, testing whether gender gaps in care economy career interest are larger in more economically developed countries and, if so, what psychological and cultural factors underlie these patterns. We examined these questions with labor data from 70 countries (Study 1) and a preregistered study of career interests among 19,240 university students from 49 countries (Study 2). Although more economically developed countries tend to promote greater gender equality, our results reveal that the gender gap in care economy representation (Study 1) and interest (Study 2) is especially large in such countries. We did not observe parallel patterns for science, technology, engineering, and mathematics representation or interest. Results from Study 2 supported an integrated theoretical account of this development paradox in care economy interest: Cross-national variation in the gender gap in care economy interest was predicted by country-level variation in economic development and individualism/collectivism but not by self-expression values or country-level gender equality, countering prior (controversial) claims of a *gender equality paradox*. Furthermore, larger gender gaps in communal values (e.g., men's lower valuing of helping and caring for others) were a proximal predictor of larger gender gaps in care economy interest in highly economically developed countries.

Yo Jackson served as action editor.

Katharina Block  <https://orcid.org/0000-0002-3515-4531>

Tabea Hässler  <https://orcid.org/0000-0002-9371-2423>

The authors preregistered data cleaning procedure for Study 2, which uses a large consortium data set, at <https://osf.io/pc8uf/>. Hypotheses and analyses for this specific project were preregistered under the following link

which includes preregistration, materials, data, and analysis code available for reviewers. Upon publication, all data necessary to recreate our analyses will be publicly available in the project-specific Open Science Framework (link 2) at <https://osf.io/aqfe9/>. The authors have no conflicts of interest to declare.

This research project was conceived following the award of a Social Sciences and Humanities Research Council of Canada (SSHRC) Insight Development

continued

Public Significance Statement

Despite the growing global need for care economy employees (e.g., nurses and teachers), men remain disinterested and underrepresented in these careers. This pattern appears especially noticeable in countries in the global north that generally support gender equality. This article examines cross-national patterns of gender segregation and finds that economic development and cultural values, rather than gender equality per se, drive such surprising patterns.

Keywords: gender differences, communal values, national gender roles, career interest, gender equality paradox

Supplemental materials: <https://doi.org/10.1037/amp0001512.supp>

As the world's population grows larger and older, the growth of the global care economy (i.e., defined by the International Labour Organization as health, education, and social work professions that include nursing, teaching, and other social services; Addati et al., 2018) outpaces that of computing and engineering (Ratcheva et al., 2020). The COVID-19 pandemic highlighted the essential services of nurses, teachers, and other care workers (Guerrero et al., 2020). Despite pressing labor shortages in the care economy (World Health Organization,

2020), men are underrepresented in care-oriented jobs, with women comprising 66% of paid care workers globally and over 75% in the Americas and Europe (Addati et al., 2018). However, less empirical attention is paid to men's underrepresentation in the care economy than to women's underrepresentation in science, technology, engineering, and mathematics (STEM; Croft et al., 2015).

Our goal was to advance the theoretical understanding of cross-national patterns of gender segregation by testing whether

Grant awarded to Toni Schmader (Grant 430-2018-00361). Additional funding included an SSHRC Insight Grant awarded to Jennifer R. Steele (Grant 435-2014-1247) and an SSHRC doctoral fellowship awarded to Christina Lapytskaia Aidy; funding from the HSE University Basic Research Program, Russian Federation, awarded to Tatiana Ryabichenko and Maria Efremova; a grant from the Economic and Social Research Council awarded to Teri A. Kirby (Grant ES/S00274X/1); funding from MICIU/AEI/10.13039/501100011033 ERDF/EU awarded to Soledad de Lemus (Grant PID2022.141182NB.I00); funding from Guangdong 13th five-year Philosophy and Social Science Planning Project (GD20CX06) + National Natural Science Foundation of China (Grant 31600912) awarded to Xiao Xiao Zhang; funding from the research infrastructure Experimental Humanities Laboratory, Faculty of Arts, Masaryk University awarded to Eva Kundtová-Klocová; funding from the Scholarships and Grants Department of the University of Deusto awarded to Leire Gartzia; a grant from the Swiss National Science Foundation awarded to Tabea Hässler (Grant P1ZHP1_184553) and Léila Eisner (Grants P2LAP1_194987 and P500PS_206546); funding from the Slovak National Scientific Grant Agencies (VEGA 2/0146/22 and APVV-20-0319); funding from the Center for Social Conflict and Cohesion Studies (ANID/FONDAP No.15130009) and the Center for Intercultural and Indigenous Research (ANID/FONDAP No. 15110006) awarded to Roberto González; an SSHRC Postdoctoral Fellowship (Grant 756-2017-0249) awarded to William Hall; and funding from Canada Research Chairs (Grant 152583), the Social Sciences and Humanities Research Council (Insight Grant 140649), and the Ontario Ministry of Research and Innovation (Early Research Award 152655) awarded to Elizabeth Page-Gould. The authors thank Jeremy Biesanz for statistical advice.

Open Access funding provided by Irish Research e-Library: This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0; <https://creativecommons.org/licenses/by/4.0>). This license permits copying and redistributing the work in any medium or format, as well as adapting the material for any purpose, even commercially.

Mare Ainsaar, Lianne Aarntzen, Magdalena Adamus, Joel Anderson, Ciara Atkinson, Mohamad Avicenna, Przemysław Bąbel, Markus Barth, Tess M. Benson-Greenwald, Edona Maloku, Jacques Berent, Hilary B. Bergsieker,

Monica Biernat, Andreea G. Bîrmeanu, Blerta Bodinaku, Janine Bosak, Jennifer Bosson, Marija Branković, Julius Burkauskas, Vladimíra Čavojová, Sapna Cheryan, Eunsoo Choi, Incheol Choi, Carlos C. Contreras-Ibáñez, Andrew Coogan, Ivan Danyliuk, Ilan Dar-Nimrod, Nilanjana Dasgupta, Soledad de Lemus, Thierry Devos, Marwan Diab, Amanda B. Diekmann, Maria Efremova, Léila Eisner, Anja Eller, Rasa Erentaitė, Denisa Fedáková, Renata Franc, Leire Gartzia, Alin Gavreliuc, Dana Gavreliuc, Julija Gecaite-Stonciene, Adriana L. Germano, Ilaria Giovannelli, Renzo Gismondi Diaz, Lyudmila Gitikhmayeva, Abiy Menkir Gizaw, Biljana Gjoneska, Omar Martínez González, Roberto González, Isaac David Grijalva, Derya Güngör, Marie Gustafsson Sendén, William Hall, Charles Harb, Bushra Hassan, Tabea Hässler, Diala R. Hawi, Levke Henningsen, Annedore Hoppe, Keiko Ishii, Ivana Jakšić, Alba Jasini, Jurgita Jurkevičienė, Kaltrina Kelmendi, Teri A. Kirby, Yoko Kitakaji, Natasza Kosakowska-Berezecka, Inna Kozytka, Clara Kulich, Eva Kundtová-Klocová, Filiz Kunuroglu, Christina Lapytskaia Aidy, Albert Lee, Anna Eneroth, Wilson López-López, Liany Luzvinda, Fridanna Maricchiolo, Delphine Martinot, Rita Anne McNamara, Alyson Meister, Tizita Lemma Melka, Narseta Mickuviene, María Isabel Miranda-Orrego, Thadeus Mkamwa, James Morandini, Thomas Morton, David Mrisho, Jana Nikitin, Sabine Otten, Maria Giuseppina Pacilli, Elizabeth Page-Gould, Ana Perandrés-Gómez, Jon Pizarro, Nada Pop-Jordanova, Joanna Pyrkosz-Pacyna, Samir Qouta, TamilSelvan Ramis, Nitya Rani, Sandrine Redersdorff, Isabelle Régner, Emma A. Renström, Adrian Rivera-Rodriguez, Tania E. Rocha-Sánchez, Tatiana Ryabichenko, Rim Saab, Kiriko Sakata, Adil Samekin, Tracy Sánchez-Pachecho, Carolin Scheifele, Marion K. Schulmeyer, Sabine Sczesny, David Sirlopú, Vanessa Smith-Castro, Kadri Soo, Federica Spaccatini, Jennifer R. Steele, Melanie C. Steffens, Ines Sucic, Joseph Vandello, Laura Maria Velásquez-Díaz, Melissa Vink, Eva Vives, Turuwark Zalalam Warkineh, Iris Žeželj, Xiaoxiao Zhang, and Xian Zhao played a supporting role in data curation, methodology, project administration, and writing-review and editing.

Correspondence concerning this article should be addressed to Katharina Block, Department of Psychology, University of Amsterdam, Nieuwe Achtergracht 128-b, 1018 WT Amsterdam, Noord-Holland, Netherlands. Email: k.a.e.block@uva.nl

the (binary) gender gap in care economy representation (Study 1) and interest (Study 2) is culturally universal or—consistent with past sociological evidence (Charles & Grusky, 2004)—wider in more highly developed countries. We provide a novel social psychological account for why this “development paradox” exists in care economy careers and not in STEM careers and thereby counter prior claims of a gender equality paradox.

