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Working Paper

Individualism and Working from Home

IZA Discussion Papers, No. 17102

Provided in Cooperation with:

IZA – Institute of Labor Economics

Suggested Citation: Bietenbeck, Jan; Irmert, Natalie; Nilsson, Therese (2024) : Individualism and Working from Home, IZA Discussion Papers, No. 17102, Institute of Labor Economics (IZA), Bonn

This Version is available at:

<https://hdl.handle.net/10419/300998>

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DISCUSSION PAPER SERIES

IZA DP No. 17102

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JUNE 2024

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ISSN: 2365-9793

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ABSTRACT

Individualism and Working from Home*

This paper investigates the role of individualism in explaining cross-country differences in working from home (WFH). Using data from the Current Population Survey (CPS) of the United States and the European Social Survey (ESS), we isolate the influence of individualism by comparing immigrants from different cultural backgrounds residing in the same location. We find that a 10-point increase in country-of-origin individualism, measured on a 0-100 scale, is associated with a 3.9 percentage point (pp) higher likelihood of WFH and 1.12 more weekly WFH hours in the CPS, and a 2 pp higher likelihood of frequent WFH in the ESS. Our analysis of potential mechanisms suggests that individualism influences WFH through higher educational attainment and occupational selection.

JEL Classification: J0

Keywords: working from home, individualism, culture, epidemiological approach

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* This work was supported by the Torsten Söderbergs Stiftelse (grant E4/21) and the Czech Science Foundation (GA ČR) (grant 22-00496S). The funding bodies had no role in the study design, data collection, management, analysis or interpretation of the data, preparation, review, or approval of the manuscript.

1 Introduction

The rapid adoption of remote work has been one of the most notable changes to working life over the past few years. New technologies have reduced the need for many workers to come into the office, and the COVID-19 pandemic triggered a major shift toward work from home (WFH). Even after the pandemic subsided, levels of remote work remain elevated around the world (Aksoy et al., 2023; Özgüzel, Luca, and Wei, 2023), with 28 percent of all full paid workdays in the United States being performed from home in 2023 (Davis, 2024). In short, WFH is here to stay (Bloom et al., 2023).

While the shift to remote work is a global phenomenon, there is significant variation in the extent of WFH across countries (Aksoy et al., 2022, 2023; Özgüzel, Luca, and Wei, 2023). Understanding the sources of these differences is crucial, as remote work is expected to have important consequences for productivity and wage inequality (Barrero, Bloom, and Davis, 2023). Various factors could explain these cross-country differences, including industry mix, managerial styles, and cultural differences. However, little is known about what specifically drives the observed international variation in WFH.

In this paper, we focus on the role of individualism as a potential explanation for these cross-country gaps in WFH. Individualism is commonly viewed as the primary dimension of cultural variation between countries (Heine, 2020) and captures the extent to which people prioritize personal freedom, autonomy, and independence over group interests.¹ Our interest in individualism is motivated by recent findings from Zarate et al. (2024), who show that individualism explains 30 percent of the country-level variation in WFH. While this evidence is intriguing, accounting for potential confounders in a cross-country regression is challenging, and consequently, this correlational evidence could be biased by omitted variables. Specifically, the association might be due to economic and institutional factors that are likely correlated with individualism and also influence the adoption of remote work.

To address this empirical challenge, we use the epidemiological approach (e.g. Fernández and Fogli, 2009; Fernández, 2011). This method builds on the idea that individuals who migrate from one country to another leave behind their original institutional and economic contexts but largely retain their native culture, which they also transmit to their children. Therefore, we can isolate the influence of individualism by comparing the extent of WFH among immigrants and their descendants from different cultural backgrounds residing in the same location (and thus facing the same institutional and economic environment).

We implement the epidemiological approach using individual-level data from the Current Population Survey (CPS) of the United States and the European Social Survey (ESS). The data contain detailed information on the extent to which respondents work from home, as well as on their own and their parents' country of birth. To measure individualism, we use the widely-used index developed by Geert Hofstede (Hofstede, 2001; Hofstede, Hofstede, and Minkov,

¹Individualism is one of six dimensions in the multi-dimensional model of culture developed by Geert Hofstede (Hofstede, Hofstede, and Minkov, 2010). The other five dimensions are masculinity, uncertainty avoidance, power distance, long-term orientation, and indulgence.

2010), which ranges from 0 to 100. We restrict our samples to first- and second-generation immigrants and attribute to each respondent the level of individualism in their (parents’) country of origin. Our regressions include state-of-residence (CPS) or country-of-residence (ESS) fixed effects, thus comparing the degree of WFH among immigrants with different levels of country-of-origin individualism residing in the same state or country.

The results suggest that culturally transmitted individualism significantly increases the likelihood and extent of WFH. Specifically, we find that a 10-point increase in country-of-origin individualism associates with a 3.9 percentage point (pp) higher likelihood of having worked from home in the past week, and an increase of 1.12 WFH hours, in the CPS. Similarly, a 10-point increase in individualism associates with a 2 pp increase in the likelihood of working from home several times a week or every day in the ESS. These estimates are economically meaningful: for example, our CPS estimates suggests that if immigrants from Spain, a country with moderate individualism, were as individualistic as people from the United States, they would be 13.2 pp more likely to work from home.

These results are robust to a wide range of alternative specifications and identification checks. First, we present evidence that our findings are unlikely to be driven by unobserved individual heterogeneity, such as the timing of migration. Furthermore, our estimates remain consistent when controlling for country-of-origin characteristics other than individualism, including other cultural traits and economic conditions. Finally, the results are robust to using several alternative measures of individualism.

In additional analyses, we explore the potential mechanisms behind the relationship between individualism and WFH. We first show that individualism predicts college attainment. Since highly-educated workers are much more likely to work from home (e.g. Davis, 2024), this is a potential channel. We also find that immigrants from individualistic countries are more likely to work in occupations that accommodate remote work. In contrast, they are not more likely to be self-employed, although self-employment is closely linked to WFH (Barrero, Bloom, and Davis, 2023).

Our paper contributes to at least two strands of the literature. First, it contributes to the growing literature on working from home. While a number of studies have documented the incidence of WFH and its implications (e.g. Adams-Prassl et al., 2022; Bick, Blandin, and Mertens, 2023), little is known about the post-pandemic determinants of WFH. In a recent contribution, Zarate et al. (2024) use data from 34 countries to explore the factors underlying the large international variation in WFH. Their country-level regressions reveal that, while other factors such as industry mix contribute to WFH levels, cultural individualism emerges as the primary explanatory factor. However, this cross-country correlation comes with the caveat that individualism likely correlates with other omitted country characteristics that influence the prevalence of WFH.² We address this issue using the epidemiological approach, which allows us to separate individualism from correlated economic and institutional factors.

²Zarate et al. (2024) also present evidence from individual-level regressions. However, since they lack an individual-level measure of individualism, these regressions do not address the question of whether individualism affects WFH.

Second, our findings contribute to the literature on the effects of cultural traits on economic outcomes. Cultural traits have been shown to be important predictors of labor market participation (Fernández and Fogli, 2009), educational success (Figlio et al., 2019; Hanushek et al., 2022), fertility (Fernández and Fogli, 2006), and participation in financial markets (Ek, Gokmen, and Majlesi, 2023), among other things. Individualism in particular has been found to predict economic activity, including innovation and economic growth (Gorodnichenko and Roland, 2011, 2017), as well as skill formation and wages (Hartinger et al., 2021). We contribute to this literature by examining whether individualism is also predictive of one of the main changes to working life in recent years: working from home.

