



HAPPY NEIGHBORS ARE GOOD FOR YOU, WEALTHY ONES ARE NOT

SOME INSIGHTS FROM A FIRST STUDY OF WELL-BEING IN MONGOLIA

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Abstract:

We conducted the first extensive study of well-being in Mongolia, a country that has experienced a dramatic transition in both its economy and polity in recent decades. We found that most of the standard determinants of well-being were no different in Mongolia than they are for most countries in the world, with individual income, health, marital status and exercise all positively associated with life satisfaction; the same variables had positive but weaker correlations with our hedonic well-being measure. As in many other contexts, we found that, controlling for individual income, average community income was negatively correlated with life satisfaction, although not with hedonic well-being. This is not surprising, as comparison effects are more likely to influence overall life evaluations than they are daily (or weekly) moods and experience. In contrast, average community-level well-being—in both evaluative and hedonic dimensions—was positively associated with individual well-being. While being around wealthier people may generate envy among some, being around happier people has positive externalities (except, perhaps, for the very unhappy). Thus, at least in Mongolia, wealthier neighbors are not necessarily good for you, but happier ones surely are.

Keywords: Subjective well-being, Mongolia, community income, community well-being

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1. INTRODUCTION

There is burgeoning literature on well-being around the world, much of which finds consistent patterns in its determinants in countries and cultures around the world. Many of these patterns are predictable: Income matters to individual well-being, but after a certain point other things such as the incomes of others also start to matter. Health is essential to well-being, and stable partnerships, stable marriages and social relationships also play a role. Women are typically happier than men, except in contexts where their rights are severely compromised. And because these patterns are so consistent across diverse countries and cultures, scholars in the field can control for these factors and explore the well-being effects of phenomena that vary more, such as inflation and unemployment rates, crime and corruption, smoking, drinking, exercising, and the nature of public goods, among others.¹ There is also nascent literature on the causal properties of well-being, which finds that happier people are, for the most part, healthier and more productive.²

Within this broader frame, we undertook the first extensive survey of well-being in Mongolia, a remote and unique context where citizens had recently experienced a dramatic transition in the nature of their economy and

political system. A primary question was whether the basic patterns in the determinants of well-being trends would hold in Mongolia—landlocked between China and Russia, the least densely populated country in the world, with a rich history and nomadic heritage, and full of sharp contrasts. For all of these reasons, one could expect that well-being trends there might diverge from the usual patterns that we find elsewhere.

Because of the detailed and disaggregated nature of the data that we were able to collect, we were also able to explore additional questions for which larger-scale, less fine grained data sets do not allow.³ In particular, we focused on the well-being effects of average community-level income and of average community-level happiness, and how these varied depending on where in the income distribution respondents were, as well as where in the well-being distribution respondents were. As is increasingly common in the literature, we analyzed two distinct dimensions of well-being—hedonic and evaluative—separately, comparing our findings across these dimensions in Mongolia to those that we have based on worldwide data.⁴

These two distinct and measurable dimensions of well-being capture different aspects of human lives.⁵ The

first is hedonic well-being, which captures the manner in which individuals experience their daily lives, the quality of those lives, and their moods (both positive and negative) during those experiences. The second is evaluative well-being, which captures how people think about and assess their lives as a whole. The latter dimension implicitly includes eudaimonic well-being—how much purpose or meaning people have in their lives—although there are also aspects of daily experiences that can be purposeful but not pleasurable (such as reading the same story over and over again to a child) and others that are pleasurable but not purposeful (such as watching television).

Hedonic well-being is typically measured with questions that gauge positive affect on the one hand (smiling yesterday or happy yesterday, for example) and negative affect (anger or stress yesterday) on the other. Psychologists emphasize that there is not a simple continuum running from the positive to the negative dimensions, as people can experience both at the same time (such as happiness and stress).⁶ Evaluative well-being, meanwhile, is typically measured with questions that ask respondents about their satisfaction with their lives as a whole or to compare their lives to the best possible life they can imagine.