Defining the Nature of Paradoxical Gender Segregation

Countries higher in economic development¹ (i.e., greater wealth, infrastructure, health, and education) tend to afford more equal legal rights and opportunities to women and men (Dufo, 2012). Intuitively, such gender equality efforts should foster gender balance across job sectors. Instead, evidence reveals paradoxical patterns whereby women and men in more economically developed countries self-segregate into different careers, despite greater gender equality (Charles, 1992, 2003; Charles & Grusky, 2004; Estévez-Abe, 2006).

In seeking to explain such patterns, a number of researchers have focused on a so-called gender equality paradox in STEM, which is the tendency of women and girls—compared with men and boys—to perform more poorly, report lower interest in, and choose STEM degrees less often in more gender-equal countries (e.g., Charles et al., 2014; Else-Quest et al., 2010; Stoet & Geary, 2018). Some theorists argue that offering more gender-equal rights and opportunities causes larger STEM gender gaps, as men and women self-segregate into more divergent roles (Stoet & Geary, 2018). Although numerous articles on this paradox have been published (see Soyulu Yalcinkaya & Adams, 2020), the strength of evidence for a gender equality paradox in STEM has been repeatedly critiqued (e.g., Berggren, 2022; Breda et al., 2020; Ilmarinen & Lönnqvist, 2024; Marsh et al., 2021; Richardson et al., 2020). We argue that paradoxical patterns in occupational segregation are the result of economic development rather than gender equality per se and that such paradoxical patterns may be especially robust in the care economy, as they are driven by postindustrial economies’ structure and cultural individualism, which promote gender differences in communal values and interests. Next, we unpack how past research informs this novel theoretical perspective on gender segregation.

The Role of Economic Development

According to sociologists (Charles, 2003; Charles & Grusky, 2004), postindustrial economies have larger hierarchically structured organizations, a larger service sector (e.g., clerical and social service occupations), higher education levels, and greater labor force participation by women. These economic conditions afford women more opportunities for paid employment and leadership, decreasing *vertical gender segregation* (i.e., underrepresentation of women in positions of status and power; Wong

& Charles, 2020). At the same time, increases in economic development set the stage for a shift from smaller family-run businesses (where men and women contribute in the same sector) to a hierarchical labor structure with greater job differentiation. Particularly, the increasing demand for labor in the service sector is disproportionately filled by women, also because these careers offer more flexibility (e.g., part-time opportunities) for caretakers of young children (i.e., women). Furthermore, wealthier countries have larger welfare systems that create more jobs in the care economy, which also get disproportionately filled by women (Estévez-Abe, 2006). Taken together, these processes are theorized to increase *horizontal gender segregation* (i.e., clustering of women and men in occupations of comparable status but with differing demands; Wong & Charles, 2020).

These patterns of segregation broadly reflect two basic dimensions of social values, traits, and behaviors—communion and agency (Martin & Slepian, 2020). Communion emphasizes caring for and connecting with others, whereas agency emphasizes self-interest, individual achievement, and dominance (Abele & Wojciszke, 2007; Bakan, 1966). Segregation into gendered roles shapes stereotypes of men and women (Eagly, 1987). Thus, in wealthier countries, a decrease in vertical segregation might correspond to closing gender gaps in agency stereotypes, as women gain more power and status. Increased horizontal segregation, however, might promote larger gender gaps in communion stereotypes as women disproportionately enter the service sector (Eagly et al., 2020; Gartzia, 2022). Gender stereotypes then ensure that new generations are socialized to conform to gendered roles. We particularly theorized that paradoxical patterns of gender segregation are linked to the relationship between communal values and career interests through their connections with cultural ideology.

The Role of Cultural Ideology

Economic development shapes the cultural climate that defines the values people embrace (e.g., Muthukrishna et al., 2020; Triandis, 2001). To examine possible sociocultural explanations for the development paradox in the care economy, we examined two distinct, but not mutually exclusive, cultural value dimensions: self-expression/autonomy (vs. survival) and individualism (vs. collectivism).

Self-Expression. As countries increase in wealth and education levels and meet the basic needs of citizens, cultures shift away from survival values toward self-expression and

¹ Note that the term “developed” is controversial because it connotes a value judgment about developed countries as superior. While we do not agree with this, we use this term because it corresponds to the label that prominent organizations (e.g., UN and International Labor Organization) and scholars have given to a specific constellation of economic and social structures that are relevant to our theoretical understanding of gender segregation of labor markets.

autonomy values. Self-expression values refer to cultural norms and beliefs that prioritize personal autonomy, freedom to express personal differences, and pursuit of individual passions. Whereas survival values prize economic and physical security, obedience, and conformity, self-expression values encourage self-actualization, creativity, and following one's unique path in life (Inglehart, 2020; Li et al., 2021; Schwartz et al., 2012).

In some accounts of the gender equality paradox in STEM, greater economic wealth or gender equality affords people the autonomy to follow their passions (i.e., prioritize self-expression), fostering more gendered career choices by encouraging men and women to follow their differing motivations (Siy et al., 2023). These accounts assume universal gender differences in underlying motivations or interests that are more freely revealed in cultures high in self-expression values. Depending on the theorist, these gendered motivations reflect innate sex differences (Stoet & Geary, 2018), learned but gender-essentialized self-views (Charles & Bradley, 2009; Soyulu Yalcinkaya & Adams, 2020), or motives for group distinctiveness (Vishkin et al., 2022). Setting aside their differing explanations for why gender differences exist initially, these views make no theoretical claims that effects should be specific to the choices of only one gender. Thus, a self-expression account suggests a symmetrical pattern wherein greater economic development (or gender equality) predicts greater gender gaps across occupations dominated by women (i.e., the care economy) and men (i.e., STEM; see Figure 1, Panel A). However, prior research has not empirically tested whether existing measures of country-level self-expression culture predict a wider gender gap in either STEM or care economy interest.

Individualism. Although individualism is highly correlated with self-expression values (Inglehart & Oyserman, 2004), we examined it as a distinct cultural construct that provides an alternative account for paradoxical patterns of career interest. Cultures vary in individualism (a focus on the

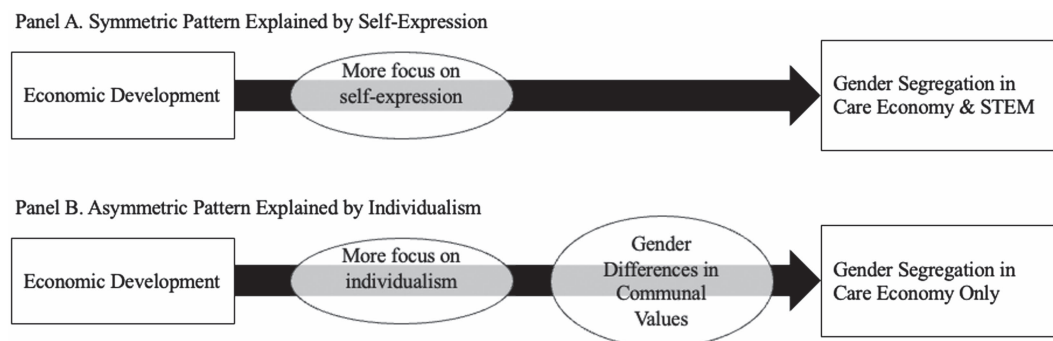
needs of the individual, independence, and personal agency) versus collectivism (a focus on the needs of the group, collective harmony, and communion; Triandis, 2018). As increases in economic development promote societal stability, countries tend to deemphasize collectivistic (and survival) values in favor of more individualistic (and self-expressive) ones (Santos et al., 2017). However, distinct from the symmetrical predictions that flow from a contrast of a self-expression with survival, individualism–collectivism suggests an asymmetric pattern of gender segregation wherein larger gender gaps occur in the care economy (not necessarily in STEM).

This hypothesized asymmetry stems from evidence that individualism promotes larger gender differences in the communal values, which underlie people's interest in care economy careers. In particular, because men represent the cultural default in a society (Cheryan & Markus, 2020), men in more individualistic countries are stereotyped as higher in self-oriented/agentive traits and lower in communal/collectivist traits (Cuddy et al., 2015). The individualism account thus suggests that economic development fosters a devaluation of collectivism, which spurs men's distancing from traits, values, and roles associated with care, including care economy careers. Given that greater economic development and individualism are associated with narrowing gender gaps in agency (Diekmann et al., 2005), alongside wider gender gaps in communion (Kosakowska-Berezecka et al., 2023), we hypothesized an asymmetrical pattern consisting of a development paradox in care economy interest, but not necessarily in STEM.