Individualistic societies are characterized by social structures in which people are expected to take care of themselves and their immediate families, rather than relying on relatives or members of a specific in-group for support (Hofstede, 2001; Hofstede, Hofstede, and Minkov, 2010). In line with this idea, research has found that individualistic workers prioritize themselves and their immediate families over their firms (Tatliyer and Gur, 2022). Our finding of increased WFH is consistent with this evidence, as remote work allows workers to better balance their work responsibilities with personal interests and family time. Furthermore, our finding aligns with the finding that more individualistic societies emphasize personal achievement (Gorodnichenko and Roland, 2017). Remote work can provide a goal-oriented environment in which individuals can focus on their tasks without the distractions of a traditional office, enabling high achievers to meet their personal and professional goals more effectively.³

2 Empirical strategy

The main empirical challenge in analyzing how individualism affects WFH is disentangling the effect from the influences of other, correlated institutional and economic factors. We address this challenge using the epidemiological approach (Fernández and Fogli, 2009; Fernández, 2011). This method builds on the idea that individuals who migrate from one country to another leave behind their original institutional and economic contexts but largely retain their native culture. Therefore, we can isolate the influence of culture by comparing the extent of WFH among immigrants from different cultural backgrounds residing in the same location (and thus facing the same institutional and economic environment). Since culture is transmitted from parents to their children (Bisin and Verdier, 2001; Bau and Fernández, 2023), any potential effect of individualism on WFH should also be evident among second-generation immigrants.

We implement the epidemiological approach by focusing on samples of first- and second-generation immigrants and estimating regressions of the following form:

$$WFH_{iost} = \beta Individualism_o + \mathbf{X}_{iost}'\gamma + \theta_s + \omega_t + \varepsilon_{ioct}. \quad (1)$$

³Individualism could affect both the supply and demand for WFH, for example, by influencing labor market regulations (Ang and Fredriksson, 2018). However, our regressions rule out prominent supply-side channels as they account for location-of-residence fixed effects, and thus most likely reflect demand-side effects.

Here, WFH_{iost} is a measure of the extent that individual i from country of origin o residing in location s works from home at time t . $Individualism_o$ is the degree of individualism in the country of origin of the individual (for first-generation immigrants) or their parents (for second-generation immigrants). \mathbf{X}_{iost} is a vector of individual-level controls, θ_s is a set of location-of-residence dummies, and ω_t is a set of month-by-year dummies. We estimate regressions by OLS and cluster standard errors at the country-of-origin level.

The regression in equation 1 disentangles the influence of individualism from that of correlated institutional and economic factors by comparing migrants from countries with different levels of individualism. By including location-of-residence dummies, it controls for all common determinants of WFH in the current place of residence. The regression also avoids the issue of reverse causality, as individual outcomes in the country of residence cannot plausibly affect the culture in the country of origin, especially if culture is measured beforehand.

Despite these advantages, two broad identification challenges remain. First, there is the question of whether the regression in equation 1 indeed focuses on individuals who are comparable aside from their culture. This might not be the case if, for example, migrants from high- and low-individualism countries are differentially selected from the population in their country of origin, and if this selection is related to WFH. Second, individualism could be confounded by other correlated country-of-origin characteristics, such as other cultural traits. To address these challenges we present estimates from a large number of alternative regressions in Section 4 which demonstrate that our estimates are unlikely to be driven by these issues.

3 Data and descriptive statistics

3.1 Individual-level data from the CPS and ESS

We use individual-level data from two large-scale surveys: the Current Population Survey (CPS) of the United States (Flood et al., 2023) and the European Social Survey (ESS) (ESS ERIC, 2022). The CPS has collected information on WFH in its basic monthly surveys since October 2022, and we utilize data from all available rounds up to February 2024. The ESS asked respondents about WFH in its tenth round of data collection, which took place in 31 European countries between September 2020 and August 2022. We use the latest available version (version 3.2) of the integrated public use file of this tenth round, which contains data for 22 countries. Importantly for our empirical approach, both the CPS and the ESS include detailed information on respondents' and their parents' country of birth.

Our main outcome variables measure the extent of WFH. In the CPS, respondents who were employed and working during the previous week were asked whether they teleworked or worked from home for pay at any time during that week. If they responded affirmatively, they were also asked how many hours they teleworked or worked from home. From these responses, we construct two variables: a dummy variable indicating any WFH and the number of WFH hours, which we code as zero for respondents who did not engage in WFH. In the ESS, respondents who were in any paid work at the time of the survey were asked how often they worked from home

or another place of their choice during their regular working hours. Answers were recorded on a six-point scale: every day, several times a week, several times a month, once a month, less often, and never. Based on these answers, we construct two variables: a dummy variable indicating any WFH and a dummy variable for WFH at least several times a week.

To examine potential mechanisms behind our main results, we construct three additional outcome variables. First, we create a dummy variable indicating whether the respondent holds a college degree. Second, we construct a dummy variable indicating whether the respondent is self-employed. Third, using the classification of occupations by Dingel and Neiman (2020), we define a dummy variable indicating whether the respondent’s occupation is teleworkable. An occupation is considered teleworkable if it can be performed entirely from home, taking into account factors like social interactions and physical work conditions (Dingel and Neiman, 2020). Finally, we also extract the following demographic characteristics from the data: age, gender, and race (the latter available only in the CPS).

3.2 Country-level data on culture

Our main independent variable is the index of individualism developed by Geert Hofstede (Hofstede, 2001; Hofstede, Hofstede, and Minkov, 2010). This index is based on international surveys of IBM employees conducted in the 1960s and 1970s, as well as later replications and extensions. It is constructed from a factor analysis of questions related to respondents’ job preferences. The index loads positively on being free to choose one’s own approach to the job and having a job that leaves enough time for personal and family life. Conversely, it loads negatively on having a good physical work environment and having training opportunities. The index ranges from 0 to 100 and measures the average level of individualism in a country. We use the latest available version of the data, which include individualism scores for approximately 70 countries.⁴

In additional analysis, we use supplementary country-level data from the country of origin to test the robustness of our results. First, we use three alternative measures of individualism: measures of affective and intellectual autonomy from Schwartz (1994) and a measure constructed from the integrated World Values Survey following Kramer (2023). Second, we examine whether our results hold when we add controls for other cultural dimensions and preferences that could be related to WFH. These include Hofstede’s masculinity index and uncertainty avoidance index (Hofstede, 2001), as well as measures of prosociality and risk preference from the Global Preferences Survey (Falk et al., 2018). Third, we assess the sensitivity of our estimates by controlling for GDP, which we extract from the World Bank’s World Development Indicators, and pandemic policies implemented in response to the COVID-19 pandemic (Hale et al., 2020). Further details on all country-level measures can be found in Appendix A.

⁴The latest version of the data is dated December 8, 2015, and is available on Geert Hofstede’s website: <https://geerthofstede.com/research-and-vsm/dimension-data-matrix/>.

3.3 Construction of the samples

Motivated by our empirical approach, we restrict our analysis to first- and second-generation immigrants in the CPS and ESS. We define first-generation immigrants as individuals born in a country other than their current country of residence, and second-generation immigrants as individuals who were born in their current country of residence but have at least one parent born in a different country. We merge individualism scores and other country-level variables to these individuals using information on the country of birth. For first-generation immigrants, we use the individualism score of their own country of birth. For second-generation immigrants, we use the individualism score of the country of birth of their foreign-born parent. If both parents are foreign-born, we use the average individualism score of the countries of birth.

We impose two further restrictions on our samples. First, we drop individuals for whom individualism scores are unavailable for their country of birth. Second, we drop individuals for whom we do not have information on working from home, typically because they are not currently working.⁵ Our final CPS sample contains 155,006 individuals from 63 different countries of origin, of whom 98,288 are first-generation immigrants and 56,718 are second-generation immigrants. Our final ESS sample contains 2,034 individuals from 64 different countries of origin, of whom 1,116 are first-generation immigrants and 918 are second-generation immigrants. Appendix Table A.2 shows the number of individuals by country of origin included in each of the samples.