Evaluative well-being typically correlates more closely with individual income than hedonic well-being, not least as life course evaluations extend well beyond momentary experiences, and encompass the opportunities and choices that people have in their lives. A nascent body of research suggests that which dimension of well-being individuals value most may be mediated by their agency and capacity to control their lives.⁷ Kahneman and Deaton (2010) find that income correlates much more closely with evaluative than hedonic well-being in the United States. The positive correlation between hedonic well-being and income ta-

pers off at roughly \$75,000 (or median income), but the association between income and evaluative well-being continues in a linear fashion. This trend suggests that, beyond a certain point, additional income cannot make people enjoy their daily lives more (although insufficient income is clearly linked to suffering and negative moods), but higher levels of income offer people many more choices about how to live and what to do with their lives. Graham and Nikolova (2013b) find that individuals emphasize one well-being dimension over the other, depending on their agency and capabilities. Respondents with more means and agency (e.g., the capacity to make choices over the courses that their lives take) tend to emphasize evaluative well-being more, while those with limited means and opportunities tend to emphasize daily experience more. They also find that income and agency are less important to the well-being of respondents who are at the highest levels of the well-being distribution.⁸

Meanwhile, there is a wide literature and extensive debate on the relationship between relative income and well-being. This is, in part, because the effects of inequality on individual welfare—which seem to partially hinge on comparisons with peers, neighbors or other relevant cohorts—are rarely captured by large-scale aggregate measures. In part, it is because inequality signals different things to different people depending on the context.

There are conflicting results at the country level, with some studies finding a negative correlation between inequality and life satisfaction, others finding weak results, and some even finding a positive correlation.⁹ At more disaggregated regional levels, income inequality seems to be negatively correlated with life satisfaction in the U.S., the European Union and Latin America.¹⁰ In contrast, Claudia Senik (2004) finds a positive effect of average regional level incomes in Russia, highlighting

the potential role of positive signaling effects in contexts of uncertainty and transition (which could apply to Mongolia as well, and in part shows in our results). In another exploration in the transition economy context, Alexandru Cojocaru (2012) finds that the well-being effects of respondents' relative rank within neighborhoods are mediated by their beliefs about whether hard work or connections get one ahead in life. Those who have faith that hard work leads to upward mobility are not negatively affected by relative income differences, again likely because of positive signaling effects. More surprisingly, Clark (2003) also finds a positive correlation between region-level inequality and life satisfaction in the United Kingdom.

Finally, at the neighborhood level, which is what we examine in this paper, there are, again, different results. Erzo Luttmer (2005) finds a negative correlation between average neighborhood-level incomes and life satisfaction in the United States, highlighting the role of negative comparison effects. Graham and Felton (2006) find that inequality is negatively correlated with life satisfaction in medium- and large-sized cities in Latin America, also suggesting comparison effects, but positively correlated in the smallest cities, where signaling effects seem to dominate. Our results for Mongolia also suggest that both signaling and comparison effects can be at play at the same time.

2. MONGOLIA IN TRANSITION: THE CONTEXT

Overall, the transition economies experienced substantial drops in both income and well-being during the change from centrally planned to market economies, with well-being demonstrating a U-shaped curve over time: falling dramatically in the initial transition years and then recovering as economies stabilized and grew. The extent to which well-being recovered to its pre-transition levels, though, depends on particular countries and the state of their economies. When split into specific domains, meanwhile, well-being recovered more in the pecuniary areas—such as financial satisfaction—than it did in others, such as health satisfaction and satisfaction with family life. Given the dramatic changes that occurred in most countries' social welfare systems, these trends are not surprising.¹¹

The economic trends of Mongolia's transition, meanwhile, conform to this pattern. Although a relatively peaceful transition from a centrally planned socialist economy to a market economy followed the fall of the Soviet Union, the transition period also brought deep recession, hyperinflation and food shortages—common in many other post-Soviet countries as well. In recent years, however, the Mongolian economy, fueled by a mining boom, has been growing rapidly. The economic growth rate in 2011 was 17.2 percent—

among the highest in the world—and was expected to continue at a double-digit rate for several years, according to the World Bank. Despite being one of the fastest growing economies in the world, the Mongolian economy is still small (it had a GDP of \$10.27 billion in 2012). With a GDP per capita of approximately \$3,600, Mongolia falls into the lower-middle-income category in the World Bank's Development Indicators. Moreover, about one-third of its population lives in poverty, according to Mongolian national statistics, and approximately 40 percent of the country's workforce still have a nomadic lifestyle and herd livestock.

Unfortunately, we do not have good time trend data on well-being for Mongolia, as the Gallup World Poll only began polling there in 2005. Trends from 2005 on have been fairly stable, although with a significant downward dip in 2012. It is also important to note that well-being levels in Mongolia are quite low compared to the rest of the world and even in comparison to the rest of the transition economies (see Table 1). Although the rapid economic growth raised the GDP per capita from \$514 in 2005 to \$3,600 in 2012, Mongolia currently ranks 108 of 186 countries in terms of human development according to the United Nations' Human Development Index. It suffers from many issues that are common to transition economies as well as many that are unique to the country and its people.