The Role of Communal Values

Whereas economic development and cultural ideology provide the distal sociocultural predictors of paradoxical patterns of occupational gender segregation, we expected gender differences in personal values to provide a proximal

Figure 1
Predicted Patterns of Gender Segregation by Different Theoretical Accounts



Note. STEM = science, technology, engineering, and mathematics.

explanation. Gender differences in traits and values are partly shaped by gender stereotypes that arise from gender segregation in roles (Eagly, 1987): Women are socialized to internalize the communal values needed for care-oriented roles, whereas men are socialized to internalize agentic values to match their positions of power (Charles, 1992; Wood & Eagly, 2002). Given a tendency to choose roles that are congruent with one's values (Diekmann et al., 2017), gender differences in communion should reinforce gender gaps in the care economy. Indeed, gender differences in communal (but not agentic) values partially account for North American boys' and men's weaker interest in care-oriented roles, such as nursing (Block, Croft & Schmader, 2018; Block, Gonzalez, et al., 2018; Diekmann et al., 2017). Further, higher economic development is linked to larger gender gaps in prosocial preferences (Falk & Hermle, 2018), benevolence and universalism values (Schwartz & Rubel-Lifschitz, 2009), and communal traits (Kosakowska-Berezecka et al., 2023; Lippa, 2010; Schmitt et al., 2008). Thus, we expect the development paradox in care economy interest to be mediated by wider gender gaps in communal values predicted by individualism (see Figure 1, Panel B). We had no specific predictions about agentic values.

Advancing Evidence Beyond the Gender Equality Paradox in STEM

We prioritized testing hypotheses about gender gaps in care economy representation/interest given that past evidence for the gender equality paradox in STEM is mixed at best and illusory by some accounts. Most studies that document a paradoxical pattern in STEM analyzed United Nations Educational, Scientific and Cultural Organization data on university degrees, not occupational data, and many studies do not replicate the paradoxical pattern for STEM majors (see Soyulu Yalcinkaya & Adams, 2020). In addition, when economic development is included as a predictor of occupational gender segregation, the gender equality paradox is sometimes eliminated (Richardson et al., 2020). Finally, the gender equality paradox in math self-concepts disappears in multilevel models that control for within-country reference group effects (Marsh et al., 2021). However, paradoxical patterns of gender segregation are evident in sociological labor market analyses, indicating that a development paradox should exist for some occupational sectors (Charles, 1992, 2003; Charles & Bradley, 2009; Charles & Grusky, 2004). Based on this mixed evidence and our own theorizing, we preregistered a hypothesis for a paradoxical pattern in the care economy but were agnostic regarding STEM segregation.

The Current Research

The current project innovates by carrying out a preregistered analysis of the gender gap in care economy

careers (and comparing this with STEM). We addressed limitations of past work (see Charles & Bradley, 2009; Marsh et al., 2021) using a clear operationalization of the care economy (Addati et al., 2018), analyzing archival occupational data in Study 1 and replicating effects on measured career interests among 19,240 university students from 49 countries in Study 2, controlling for country-level confounds (Studies 1 and 2), and including individual-level demographics in multilevel models (Study 2) to avoid reference group effects.

We tested whether gender differences in occupational representation (Study 1) and interest (Study 2) in care economy (and possibly STEM) careers are larger in more economically developed countries (H1). Study 2 reports the results of a unique cross-national data collection effort that further investigated the psychological underpinning of this paradox. We tested whether more economically developed countries exhibit larger gender gaps in communal values (H2) that (rather than agentic values) partially account for greater gender differences in care economy interest in such developed countries (H3). Further, we provide the unique empirical test of two distinct theoretical accounts for the development paradox (depicted in Figure 1): individualism and self-expression/autonomy values.

Study 1 Method

A goal of Study 1 was to first establish evidence of a development paradox in occupational data improving upon earlier sociological research. Analyzing educational data from the 1990s, Charles and Bradley (2009) found that in more economically developed countries, men were overrepresented among STEM majors, whereas women were overrepresented in "health/other" majors. However, this "health/other" category included several male-dominated fields (trade, craft, transport, architecture, agriculture), rendering an ill-defined measure of care economy interest. Study 1 provided a more direct test of recent trends in occupational data by analyzing country-level data ($N = 70$) on the percentages of women in the care economy and STEM occupations. Full ranges of country-level scores for the following variables are available in Supplemental Material.

Percentage of Care Economy- and STEM-Related Workers Who Are Women

Per country, we calculated the percentages of women among health and social work professionals (ISCO-8 code 22), health and social work associates (ISCO-8 code 32), and teaching professionals (ISCO-8 code 23).² The country-level percentage of women in care economy fields ranged from 43.60% to

²Note that there is no category for "teaching associates" in the International Labor Organization data.

Economic Development

Percentage of Women in the Labor Force

Gender Equality

To examine whether cross-national patterns were driven by economic development, rather than gender equality in a country, we used the global gender gap index (World Economic Forum, 2017; range = 0–1; Schwab et al., 2017), which captures country-level gender gaps in health, education, economy, and politics (range = 0.58–0.88).

Using linear regression analyses with standardized predictors, we tested country-level variation in economic development (HDI) as a predictor of country-level percentages of women in the care economy and STEM careers. Results revealed a development paradox for care economy participation (see Figure 2A). This relationship was robust in controlling for women's labor market participation (see Table 1). Further, we tested whether economic development, and not gender equality per se, is the strongest predictor of a country's gender segregation in the care economy: Additional regression analyses controlling for gender equality (global gender gap index [GGGI]) showed that HDI remained a significant predictor, and GGGI did not account for unique variance in care economy segregation. As a robustness check, we repeated these analyses with several different measures of country-level gender equality: the GGGI health subindicator, GGGI political representation subindicator, Gender Equity Index (European Institute for Gender Equality, 2017), and the Gender Inequality Index (United Nations Development Programme, n.d.). All analyses reached the same conclusion: Economic development, and not gender equality, robustly predicts a higher percentage of women in care economy careers (detailed analyses in Supplemental Material, Section 2).

In contrast to prior evidence of paradoxical patterns for STEM majors (Charles & Bradley, 2009), we found that countries higher in HDI had greater (not lower) percentages of women in STEM occupations (see Figure 2B). However, when controlling for women's labor force participation, this relationship was no longer significant. GGGI was unrelated to women's STEM participation (Table 1).

(A) (B)

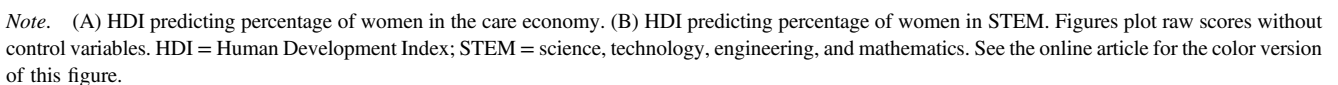


Table 1

Study 1: Linear Regression Analyses Predicting Country-Level Labor Force Data From Economic Development (HDI) and Gender Equality (GGGI; N = 70)

Predictor	Percentage of women in the care economy				Percentage of women in STEM			
	<i>B</i>	<i>SE</i>	95% CI	<i>p</i>	<i>B</i>	<i>SE</i>	95% CI	<i>p</i>
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
Percentage of women in the labor force	3.69	0.96	[1.77, 5.60]	<.001	2.72	0.72	[1.29, 4.15]	<.001
Step 3								
HDI	4.59	0.97	[2.65, 6.54]	<.001	1.17	0.73	[−0.29, 2.63]	.115
Percentage of women in labor force	4.39	1.17	[2.05, 6.73]	<.001	2.71	0.88	[0.95, 4.47]	.003
GGGI	−1.22	1.18	[−3.57, 1.13]	.302	0.01	0.88	[−1.76, 1.77]	.993

Note. Bolded coefficients signify statistical significance at $p < .05$ level. HDI = Human Development Index; GGGI = global gender gap index; *SE* = standard error; CI = confidence interval; STEM = science, technology, engineering, and mathematics.

Having documented a robust development paradox in the care economy, Study 2 aimed to test for these same paradoxical patterns in young adults' ratings of career interest and more closely examine the role of cultural ideology (individualism and self-expression) and personal values (communion and agency) as mediators of these relationships.

Study 2 Method

Participants and Procedure

Seventy-five collaborating teams surveyed 25,979 university students either online ($n = 25,163$) or on paper ($n = 816$) in their main language of instruction. To achieve adequate statistical power for multilevel models (Maas & Hox, 2005), we preregistered minimum sample sizes of 50 women and 50 men in each country after exclusion. Participants were excluded for failing at least one of two attention checks (15.17%), survey completion under 10 min (1.08%), coming from a university we did not sample (1.45%), having moved to the sample country after age 14 (6.18%), not falling into the age range of 17–30 (2.44%), and not self-identifying as a man or woman (2.16%). The final sample included 19,240 university students (7,175 men) from 125 universities in 49 countries.

Measures

Only measures relevant to the current analyses are described. See Supplemental Material for additional details on translation, sample sizes, covariates, and demographics. To deal with missing data on publicly available cross-national variables ($n_{\text{HDI}} = 1$, $n_{\text{self-expression}} = 14$, $n_{\text{individualism}} = 11$), we ran multiple imputations ($n = 10$) with a larger data set of 151 countries with 81 country-level variables using Amelia II, in R (Honaker et al., 2011). More details on imputations can be found in Supplemental Material.