3.4 Descriptive statistics

Table 1 presents summary statistics for our samples. In the CPS, 20 percent of respondents reported engaging in any WFH during the last week, with an average of 5.82 WFH hours across all respondents. In the ESS, 45 percent of respondents engaged in WFH, with 27 percent indicating that they worked from home several times a week or every day.⁶ These higher figures in the ESS compared to the CPS may be due to the ESS question not referring to a specific time frame, unlike the CPS, which refers to the last workweek. Additionally, the ESS data collection partly overlapped with WFH mandates during the COVID-19 pandemic, potentially contributing to the higher WFH rates. Regarding individualism, CPS respondents come from countries with an average individualism score of 35, whereas ESS respondents have an average individualism score of 51. Appendix Figure A.2 illustrates the full distributions of individualism scores, showing a similar range in both samples, from approximately 10 to 90.⁷

⁵Information on some control variables is missing for some individuals in our samples. To avoid reducing sample size unnecessarily, in all regressions in this paper we impute missing values in controls at the sample mean and include separate dummies for missing values on each control variable. Results are virtually identical if we instead drop individuals with missing information from the samples.

⁶Appendix Figure A.1 shows the full distribution of frequency of WFH in the two samples.

⁷Appendix Table A.2 lists the individualism scores for all countries of origin included in our analysis, and the map in Appendix Figure A.3 illustrates the distribution of individualism across the world.

Table 1: Summary statistics

	CPS		ESS	
	Mean	SD	Mean	SD
<i>Socio-demographic characteristics</i>				
Female	0.45	0.50	0.51	0.50
Age	40.32	12.45	42.48	12.11
College degree	0.41	0.49	0.40	0.49
Race ^a				
White	0.66	0.47		
Black	0.04	0.19		
Asian	0.26	0.44		
Other	0.04	0.20		
<i>Individualism</i>				
Individualism	35.02	19.48	51.35	20.98
<i>Working from home and occupation</i>				
Any WFH ^b	0.20	0.40	0.45	0.50
WFH hours	5.82	13.22		
WFH sev. times a week			0.27	0.44
Occupation teleworkable	0.40	0.49	0.43	0.50
Self-employed	0.10	0.30	0.12	0.32
<i>Sample information</i>				
No. of individuals	155,006		2,034	
No. of first-gen. immigrants	98,288		1,116	
No. of second-gen. immigrants	56,718		918	
No. of countries of origin	63		64	

Notes: The table shows means and standard deviations of key variables in the CPS and ESS samples. ^a Information on race is not available in the ESS. ^b The reference period underlying this dummy variable differs between the CPS and the ESS, with the CPS referring to the last workweek and the ESS not referring to a specific time frame.

4 Results

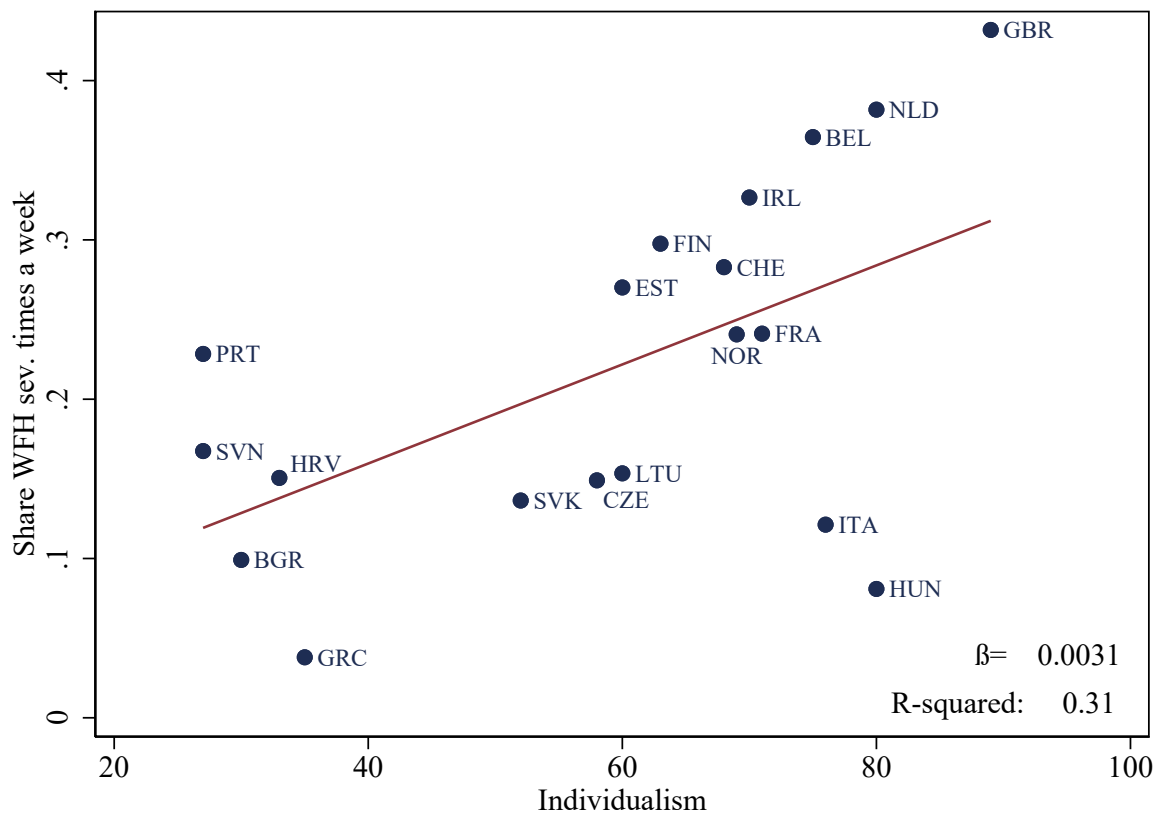
4.1 Country-level evidence

Before turning to our main results, we provide correlational evidence of the relationship between individualism and WFH at the country level. Figure 1 displays a scatter plot of the share of individuals who work from home several times a week or every day against the individualism score for 19 countries in the ESS with available data.⁸ The figure reveals a positive relationship: a 10-point higher individualism score is associated with a 3.1 pp higher share of individuals who frequently work from home. Strikingly, the R-squared indicates that individualism explains 31 percent of the variation in country-level WFH. This finding is very similar to Zarate et al. (2024),

⁸Three countries drop out of the sample because no individualism scores exist for them.

who document that individualism explains 30 percent of the variation in WFH in their larger sample of 34 countries from around the globe. While this evidence is intriguing, the relationship could be confounded by institutional and economic factors correlated with WFH. Therefore, in the remainder of this section, we present estimates based on the epidemiological approach, which addresses this issue.

Figure 1: Country-level correlation between individualism and WFH



Notes: The figure shows the relationship between WFH and individualism at the country level for 19 countries of residence in the ESS. For this figure, we computed the share of all individuals, including non-immigrants, who reported working from home at least several times a week. The reported beta coefficient of 0.0031 comes from a country-level regression of this WFH measure on individualism.

4.2 Main results

Panel A of Table 2 shows our main results and suggests that culturally transmitted individualism substantially increases the likelihood and extent of WFH. Column 1 indicates that a 10-point increase in country-of-origin individualism is associated with a 3.9 pp increase in the likelihood of having worked from home in the past week in the CPS. Column 2 shows that, correspondingly, WFH hours rise by 1.12 hours. Similarly, columns 3 and 4 indicate that a 10-point increase in individualism is associated with a 3.3 pp higher likelihood of working from home, and a 2 pp

increase in doing so at least several times a week, in the ESS.⁹ These estimates are economically meaningful: for example, the coefficient in column 1 suggests that if immigrants from Spain, a country with moderate individualism (score of 51), were as individualistic as people from the United States (score of 91), they would be 13.2 pp more likely to do any WFH, which corresponds to 66 percent of the sample mean.