3. DATA AND METHODS

Our survey was modeled on a wide range of other well-being surveys around the world and included the usual socio-demographic information, as well as an evaluative well-being question (life satisfaction on a five-point scale) and a hedonic well-being question (how happy an individual felt last week, also on a five-point scale). For the distribution of responses across these two main well-being variables, please see Figure 1. We used an additional question about enjoying life in the regressions as a control for innate affect/personality traits. In the absence of panel data and the ability to control for person fixed effects, including a question which gauges positive affect/optimism in cross-section data is a next best approach, which is increasingly common in the literature.¹² For details on the variables in the questionnaire, see the Appendix.

Mongolia has a capital city, Ulaanbaatar, and 21 provinces (*aimags*), which are subdivided into 329 counties (*soums*). *Soums*, in turn, are further divided into *bags*, which are less formal administrative units. Our survey was carried out by the Chamber of Commerce and Industry of Orkhon-Bulgan provinces in Orkhon Province during the period of October-December 2012, and it is the first ever conducted

survey of its kind in Mongolia. It covered 1,225 respondents between the ages of 15 and 64 from 1,225 households across 20 *bags*, which represents 5.1 percent of all households in the province. Compared to other provinces, Orkhon is geographically smaller and centered around Erdenet, the third largest city in Mongolia. Summary statistics of the survey are provided in Table 2.

Our baseline regression in Table 3 is a random-effects model, with an ordered logistic specification as is usual for categorical variables that are ordinal but not cardinal in nature. When one examines the effect of community well-being on individual's well-being as we do in this study, there is an inherent difficulty with establishing causality. Since the complex changes Mongolia has gone through might not have affected all places over time the same way, and given that our data is a random selection from the population, we utilize random effects across *bags* in our regression analyses. We also re-ran the same baseline regression, again with random effects, but with a linear specification and get essentially identical results.¹³ When we do split sample regressions (Tables 5-6), we then use the linear specification so that we can compare the coefficients across the equations.

4. RESULTS

Our results from Mongolia demonstrate that the basic determinants of well-being are no different in Mongolia than they are anywhere else, despite the unique context, and the dramatic economic and political transition the country has experienced. When we use evaluative well-being as the dependent variable (which is the most common specification), we find that income, health (self-reported), marriage and employment are all important correlates, as they are in other places (Table 3). In addition to the usual socioeconomic and demographic controls, we included a variable that asks respondents how much they enjoy life as a control for innate positive affect/optimism. In the absence of panel data and the ability to include individual-fixed effects, including an additional question gauged to measure optimism or pessimism in cross-section data can help control for individual character traits, albeit far from perfectly, and is increasingly common in the literature.¹⁴

When we look across well-being dimensions, we found, not surprisingly, that the size of the income variable was greater for evaluative well-being than it was for hedonic well-being. As is noted above, hedonic well-being typically correlates less closely with income (and other agency-related variables) as it is more closely related to day-to-day experience and to innate affect levels than is evaluative well-being. Along these same lines, the coefficient on marriage is positive and significant on life satisfaction, but also insignificant on happy last week. The coefficient on health is positive for both well-being dimensions but much smaller in size on happy last week. Exercise is positively correlated with life satisfaction, but not with happy last week; while alcohol use is negatively correlated with life satisfaction, but not with happy last week. We have a reason to believe that there is significant under-reporting about alcohol use in

our survey: Despite decreased adult per capita alcohol consumption in Mongolia, the survey numbers drastically fall short of those reported by the World Health Organization, and, thus, those who report moderate alcohol use may actually consume more excessive amounts (Table 3). The classic U-shaped age curve, meanwhile, also holds for Mongolia, with the lowest point in happiness being at 42.5 years of age. This is on the young end of the curve for most countries (for example, it is 50 in Russia, 48 on average in Latin America, and approximately 44 in the U.K. and the U.S.), but may in part be explained by fairly low levels of life expectancy in Mongolia. Life expectancy was 68 years in 2011, compared to 69 years in Russia, 73 in China, and 82 in Japan.¹⁵

We also asked questions about whether respondents were able to achieve their dreams and whether they were satisfied with their freedom of expression. Not surprisingly, dream achievement was positively correlated with both evaluative and hedonic well-being, as positive perceptions tend to correlate together. Dream achievement reflects innate optimism among other things, and causality likely runs in both directions. Freedom of expression was positively correlated with life satisfaction, but not with happy last week. This makes sense, as freedom of expression captures individuals' ability to achieve what they want to achieve more than the quality of their daily lives and/or enjoyment on a day-to-day basis. It should be noted that a democratic government quickly emerged in Mongolia following the fall of communism. Currently, the country is governed by a mixed presidential-parliamentary system, and, despite political crises from time to time, Mongolia is considered free and relatively stable with little violence. In fact, many highlight how on the Freedom House global map, Mongolia appears as an island with its "free" status surrounded by other nations rated as "not free."

