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Shifts in Residential Mobility Predict Shifts in Culture

Author Note:

Materials related to this manuscript can be found at https://osf.io/wyckr/?view_only=fe2e64163c214d62bb9a70ce5c503ec6

Abstract

Using converging evidence from United States cross-sectional data and large-scale surveys of citizens of 18 industrialized nations, we find that increased rates of residential mobility (i.e., people changing where they live) are associated with a more dynamic society: one in which residents are more satisfied with their lives, have greater optimism, endorse more individualistic concepts, are more open to new ideas, have a greater sense of freedom of action, feel able to make friends more easily, express a more cosmopolitan identity, believe that their society rewards merit, and hold their community to a higher standard for treatment of minorities. These findings are echoed in the experience of people who have themselves recently moved: using household-level data from an American panel study, we find that having moved is associated with a greater sense of personal thriving, optimism, and a belief that merit is rewarded.

Shifts in Residential Mobility Predict Shifts in Culture

Moving one's residence is among the most consequential ways that a person can reshape their social world. Trading familiar people, places, and things for an unknown environment is an act that powerfully affects how people think about themselves, relate to others, and choose to live their lives (Choi & Oishi, 2020; Clark, 2005; Haynie, South, & Bose, 2006; Magdol & Bessel, 2003; Oishi, Rothman et al., 2007). Writ large, residential mobility is a demographic factor that can theoretically shape the values of an entire culture (Buttrick & Oishi, 2021; Gillespie, 2016; Long, 1988; Oishi, 2010).

Residential mobility alters the playing field upon which people interact with each other: in a residentially-stable society, you can know a person by years of shared experiences, by knowledge of their family situations, and through a reputation built up across innumerable interactions with your extended social web (Oishi, 2010). A new resident, by contrast, has none of those markers; as a stranger, people can know nothing about them except what they disclose themselves, and even those disclosures are circumscribed by limits in knowledge of each others' contexts (Joshi, Wakslak, Raj, & Trope, 2016). Residential mobility, in other words, biases a person towards thinking of themselves and communicating to others in terms of a decontextualized individualism (Oishi, Lun, & Sherman, 2007), and a society made up of movers is one that is likely to be more individualist than a society made up of those who stay rooted (Baumeister, 1987; Taylor, 1989; Goldschmidt, 1971; Spencer, 1965).

This reputational blank slate can come with both advantages and disadvantages. Residential stability is associated with greater suspicion of outsiders, while residential mobility is associated with greater trust across the board (Li, 2017; Lun, Oishi, & Tenney, 2012; Thomson et al., 2018; Yamagishi, 1998). In a world of strangers, one has to be more willing to extend the benefit of the doubt more easily, since one will have limited access to social memory that can inform about who has and has not proven trustworthy over time (Macy & Sato, 2002). As new residents generally want to make friends in their new environments (Oishi & Kesebir, 2012), they will be especially likely to seek out potential friends (Oishi et al., 2013), and having just arrived, will likely feel that they have a wide range of potential partners to choose from (i.e., *relational mobility*, Yuki & Schug, 2020).

Similarly, reputations are harder to shake in a residentially-stable world, since there's more limited turnover of observers (Hruschka & Henrich, 2006; Wu, Balliet, & van Lange, 2016). Residential stability has been argued to be a key piece in the evolution of norm-based social control (Roos et al., 2014): residential and relational mobility is associated with feeling less shame (Sznycer et al., 2012); with feeling less daily stress (Oishi, Saeki, & Axt, 2015); with decreased sensitivity to social rejection (Sato, Yuki, & Norasakkunkit, 2014); with reduced worry about terminating relationships (Thomson et al., 2018); and with less care taken about social monitoring (Su et al., 2016).

In worrying less about the opinions of others, and in striving to maximize the breadth of their social networks, the residentially mobile are likely to care less about the distinctions between ingroups and outgroups (Li, Li, & Li, 2019), to act with reduced hostility towards outgroups, including decreasing their ethnocentrism (De, Gelfand, Nau, & Roos, 2016); and to increase self-other overlap when taking the perspectives of outgroups (Wang et al., 2018). In blurring these lines, and in moving from community to community, the residentially-mobile are likely to identify not with particular places, which they have just left from and arrived to, but with broader levels of organization, such as their nationality (Buttrick & Oishi, 2021).

At the same time, however, this more casual approach to friendship and community may make it harder for a residentially-mobile area to form the deep connections that bind one to a community - having just arrived they may not have the time to develop the social capital needed to act forcefully on social issues (Sampson, Raudenbush, & Earls, 1997), and being perhaps likelier to leave, may not be willing to put in the effort to build the sort of tight social web that will become damaged upon their relocation (Oishi & Talhelm, 2012) or to spend time in groups that require major investments of time (Oishi et al., 2015; Oishi, Rothman, et al., 2007). Unsurprisingly, perhaps, areas with greater residential mobility find it harder to come together to solve their problems and show generally reduced pro-community behavior (Kang & Kwak, 2003; Oishi et al., 2007), and vote at lower rates than more residentially-stable areas (Squire, Wolfinger, & Glass, 1987).

A more residentially-mobile area should also be more likely to buy into meritocratic ideas about society (Buttrick & Oishi, 2021). A belief that society is structured in such a way that people are able to succeed due to their own hard work requires a belief that individuals in the society have the ability to freely act, unassisted or unencumbered by societal strictures (Feldman, 1988); a belief that it is possible for the future to be better than the present (McNamee & Miller, 2009); and a trust in the broader social system to be fair (Lind & Tyler, 1988). As movers are generally more individualistic than the general population, willing to leave communities behind in order to start somewhere new (Kitayama et al., 2006); more optimistic, willing to believe that their future can be better than their past, especially if they seize the day (Koikkalainen & Kyle, 2016); and more trusting (Li, 2017), we would therefore expect that residential mobility should bolster a cultural belief in meritocracy.