Table 2: Individualism and WFH, main estimates

	CPS		ESS	
	any WFH (1)	WFH hours (2)	any WFH (3)	WFH sev. times a week (4)
<i>Panel A: main specification</i>				
Individualism	0.0039*** (0.0005)	0.1116*** (0.0155)	0.0033*** (0.0009)	0.0020*** (0.0007)
Observations	155,006	155,006	2,034	2,034
<i>Panel B: continent-of-origin fixed effects</i>				
Individualism	0.0031*** (0.0008)	0.0869*** (0.0229)	0.0036*** (0.0011)	0.0025*** (0.0009)
Observations	155,006	155,006	2,034	2,034
<i>Panel C: decade-of-immigration-by-state/country fixed effects</i>				
Individualism	0.0036*** (0.0005)	0.1038*** (0.0166)	0.0034*** (0.0009)	0.0024*** (0.0007)
Observations	155,006	155,006	2,034	2,034
<i>Panel D: only workers with two immigrant parents</i>				
Individualism	0.0046*** (0.0006)	0.1344*** (0.0188)	0.0044*** (0.0013)	0.0029*** (0.0010)
Observations	127,211	127,211	1,138	1,138
<i>Panel E: only second-generation immigrants</i>				
Individualism	0.0016*** (0.0004)	0.0416*** (0.0121)	0.0018 (0.0012)	0.0002 (0.0010)
Observations	56,718	56,718	918	918

Notes: The table shows estimates of regressions of WFH, measured using the variables indicated in the column headers, on individualism. Panel A shows results from the main specification, which controls for month-by-year dummies, state-of-residence (CPS) or country-of-residence (ESS) dummies, and the socio-demographic characteristics shown in Table 1. Panels B to E shows results from variations of this specification that include additional controls or sample restrictions as indicated in the panel heading. Standard errors in parentheses are clustered by country of origin (63 clusters in the CPS and 64 clusters in the ESS). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

⁹Appendix Figure B.1 visualizes the regressions in Panel A and reveals that the associations are roughly linear in individualism.

In Appendix Table B.1, we take advantage of our individual-level data to examine heterogeneity by gender and age in the relationship between individualism and WFH. The magnitude of the associations is somewhat larger for men and for middle-aged workers. Overall, however, the picture is one of remarkable consistency, with higher individualism associated with more WFH among both genders and all age groups.

4.3 Robustness: unobserved individual heterogeneity

Panels B to E of Table 2 present results from robustness tests which address the concern that our main estimates may be biased because of unobserved individual heterogeneity. First, Panel B adds continent-of-origin fixed effects to our regressions, ensuring that we only compare individuals stemming from the same continent. This change does not affect the estimates much. Second, recognizing that immigration often occurs in waves, Panel C introduces decade-of-immigration-by-state (CPS) and decade-of-immigration-by-country (ESS) fixed effects. This modification accounts for potential unobserved differences between immigrant waves, such as varying economic conditions or immigration policies at the time of arrival. These additional controls leave our estimates virtually unchanged, suggesting that the timing of immigration does not confound the relationship between individualism and WFH.

Third, in Panel D, we restrict our sample to individuals with both parents born outside their current country of residence. This restriction addresses the concern that individuals with one native-born parent might differ significantly from those with two foreign-born parents in terms of identity and cultural practices. The results in Panel D confirm that the baseline findings are robust to this modification and, if anything, the relationship between individualism and WFH is stronger in this subsample.

Fourth, in Panel E, we focus exclusively on second-generation immigrants, who were born in the current country of residence. This has the advantage that we can fully disentangle individualism from economic and institutional experiences in the country of origin. However, because culture is only partly formed through intergenerational transmission, these individuals likely have assumed more of the local culture, reducing the influence of country-of-origin individualism. In line with this idea, the estimates in Panel E are smaller than those in Panel A: for example, in the CPS, a 10-point increase in individualism is now associated with a 1.6 pp increase in doing any WFH. The ESS results are similarly reduced and, partly due to the smaller sample size and larger standard errors, are no longer statistically significant. Overall, however, these more demanding specifications confirm our finding that individualism predicts WFH.

4.4 Robustness: correlated country characteristics

Individualism is likely correlated with other country-of-origin characteristics, and a potential concern with our main estimates is that they may be driven by such correlated characteristics. We address this concern by adding country-of-origin controls for the most prominent potential confounders to our regressions one by one.

First, we add controls for masculinity and prosociality. Masculinity is one of Hofstede’s six cultural dimensions and measures the extent to which a society emphasizes achievement versus quality of life, among other things (Hofstede, 2001). Prosociality combines altruism, reciprocity, and trust and shapes human interactions. As such, both variables may influence individuals’ decision to work from home. Second, we control for uncertainty avoidance and risk preference. Uncertainty avoidance, another Hofstede cultural dimension, measures the extent to which members of a society tolerate ambiguity (Hofstede, 2001). Both uncertainty avoidance and risk preference may affect individuals’ perception of the risks associated with coming to the workplace, and in particular the risk of becoming sick, which was a main driver of WFH during the COVID-19 pandemic (Bick, Blandin, and Mertens, 2023). Third, we control for country-of-origin GDP in 1995, which accounts for differences in the economic environment in the country of origin that might influence the adoption of WFH.

Figure 2 presents our findings. Each panel shows results for one of our four outcomes. The dashed line in the panels indicates the corresponding main estimate from Panel A of Table 2. The controls are indicated on the horizontal axis, and the plots show point estimates and 95 percent confidence intervals when the control is included in the regression. Overall, our estimates are robust to the inclusion of these country-of-origin controls: point estimates are mostly very similar to the main estimates and never statistically different. However, when we control for GDP, our estimates become much less precise, and in the ESS, the coefficient on individualism drops substantially. This is not entirely surprising since previous research has shown that individualism causes growth (Gorodnichenko and Roland, 2017). Overall, the takeaway from this figure is that our results are unlikely to be driven by correlated country-of-origin characteristics.

4.5 Robustness: additional tests

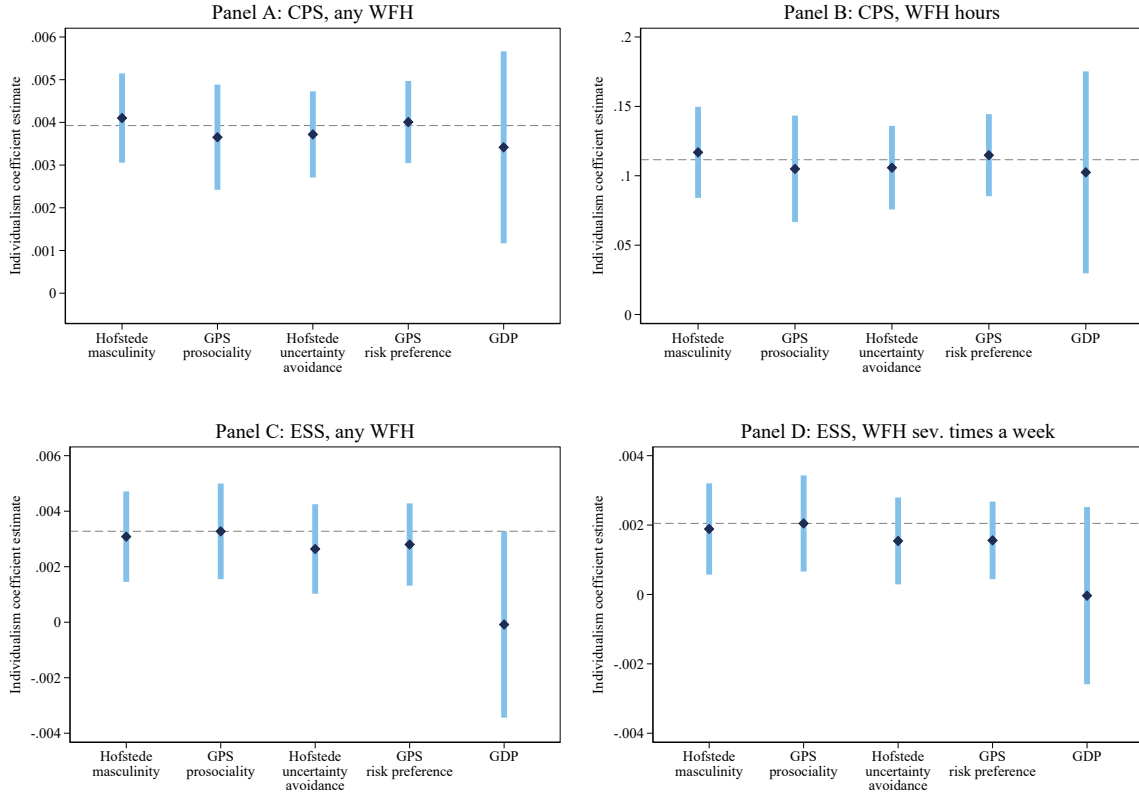
We perform a variety of additional robustness checks to confirm the validity of our findings. The results from these analyses are presented in Appendix Tables B.2 and B.3 and summarized in what follows. First, we ensure that our results are not driven by particularly large or small groups of immigrants in our samples. To this end, we drop the largest groups of immigrants – those of Mexican origin in the CPS and those of Russian origin in the ESS – from the sample. Alternatively, we exclude immigrants from countries with fewer than 100 respondents in the CPS and fewer than 10 respondents in the ESS. These exclusions hardly change our estimates.