We also included other variables in the baseline regressions such as gender, education, home ownership, dwelling type, living with extended family and religion. As Table 3 shows, there was no significant gender difference in well-being. Due to the nomadic heritage and communist legacy, Mongolian women actively participate in all arenas of business and society, with the number of female college graduates as well as the number of doctors and lawyers exceeding that of men. We also looked at whether living in a *ger* dwelling—the round, portable, felt-covered traditional dwelling structure (i.e., yurt)—was correlated with well-being measures. Most people living in the rural areas still reside in this traditional dwelling, and many families that have migrated to urban areas have also settled into *ger* districts at the outskirts of urban areas. In the baseline regression, there was no significant difference based on living in *gers*.

Whether an individual reported being associated with a certain religion also was insignificant. Despite Buddhism being one of the most important influences on Mongolian culture and approximately half of the population following Tibetan Buddhism, the ban that was placed on religious practice under the communist government significantly weakened the role of religion, and about 40 percent of the people do not practice any religion according to various national statistics. Level of education, home ownership, and whether one lived with his or her extended family were also insignificant (Table 3).

In addition to our baseline findings, we explored the effects of average community income and average community well-being. Community here refers to the *bag* to which the household belongs. *Bag* is the smallest administrative unit outside of the capital city, and there are typically about 4,000 individuals in a *bag*. In our sample, 1,225 respondents come from 20 *bags*. As

in many other contexts, we find that, once individual income is controlled for, individuals living in communities with higher levels of average income were less happy than the average. Not surprisingly, the results held for evaluative rather than for hedonic well-being, given that the coefficient on income is much stronger for evaluative well-being (the coefficient ran in the expected direction but was insignificant on happy last week). As in the case of individual income, one can imagine that the comparison effects, whether they be about means or opportunities, are more important to evaluative well-being than for hedonic well-being (Table 3). These findings are the opposite of those of Deaton and Stone (2013) for the United States, meanwhile, where they find that average zip code level income is either negative or insignificant for hedonic well-being, but positive for evaluative well-being.¹⁶

Average community-level well-being (hedonic and evaluative), in contrast, was positively and significantly correlated with individual well-being. This result suggests (as we have found in some other work) that while higher levels of average income seem to have both positive and negative externalities, with the latter weighing in more strongly, average levels of well-being are positive for most people. This is not surprising as being around happier people is usually more pleasant for all concerned (except for the very unhappy).¹⁷ This also seems to be the case for healthier people: In the same way, it is more pleasant to be surrounded by healthy rather than unhealthy neighbors. In earlier work we find that average health satisfaction among one's peers is positively correlated with life satisfaction.¹⁸

Finally, we added a variable based on the reported sources of stress to our baseline model in Table 4. Respondents were asked whether they had income-, unemployment-, job-, family-, health- and infrastructure-related stress, and we collapsed these variables

into a reported number of stress triggers variable. We find, not surprisingly, that the number of different stress triggers was negatively correlated with life satisfaction. In an unreported regression (results available from the authors), we looked at the specific stress triggers and found that income-related and infrastructure-related (e.g., electricity, public transportation) stresses were the most important.

In order to gain more insight into these subjective well-being measures, we split respondents by their position in the well-being distribution—above and below median levels of well-being (when life satisfaction is the dependent variable, we split the sample into above and below median happy last week, and when happy last week is the dependent variable, we split by life satisfaction medians) (Table 5). We found that the negative effects of average income became insignificant. The correlation with individual income, meanwhile, was insignificant for the happiest group and *positive* only for the life satisfaction of those below median hedonic well-being. Meanwhile, individual income was *negative* and significant for hedonic well-being for those above median life satisfaction. In earlier research based on worldwide data and quantile regressions, we found that variables that relate to agency and capabilities—such as income and education—are least important to the well-being of the happiest group, perhaps because they are happy already, regardless of context, while less happy cohorts seem to value income, jobs and other agency-related variables more.¹⁹

Average community-level happiness, meanwhile, was positive and significant across all the split samples except for those above median life satisfaction. Along those same lines, we find that education is *negatively* correlated with the life satisfaction of those above median hedonic well-being levels, and *positively* with happy last week only for those below median life sat-

isfaction levels. Marriage was positively correlated with life satisfaction for both groups, but insignificant when happy last week is the dependent variable. Self-reported health was only positive and significant for the life satisfaction of those in the below median happy cohort.