What happens, then, when levels of mobility shift in a culture over time? Cultures are responsive to their underlying socio-demographic facts (Greenfield, 2013; Oishi, 2014; Sng et al. 2018), and often adapt when those facts change (Buttrick, Moulder, & Oishi, 2020; Varnum & Grossmann, 2017). Over longer expanses of historical time, researchers have demonstrated that mobility may have helped to shape the tenor of societies (Knudsen, 2019; Bazzi, Fiszbein, & Gebresilasse, 2020). As migrants move from place to place, they bring with them the cultural adaptations that assisted and influenced their move (Obschonka et al., 2018; Knudsen, 2019), such as individualism (Kitavama et al., 2006; Bazzi et al., 2020), optimism (Koikkalainen & Kyle, 2016), openness to experience (Jokela, 2009; Zimmerman & Never, 2013), and risk-taking (Clark & Lisowski, 2017). A concentration of these traits in a place can start to draw in new migrants, eager to find a place where they psychologically fit, which can then start to affect the psychology of residents already present (Jokela, 2020); and can serve as a model for the rest of a broader culture to follow: as unsuccessful migrants are likelier to return to their original communities (Bazzi et al., 2020; Long & Hansen, 1977), the differential attrition is likely to lead to remaining migrants being unusually successful (Abramitzky, Boustan, Jacome, & Perez, 2021) which may lead to a culture associating the traits of the successful migrants that remain with success more broadly, further bringing these traits into the cultural mainstream (Kitayama et al., 2010).

A decline in residential mobility, by contrast, may bring with it more than just a return to a residentially-stable ethos. Decreased residential mobility may also reflect an increased mismatch between moving intentions and moving ability (Carling & Schewel, 2018; Lu, 1999; Coulter, 2013). In the United States, for example, while residential mobility is at its lowest level on record, over 50% lower than during the 1970s (US Census), the desire to move has declined

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at a much slower rate (Foster, 2018), and people are more frequently finding themselves stuck in place: those Americans who wished to move over the past four decades were as likely to stay put as not (Mateyka, 2015), able to actually move at a rate 45% less lower than during the 1970s (Foster, 2017). Wishing to move but being unable to do so may lead to decreased well-being, as one feels that one no longer fits in one's environment (Bleidorn et al., 2016; Jokela et al., 2015); along with increases in a sense of thwarted goals and ensuing cynicism about society at large (Lee, Morris, & Kemeney, 2018; Buttrick & Oishi, 2021).

Moving, of course, is a function of socioeconomic factors, as movers need a reason to move, the resources to do so, and the ability to find housing in their new environment (Molloy, Smith, & Wozniak, 2014), not to mention a government that minimizes the barriers to relocation (Kleiner & Krueger, 2013; Sharkey, 2013; Rothstein, 2017). Any study that looks at the cultural effects of mobility, therefore, must work to disambiguate the role of residential mobility from the macroeconomic factors that may be driving mobility; and must also disentangle differences between immigration and residential mobility per se, two psychological experiences which, while similar, may have different motivators and consequences (Coulter, van Ham, & Findlay, 2015).

In the present work, we investigate the relationship between residential mobility and cultural values. We first analyze a dataset covering the last half-century of American history to see whether changes in the rate of residential mobility meaningfully predict the happiness, feelings of trust, and sense of others as generally fair of a nationally-representative cross-sectional selection of Americans, even above and beyond changes in American macroeconomic conditions. We then broaden our investigation, looking at over two decades of nationally-representative responses from a wide range of industrialized countries. This allows us

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to isolate the effects of changing residential mobility on cultural beliefs, while still being able to partial out variance associated with between-country differences and control for changes in immigration and broader economic trends. We then zoom into a specifically American context, looking longitudinally at a representative sample of Americans to better understand the individual-level effects of both actually moving or wanting to move but finding oneself in the same place year after year. These complementary approaches allow us to anchor changes within and across cultures, at least in part, in the lived experience of actual movers over time.

Given prior work, then, we expected that residential mobility would be associated with greater dynamism: more individualism, greater well-being and optimism, a greater belief that hard work should lead to success, a greater sense of freedom of action; as well as a greater sense that friendship is widely available, more tolerance for outgroups, and a greater sense of national, as opposed to regional, identity.

Results

Study 1: United States Longitudinal Cross-Sectional Findings

We start by looking at the recent American past, investigating the relationship between changing rates of mobility within the United States, and Americans' self-reported happiness, trust in others, and sense that people are generally fair. We use data, aggregated by year, from the General Social Survey (GSS) - a long-running project that interviews a nationally-representative sample of Americans yearly. Our data cover 1972 (the first year of the GSS) to 2018, with missing data spline-interpolated. To investigate whether changes in mobility explain future changes in our three psychological variables of interest, we use a Granger-predictive framework - a key element of time-series analysis that helps to disambiguate the directionality of a

relationship over time (Granger, 1969). A variable can be said to Granger-predict an outcome if it can predict that outcome in the future above and beyond past values of the outcome.

In simple models, we find that the rate of American residential mobility Granger-predicts the next year's reported level of national happiness (above and beyond contemporaneous levels of happiness), b = 0.0076 [0.0038, 0.011], se = 0.0019, t(43) = 4.01, p < .001, partial $R^2 = .27$; but we cannot show that the rate of American mobility Granger-predicts the next year's sense that others are generally fair, b = 0.0064 [-0.0015, 0.014], se = 0.0039, t(43) = 1.63, p = .11, partial $R^2 = .058$; nor the next year's level of trust in others, b = 0.085 [-0.00086, 0.018], se =0.0046, t(43) = 1.83, p = .074, partial $R^2 = .072$.

We then included macroeconomic covariates in the models - national gross domestic product and the rate of immigration to the United States - as well as controlling for the linear trend of year. We find that rates of American mobility still Granger-predict future levels of American happiness above all covariates, b = 0.010 [0.00084, 0.020], se = 0.0046, t(40) = 2.21, p= .033, partial $R^2 = .11$. We still do not find evidence that American rates of interstate mobility Granger-predict future sense that others are generally fair, b = -0.0047 [-0.022, 0.013], se =0.0085, t(40) = -0.58, p = .58, partial $R^2 = .0076$; nor the next year's level of trust in others, b =-0.012 [-0.030, 0.0061], se = 0.0089, t(40) = -1.34, p = .19, partial $R^2 = .043$. See Figure 1 for a graphical representation. See the SI for all regression tables, and for models that use a rate of residential mobility restricted to moves across state lines. In sum, Study 1 demonstrates that changes in American interstate residential mobility predict future changes in American happiness, even when taking into account changes in the immigration rate and macroeconomic environment. Americans were generally happier when they were more residentially mobile.