Second, since the ESS survey responses were partly collected during the height of the COVID-19 pandemic, contemporaneous policy responses, such as guidelines for remote work, could influence our estimates. To address this, we use information on the exact interview date in two ways: we control for country-of-residence-by-quarter fixed effects, ensuring that we compare individuals residing in the same country at the same time and thus affected by the same policies. Additionally, we directly control for pandemic policies in effect at the time of the interview. Our estimates remain robust to the inclusion of either of these additional controls.

Third, we show that our main estimates are robust when accounting for survey weights.

Finally, we test the robustness of our results using alternative measures of individualism:

Figure 2: Controlling for other country-of-origin variables



Notes: The figure shows point estimates and 95 percent confidence intervals for individualism when other country-of-origin characteristics are added as controls to our main specification. Each panel presents results for a different outcome, indicated in the panel heading. The dashed line in each panel represents the main estimate from Panel A of Table 2. The horizontal axes indicate which control is added to the main specification.

the two measures of affective and intellectual autonomy from Schwartz (1994) and the measure constructed from the integrated World Values Survey following Kramer (2023). The results show that these alternative measures of individualism also predict the prevalence and frequency of working from home, consistent with the notion that individualism is generally stable across different measurement approaches (Oyserman, Coon, and Kimmelmeier, 2002).

4.6 Mechanisms

In Table 3, we explore potential mechanisms behind the relationship between individualism and WFH. First, we test whether individualism predicts having a college degree. Recent research suggests that individualism relates to better educational outcomes, including more years of schooling and adult educational activities (Hartinger et al., 2021), as well as better school performance (Ehrl and Assis Alves, 2024). Additionally, highly-educated workers are more likely to work from home (Barrero, Bloom, and Davis, 2023). In line with this evidence, we find

Table 3: Mechanisms: college attainment, occupational sorting, and self-employment

	CPS			ESS		
	college degree (1)	occupation teleworkable (2)	self-employed (3)	college teleworkable (4)	occupation degree (5)	self-employed (6)
Individualism	0.0059*** (0.0009)	0.0055*** (0.0007)	0.0001 (0.0002)	0.0010 (0.0009)	0.0032*** (0.0008)	0.0009 (0.0006)
Observations	155,006	155,006	155,006	2,022	1,775	2,034

Notes: The table shows estimates of regressions of the variables indicated in the column headers on individualism. Specifications like in Panel A of Table 2. Standard errors in parentheses are clustered by country of origin (63 clusters in the CPS and 64 clusters in the ESS). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

that a 10-point increase in individualism is associated with a 5.9 pp higher likelihood of having a college degree in the CPS (column 1). A similar, but smaller and statistically insignificant, association of 1 pp is evident in the ESS (column 4). Thus, education appears to be a likely pathway for the association between individualism and WFH.

Second, we explore whether our main results could be due to occupational selection. Occupations differ widely in the extent to which WFH is possible (Dingel and Neiman, 2020), making this a potential channel. Indeed, columns 2 and 5 show that individualism predicts having an occupation that is teleworkable in both the CPS and ESS. In columns 3 and 6, we further investigate this potential channel by testing whether individualism predicts being self-employed. Self-employed workers are much more likely to work from home (Barrero, Bloom, and Davis, 2023). However, our results show no association between individualism and self-employment.

In summary, our analysis suggests that the relationship between individualism and WFH is partly mediated by educational attainment and selection into teleworkable occupations, but not by selection into self-employment.

5 Conclusion

In the aftermath of the COVID-19 pandemic, remote work has become a fundamental aspect of the “new normal” for many workers globally. This shift has sparked debates about its potential consequences for productivity, management practices, work-life balance, and urban planning, many of which have yet to fully materialize. Meanwhile, although the rise in WFH is a global phenomenon, significant variation in its prevalence and extent across countries has emerged. The sources of this cross-country variation have not been well understood.

In this paper, we study the role of individualism, often viewed as the primary dimension of cultural variation between countries, in explaining the observed international variation in WFH. We isolate the influence of individualism from that of economic and institutional factors by comparing immigrants from different cultural backgrounds residing in the same location. Our estimates suggest that culturally transmitted individualism significantly increases the likelihood and extent of WFH. For example, our headline estimate based on the CPS implies that if

immigrants from Spain, a country with moderate individualism, were as individualistic as people from the United States, they would be 13.2 percentage points more likely to work from home. These estimates are robust to a wide variety of alternative specifications and sensitivity tests. We also provide suggestive evidence that individualism influences WFH through higher educational attainment and occupational selection, as immigrants from individualistic countries are more likely to have a college degree and work in occupations that accommodate remote work.

Our findings highlight the critical role of individualism, and culture more generally, in determining work behavior and practices across countries. While it is challenging to draw specific policy recommendations due to the entrenched nature of cultural traits, recognizing these cultural influences can help employers foster better work conditions. By aligning work practices with the cultural attributes of both employers and employees, such awareness can potentially yield positive economic effects and enhance overall workplace satisfaction.

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Appendix A Data Appendix

A.1 Alternative measures of individualism

Individualism is generally known to be very stable with respect to measurement (Oyserman, Coon, and Kimmelmeier, 2002). Yet, to check the robustness of our results we complement the Hofstede index with two alternative measures of individualism. For the first set of measures, we draw on the Schwartz (1994) measures for intellectual and affective autonomy. Intellectual autonomy captures autonomy in thinking, while affective autonomy refers to the idea of living an exiting life. The Schwartz measures are based on survey responses to 50 items that are recognized across different cultures, of which nine values are used to construct the individualism scores.

We derive the second additional measure of individualism from a set of variables in the integrated World Value Survey, following Kramer (2023). Specifically, we use individual responses to questions in the World Values Survey (WVS) that reflect characteristics associated with Hofstede’s concept of individualism: individual autonomy, the right to a private life, less conformity behavior, and market capitalism and competition. The responses capture preferences regarding private versus government ownership, whether one agrees that competition is beneficial versus detrimental, and the feeling of control over one’s own life versus lack of control. We further use questions on whether respondents’ agree that homosexuality is justified and whether abortion is justified, aiming to capture individualistic attitudes towards social behavior and interpersonal relationships. These values are related to levels of conformity, the right to privacy, and family values. We derive an average at the individual level and collapse this information at the country level to get to an index of individualism. The final index ranges between 1-10 with a higher value indicating higher levels of individualism.

Table A.1 presents summary statistics for these alternative measures of individualism. The lower panel confirms that the Hofstede and the alternative individualism measures are generally highly correlated at the country level.

A.2 Measures of culture and economic development

To ensure that origin country characteristics other than individualism are not driving our results, we re-estimate our baseline specification while controlling for various cultural and economic measures.

First, we focus on the cultural trait of masculinity that reflects the extent to which members of society have a preference towards achievement and assertiveness, as well as material rewards and competitiveness. This measure comes from Hofstede (Hofstede, 2001) and ranges between 0 and 100. Second, we focus on prosociality. We derive the prosociality index from the mean of standardized country-level scores of altruism, reciprocity, and trust, which are obtained from the Global Preference Survey (GPS) (Falk et al., 2018). Conceptually, both masculinity and prosociality partially overlap with the cultural trait of individualism.