We then split our sample into those respondents above and below median income (Table 6). We found, rather surprisingly, that the negative comparison effects of income only held for the life satisfaction of those *below* median income (again it was insignificant for hedonic well-being) (Table 6). This is counter-intuitive given the standard interpretation of comparison effects, which is that they matter more after people have sufficient income and the “luxury” of worrying about the incomes of others. Yet the transition economy context is clearly different and comparisons can have positive signaling effects, at least for some cohorts, as Senik et al. (2009) found in Russia.²⁰ Communist regimes strived to achieve income equality, and such equality was much emphasized. It may also be that nowadays those above median income see higher levels of average income as a sign of progress and gains made in the transition, while poorer respondents may both perceive to be and/or actually be left behind in the transition process.

There were some other notable differences with our split sample specification. Marriage, for example, remained positive for the life satisfaction of respondents above and below median income. This trend contrasts with earlier work we have done on marriage and well-being based on worldwide data, in which we find that the positive coefficient on marriage only holds for respondents in wealthier countries and regions, and not in poorer ones.²¹ Not being gainfully employed, in contrast, was only negative and significant for the hedonic well-being of respondents *above* median income and

was insignificant for evaluative well-being. Education, meanwhile, was insignificant for well-being for those both above and below median income. Despite Mongolia boasting one of the highest literacy rates in the world (at 98 percent), the education system—of low quality and with an outdated curriculum—is still mismatched with the needs of the economy. This is common in transition economy contexts, where educational choices made prior to the transition may not translate into the expected job opportunities after.

Finally, we examined whether innate individual happiness and community happiness affect how people view their future and what they need in order to be happy. For this, we utilized a variable which asks respondents what they think they need to do in order to be happy in the future. Answers include improving their education, changing their lifestyle, getting promoted, becoming employed, owning a home, getting married, having children, and winning the lottery. We counted the number of items the respondents said they need to accomplish in order to be happy.

In order to assess the effect of innate happiness on this reported number of needs to be satisfied in order to be happy, we first obtained a residual well-being measure for each well-being dimension by estimating a random-effect model on life satisfaction and happy last week using the same specification we used in the previous baseline regression in Table 3. The well-being residuals are a proxy for the innate levels of happiness that are not explained by our socio-economic and demographic variables. We then regressed the number of needed items to be happy

on the residual well-being measure and all the other explanatory variables (Table 7). We found that the evaluative residual well-being measure is negatively correlated with reported needs for happiness. This trend is in keeping with our worldwide findings based on quantile regressions (Graham and Nikolova, 2013), in which we find that the happiest people are more likely to be happy regardless of environmental or contextual variables. As expected, those who are married, already own their home or report significant dream fulfillment need to do less in order to be happy. On the other hand, alcohol use and education were positively correlated with the number of items needed to be happy.

Interestingly, community-level happiness matters for how people thought about what they needed to be happy. Both evaluative and hedonic community well-being measures are negative and significant in Table 7, suggesting that those who live in communities with higher life satisfaction and hedonic happiness feel that they needed to do less in order to be happy.

As mentioned earlier, some recent studies have emphasized the importance of relative income and utilized income rank of a person within his or her community when studying the effect of income on subjective well-being. Therefore, as a robustness check, in unreported regressions, we have repeated our analyses with a relative income variable. We computed relative income of an individual by subtracting the average *bag* income from the individual's income. All the results remain qualitatively the same when we use a relative income measure instead of an absolute one.

5. CONCLUSIONS

We built from the burgeoning literature on well-being around the world and conducted the first extensive study of well-being in Mongolia, a remote and sparsely populated country that has experienced a dramatic transition in both its economy and polity in recent decades. Despite the unusual context, we found that the standard determinants of well-being were no different in Mongolia than they are for most countries in the world, with individual income, health, marital status and exercise all positively associated with life satisfaction. The same variables had weaker correlations with happy last week, our measure of hedonic well-being. This trend also accords with previous findings in the literature. The classic U-shaped relation between age and happiness also held, with the low point in Mongolia being 42.5 years, which is slightly younger than usual, but makes sense given the lower average level of life expectancy in Mongolia.

We also tested additional contextual variables. As in many other contexts, we found that average community income was negative for the life evaluations of our respondents (once individual income is controlled for) although it did not affect their hedonic well-being. This result is not surprising, as comparison effects are more likely to influence overall life evaluations than they are daily (or weekly) moods and experience. In contrast, average community-level well-being—both evaluative and hedonic—was positively associated with individual well-being. One can imagine that while being around wealthier people may generate envy among some respondents, being around happier people simply has positive externalities (except, perhaps, for the very unhappy).