Study 2: Cross-National Longitudinal Cross-Sectional Findings

We next use cross-national data in order to better understand the broader context of the psychological correlates of residential mobility. Using data from two large-scale multinational surveys, we find converging evidence that in years when residential mobility is higher in a country, the residents of that country feel better about their lives, more optimism about their futures, more confident in the dynamism of their country, and are more likely to identify with their broader country and to extend their sense of the membership of their communities more broadly. Specifically, we used data from the World Values Survey (WVS), *n*'s range from 17,576 to 62,696 depending on the model, covering responses from 18 industrialized nations (Australia, Austria, Canada, the Czech Republic, Finland, Germany, Hungary, Italy, Japan, the Netherlands, Norway, Poland, Slovakia, South Korea, Spain, Sweden, the United Kingdom, and the United States) over the years 1981 to 2020; and data from the Gallup World Poll (GWP), *n*'s range from 60,232 to 250,843 depending on the model, covering responses from the same 18 nations over the years 2006 to 2019.

Thanks to Alvarez et al. (2021), we have data on recent trends in interregional residential mobility for these 18 nations (i.e., mobility that crosses internal administrative borders - in the US context, this would be equivalent to the interstate mobility rate). Patterns of residential mobility differ quite a bit from country to country over the past few decades, with some nations increasing their rate of mobility (e.g., Austria, Slovakia, and Hungary), some nations decreasing their rate of mobility (e.g., Austria, the US, Japan, Korea, and Canada), some nations remaining relatively stable in their rate of mobility (e.g., Italy, Poland, Finland, Norway, and Germany), some countries presenting a U-shaped trend (e.g., the Netherlands, Sweden, and the UK), and other countries presenting an invert-U-shaped trend (e.g., the Czech Republic and Spain). See Alvarez et al., 2021 for more details.

As the number of waves of the WVS and GWP are too sparse to allow for a time-series-based analysis, we turn to an alternate analytic approach. In all models, we conduct multilevel analyses, decomposing residential mobility into both a stable between-country component and a component that tracks rates of mobility in a country relative to county mean-levels, nesting participants within country and year, controlling for changes in immigration flow and changes in the state of the economy, as well as controlling for year to rule out simple linear trends. Our results are largely consistent with and without controls for immigration and GDP. Regression tables for all outcomes, both with and without controls are available at https://osf.io/p3564/?view_only=fe2e64163c214d62bb9a70ce5c503ec6.

Individualism, Freedom, Optimism, and Well-Being. As expected, we find that in years where there is more residential mobility in a country, residents of that country are more likely to be individualist: they are more likely to express individualist values (WVS, using the Individualism Index constructed by Santos, Varnum, & Grossmann, 2017), b = 0.011, se = 0.001, t(26,617.60) = 9.58, p < .001, partial $R^2 = .003$; more likely to endorse competition (WVS, from 1 = "Competition is good" to 10 = "Competition is harmful"), b = -0.014, se = 0.005, t(5,568.95) = -2.98, p = .003, partial $R^2 = .002$; and more likely to agree that individual rights are protected in their country (WVS, from 1 = "There is a lot of respect for individual human rights" to 4 = "There is no respect at all"), b = -0.013, se = 0.002, t(939.88) = -6.34, p < .001, partial $R^2 = .041$.

Similarly we find higher intensity of residential mobility in a year is associated with citizens of that country feeling like they have more freedom in their lives (WVS, on a scale from 1 = "none at all" to 10 = "a great deal"), b = 0.016, se = 0.004, t(1,805.222) = 3.89, p < .001, partial $R^2 = .008$; (GWP, "Are you satisfied with the freedom in your life?"), Estimate = 0.019, se = 0.002, z = 8.08, p < .001, n = 217,900, OR = 1.019; and perceiving that they have more access

to a broader range of social partners (GWP Social Life Index, measuring social support and opportunities to make new friends), b = 0.214, se = 0.038, t(65,790.81) = 5.63, p < .001, partial $R^2 < .001$.

When more people are moving, we additionally find, as expected, that residents of that nation are more likely to feel that they are thriving, are less stressed in their everyday lives, and feel better about their futures: they are more likely to say that they are currently thriving (GWP Life Evaluation Index, from 1 = suffering to 3 = thriving), b = 0.008, se = 0.001, t(153,367.30) = 13.57, p < .001, partial $R^2 = .001$; are likelier to report that their previous day was less stressful (GWP, "Did you feel any stress in your last day?"), Estimate = -0.007, se = 0.002, z = -2.94, p = .003, n = 250,843, OR = 0.993; are more optimistic about the future (GWP Optimism Index) b = 0.29, se = 0.30, t(228,661.19) = 9.67, p < .001, partial $R^2 < .001$; and are more interested in new ideas (WVS, from 1 = "Ideas that stood the test of time are generally best" to 10 = "New ideas are better than old ones"), b = 0.085, se = 0.017, t(39.74) = 5.08, p < .001, partial $R^2 = .39$.

Cosmopolitanism. A greater degree of residential mobility within a country is also associated with a more cosmopolitan outlook, where people are likely to identify with their nation than with their community (WVS, subtracting how strongly respondents are to see themselves as part of their nation from how strongly they see themselves as part of their community), b = 0.011, se = 0.001, t(26,617.60) = 9.58, p < .001, partial $R^2 = .051$. Accordingly, increased mobility is associated with increased trust in national institutions (GWP Institutional Trust Index), b = 0.071, se = 0.033, t(196,421.72) = 2.15, p = .032, partial $R^2 < .001$; and with increased trust in societal outgroups more generally (WVS, averaging across trust in people you meet for the first time, people of another religion, and people of another nationality), b = 0.069, se = 0.012, t(104.65) = 5.86, p < .001, partial $R^2 = .25$. Interestingly, this increase in trust is not an across-the-board phenomenon, as increased mobility is not associated with changes in trust towards ingroups (WVS, averaging across trust in family, neighbors, and people you know personally), b = 0.009, se = 0.008, t(74.373) = 1.07, p = .287, partial $R^2 = .015$; or towards people in general (WVS, "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?"), Estimate = -0.005, se = 0.005, z =-1.079, p = .281, n = 62,629, OR = 0.995. This increase in trust in outgroups, with no change in general or ingroup trust, implies that people are expanding their 'radius of trust' (Delhey, Newton, & Welzel, 2011), taking a broader view of who "most people" encompasses in their society, and potentially extending bridging social capital to the sorts of people who are not quite like themselves (e.g., Putnam, 2007).