We further add uncertainty avoidance and risk aversion, respectively, to the baseline speci-

Table A.1: Summary statistics for alternative measures of individualism

	CPS		ESS	
	Mean	SD	Mean	SD
Schwartz: affective autonomy	3.25	0.48	3.69	0.40
Schwartz: intellectual autonomy	4.34	0.25	4.54	0.32
World Values Survey	5.26	0.46	5.46	0.75
<i>Correlations (country-level):</i>				
	Hofstede Idv	Schwartz: AA	Schwartz: IA	WVS
Hofstede Idv	1.0000			
Schwartz: affective autonomy	0.6323	1.0000		
Schwartz: intellectual autonomy	0.5184	0.6972	1.0000	
World Values Survey	0.6262	0.5488	0.7370	1.0000

Notes: Affective and intellectual autonomy in Panel A and B comes from Schwartz (1994). The measure of individualism in Panel C we derive from a set of variables in the integrated World Value Survey, following Kramer (2023).

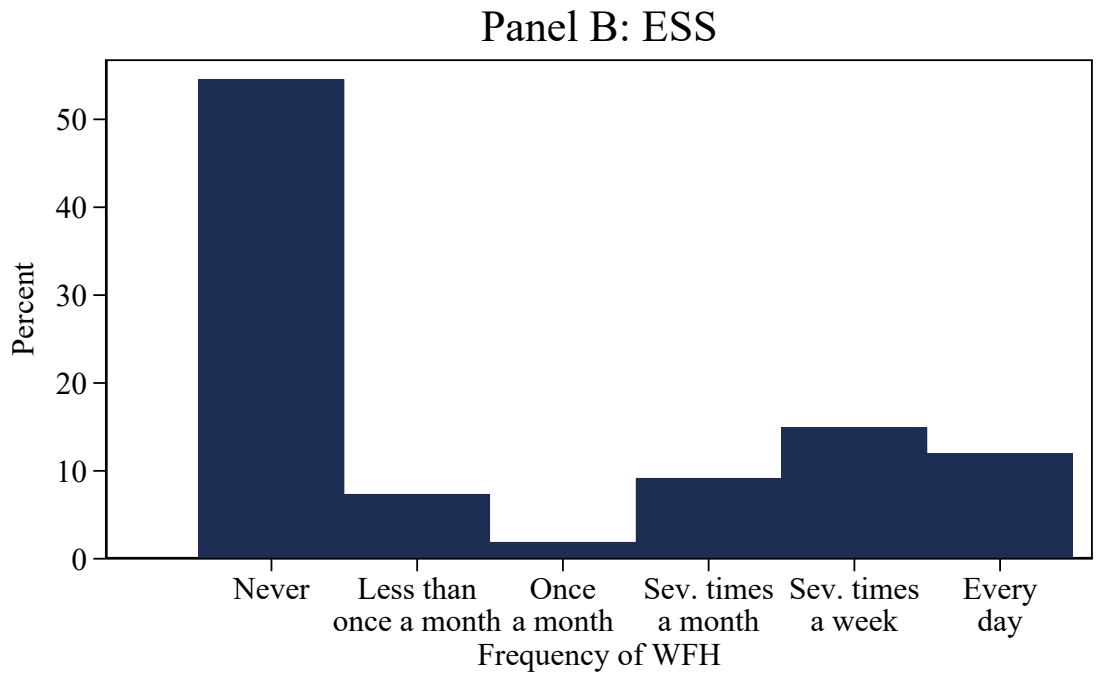
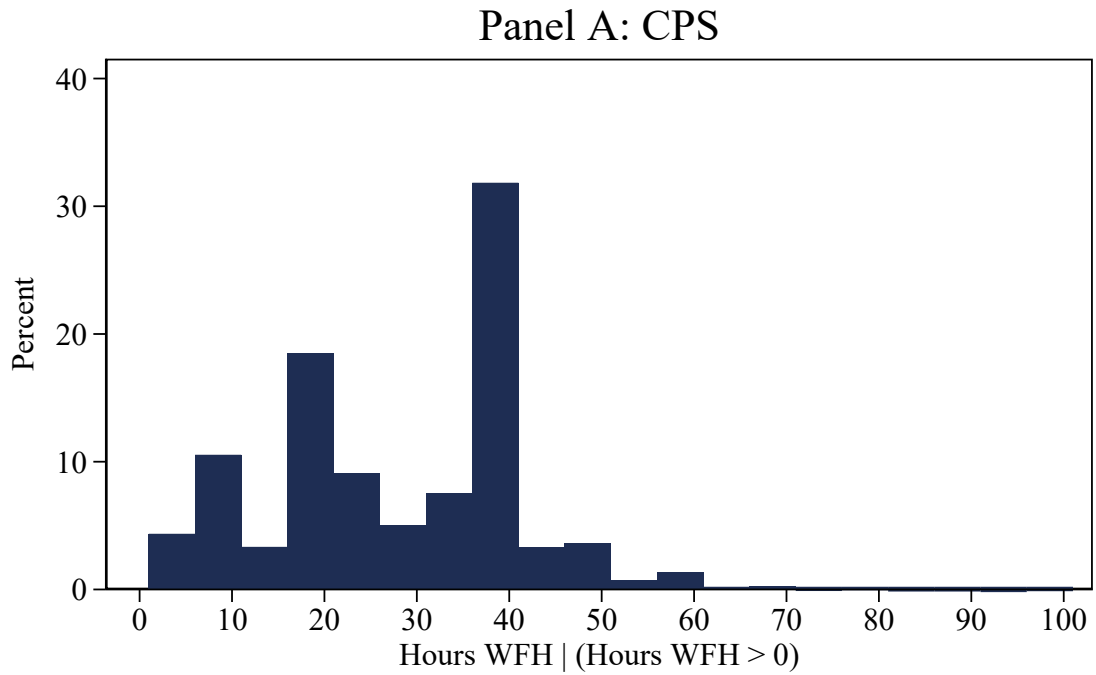
fication as this may relate to individuals perception of risk of e.g. being infected by colleagues. As shown by Bick, Blandin, and Mertens (2023), the fear of becoming sick and concerns related to health risks are among the main explanations to the elevated levels and adoption of working from home even after the pandemic. Uncertainty avoidance comes from the Hofstede cultural values data (Hofstede, 2001) and ranges between 0 and 100. Risk preference is collected from the GPS (Falk et al., 2018).

Finally, we also explore the role of the level of economic development in the country of origin, captured by the GDP per capita in 1995 collected from the World Development Indicators (WDI).