When we split our sample according to where in the well-being distribution respondents were (above and below median levels of well-being), we found

that individual income was only positive for the life satisfaction of those respondents below median levels and was actually negatively correlated with the hedonic well-being of those with higher well-being levels. In this instance, the findings are in keeping with our comparative research, which finds that the happiest are typically happy regardless of context and means, while contextual variables matter more to the happiness of the least happy.

When we split our sample into respondents above and below median levels of incomes, we found some notable differences in our results from those in other places. We found, rather surprisingly, that the negative comparison effects of income only held for those below median income. The standard interpretation of comparison effects is that they matter more after people have sufficient income and the “luxury” of worrying about the incomes of others. Yet the transition economy context is clearly different, and comparisons may have positive signaling effects, at least for some cohorts. In contrast, the positive effects of average community-level well-being, both hedonic and evaluative, held across all income groups, again suggesting that the externalities associated with higher well-being levels are more straightforward and largely positive.

Finally, we created a residual well-being variable for each dimension (evaluative and hedonic) and explored the extent to which “innate” levels of well-being correlated with a number of things that were reported to be “needed” for happiness. The residual evaluative well-being variable was negatively correlated with these needs, again suggesting that the happiest people are happy almost regardless of their context or material goods. Interestingly, those who lived in communities with higher well-being, both evaluative and hedonic, felt that they needed to do less in order to be happy.

Well-being in Mongolia for the most part conforms to the usual patterns that are consistent around the world despite the very unusual context and the dramatic transition. Yet an important difference is the manner in which comparison effects varied across income levels, with the negative effects of peer income only hold-

ing for the poorer parts of our sample and not for the wealthier parts. Average levels of well-being, however, have positive effects across the board—both across income groups and across well-being dimensions. Thus, at least in Mongolia, wealthier neighbors are not necessarily good for you, but happier ones surely are.

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ENDNOTES

1. See, among others, Frey and Stutzer (2002); Blanchflower and Oswald (2004); Graham (2009); Graham (2008).
2. Graham, Eggers, and Sukhtankar (2004); DeNeve and Oswald (2012).
3. While the Gallup World Poll has included Mongolia for several years, and the basic questions in our survey are similar, our survey has, in addition, a number of questions that are tailored to the unique Mongolian context.
4. Graham and Nikolova (2013a), (2013b).
5. The state of the science on these two dimensions is summed up in Diener (2012) and Graham (2012).
6. Diener (2012), among others.
7. Graham and Lora (2009); Kahneman and Deaton (2010); Graham and Nikolova (2013b).
8. Graham and Nikolova (2013b).
9. See, among others, Alesina et al. (2004); Graham and Felton (2006); Oishi et al. (2011); Schwarze and Harpfer (2007); and Van Praag and Ferrer-i- Carbonell (2009).
10. See Blanchflower and Oswald (2003); O'Connell (2004); and Graham and Felton (2006), among others.
11. Easterlin (2009).
12. For a summary of the approach, see Graham and Lora (2009), Chapter 2.
13. It is increasingly common to treat well-being data as "cardinal," at least in practice if not in theory, and to use OLS specifications when they are more adequate to the question at hand. See Van Praag and Ferrer-i- Carbonell (2008).
14. See the chapter on methods (Chapter 2) in Graham and Lora (2009).
15. See <https://www.google.com/#q=Life+expectancy+Mongolia>; for the age curve around the world, Graham (2009).
16. Deaton and Stone (2013). One possible explanation for the difference is that their evaluative well-being measures is the best possible life (Cantril ladder) question in the Gallup U.S. and World Polls, a question that typically correlates more closely with income than does open-ended life satisfaction. See Graham, Chattopadhyay, and Picon (2010).
17. Daly et al. (2009).
18. Graham, Higuera, and Lora (2009).
19. Graham and Nikolova (2013b).
20. Senik (2009).
21. Graham and Chattopadhyay (2013).