Perceptions of Diversity. We find that higher levels of mobility are associated with a decrease in satisfaction with the ways that their society treats outgroups (implying that they are holding their society to a higher standard) - whether respondents believe that their city is a good place for immigrants or ethnic and sexual minorities to live (GWP Acceptance of Diversity Index), b = -0.394, se = 0.036, t(198,495.58) = -10.87, p < .001, partial $R^2 = .001$. Higher mobility is associated with a decreased likelihood of objecting to having an immigrant as one's neighbor (WVS, Mentioning "an immigrant" as a person one wouldn't want as a neighbor), Estimate = -0.027, se = 0.009, z = -3.16, p = .002, n = 60,814, OR = 0.973; though this pattern is somewhat complicated, as higher mobility is also associated with an increased likelihood of objecting to having someone from a different religion as a neighbor (WVS, Mentioning "someone from an other religion" as a person one wouldn't want as a neighbor), Estimate = 0.095, se = 0.021, z = 4.54, p < .001, n = 41,297, OR = 1.100.

Meritocracy & Civic Engagement. With greater optimism, greater trust, and greater individualism, it is perhaps no surprise that when residential mobility is higher within a country, more people see their society as meritocratic. They are more likely to agree that in their country, hard work leads to success, (WVS, on a scale from 1 = "In the long run, hard work usually brings a better life" to 10 = "Hard work doesn't generally bring success - it's more a matter of luck and connections"), b = -0.078, se = 0.008, t(6,443.05) = -10.164, p < .001, partial $R^2 = .016$; (GWP, "Can people in this country get ahead by working hard? Yes or No"), Estimate = 0.022, se = 0.002, z = 9.401, p < .001, n = 215,648, OR = 1.022; and accordingly are more likely to believe that the practical instantiation of this belief, entrepreneurship, is thriving in their areas (GWP, "Is the city where you live a good place for entrepreneurs?"), Estimate = 0.041, se = 0.006, z = 6.46, p < .001, n = 60,232, OR = 1.042.

Finally, and unexpectedly, given prior findings that more residentially-mobile areas are less civically-engaged than areas with greater residential stability, we find that increased mobility is associated with an increase in volunteering in the community (GWP, "Have you volunteered in the last month?"), Estimate = 0.019, se = 0.003, z = 6.07, p < .001, n = 210,463, OR = 1.019.

In summary, then, we find, across a wide range of industrialized nations, controlling for both immigration and the state of the national economy, that years of higher residential mobility than average are also years in which citizens are more individualistic, happier, more optimistic, feel like they have more freedom in their lives, are more cosmopolitan, extend their trust to a wider range of people in society, are more worried about the status of outgroups, are more likely to think that their country is a meritocracy, and are more likely to volunteer some time in their communities. See Table 1 for a summary of all findings.

Study 3: United States Longitudinal Panel Findings

After having established a within-nation relationship between changes in residential mobility and changes in cultural values, we examined how these changes may come about within individual households over time. To do so, we use data from the Panel Study of Income Dynamics (PSID), a study that has been tracking the life outcomes of a panel of American households since 1968. While the PSID does not generally ask psychological questions to its household panelists, there has been one Well-Being module that was delivered to ~8,300 participants (a little under 10% of the total PSID sample) in 2016. As the PSID tracks both actual moves and desires to move, we therefore are able to look at how both moving and wishing to move but not being able to are associated with feelings of dynamism and stasis within the individual movers and non-movers themselves.

We find that having moved in the prior year (26.2% of the sample), compared with remaining put, is associated (controlling for gender, socioeconomic status, race, marital status, employment status, religiosity, self-reported health, and the rurality of their area) with a belief that the average person's life is getting better, OR = 1.03 [1.007, 1.06], se = 0.014, z = 2.44, p = .015, n = 7,818; are more likely to say that their lives are flourishing (a construct made up of self-reported purpose in life, having supportive relationships, feeling engaged in one's daily activities, providing happiness to others, feeling capable in important activities, feeling that one is a good person living a good life, being optimistic about the future, and feeling respected, Diener et al., 2009; scale alpha = .89), b = 0.38 [0.15, 0.61], se = 0.12, t(7,757) = 3.25, p = .001, $eta^2 = .0000046$; and are less likely to say that there are a lot of people in the world who have things that they do not deserve, OR = 0.97 [0.94, 0.995], se = 0.013, z = -2.31, p = .021, n = 7,767.

By contrast, those who wish to have moved but find themselves stuck at the same address show a different pattern of results. The more years that they have been wanting to move, the more likely they are to say that the life of the average person is not getting better (but getting worse), OR = 0.99 [0.98, 0.99], se = 0.0046, z = 3.35, p < .001, n = 7,772; the less satisfied they are with their lives overall (Satisfaction With Life Scale, Diener et al., 1985; scale alpha = .89), b = -0.16 [-0.23, -0.088], se = 0.036, t(7,726) = -4.42, p < .001, $eta^2 = .0069$; and, marginally, the less they see themselves as flourishing in their lives, b = -0.076 [-0.15, 0.0016], se = 0.40, t(7,713) = -1.92, p = .055, $eta^2 = .0011$. Even simply looking at whether a participant was stuck in place in the year prior to being asked (13.5% of the sample), compared with the rest of the sample, shows that those who were stuck have greater belief that the life of the average person is not getting better, but getting worse, OR = 0.97 [0.94, 0.998], se = 0.016, z = 2.07, p = .038, n =7,818; have lower satisfaction with life, b = -0.47 [-0.72, -0.23], se = 0.13, t(7,771) = -3.79, p < -0.23] .001, $eta^2 = .0073$; and lower feelings of flourishing (albeit only marginally significantly), b =-0.24 [-0.51, 0.034], se = 0.14, t(7,757) = -1.72, p = .086, eta² = .0013. See the SI for full regression tables, including regressions without control variables.