Country-Level Indices of Economic Development and Gender Equality

As in Study 1, economic development and gender equality were assessed with the HDI and GGGI, respectively. See Supplemental Material for parallel analyses that largely replicate effects using alternative measures of economic development and gender equality.

Country-Level Indices of Individualism/Collectivism Culture

Individualism (vs. collectivism) was operationalized using Hofstede's widely used data set (range = 6–91; data from 1967, 2001; Hofstede & Minkov, 2010).

Country-Level Indices of Self-Expression Culture

Self-expression values were operationalized by standardizing and averaging two related, $r(48) = .53$, $p < .001$, indicators (frequently used in prior research, e.g., Barceló, 2017; Chan, 2020): (a) self-expression (vs. survival) from the World Values Survey (Wave 4, collection years 1999–2004; Inglehart et al., 2014, e.g., "Respondent gives priority to economic and physical security over self-expression and quality of life"; reverse coded) and (b) intellectual autonomy³ (collection years 1988–2007; Schwartz, 2008, e.g., rated value of "freedom").

Country-Level Measure of Gender Differences in Values

Participants rated the personal importance of three communal values (helping others, caring for others, attending to others) and six agentic values (three assessing dominance: having power, having status, demonstrating superiority; three assessing competence: being competent,

³ Exploratory analyses with Schwartz's "affective autonomy" measure yielded the same patterns (Supplemental Material, Section 9).

being accomplished, being successful) from 1 (*not important*) to 7 (*extremely important*). We computed country-level gender differences for each value by extracting the country-level random effect of gender from a multilevel model that nested data within country and university, controlling for participant major, age, subjective socioeconomic status (SES), and degree progress as well as (collaborator ratings of) university status.

Individual-Level Measures of Career Interest

Participants rated their interest in three care economy careers (social worker, elementary school teacher, and nurse) chosen for (a) fitting the International Labor Organization's definition of occupations in the paid care sector (i.e., "education" and "health and social work,"), (b) involving directly caring for others, (c) being salaried positions outside the home, typically requiring postsecondary training, and (d) having been used in prior gender segregation research (Diekmann et al., 2017). Participants also rated their interest in three STEM careers (mechanical engineer, electrical engineer, computer programmer) chosen for being highly male-dominated STEM fields requiring postsecondary training (Cheryan et al., 2017).

For each occupation, participants rated their interest on two items from 1 (*strongly disagree*) to 7 (*strongly agree*): "In another life, I could imagine [career] being an interesting career for me,"⁴ and "A career in [career] would match my values."⁵ Multilevel confirmatory factor analysis suggested a good fit for this career interest measure and its ability to distinguish the care economy from STEM interest across countries (see Supplemental Material, Section 3). Thus, we standardized and averaged occupational ratings across each item separately and then standardized and averaged the two composites to create a measure of *care economy interest* (average $\alpha = .82$; range = .60–.91) and a measure of *STEM interest* (average $\alpha = .88$; range = .82–.92). Interest ratings on care economy and STEM were positively (albeit weakly) related ($B = 0.16$, $SE = 0.02$), $t(43.20) = 10.30$, $p < .001$ (average individual-level effect across countries).

Study 2 Results

We preregistered all hypotheses and analyses (minor deviations detailed in Supplemental Material). Multilevel models were run with lme4 (Bates et al., 2015), where p values were extracted with the lmerTest (Kuznetsova et al., 2017). Participant data ($N = 19,240$) were nested within universities ($n = 125$) and countries ($n = 49$) with random intercepts. As preregistered, all models controlled for participants' age, degree progress, subjective SES (all of which were university mean centered), and major (effect coded). To account for reference group effects—and thus avoid spurious explanations for the paradox (Marsh et al., 2021)—we also grand mean-centered university averages of age, degree

progress, and subjective SES, as well as within-country university status (Enders & Tofighi, 2007). Gender was specified as a random effect (0 = men, 1 = women; Heisig & Schaeffer, 2019). We tested but found no evidence that country-level differences in career interest were confounded with country-level career-specific degree requirements (see Supplemental Material).

Country-Level Gender Differences in Care Economy Interest

As expected, a multilevel model predicting care economy interest from gender revealed that, on average, men were less interested in care economy careers than were women ($B = 0.34$, $SE = 0.02$), $t(45.55) = 13.70$, $p < .001$, 95% CI [0.30, 0.38], even after controlling for individual- and site-level demographics. However, the estimate of this gender gap (random-effects conditional mean difference) varied considerably across countries ($SD = 0.12$; see Figure 3).

Is the Gender Gap in Care Economy Interest Predicted by Development?

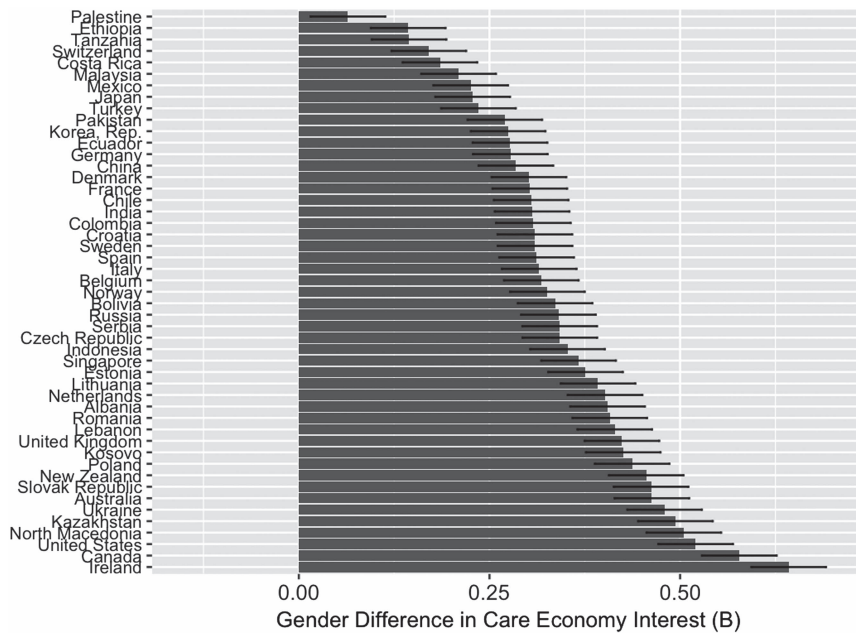
Next, to test whether country-level economic development (IV1) predicted gender differences (IV2) in care economy interest (dependent variable), we added HDI (grand mean centered) and the Gender \times HDI interaction to the above model. Supporting H1, and replicating findings from Study 1 (see Figure 4A), HDI moderated country-level gender differences in care economy interest ($B = 0.64$, $SE = 0.22$), $t(52.00) = 2.98$, $p = .005$, 95% CI [0.21, 1.07]: The gender gap in care economy interest was larger in more developed (+1 SD , HDI of .93), $B = 0.41$, $SE = 0.03$, $t(41.76) = 12.55$, $p < .001$, 95% CI [0.35, 0.47], compared with less developed (−1 SD , HDI of .72), $B = 0.27$, $SE = 0.04$, $t(59.03) = 7.52$, $p < .001$, 95% CI [0.19, 0.35], countries.

In simple slope analyses, HDI predicted care economy interest for women ($B = 1.01$, $SE = 0.31$), $t(49.101) = 3.21$, $p = .002$, 95% CI [0.40, 1.62], but not men ($B = 0.37$, $SE = 0.35$), $t(46.28) = 1.03$, $p = .306$, 95% CI [−0.32, 0.37]. There was no evidence that country-level gender equality indices predicted country-level gender differences in care economy interest better than HDI (see Table S7). The Gender \times HDI interaction was also robust in controlling for population size, STEM interest, the relative perceived pay of the careers

⁴ These items were preceded by the following pre-ambles "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."

⁵ Results replicated when omitting the value-fit item due to concerns about construct overlap.

Figure 3
Country-Level Gender Gap in Care Economy Interest



Note. Scores are country-level estimates of gender differences in care economy interest (controlling for individual- and site-level demographics). Values above 0 indicate that women reported more interest in care economy careers than men. Error bars represent 95% confidence intervals.