APPENDIX

Variable Definitions

Variable	Definition
Life satisfaction	How satisfied are you with your life? (Very disappointed = 1; Disappointed = 2; Neither disappointed nor satisfied = 3; Satisfied = 4; Very satisfied = 5; Can't say = Missing)
Average <i>bag</i> life satisfaction	Average life satisfaction in respondent's <i>bag</i> . <i>Bag</i> is the smallest administrative unit in Mongolian provinces.
Happy last week	Did you feel happy last week? (Never = 1; Maybe once = 2; Occasionally = 3; Most days = 4; Every day = 5; Can't say = Missing)
Average <i>bag</i> happiness last week	Average happiness last week in respondent's <i>bag</i> . <i>Bag</i> is the smallest administrative unit in Mongolian provinces.
Income	Monthly household income (No income = 0 < 200,000 MNT (\approx < \$150) = 1 200,000 – 400,000 MNT (\approx \$150-\$300) = 2 400,000 – 600,000 MNT (\approx \$300-\$450) = 3 600,000 – 800,000 MNT (\approx \$450-\$600) = 4 >800,000 MNT (> \$600) = 5) Average exchange rate of 1,330MNT = 1 USD from 2012 was used to convert MNT amounts to USD.
Average <i>bag</i> income	Average income in respondent's <i>bag</i> . <i>Bag</i> is the smallest administrative unit in Mongolian provinces.
Unemployed	Are you unemployed? (No = 0; Yes = 1)
Married	This includes common-law marriages of those living with partners. (No = 0; Yes = 1)
Lives with extended family	Whether the respondent lives with an extended family. This includes three generations living together or living with one's relatives or in-laws. (No = 0; Yes = 1)
Age	Respondent's age, which ranges between 15 and 65.
Enjoys life	How much do you enjoy life? (Not at all = 1; A little bit = 2; Adequate = 3; To the fullest = 4)

Variable	Definition
Freedom satisfaction	How satisfied are you with your ability for free expression? (Very disappointed = 1; Disappointed = 2; Neither disappointed nor satisfied = 3; Satisfied = 4; Very satisfied = 5; Can't say = Missing)
Dream fulfillment	Have you achieved your dreams? (Haven't achieved anything = 1; Achieved 25% = 2; Achieved 50% = 3; Achieved 75% = 4; Achieved 100% = 5)
Health	How is your health compared to others? (Very poor = 1; Poor = 2; Okay = 3; Good = 4; Very good = 5)
Exercise	On average, how many times do you exercise for more than 30 minutes per week? (None = 1; 1-2 times = 2; 3-4 times = 3; 5-6 times = 4; 7+ times = 5)
Alcohol use	Did you use alcohol last month? (No = 0; Yes = 1)
Female	Respondent's gender. (No = 0; Yes = 1)
Education	Respondent's educational level. (No education = 1; Primary (1-5 grade) = 2; Middle (5-9 grade) = 3; Secondary (10-11 grade) = 4; Technical and vocational = 5; Higher education = 6)
Home ownership	Do you own your home? (No = 0; Yes = 1)
Lives in <i>ger</i> dwelling	Does your family live in <i>ger</i> ? <i>Ger</i> (i.e., yurt) is a traditional round, portable, felt-covered dwelling. (No = 0; Yes = 1)
Religion	Do you practice a religion? (No = 0; Yes = 1)
Number of stress triggering areas	The number of areas that caused stress in the respondent's life; ranges between 0 and 6. These refer to income, unemployment, job, health, infrastructure (e.g., public transportation, electricity) and family-related stress.
Number of items needed to be happy	The number of items the respondents said they need to do in order to be happy in the future and ranges between 0 and 6.