In summary, we find, at an individual level, that having moved in the previous year is associated with a greater sense of flourishing and a decreased sense of resentment, while wanting to move but being unable to act upon that desire is instead associated with increased pessimism and decreased life satisfaction.

Discussion

Is a society more culturally-dynamic when its residents are moving from residence to residence than when its people are staying put? We find evidence that it is. In years of more

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intense residential mobility, we find that people across a wide range of industrialized nations are more likely to say that hard work leads to success, that they are thriving in their lives, are more optimistic, more individualistic, more likely to be more cosmopolitan in their identification and trust, and more likely to be satisfied with their social lives. These findings are echoed in the reports of two separate nationally-representative cohorts of Americans, where we find that higher levels of residential mobility predict greater national happiness; and among those Americans who themselves have recently moved, that they are more likely than those who have not moved to say that their lives have purpose, their relationships are supportive, they feel engaged, respected, and capable, they are optimistic about the future, and that they think that the average person's life in America is still getting better. Simply wanting to move, however, is not enough, and we find that, in this cohort, being unable to move when one wishes predicts a decrease in life satisfaction, an increase in cynicism, and a marginal decrease in feelings of flourishing.

Our results show that changes in residential mobility have similar effects to changes in the rate of immigration, but that the two patterns are nevertheless distinct. Both, of course, involve strangers coming to town, but the effects of residential mobility seem to be broadly stronger. We suspect this difference in magnitude is attributable to the ways that mobility and immigration shape a society - the effects of immigration may be more localized to the cities and towns that new migrants use as an entrepot to their new cultures, while residential mobility may affect the culture more broadly as all citizens, in theory, can take part. Furthermore, immigration, and the associated demographic changes can sometimes bring with it a xenophobic backlash (Abrajano & Hajnal, 2015; Lesińska, 2014) which may not be present when the internal migrants are understood to be part of the same society.

Unexpectedly, given prior work showing that residential mobility was associated with less pro-community action, we found evidence that an increase in residential mobility was associated with an increase in volunteering behavior. We speculate that volunteering may act as a relatively low-cost signal that one is a good relationship partner in the competitive friendship markets of a residentially-mobile society (Barclay 2016); and that respondents may be volunteering, in part, for the purpose of making friends (Okun & Schultz, 2003). Indeed, these volunteers may be searching for the very sorts of approachable, low-commitment groups that residential mobility encourages (Oishi et al., 2015). Had we been able to measure more involved behavior, or even the overall intensity of volunteering (not its mere presence), we suspect that we may have found results in line with our original hypothesis.

Limitations and Future Directions. We note some unavoidable issues, given our underlying datasets. For one, since our psychological variables of interest were only asked in a single year of the American Panel Study of Income Dynamics, we were unable to explore how moving changed the psychology of our respondents, and we were only able to look at cross-sectional differences between respondents in different demographic states. This of course does not allow for properly causal inference, as there may be additional unmeasured variables that help to explain the observed differences. The limited number of questions asked does not allow us to know why people moved, why people wanted to move, and why they chose to stay put, all of which would help to further contextualize our findings, and does not allow us to exactly mirror the constructs measured in the cross-national study.

The third-variable issue is also unavoidably present in our cross-national panel study results, albeit to a somewhat lesser degree. Since we are able to use countries as their own controls, we are able to rule out many possible alternate explanations for our findings. However,

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since we do not have experimental or quasi-experimental evidence, it is still possible that there is another explanatory variable that is driving the relationships we show, one that is working on the same timecourse and in a similar way across our sample of nations as residential mobility, and so we therefore cannot make confidently causal claims about these inferences.

We also note that these findings are based on a sample of industrialized nations, due to the limited availability of high-quality mobility data. While our sample does cover a relatively wide range of cultural variation, our nations are all largely alike in their stage of economic development. We would expect that our findings would generalize to other similarly-industrialized nations, but we are less confident that residential mobility means something psychologically and culturally similar in countries that are still in the process of industrializing (though see de Toqueville, 1840/1969 for an analysis of residential mobility in pre-industrial America). Moving out of necessity, e.g., as a refugee, may lead to different outcomes than moving volitionally, associated with higher individualism, for example, but not higher optimism (Buttrick & Oishi, 2021; but see Shah 2020 for an argument in favor of universalism).

The virtues we show that are associated with mobility - greater cosmopolitanism, optimism, individualism, broader trust, and well-being - are essential to the functioning of modern multiethnic liberal societies (see, e.g., Galston, 1988). We do not wish to suggest that everyone should make a habit of constant motion - staying happily-settled brings its own joys and virtues (see e.g., Schewel, 2020) - but we nevertheless argue that it is important that societies make it as easy as possible for people to move, should they wish to. Within the United States, the society that we know best, this requires policymakers to prioritize increasing affordable housing stock (e.g., Molloy et al., 2017), reducing barriers to job-switching (e.g., Molloy & Smith 2019),

and ensuring that household incomes can keep up with rising housing prices (e.g., Bayoumi & Barkema, 2019). Declining rates of residential mobility within the United States over the past several decades have co-occured with an increasing sense of American stagnation and malaise (Buttrick & Oishi, 2021) - by increasing the ability of people to change where they live, we may be able to kickstart a turn back towards a more open and dynamic society.

Methods

Participants and Stimuli

In Study 1, we used year-averaged responses from the General Social Survey to measure psychological outcomes. Measures of GDP come from the St. Louis Federal Reserve; measures of immigration rates come from the US Department of Homeland Security.

In Study 2, we used responses from the Gallup World Poll, the World Values Survey, and the 2016 Well-Being and Daily Life Supplement of the Panel Study of Income Dynamics to measure psychological outcomes. For Study 2, residential mobility data come from an analysis of household panel data studies from 18 OECD nations, normed to population size (see Alvarez, Bernard, & Liseke, 2021 for further details); Immigration and GDP per capita data come from the OECD. For Study 3, all additional data, including residential mobility status comes from the 2003-2015 waves of the Panel Study of Income Dynamics Main Study. See the online supplement for descriptives for all variables in Studies 2 & 3.