A.3 Pandemic policies

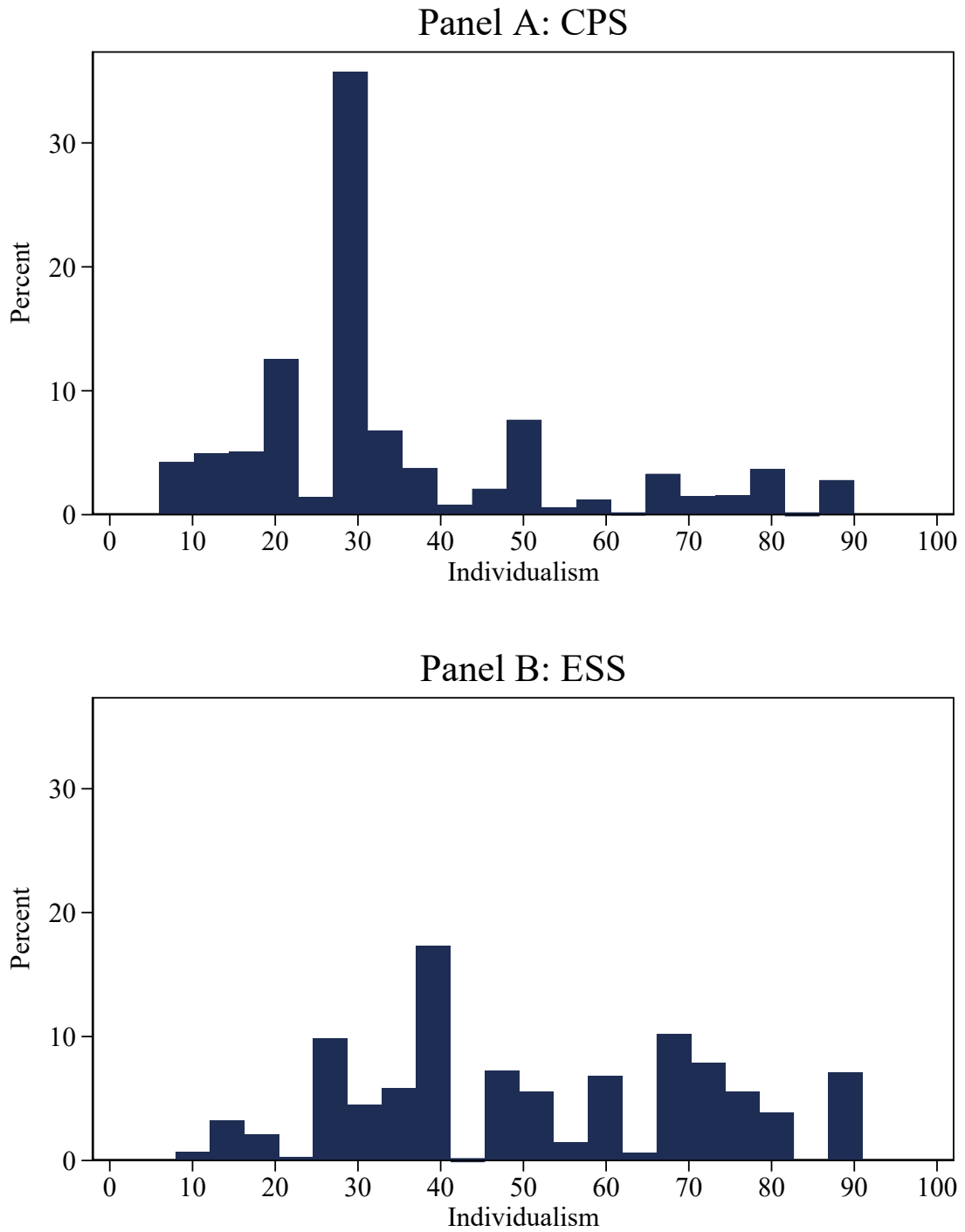
To test the role of pandemic policies, we use daily information on work from home orders and a daily index on government stringency across the European countries covered in the ESS data. The data comes from the Oxford Covid-19 Government Response Tracker (OxCGRT) that gathered data on policy measures that aimed to curb COVID-19 in the period 2020–2022 (Hale et al., 2020). We only use this information in the ESS analysis as OxCGRT only provides national information (not regional) for the US.

Figure A.1: Frequency of working from home



Notes: The figure shows the distribution of hours worked from home, given that the respondent reported any WFH, in the CPS (Panel A) and the distribution of frequency of WFH in the ESS (Panel B).

Figure A.2: Distributions of individualism scores



Notes: The figure shows the distributions of individualism scores in the CPS (Panel A) and ESS (Panel B).

Table A.2: Number of individuals by country of origin

Country code	country name	Hofstede idv	CPS	ESS
ARG	Argentina	46	671	4
AUS	Australia	90	437	8
AUT	Austria	55	258	24
BEL	Belgium	75	205	13
BGD	Bangladesh	20	724	6
BGR	Bulgaria	30	283	22
BRA	Brazil	38	2,742	75
CAN	Canada	80	4,959	9
CHE	Switzerland	68	236	10
CHL	Chile	23	354	5
CHN	China	20	7,021	12
COL	Colombia	13	3,186	10
CZE	Czech Republic	58	136	24
DEU	Germany	67	5,008	161
DNK	Denmark	74	161	28
ECU	Ecuador	8	1,910	2
ESP	Spain	51	584	37
EST	Estonia	60	19	8
FIN	Finland	63	134	8
FRA	France	71	1,026	81
GBR	United Kingdom	89	4,040	107
GRC	Greece	35	667	10
HKG	Hong Kong	25	855	5
HRV	Croatia	33	181	59
HUN	Hungary	80	268	27
IDN	Indonesia	14	269	23
IND	India	48	11,126	37
IRL	Ireland	70	865	17
IRN	Iran	41	1,189	7
ISR	Israel	54	614	3
ITA	Italy	76	1,976	101
JAM	Jamaica	39	2,471	6
JPN	Japan	46	2,266	4
KOR	Republic of Korea	18	3,538	3
LTU	Lithuania	60	149	14
LUX	Luxembourg	60		2

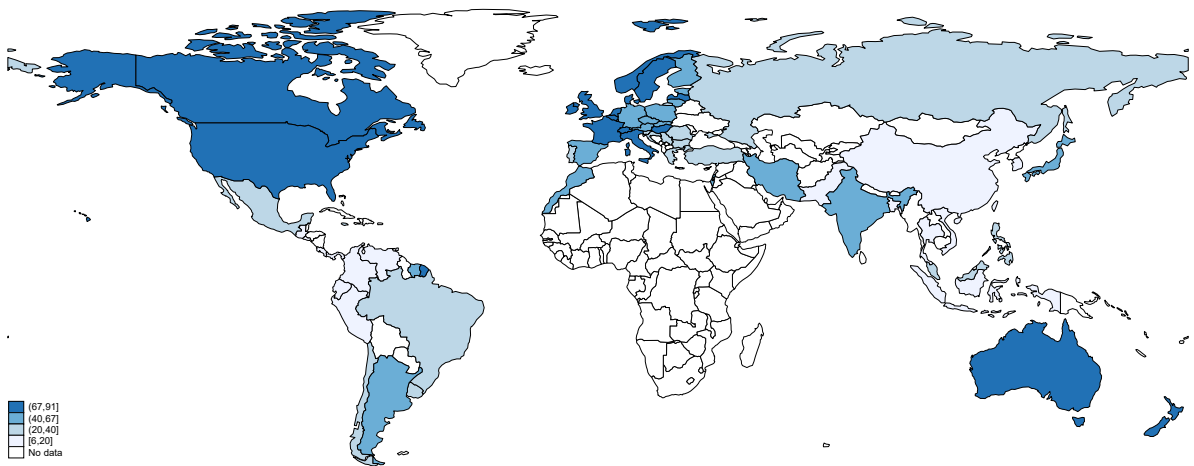
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Table A.2 – continued from previous page

Country code	country name	Hofstede idv	CPS	ESS
LVA	Latvia	70	61	18
MAR	Morocco	46	296	86
MEX	Mexico	30	54,064	4
MYS	Malaysia	26	204	3
NLD	Netherlands	80	428	41
NOR	Norway	69	142	5
NZL	New Zealand	79	157	2
PAK	Pakistan	14	1,400	22
PER	Peru	16	1,661	9
PHL	Philippines	32	9,725	21
POL	Poland	60	1,558	95
PRT	Portugal	27	960	69
ROU	Romania	30	463	43
RUS	Russian Federation	39		264
SGP	Singapore	20	171	1
SLV	El Salvador	19	5,407	1
SRB	Serbia	25	267	114
SUR	Suriname	47		16
SVK	Slovakia	52	81	76
SVN	Slovenia	27		10
SWE	Sweden	71	234	48
THA	Thailand	20	1,153	13
TTO	Trinidad and Tobago	16	771	1
TUR	Turkey	37	498	49
URY	Uruguay	36	151	2
USA	United States of America	91		30
VEN	Venezuela	12	2,263	12
VNM	Viet Nam	20	5,173	7
CRI	Costa Rica	15	315	
GTM	Guatemala	6	4,920	
PAN	Panama	11	509	
TWN	Taiwan	17	1,446	

Notes: The table shows the number of first- and second-generation immigrants by country of origin in the CPS and ESS samples and the country's Hofstede (2001) individualism score.