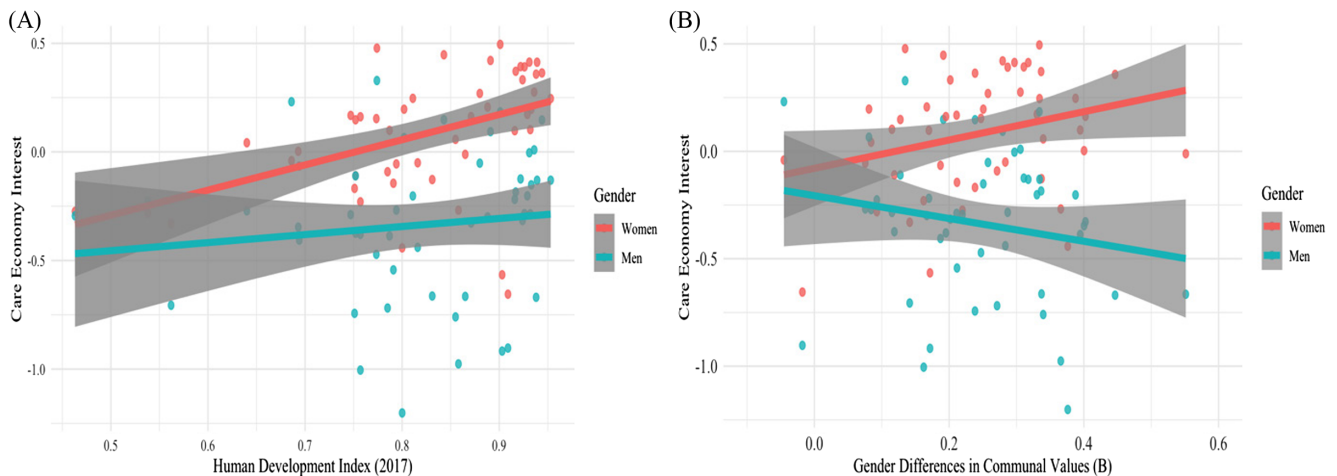
(within country), and the exclusion of an outlying country (see Table S8 for details).

Parallel Analyses on STEM

Parallel analyses on STEM interest revealed that, on average, women were less interested in STEM careers than

men ($B = -0.24$, $SE = .03$), $t(43.96) = -9.42$, $p < .001$, 95% CI $[-0.30, -0.18]$ (Figure S1). As in Study 1, we found no evidence that the gender difference in STEM interest was significantly related to either economic development (HDI), $B = -0.11$, $SE = 0.23$, $t(47.33) = -0.47$, $p = .643$, 95% CI $[-0.56, 0.34]$, or gender equality (GGGI), $B = 0.22$, $SE = 0.47$, $t(45.90) = 0.48$, $p = .639$,

Figure 4
Gender Differences in Care Economy Interest Predicted by Development and Differences in Communal Values



Note. (A) HDI predicting the gender gap in care. (B) Gender \times Communal Values predicting economy interest the gender gap in care economy interest. Plotted are the raw averaged care economy interest scores (not accounting for individual- and site-level demographics). Bands indicate 95% confidence intervals of the regression line. HDI = Human Development Index. See the online article for the color version of this figure.

95% CI [0.70, 1.14], even tested in separate models. This null finding casts further doubt on the robustness of the gender equality paradox in STEM.

Do Gender Differences in Values Underlie the Development Paradox in Care Interest?

We next tested whether gender differences in communal (but not agentic) values were also larger in more developed countries (H2), as found with other prosocial preferences (Falk & Hermle, 2018). Three multilevel models predicted communal, dominance, and competence values, respectively, from gender, HDI, and their interaction, controlling for individual- and site-level demographics. Overall, women endorsed communal values more ($B = 0.24$, $SE = 0.03$), $t(42.76) = 9.39$, $p < .001$, 95% CI [0.18, 0.30], and dominance values less ($B = -0.13$, $SE = 0.02$), $t(48.25) = -6.53$, $p < .001$, 95% CI [-0.17, -0.09], than did men. There were no significant gender differences in valuing competence ($B = 0.02$, $SE = 0.02$), $t(45.90) = 1.17$, $p = .246$, 95% CI [-0.02, 0.06]. There was substantial cross-national variability in these gender effects ($SD_{\text{communal}} = 0.15$, $SD_{\text{dominance}} = 0.10$, $SD_{\text{competence}} = 0.10$; see Figures S2–S4).

As hypothesized (H2), the gender gap in communal values was predicted by HDI ($B = 0.57$, $SE = 0.23$), $t(49.26)$, $p = .014$, 95% CI [0.12, 1.02]. Gender differences in communal values were larger in more developed (+1 SD , $B = 0.30$, $SE = 0.03$), $t(40.03) = 8.82$, $p < .001$, 95% CI [0.24, 0.36], compared with less developed (-1 SD , $B = 0.17$, $SE = 0.04$), $t(55.62) = 4.69$, $p < .001$, 95% CI [0.09, 0.25], countries (see Figure S5). However, when examining simple slopes by gender, HDI did not significantly predict communal values for either men ($B = -0.52$, $SE = 0.37$), $t(46.05) = -1.41$, $p = .167$, 95% CI [-1.25, 0.21], or women ($B = 0.05$, $SE = 0.35$), $t(46.82) = 0.14$, $p = .887$, 95% CI [-0.64, 0.74]. There was no significant Gender \times Economic Development interaction predicting dominance ($B = 0.06$, $SE = 0.19$), $t(55.01) = 0.32$, $p = .752$, 95% CI [-0.31, 0.43], or competence ($B = 0.10$, $SE = 0.18$), $t(50.99) = 1.08$, $p = .293$, 95% CI [-0.25, 0.45] values (see Figures S6 and S7).

Finally, additional analyses (see Table S13) confirmed H3, that is, country-level gender differences in communal (but not dominance or competence) values predicted country-level gender differences in care economy interest even when controlling for HDI. As shown in Figure 4B, women were more interested than men in care economy careers in countries with larger (+1 SD , $B = 0.43$, $SE = 0.03$), $t(52.27)$, $p < .001$, 95% CI [0.37, 0.49], compared with smaller (-1 SD , $B = 0.25$, $SE = 0.03$), $t(55.96)$, $p < .001$, 95% CI [0.19, 0.31], gender differences in communal values. After adding country-level gender differences in communal values to the model, HDI's relationship to gender differences in care economy interest became nonsignificant. While correlational evidence for mediation is inconclusive (Bullock et al., 2010), these results support a goal congruity account for the

role of values as a proximal predictor of career interest. These effects were robust to controlling for population size, STEM interest, relative estimated pay of the careers, and the exclusion of an outlying country (Supplemental Table S9).

Parallel Analysis on STEM

Gender differences in STEM interest were not predicted by country-level gender differences in dominance or competence values (see Supplemental Table S12), nor by communal values, entered either alone ($B = -0.12$, $SE = 0.22$), $t(45.92) = -0.55$, $p = .586$, 95% CI [-0.55, 0.31], or with HDI ($B = -0.09$, $SE = 0.23$), $t(42.12) = -0.38$, $p = .708$, 95% CI [-0.54, 0.36] (see Table S12).

Does the Cultural Context Underlie the Development Paradox in Care Economy Interest?

Individualism

Country-level individualism (without HDI) predicted gender differences in care economy interest ($B = 0.002$, $SE = 0.001$), $t(42.67) = 2.75$, $p = .014$, 95% CI [0.00004, 0.004]; gender differences in care economy interest were larger in more individualistic (+1 SD , $B = 0.40$, $SE = 0.03$), $t(37.67) = 12.58$, $p < .001$, 95% CI [0.34, 0.46], than less individualistic (-1 SD , $B = 0.28$, $SE = 0.03$), $t(50.83)$, $p < .001$, 95% CI [0.22, 0.34], countries. In addition, individualism (without HDI) predicted gender differences in communal values ($B = 0.003$, $SE = 0.001$), $t(43.08) = 2.73$, $p = .011$, 95% CI [0.001, 0.005]. The gender gap in communal values was larger in more individualistic (+1 SD , $B = 0.31$, $SE = 0.03$), $t(38.30) = 9.06$, $p < .001$, 95% CI [0.25, 0.37], than less individualistic (i.e., more collectivistic, -1 SD , $B = 0.17$, $SE = 0.04$), $t(50.80) = 4.75$, $p < .001$, 95% CI [0.09, 0.25], countries.⁶ Importantly, individualism was not correlated to gender gaps in competence or dominance values (see Table S5). Finally, the interactions of Gender \times HDI and Gender \times Individualism, while significant predictors of care economy interest and communal values alone, become nonsignificant when added together in models predicting either care economy interest or communal values (see Tables S14 and S15). Given the strong correlation between HDI and individualism, $r(48) = .70$, $p < .001$, they likely explain overlapping cross-national variance (Fog, 2021). Thus, although only partially supporting our hypotheses, these findings are consistent with the theory that as wealthier countries increasingly prioritize individualism over collectivism, the gender gap in specifically communal values (rather than other values) widens in ways that may exacerbate gender differences in interest for care economy careers.

⁶ Note, however, that in simple slope analyses, individualism did not significantly predict men's ($B < 0.001$, $SE = 0.002$), $t(46.31) = -.08$, $p = .702$, or women's ($B = 0.002$, $SE = 0.001$), $t(45.57) = -.08$, $p = .131$, communal values.