Analytic Strategy

Study 1

Yearly values for the psychological constructs derived from the General Social Survey are averages across participants within the year. As the General Social Survey did not ask our target questions in all waves, we used spline-interpolation in order to fill in the missing values required for a time-series analysis. We used the same interpolation strategy to fill in values for the few years that the US Census did not collect residential mobility data. We initially ran linear models predicting the outcome of interest from the previous year's rate of interstate residential mobility and the previous year's value for the outcome of interest. We then ran more complex models that added to the base models by additionally controlling for that year's median income level (log-transformed), that year's unemployment rate, that year's level of income inequality (indexed via a Gini coefficient), and that year's immigration rate. In the more complex models, we additionally controlled for the linear trend of year.

Study 2

In both of these studies, we used the same multilevel comparative longitudinal panel model approach for all dependent variables (see Fairbrother, 2014 for details). Individual-level outcomes were regressed on the country-level mean of residential mobility across all waves of data (to allow for a cross-national comparison) and the difference of residential mobility within the country from country-level averages for that particular year (to model the effects of changes in mobility within a country across time), with random intercepts for both country and year to address the nesting of participants. As controls, we included the difference from country-average levels of immigration in the country in that year, the difference from country-average levels of GDP-per-capita in that country in that year, and a variable for the year of data collection (to control for a linear trend across time). While we would have ideally also liked to have included country-mean levels of immigration and GDP-per-capita into the models, to control for other background differences between nations, the models with the full complement of controls were rank-deficient in the fixed effects, and so we therefore chose to prioritize controls that addressed changes within a country over time, matching our research hypothesis, as opposed to those that addressed underlying national differences. All *p*-values are based on Satterthwaite approximations.

Study 3

In this study, we merged the 2003-2015 waves of the Panel Study of Income Dynamics with the Well-Being and Daily Life Supplement. Panelists were coded as being 'stuck' in a year if they had indicated wanting to move in the prior year but their address had not changed. As we only had psychological data for the 2015 wave, we ran three sets of regression analysis, one investigating whether having moved the previous year predicted our outcomes; one investigating whether being stuck in that year (i.e., indicating a desire to move in the 2014 wave, but remaining at the same address in both 2014 and 2015) predicted our outcomes; and one investigating whether the number of years one had felt stuck (i.e., the number of consecutive years one had felt stuck, starting with the 2015 wave and working backwards) predicted our outcomes. In all sets of models, we additionally control for age, gender, socioeconomic status (computed as the average of z-scored income decile based on 2015 IPUMS-CPS data and years of completed education), race, marital status, employment status, religiosity, self-reported health, and the rurality of their area.

Data Availability

All cross-sectional datasets are available from their owners upon request or contract. Residential mobility data are available at Alvarez et al., 2021; immigration and GDP data can be found at stats.oecd.org. The publicly-available datasets used in these analyses can be found at https://osf.io/y6ndj/?view_only=fe2e64163c214d62bb9a70ce5c503ec6 All analysis scripts for

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this project are available at

https://osf.io/djpa7/?view_only=fe2e64163c214d62bb9a70ce5c503ec6.

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Figures and Tables



Fig 1. Annual rates of American residential mobility (solid red) and rates of American self-reported trust in others (short-dashed blue), self-reported sense of the fairness of others (long-dashed green), and self-reported happiness (dot-dashed purple). Thick straight lines indicate the linear trend of each variable.

Associations with increased residential	Levels of analyses				
mobility	Study 1	Study 2	Study 3		
	United States (1972-2018)	18 industrialized nations (1981-2020)	Individual American households (2015)		
Individualism, Freedom, Optimism, and Well-Being					
Sense of a satisfactory and flourishing life	0	0	0		
Accessible and supportive relationships		0	0		
Optimism		0	0		
Freedom and individualism		0			
Openness to new ideas		0			
Cosmopolitanism					
Outgroup trust	0	0			
Trust in Institutions		0			
Identification with wider national community		0			
Perceptions of Diversity					
Acceptance of immigrants		0			
Concerns about diversity		0			
Meritocracy & Civic Engagement					
Beliefs in fairness and meritocracy	0	0	0		
Acceptance of entrepreneurship		0			
Volunteerism		0			

Table 1. Summary Table of Findings Across Studies

Online Supplemental Material for "Shifts in residential mobility predict shifts in culture"

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Full regression output for Study 3	11

Full regression output, Study 1

Happiness

	Without Controls	Without Controls	With Controls	With Controls
Total Mobility Rate (prev. year)	0.008 ***		0.010 *	
	[0.004, 0.011]		[0.001, 0.020]	
Interstate Mobility Rate (prev. year)		0.020 *		0.017 ^
		[0.004, 0.037]		[-0.003, 0.038]
Happiness (prev. year)	0.324 *	0.468 ***	0.315 *	0.295 *
	[0.070, 0.579]	[0.209, 0.727]	[0.044 <i>,</i> 0.586]	[0.016, 0.574]
GDP			0.000 ^	0.000
			[-0.000, 0.000]	[-0.000, 0.000]
Immigration Rate			0.000	0.000
			[-0.000, 0.000]	[-0.000, 0.000]
Year			-0.004 ^	-0.003
			[-0.009, 0.000]	[-0.008, 0.001]

Years	46	46	46	46

Note: *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1. Values in brackets indicate 95% confidence intervals.

Fairness

	Without Controls	Without Controls	With Controls	With Controls
Total Mobility Rate (prev. year)	0.006		-0.005	
	[-0.002, 0.014]		[-0.022, 0.013]	
Interstate Mobility Rate (prev. year)		0.002		-0.017
		[-0.026, 0.029]		[-0.052, 0.019]
Fairness (prev. year)	0.693 ***	0.826 ***	0.431 **	0.433 **
	[0.450, 0.935]	[0.626, 1.026]	[0.144, 0.719]	[0.148, 0.717]
GDP			0.000	0.000
			[-0.000, 0.000]	[-0.000, 0.000]
Immigration Rate			0.000	0.000
			[-0.000, 0.000]	[-0.000, 0.000]
Year			-0.005	-0.005
			[-0.014, 0.004]	[-0.013, 0.004]
Years	46	46	46	46

Note: *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1. Values in brackets indicate 95% confidence intervals.