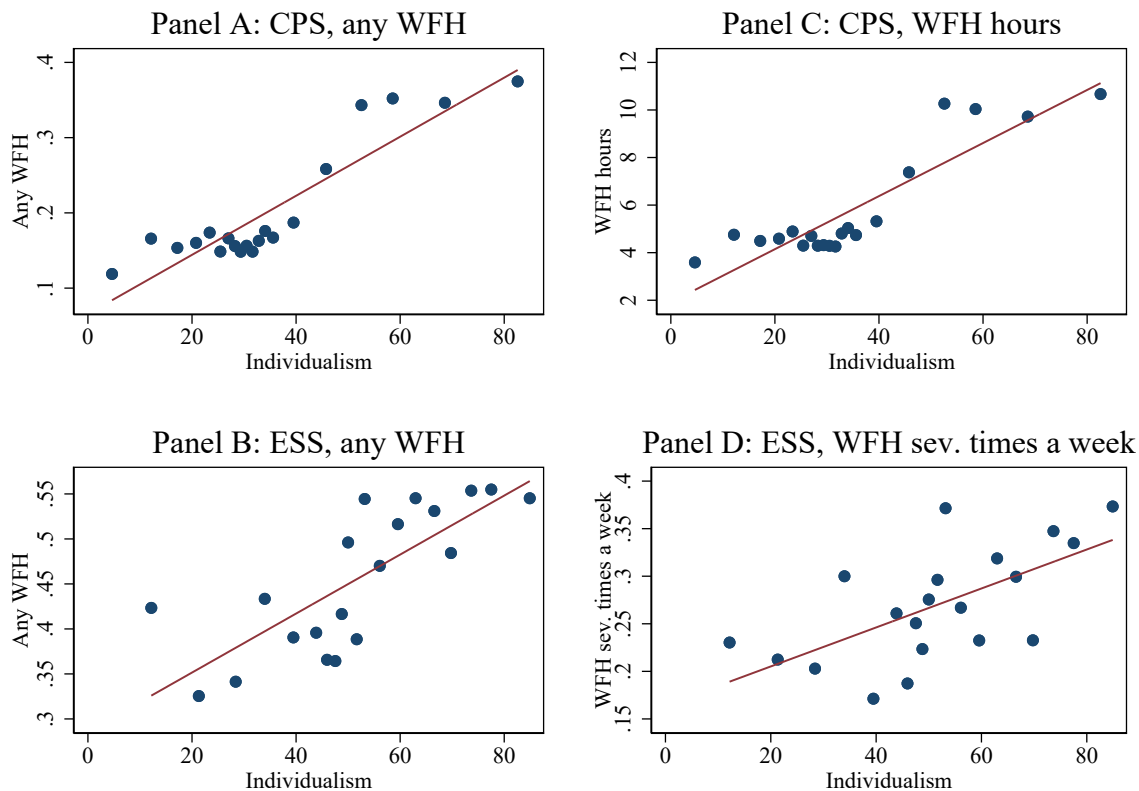
Figure A.3: Individualism around the world



Notes: The figure shows individualism scores for all origin countries observed in the CPS or ESS.

Appendix B Additional Results

Figure B.1: Individualism and WFH, binned scatter plots



Notes: The figure shows binned scatter plots that visualize the regressions in Panel A of Table 2. To construct these plots, we first residualize WFH and individualism on the controls. We then group residualized individualism into 20 equal-sized bins and plot the mean of residualized WFH for each bin. The regression line in each panel is based on the underlying individual-level data.

Table B.1: Individualism and WFH, heterogeneity by gender and age

	CPS		ESS	
	any WFH (1)	WFH hours (2)	any WFH (3)	WFH sev. times a week (4)
<i>Panel A: female workers</i>				
Individualism	0.0036*** (0.0005)	0.1001*** (0.0151)	0.0021** (0.0010)	0.0012 (0.0010)
Observations	70,331	70,331	1,037	1,037
<i>Panel B: male workers</i>				
Individualism	0.0042*** (0.0005)	0.1196*** (0.0158)	0.0043*** (0.0011)	0.0027*** (0.0009)
Observations	84,675	84,675	997	997
<i>Panel C: workers aged 35 and below</i>				
Individualism	0.0030*** (0.0005)	0.0790*** (0.0138)	0.0015 (0.0014)	0.0009 (0.0009)
Observations	59,974	59,974	602	602
<i>Panel D: workers aged 36-55</i>				
Individualism	0.0046*** (0.0006)	0.1345*** (0.0191)	0.0042*** (0.0011)	0.0028*** (0.0010)
Observations	72,965	72,965	1,069	1,069
<i>Panel E: workers aged 56 and above</i>				
Individualism	0.0037*** (0.0004)	0.1059*** (0.0147)	0.0041* (0.0023)	0.0015 (0.0021)
Observations	22,067	22,067	363	363

Notes: The table shows estimates of regressions of WFH on individualism separately by gender and age group as indicated in the panel headings. Regressions are based on the specifications in Panel A of Table 2. Standard errors in parentheses are clustered by country of origin (63 clusters in the CPS and 64 clusters in the ESS). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.2: Robustness: additional sample restrictions and alternative specifications

	CPS		ESS	
	any WFH (1)	WFH hours (2)	any WFH (3)	WFH sev. times a week (4)
<i>Panel A: leave out Mexican (CPS) / Russian (ESS) origin</i>				
Individualism	0.0034*** (0.0005)	0.0951*** (0.0170)	0.0031*** (0.0009)	0.0020*** (0.0007)
Observations	100,942	100,942	1,770	1,770
<i>Panel B: leave out small origin groups</i>				
Individualism	0.0039*** (0.0005)	0.1116*** (0.0155)	0.0033*** (0.0009)	0.0021*** (0.0007)
Observations	154,845	154,845	1,919	1,919
<i>Panel C: country-by-quarter FE (ESS)</i>				
Individualism			0.0031*** (0.0009)	0.0020*** (0.0007)
Observations			2,032	2,032
<i>Panel D: control for pandemic policies (ESS)</i>				
Individualism			0.0033*** (0.0009)	0.0020*** (0.0007)
Observations			2,034	2,034
<i>Panel E: weighted estimates</i>				
Individualism	0.0041*** (0.0005)	0.1169*** (0.0159)	0.0025** (0.0012)	0.0018* (0.0010)
Observations	155,006	155,006	2,034	2,034

Notes: The table shows estimates of regressions of WFH on individualism. Specifications in each panel are variations of the specifications in Panel A of Table 2 as indicated in the panel headings. Standard errors in parentheses are clustered by country of origin (63 clusters in the CPS and 64 clusters in the ESS). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.3: Robustness: alternative measures of individualism

	CPS		ESS	
	any WFH (1)	WFH hours (2)	any WFH (3)	WFH sev. times a week (4)
<i>Panel A: Schwartz: affective autonomy</i>				
Individualism	0.1895*** (0.0188)	5.3394*** (0.5502)	0.1558*** (0.0439)	0.1152*** (0.0244)
Observations	133,515	133,515	2,009	2,009
<i>Panel B: Schwartz: intellectual autonomy</i>				
Individualism	0.2067*** (0.0563)	5.3760*** (1.6907)	0.2010*** (0.0523)	0.1082*** (0.0397)
Observations	133,515	133,515	2,009	2,009
<i>Panel C: World Values Survey</i>				
Individualism	0.0573* (0.0309)	1.4296 (0.9020)	0.1008*** (0.0232)	0.0555*** (0.0198)
Observations	139,331	139,331	1,668	1,668

Notes: The table shows estimates of regressions of WFH on individualism, where individualism is measured using one of the alternative measures as indicated in the panel headings. Specifications are otherwise identical to the ones in Panel A of Table 2. Standard errors in parentheses are clustered by country of origin (63 clusters in the CPS and 64 clusters in the ESS). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.