Self-Expression

Gender differences in care economy interest were not significantly predicted by cross-national variation in self-expression/autonomy values (contrary to previous theorizing). Although country-level self-expression was correlated with HDI, $r(48) = .71$, $p < .001$, it did not predict (even without HDI in the model) gender differences in communal values ($B = 0.04$, $SE = 0.03$), $t(43.81) = 1.45$, $p = .162$, 95% CI $[-0.02, 0.10]$, or gender differences in care economy interest ($B = 0.01$, $SE = 0.03$), $t(45.57) = 0.30$, $p = .725$, 95% CI $[-0.05, 0.07]$. Similarly, self-expression culture was not correlated with gender gaps in competence or dominance values (Table S5). When including the Gender \times HDI interaction, country-level self-expression actually predicted smaller gender differences in care economy interest ($B = -0.10$, $SE = 0.04$), $t(53.17) = 2.74$, $p = .016$, 95% CI $[-0.18, -0.02]$, whereas the previously documented Gender \times HDI interaction remained significant ($B = 1.19$, $SE = 0.29$), $t(57.48) = 4.12$, $p < .001$, 95% CI $[0.62, 1.76]$. Results were similar when using Schwartz's measures of "intellectual autonomy" or "affective autonomy" (see Table S10a and S10b).

Transparency and Openness

Data and analysis code (R) for Study 1, as well as a detailed preregistration, data, and analysis code for Study 2, are publicly available on the Open Science Framework at <https://osf.io/aqfe9/> (Block et al., 2025a). Study 2 was part of a larger cross-national data collection project for which we preregistered sample size and data cleaning procedures (<https://osf.io/pc8uf/>; Block et al., 2025b).

General Discussion

Documenting the (Asymmetric) Development Paradox

The present study is the first to document and systematically test sociocultural underpinnings of men's underrepresentation (across 70 countries in Study 1) and relatively low interest (across 49 countries in Study 2) in care economy careers. We found robust evidence for a development paradox of gender segregation in the care economy. Analyses of labor market data in Study 1 suggested that care economy careers are especially dominated by women in more economically developed countries, even when controlling for women's labor market participation and country-level gender equality. Analyses of university students' career interests in Study 2 replicated these patterns, controlling for demographics. We found support for an integrated model to explain these patterns: Relative to men, women reported more interest in care economy careers as predicted by gender differences in communal values and individualism. Importantly, we did not observe a development (or a gender equality) paradox for STEM representation ($N = 70$ countries, Study 1) or STEM interest ($N = 49$ countries, Study 2), an

asymmetrical pattern that points to the following novel theoretical insights.

Economic Development (Not Gender Equality) Is the Key Predictor

First, these patterns of gender segregation in the care economy are linked more strongly to indices of economic development and individualism than to gender equality per se. Drawing from past studies (Charles, 1992, 2003; Charles & Grusky, 2004), economic development is thought to foster gender segregation by encouraging women's labor market participation (resulting in decreases in vertical segregation) but funneling them more into care-oriented jobs (resulting in increases in horizontal segregation). Greater economic development also co-occurs with increasing individualism and decreasing collectivism (Santos et al., 2017). Such a cultural shift promotes the feminization of communion as men (as the cultural default) become more associated with self-focused, individualistic attributes and less with other-focused, collectivist attributes (Cuddy et al., 2015). Although causal relationships cannot be confirmed from the available data, the integration of these different theoretical viewpoints fits the available evidence and questions the assumption that women's greater equality in a society directly elicits these paradoxical patterns of gender gaps.

Individualism Is the Central Cultural Variable of Importance

Second, in line with our theoretical account, we find evidence that individualism predicts these cross-national patterns of gender differences in care economy interest. Not only are economic development and individualism closely associated (Santos et al., 2017), but both predicted significantly larger gender gaps in communal values and, correspondingly, in care economy interest. This is consistent with our assertion that postindustrial labor structures along with individualism foster greater gender gaps in communal values that drive care economy interest.

Contrary to prevailing explanations for paradoxical gender gaps in STEM (Schmitt et al., 2017; Soyulu Yalcinkaya & Adams, 2020; Stoet & Geary, 2018), we found no evidence that country-level self-expression values (or autonomy values, using widely used measures of each) predicted the size of gender differences in care economy interest. Indeed, when accounting for economic development, cultural self-expression values predicted a smaller gender gap in care economy interest. This finding is unexpected and needs to be replicated by future research with more face-valid measures of self-expression culture. Nonetheless, our correlational findings cast some doubt on the notion that the freedom of choice characteristic of wealthier countries explains their greater gender segregation.

Gender Differences in Communal Values (Not Dominance or Competence)

Our findings support the goal congruity theory (Diekmann et al., 2017), as men's relatively low communal values in highly economically developed countries partially accounted for the larger gender gap in care economy interest in those countries. We found no evidence that the development paradox is explained by gender differences in agentic values (or country-level perceptions of career salaries). As such, there is no evidence that men primarily avoid care economy careers in economically developed countries because they see them as lower paying careers that do not align with their agentic values. The present findings thus provide the first evidence of communal goal congruity in understanding country-level patterns of horizontal gender segregation.

In addition, in North American samples, those who value communion often assume that STEM jobs will not afford their communal values (Diekmann et al., 2011). Thus, we also tested whether gender differences in communal values would predict gender differences in STEM interest. However, country-level gender gaps in communal values only predicted gender gaps in the care economy, but not STEM interest. People from different countries might choose STEM careers for different reasons, obscuring cross-national patterns (e.g., Soylu Yalcinkaya & Adams, 2020). For example, in some cultures, choosing a lucrative STEM career could be seen as a communal act that benefits one's family.

The Care Economy (Not STEM) Is Where the Paradox Is Most Evident

Finally, by providing support for our novel integrated model, the phenomenon known as the gender equality paradox in STEM is perhaps less puzzling. Adding to previously raised skepticism of these effects (Marsh et al., 2021; Richardson et al., 2020), we found no evidence for a paradoxical pattern either in STEM occupations (Study 1) or career interest (Study 2). In past studies, the most robust gender equality paradox effects are found on college majors or degrees, but these patterns do not always replicate (Soylu Yalcinkaya & Adams, 2020) or persist when controlling for economic variables or reference group effects (Marsh et al., 2021). Notably, the paradoxical pattern we found in the care economy is not subject to the critiques raised by Marsh et al. (2021) and Richardson et al. (2020), as we found the same robust pattern both on objective data in Study 1 and on self-report data in Study 2, which models within-country gender gaps and controls for SES—thus accounting for previously documented reference group effects.

Limitations and Future Directions

The present data provide the first robust evidence for a development paradox in the care economy, as revealed in

two distinct data sets. Nevertheless, several limitations are notable. First, to the best of our knowledge, Study 2 is the largest cross-national data set of individuals' care economy interest to date, and yet our sample of 49 countries still constrains our ability to test more complicated interactions or mediation chains (Fritz & Mackinnon, 2007).

Second, although we were able to sample a diverse set of countries with a wide range of economic development levels, the sample was still dominated by countries from the higher end of the HDI spectrum. Some work suggests that the segregation of college majors might show different dynamics in developed versus developing countries (Charles & Bradley, 2009). Future studies should therefore investigate patterns of gendered career interest in larger samples that represent a greater range in development and collectivism. In addition, research on these questions would benefit from an intersectional and class-based lens.

Third, Study 2 measured the preferences of university students to assess interest among individuals still making career decisions (Bono & McNamara, 2011). However, university students are not representative of the population. While interest is an excellent predictor of career choice (Hanna & Rounds, 2020; Nye et al., 2017), our data do not directly speak to how patterns of gender differences in interest (Study 2) transition to the labor market (Study 1).

Fourth, these studies are limited by their correlational design, and third variable explanations remain a possibility. Our theoretical interpretation is that economic development and cultural individualism might exacerbate gender gaps in communal values and care economy interest, but alternative and recursive relationships remain possible. For example, having fewer men in the care economy itself reinforces gender differences in communion (Wood & Eagly, 2002). Although the gold standard for confirming mediation is experimentation, links between these country-level variables would be difficult if not impossible to test experimentally.

Despite these limitations, the current findings provide novel and large-scale cross-national evidence of the factors contributing to gender gaps in the care economy. Study 1 documents robust evidence of a development paradox in care economy participation. Study 2 provides a theoretical understanding of these gender gaps. We suggest that what was previously touted as a gender equality paradox instead stems from the correlation of gender equality with specific economic and sociocultural variables. The presented findings support our theorizing that in more economically developed and individualistic countries, wider gender gaps in communal values are associated with greater gender differences in interest for care-oriented roles like nursing or teaching.