Trust

	Without Controls	Without Controls	With Controls	With Controls
Total Mobility Rate (prev. year)	0.008 ^		-0.012	
	[-0.001, 0.018]		[-0.030, 0.006]	
Interstate Mobility Rate (prev. year)		0.020		0.017
		[-0.012, 0.051]		[-0.022, 0.056]
Trust (prev. year)	0.587 ***	0.695 ***	0.287 ^	0.209
	[0.319, 0.855]	[0.478, 0.913]	[-0.020, 0.593]	[-0.110, 0.529]
GDP			-0.000	0.000
			[-0.000, 0.000]	[-0.000, 0.000]
Immigration Rate			-0.000	-0.000
			[-0.000, 0.000]	[-0.000, 0.000]
Year			-0.001	-0.006
			[-0.010, 0.008]	[-0.015, 0.002]
Years	46	46	46	46

Note: *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1. Values in brackets indicate 95% confidence intervals.

Descriptive statistics for Study 2

Descriptives for all variables can be found, as .csv's, at https://osf.io/gzxk3/?view_only=fe2e64163c214d62bb9a70ce5c503ec6.

For dependent variables, descriptives include means, standard deviations, and n's for each country-year of data.

For independent variables, descriptives include means, standard deviations, and # of years for each country.

Descriptive statistics for the sample in Study 3

Demographics

Binary Measures

Demographic	Pct of Total Respondents	Distribution
Stuck in Prior Year?	0.337	No: 22669, Yes: 3376
Moved in Prior Year?	1	No: 67835, Yes: 9388
Gender	0.108	Female: 4700, Male: 3641
Race	0.315	White: 13638, Black: 9386, Other: 1333
Employed	0.319	No: 13808, Yes: 10829
Married	0.319	No: 15339, Yes: 9298

Continuous Measures

		Pct of Total				
Demographic	n	Respondents	Mean	SD	Median	Distribution
Years Stuck	25900	0.335	0.366	1.11	0	
Rurality	26800	0.347	3.36	2.4	3	
Combined SES	16600	0.215	0.027	0.826	-0.016	
Age	8340	0.108	50.6	14.4	50	
Religiosity	8310	0.108	3.89	1.33	4	
Health	8300	0.107	3.5	1.1	4	

Correlations between measures

Variable	М	SD	1	2	3
1. Flourishing	33.76	4.90			
2. Life Satisfaction	18.84	4.50	.64** [.62, .65]		
3. Resentment^	0.51	0.50	13** [15, 11]	15** [17, 13]	
4. Average Life Getting Better^	0.48	0.50	.19** [.16, .21]	.19** [.17, .21]	10** [12, 08]

Note. M and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. $^{\circ}$ indicates a binary variable. * indicates *p* < .05. ** indicates *p* < .01.

Full regression output, Study 3

With Controls

Belief that the life of the average person is improving

	Years Stuck	Stuck in Prior Year	Moved in Previous Year
Years Stuck	-0.016 ***		
	[-0.025, -0.006]		
Stuck in Prior Year		-0.034 *	
		[-0.065, -0.002]	
Moved in Prior Year			0.033 *
			[0.007, 0.060]
Gender - Female	0.015	0.015	0.016
	[-0.007, 0.038]	[-0.008, 0.037]	[-0.007, 0.038]
Age	-0.002 ***	-0.002 ***	-0.002 ***
	[-0.003, -0.001]	[-0.003, -0.001]	[-0.003, -0.001]
Race - White	-0.154 ***	-0.153 ***	-0.152 ***
	[-0.181, -0.126]	[-0.180, -0.125]	[-0.179, -0.124]
Race - Other	-0.090 **	-0.085 **	-0.086 **

	[-0.153, -0.028]	[-0.148, -0.023]	[-0.148, -0.024]
Employed	-0.019	-0.022	-0.020
	[-0.046, 0.007]	[-0.049, 0.005]	[-0.046, 0.007]
Married	-0.051 ***	-0.051 ***	-0.046 **
	[-0.078, -0.024]	[-0.078, -0.023]	[-0.073, -0.018]
Rurality	-0.009 ***	-0.009 ***	-0.008 ***
	[-0.014, -0.004]	[-0.014, -0.004]	[-0.013, -0.004]
Combined SES	0.041 ***	0.040 ***	0.041 ***
	[0.025, 0.058]	[0.024, 0.056]	[0.025, 0.058]
Religiosity	-0.004	-0.005	-0.004
	[-0.013, 0.004]	[-0.013, 0.004]	[-0.013, 0.005]
Health	0.060 ***	0.060 ***	0.061 ***
	[0.050, 0.071]	[0.050, 0.070]	[0.051, 0.071]
n	7773	7819	7819

Note: Black is the reference group for Race, Male is the reference group for Gender. 95% confidence intervals are in brackets. Values are unexponentiated estimates *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1.

Flourishing

	Years Stuck	Stuck in Prior Year	Moved in Previous Year
Years Stuck	-0.076 ^		
	[-0.154, 0.002]		
Stuck in Prior Year		-0.239 ^	
		[-0.511, 0.033]	
Moved in Prior Year			0.380 **
			[0.151, 0.609]
Gender - Female	0.529 ***	0.527 ***	0.537 ***
	[0.336, 0.723]	[0.334, 0.720]	[0.343, 0.730]
Age	-0.008 *	-0.008 *	-0.003
	[-0.015, -0.001]	[-0.015, -0.001]	[-0.011, 0.005]
Race - White	-0.020	-0.006	-0.001
	[-0.259, 0.218]	[-0.244, 0.232]	[-0.238, 0.237]
Race - Other	-0.511 ^	-0.411	-0.418
	[-1.048, 0.026]	[-0.944, 0.123]	[-0.951, 0.116]
Employed	0.154	0.150	0.180

	[-0.076, 0.384]	[-0.079, 0.379]	[-0.050, 0.410]
Married	0.334 **	0.343 **	0.393 ***
	[0.102, 0.567]	[0.111, 0.575]	[0.161, 0.626]
Rurality	-0.029	-0.029	-0.023
	[-0.070, 0.012]	[-0.069, 0.012]	[-0.064, 0.018]
Combined SES	0.980 ***	0.964 ***	0.979 ***
	[0.839, 1.121]	[0.823, 1.105]	[0.838, 1.120]
Religiosity	0.498 ***	0.501 ***	0.505 ***
	[0.422, 0.574]	[0.425, 0.577]	[0.429, 0.581]
Health	1.947 ***	1.953 ***	1.956 ***
	[1.860, 2.033]	[1.866, 2.039]	[1.870, 2.043]
n	7725	7769	7769

Note: Black is the reference group for Race, Male is the reference group for Gender. 95% confidence intervals are in brackets. *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1.

	Years Stuck	Stuck in Prior Year	Moved in Previous Year
Years Stuck	-0.158 ***		
	[-0.228, -0.088]		
Stuck in Prior Year		-0.474 ***	
		[-0.719, -0.229]	
Moved in Prior Year			-0.025
			[-0.231, 0.181]
Gender - Female	0.101	0.102	0.101
	[-0.073, 0.275]	[-0.072, 0.276]	[-0.073, 0.274]
Age	0.008 *	0.008 *	0.008 *
	[0.001, 0.014]	[0.001, 0.015]	[0.001, 0.015]
Race - White	0.667 ***	0.685 ***	0.709 ***
	[0.453, 0.881]	[0.471, 0.898]	[0.495, 0.922]
Race - Other	0.639 **	0.703 **	0.699 **
	[0.156, 1.121]	[0.223, 1.182]	[0.219, 1.179]
Employed	0.005	0.033	0.029

	[-0.201, 0.212]	[-0.173, 0.240]	[-0.179, 0.236]
Married	1.032 ***	1.027 ***	1.051 ***
	[0.823, 1.241]	[0.818, 1.236]	[0.842, 1.261]
Rurality	0.044 *	0.044 *	0.047 *
	[0.007, 0.080]	[0.007, 0.080]	[0.011, 0.084]
Combined SES	0.864 ***	0.852 ***	0.848 ***
	[0.737, 0.991]	[0.725, 0.978]	[0.721, 0.975]
Religiosity	0.224 ***	0.231 ***	0.231 ***
	[0.156, 0.293]	[0.162, 0.299]	[0.163, 0.300]
Health	1.879 ***	1.876 ***	1.880 ***
	[1.801, 1.957]	[1.798, 1.954]	[1.802, 1.958]
n	7738	7783	7783

Note: Black is the reference group for Race, Male is the reference group for Gender. 95% confidence intervals are in brackets. *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1.

Resentment

	Years Stuck	Stuck in Prior Year	Moved in Previous Year
Years Stuck	0.003		
	[-0.006, 0.012]		
Stuck in Prior Year		0.017	
		[-0.015, 0.049]	
Moved in Prior Year			-0.032 *
			[-0.059, -0.005]
Gender - Female	-0.049 ***	-0.049 ***	-0.049 ***
	[-0.072, -0.026]	[-0.071, -0.026]	[-0.072, -0.027]
Age	-0.003 ***	-0.003 ***	-0.004 ***
	[-0.004, -0.003]	[-0.004, -0.003]	[-0.005, -0.003]
Race - White	-0.023	-0.024 ^	-0.024 ^
	[-0.051, 0.006]	[-0.052, 0.004]	[-0.052, 0.004]
Race - Other	0.053	0.042	0.043
	[-0.011, 0.117]	[-0.021, 0.106]	[-0.020, 0.106]

Employed	-0.005	-0.005	-0.008
	[-0.032, 0.022]	[-0.032, 0.022]	[-0.035, 0.020]
Married	0.046 ***	0.044 **	0.040 **
	[0.019, 0.074]	[0.017, 0.072]	[0.013, 0.068]
Rurality	0.001	0.001	0.001
	[-0.004, 0.006]	[-0.004, 0.006]	[-0.004, 0.006]
Combined SES	-0.094 ***	-0.092 ***	-0.093 ***
	[-0.111, -0.078]	[-0.108, -0.075]	[-0.110, -0.077]
Religiosity	-0.004	-0.005	-0.005
	[-0.013, 0.005]	[-0.014, 0.004]	[-0.014, 0.004]
Health	-0.031 ***	-0.031 ***	-0.031 ***
	[-0.041, -0.021]	[-0.041, -0.021]	[-0.041, -0.021]
n	7721	7768	7768

Note: Black is the reference group for Race, Male is the reference group for Gender. 95% confidence intervals are in brackets. Values are unexponentiated estimates *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1.

Without Controls

	Years Stuck	Stuck in Prior Year	Moved in Previous Year
Years Stuck	-0.008 ^		
	[-0.017, 0.001]		
Stuck in Prior Year		-0.004	
		[-0.036, 0.027]	
Moved in Prior Year			0.055 ***
			[0.031, 0.080]
n	8077	8123	8225

Belief that the life of the average person is improving

Note: 95% confidence intervals in brackets. Values are unexponentiated estimates. *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1.

	Years Stuck	Stuck in Prior Year	Moved in Previous Year
Years Stuck	-0.123 **		
	[-0.213, -0.033]		
Stuck in Prior Year		-0.485 **	
		[-0.798, -0.173]	
Moved in Prior Year			-0.034
			[-0.276, 0.208]
n	8020	8064	8164

Note: 95% confidence intervals in brackets. *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1.

	Years Stuck	Stuck in Prior Year	Moved in Previous Year
Years Stuck	-0.257 ***		
	[-0.340, -0.175]		
Stuck in Prior Year		-0.925 ***	
		[-1.211, -0.639]	
Moved in Prior Year			-0.680 ***
			[-0.901, -0.459]
n	8034	8079	8181

Note: 95% confidence intervals in brackets. *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1.

Resentment

	Years Stuck	Stuck in Prior Year	Moved in Previous Year
Years Stuck	0.006		
	[-0.003, 0.015]		
Stuck in Prior Year		0.029 ^	
		[-0.002, 0.061]	
Moved in Prior Year			0.025 *
			[0.001, 0.050]
n	8021	8068	8169

Note: 95% confidence intervals in brackets. Values are unexponentiated estimates. *** p < 0.001; ** p < 0.01; * p < 0.05; ^ p < 0.1.