References

- Abele, A. E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology*, 93(5), 751–763. <https://doi.org/10.1037/0022-3514.93.5.751>

- Addati, L., Cattaneo, U., Esquivel, V., & Valarino, I. (2018). *Care work and care jobs: For the future of decent work*. International Labor Organization. <https://www.ilo.org/publications/major-publications/care-work-and-care-jobs-future-decent-work>
- Bakan, D. (1966). *The duality of human existence: An essay on psychology and religion*. Beacon Press.
- Barceló, J. (2017). National personality traits and regime type: A cross-national study of 47 countries. *Journal of Cross-Cultural Psychology*, 48(2), 195–216. <https://doi.org/10.1177/0022022116678324>
- Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, 67(1), 1–48. <https://doi.org/10.18637/jss.v067.i01>
- Berggren, M. (2022). No evidence of a gender-equality paradox in gendered names: Comment on Vishkin, Slepian, and Galinsky (2022). *Social Psychological & Personality Science*, 14(8), 964–971. <https://doi.org/10.1177/19485506221134353>
- Block, K., Croft, A., & Schmader, T. (2018). Worth less? Why men (and women) devalue care-oriented careers. *Frontiers in Psychology*, 9, Article 1353. <https://doi.org/10.3389/fpsyg.2018.01353>
- Block, K., Gonzalez, A. M., Schmader, T., & Baron, A. S. (2018). Early gender differences in core values predict anticipated family versus career orientation. *Psychological Science*, 29(9), 1540–1547. <https://doi.org/10.1177/0956797618776942>
- Block, K., Olsson, M. I. T., Van Grootel, S., Meeussen, L., Schuster, C., van Laar, C., Martiny, S. E., Wee, S., Sun, M., Croft, A., Choi, E., Harb, C., Aidy, C. L., Hässler, T., Vives, E., Steele, J., Mkamwa, T., Danyliuk, I., ... Schmader, T. (2025a, April 10). *UCOM—Care economy gap model: Data, pre-registration and materials*. <https://doi.org/10.17605/OSF.IO/AQFE9>
- Block, K., Olsson, M. I. T., Van Grootel, S., Meeussen, L., Schuster, C., van Laar, C., Martiny, S. E., Wee, S., Sun, M., Croft, A., Choi, E., Harb, C., Aidy, C. L., Hässler, T., Vives, E., Steele, J., Mkamwa, T., Danyliuk, I., ... Schmader, T. (2025b, April 10). *UCOM—Data preparation—STEP 2 (final)*. <https://doi.org/10.17605/OSF.IO/PC8UF>
- Bono, J. E., & McNamara, G. (2011). From the editors: Publishing in AMJ—Part 2: Research design. *Academy of Management Journal*, 54(4), 657–660. <https://doi.org/10.5465/amj.2011.64869103>
- Breda, T., Jouini, E., Napp, C., & Thebault, G. (2020). Gender stereotypes can explain the gender-equality paradox. *Proceedings of the National Academy of Sciences of the United States of America*, 117(49), 31063–31069. <https://doi.org/10.1073/pnas.2008704117>
- Bullock, J. G., Green, D. P., & Ha, S. E. (2010). Yes, but what's the mechanism? (don't expect an easy answer). *Journal of Personality and Social Psychology*, 98(4), 550–558. <https://doi.org/10.1037/a0018933>
- Chan, H. W. (2020). When do values promote pro-environmental behaviors? Multilevel evidence on the self-expression hypothesis. *Journal of Environmental Psychology*, 71, Article 101361. <https://doi.org/10.1016/j.jenvp.2019.101361>
- Charles, M. (1992). Cross-national variation in occupational sex segregation. *American Sociological Review*, 57(4), 483–502. <https://doi.org/10.2307/2096096>
- Charles, M. (2003). Deciphering sex segregation: Vertical and horizontal inequalities in ten national labor markets. *Acta Sociologica*, 46(4), 267–287. <https://doi.org/10.1177/0001699303464001>
- Charles, M., & Bradley, K. (2009). Indulging our gendered selves? Sex segregation by field of study in 44 countries. *American Journal of Sociology*, 114(4), 924–976. <https://doi.org/10.1086/595942>
- Charles, M., & Grusky, D. B. (2004). *Occupational ghettos: The worldwide segregation of women and men*. Stanford University Press. <https://doi.org/10.1515/9781503618183>
- Charles, M., Harr, B., Cech, E., & Hendley, A. (2014). Who likes math where? Gender differences in eighth-graders' attitudes around the world. *International Studies in Sociology of Education*, 24(1), 85–112. <https://doi.org/10.1080/09620214.2014.895140>
- Cheryan, S., & Markus, H. R. (2020). Masculine defaults: Identifying and mitigating hidden cultural biases. *Psychological Review*, 127(6), 1022–1052. <https://doi.org/10.1037/rev0000209>
- Cheryan, S., Ziegler, S. A., Montoya, A. K., & Jiang, L. (2017). Why are some STEM fields more gender balanced than others? *Psychological Bulletin*, 143(1), 1–35. <https://doi.org/10.1037/bul0000052>
- Croft, A., Schmader, T., & Block, K. (2015). An underexamined inequality: Cultural and psychological barriers to men's engagement with communal roles. *Personality and Social Psychology Review*, 19(4), 343–370. <https://doi.org/10.1177/1088868314564789>
- Cuddy, A. J. C., Wolf, E. B., Glick, P., Crotty, S., Chong, J., & Norton, M. I. (2015). Men as cultural ideals: Cultural values moderate gender stereotype content. *Journal of Personality and Social Psychology*, 109(4), 622–635. <https://doi.org/10.1037/pspi0000027>
- Diekmann, A. B., Clark, E. K., Johnston, A. M., Brown, E. R., & Steinberg, M. (2011). Malleability in communal goals and beliefs influences attraction to stem careers: Evidence for a goal congruity perspective. *Journal of Personality and Social Psychology*, 101(5), 902–918. <https://doi.org/10.1037/a0025199>
- Diekmann, A. B., Eagly, A. H., Mladinic, A., & Ferreira, M. C. (2005). Dynamic stereotypes about women and men in Latin America and the United States. *Journal of Cross-Cultural Psychology*, 36(2), 209–226. <https://doi.org/10.1177/0022022104272902>
- Diekmann, A. B., Steinberg, M., Brown, E. R., Belanger, A. L., & Clark, E. K. (2017). A goal congruity model of role entry, engagement, and exit: Understanding communal goal processes in STEM gender gaps. *Personality and Social Psychology Review*, 21(2), 142–175. <https://doi.org/10.1177/1088868316642141>
- Duflo, E. (2012). Women empowerment and economic development. *Journal of Economic Literature*, 50(4), 1051–1079. <https://doi.org/10.1257/jel.50.4.1051>
- Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation*. Erlbaum.
- Eagly, A. H., Nater, C., Miller, D. I., Kaufmann, M., & Sczesny, S. (2020). Gender stereotypes have changed: A cross-temporal meta-analysis of U.S. public opinion polls from 1946 to 2018. *American Psychologist*, 75(3), 301–315. <https://doi.org/10.1037/amp0000494>
- Else-Quest, N. M., Hyde, J. S., & Linn, M. C. (2010). Cross-national patterns of gender differences in mathematics: A meta-analysis. *Psychological Bulletin*, 136(1), 103–127. <https://doi.org/10.1037/a0018053>
- Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods*, 12(2), 121–138. <https://doi.org/10.1037/1082-989X.12.2.121>
- Estévez-Abe, M. (2006). Gendering the varieties of capitalism. A study of occupational segregation by sex in advanced industrial societies. *World Politics*, 59(1), 142–175. <https://doi.org/10.1353/wp.2007.0016>
- European Institute for Gender Equality. (2017). *Gender equality index 2017: Measuring gender equality in the European Union 2005–2015* (Report No. MH-05-17-208-EN-N) [PDF]. <https://doi.org/10.2839/707843>
- Falk, A., & Hermle, J. (2018). Relationship of gender differences in preferences to economic development and gender equality. *Science*, 362(6412), Article eaas9899. <https://doi.org/10.1126/science.aas9899>
- Fog, A. (2021). A test of the reproducibility of the clustering of cultural variables. *Cross-Cultural Research: The Journal of Comparative Social Science*, 55(1), 29–57. <https://doi.org/10.1177/1069397120956948>
- Fritz, M. S., & Mackinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233–239. <https://doi.org/10.1111/j.1467-9280.2007.01882.x>
- Gartzia, L. (2022). Self and other reported workplace traits: A communal gap of men across occupations. *Journal of Applied Social Psychology*, 52(8), 568–587. <https://doi.org/10.1111/jasp.12848>
- Guerrero, L. R., Avgar, A. C., Phillips, E., & Sterling, M. R. (2020). They are essential workers now, and should continue to be: Social workers and home health care workers during COVID-19 and beyond. *Journal of*

- Gerontological Social Work*, 63(6–7), 574–576. <https://doi.org/10.1080/01634372.2020.1779162>
- Hanna, A., & Rounds, J. (2020). How accurate are interest inventories? A quantitative review of career choice hit rates. *Psychological Bulletin*, 146(9), 765–796. <https://doi.org/10.1037/bul0000269>
- Heisig, J. P., & Schaeffer, M. (2019). Why you should always include a random slope for the lower-level variable involved in a cross-level interaction. *European Sociological Review*, 35(2), 258–279. <https://doi.org/10.1093/esr/jcy053>
- Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind: Intercultural cooperation and its importance for survival* (3rd ed.). McGraw-Hill.
- Honaker, J., King, G., & Blackwell, M. (2011). Amelia II: A program for missing data. *Journal of Statistical Software*, 45(7), 1–47. <https://doi.org/10.18637/jss.v045.i07>
- Ilmarinen, V. J., & Lönnqvist, J. E. (2024). Deconstructing the gender-equality paradox. *Journal of Personality and Social Psychology*, 127(1), 217–237. <https://doi.org/10.1037/pspp0000508>
- Inglehart, R. F., & Oyserman, D. (2004). Individualism, autonomy, self-expression: The human development syndrome. In H. Vinken, J. Soeters, & P. Ester (Eds.), *Comparing cultures: Dimensions of culture in a comparative perspective* (pp. 74–96). Brill. https://doi.org/10.1163/9789047412977_008
- Inglehart, R. F. (2020). *Modernization and postmodernization: Cultural, economic, and political change in 43 societies*. Princeton University Press. <https://doi.org/10.2307/j.ctv10vm2ns>
- Inglehart, R. F., Haerpfer, C., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., Lagos, M., Norris, P., Ponarin, E., & Puranen, B. (Eds.). (2014). *World Values Survey: Round six - country-pooled datafile version*. JD Systems Institute. <https://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp>
- International Labour Organization. (2017). *World employment and social outlook: Trends 2017*. <https://www.ilo.org/publications/world-employment-and-social-outlook-trends-2017>
- Kosakowska-Berezecka, N., Bosson, J. K., Jurek, P., Besta, T., Olech, M., Vandello, J. A., Bender, M., Dandy, J., Hoorens, V., Jasinskaja-Lahti, I., Mankowski, E., Venäläinen, S., Abuhamdeh, S., Agyemang, C. B., Akbaş, G., Albayrak-Aydemir, N., Ammirati, S., Anderson, J., Anjum, G., ... Żadkowska, M. (2023). Gendered self-views across 62 countries: A test of competing models. *Social Psychological and Personality Science*, 14(7), 808–824. <https://doi.org/10.1177/19485506221129687>
- Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. B. (2017). lmerTest package: Tests in linear mixed effects models. *Journal of Statistical Software*, 82(13), 1–26. <https://doi.org/10.18637/jss.v082.i13>
- Li, X., Han, M., Cohen, G. L., & Markus, H. R. (2021). Passion matters but not equally everywhere: Predicting achievement from interest, enjoyment, and efficacy in 59 societies. *Proceedings of the National Academy of Sciences of the United States of America*, 118(11), Article e2016964118. <https://doi.org/10.1073/pnas.2016964118>
- Lippa, R. A. (2010). Gender differences in personality and interests: When, where, and why? *Social and Personality Psychology Compass*, 4(11), 1098–1110. <https://doi.org/10.1111/j.1751-9004.2010.00320.x>
- Maas, C. J., & Hox, J. (2005). Sufficient sample sizes for multilevel modeling. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, 1(3), 86–92. <https://doi.org/10.1027/1614-2241.1.3.86>
- Marsh, H. W., Parker, P. D., Guo, J., Basarkod, G., Niepel, C., & Van Zanden, B. (2021). Illusory gender-equality paradox, math self-concept, and frame-of-reference effects: New integrative explanations for multiple paradoxes. *Journal of Personality and Social Psychology*, 121(1), 168–183. <https://doi.org/10.1037/pspp0000306>
- Martin, A. E., & Slepian, M. L. (2020). The primacy of gender: Gendered cognition underlies the big two dimensions of social cognition. *Perspectives on Psychological Science*, 16(6), 1143–1158. <https://doi.org/10.1177/1745691620904961>
- Muthukrishna, M., Bell, A. V., Henrich, J., Curtin, C. M., Gedranovich, A., McInerney, J., & Thue, B. (2020). Beyond western, educated, industrial, rich, and democratic (WEIRD) psychology: Measuring and mapping scales of cultural and psychological distance. *Psychological Science*, 31(6), 678–701. <https://doi.org/10.1177/0956797620916782>
- Nye, C. D., Su, R., Rounds, J., & Drasgow, F. (2017). Interest congruence and performance: Revisiting recent meta-analytic findings. *Journal of Vocational Behavior*, 98, 138–151. <https://doi.org/10.1016/j.jvb.2016.11.002>
- Ratcheva, V., Leopold, T. A., & Zahidi, S. (2020). *Jobs of tomorrow: Mapping opportunity in the new economy*. World Economic Forum. <https://www.voced.edu.au/content/ngv:85635>
- Richardson, S. S., Reiches, M. W., Bruch, J., Boulicault, M., Noll, N. E., & Shattuck-Heidorn, H. (2020). Is there a gender-equality paradox in science, technology, engineering, and math (STEM)? Commentary on Stoet and Geary (2018). *Psychological Science*, 31(3), 338–341. <https://doi.org/10.1177/0956797619872762>
- Santos, H. C., Varnum, M. E. W., & Grossmann, I. (2017). Global increases in individualism. *Psychological Science*, 28(9), 1228–1239. <https://doi.org/10.1177/0956797617700622>
- Schmitt, D. P., Long, A. E., McPhearson, A., O'Brien, K., Rimmert, B., & Shah, S. H. (2017). Personality and gender differences in global perspective. *International Journal of Psychology*, 52(Suppl. 1), 45–56. <https://doi.org/10.1002/ijop.12265>
- Schmitt, D. P., Realo, A., Voracek, M., & Allik, J. (2008). Why can't a man be more like a woman? Sex differences in Big Five personality traits across 55 cultures. *Journal of Personality and Social Psychology*, 94(1), 168–182. <https://doi.org/10.1037/0022-3514.94.1.168>
- Schwab, K., Samans, R., Zahidi, S., Leopold, T. A., Ratcheva, V., Hausmann, R., & Tyson, L. D. (2017). *The global gender gap report 2017*. World Economic Forum. https://www3.weforum.org/docs/WEF_GGGR_2017.pdf
- Schwartz, S. H. (2008). *The 7 Schwartz cultural value orientation scores for 80 countries* [Dataset]. <https://doi.org/10.13140/RG.2.1.3313.3040>
- Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., Ramos, A., Verkasalo, M., Lönnqvist, J. E., Demirutku, K., Dirilen-Gumus, O., & Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, 103(4), 663–688. <https://doi.org/10.1037/a0029393>
- Schwartz, S. H., & Rubel-Lifschitz, T. (2009). Cross-national variation in the size of sex differences in values: Effects of gender equality. *Journal of Personality and Social Psychology*, 97(1), 171–185. <https://doi.org/10.1037/a0015546>
- Siy, J. O., Germano, A. L., Vianna, L., Azpeitia, J., Yan, S., Montoya, A. K., & Cheryan, S. (2023). Does the follow-your-passions ideology cause greater academic and occupational gender disparities than other cultural ideologies? *Journal of Personality and Social Psychology*, 125(3), 548–570. <https://doi.org/10.1037/pspi0000421>
- Soylu Yalcinkaya, N., & Adams, G. (2020). A cultural psychological model of cross-national variation in gender gaps in STEM participation. *Personality and Social Psychology Review*, 24(4), 345–370. <https://doi.org/10.1177/1088868320947005>
- Stoet, G., & Geary, D. C. (2018). The gender-equality paradox in science, technology, engineering, and mathematics education. *Psychological Science*, 29(4), 581–593. <https://doi.org/10.1177/0956797617741719>
- Triandis, H. C. (2001). Individualism–collectivism and personality. *Journal of Personality*, 69(6), 907–924. <https://doi.org/10.1111/1467-6494.696169>
- Triandis, H. C. (2018). *Individualism and collectivism*. Routledge. <https://doi.org/10.4324/9780429499845>
- United Nations Development Programme. (2020). *Human Development Index (HDI)* [Dataset]. <https://hdr.undp.org/en/indicators/137506>
- United Nations Development Programme. (n.d.). *Gender inequality index. Human development reports*. Retrieved July 4, 2025, from <https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index/#/indicies/GII>

- Vishkin, A., Slepian, M. L., & Galinsky, A. D. (2022). The gender-equality paradox and optimal distinctiveness: More gender-equal societies have more gendered names. *Social Psychological and Personality Science*, 13(2), 490–499. <https://doi.org/10.1177/19485506211037576>
- Wong, Y. L. A., & Charles, M. (2020). Gender and occupational segregation. In N. A. Naples (Ed.), *In companion to women's and gender studies* (pp. 303–325). Wiley. <https://doi.org/10.1002/9781119315063.ch16>
- Wood, W., & Eagly, A. H. (2002). A cross-cultural analysis of the behavior of women and men: Implications for the origins of sex differences. *Psychological Bulletin*, 128(5), 699–727. <https://doi.org/10.1037/0033-2909.128.5.699>
- World Economic Forum. (2017). *The global gender gap report 2017* (Insight Report).
- World Health Organization. (2020). *State of the world's nursing 2020: Investing in education, jobs and leadership*. <https://www.who.int/publications/i/item/9789240003279>

Received January 9, 2024

Revision received September 20, 2024

Accepted January 6, 2025 ■