Figure 1: Frequency Distribution of *Life Satisfaction* and *Happy Last Week*

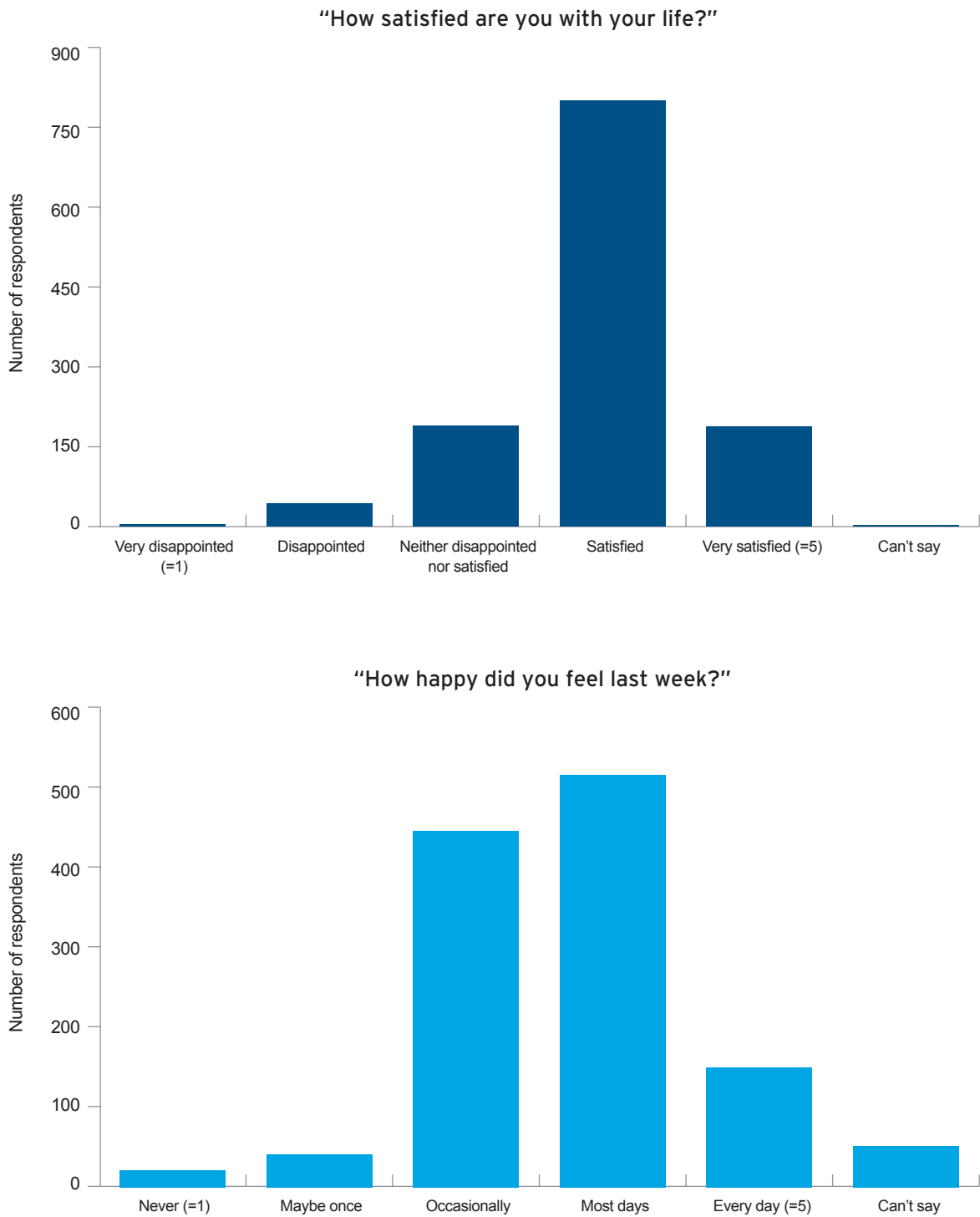


Table 1: Best Possible Life for Mongolia, All Available Years

Year	Obs.	Mean	Std. Dev.	World Rank	Transition Countries Rank
2007	943	4.611	1.690	81/104	21/26
2008	979	4.392	1.606	98/114	15/16
2010	995	4.590	1.729	98/125	20/27
2011	995	5.057	1.672	73/126	16/28
2012	993	4.785	1.566	98/140	24/30
All years	4,905	4.689	1.668		

Source: Gallup World Poll Data, 2008-2009, 2011-2013

Notes: Best Possible Life (BPL) measures the respondent's assessment of her current life relative to her best possible life on a scale of 0 to 10, where 0 is the worst possible life, and 10 is the best possible life. The table shows the country means and standard deviations for each year. World Rank means that Mongolia was ranked 81 out of 104 countries in 2007, for example, where Denmark was ranked as being 1 (i.e., having the highest possible BPL score). Transition Countries rank gives the respective rank among transition countries. Transition Countries are defined as in Guriev and Zhuravskaya (2009) and are as follows: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kosovo, Kyrgyz Republic, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russia, Serbia and Montenegro, Slovak Republic, Slovenia, Tajikistan, Ukraine and Uzbekistan. Not all countries are surveyed for all years.

Table 2: Descriptive Statistics

Variable	Mean	Median	Min	Max	St. Dev	N
Measures of Well-Being						
Life satisfaction	3.92	4	1	5	0.69	1,223
Happy last week	3.62	4	1	5	0.82	1,174
Explanatory variables						
Income	2.91	3	0	5	1.45	1,226
Unemployed	0.12	0	0	1	0.32	1,226
Married	0.65	1	0	1	0.48	1,226
Extended	0.19	0	0	1	0.39	1,226
Age	35.81	34	15	65	12.88	1,226
Enjoys life	3.09	3	1	4	0.53	1,225
Freedom satisfaction	3.62	4	1	5	0.86	1,209
Dream fulfillment	3.12	3	1	5	0.95	1,225
Health	3.54	4	1	5	0.71	1,226
Exercise	1.58	1	1	5	1.05	1,225
Alcohol use	0.28	0	0	1	0.45	1,226
Female	0.51	1	0	1	0.50	1,226
Education	4.54	4	1	6	1.15	1,226
Home ownership	0.88	1	0	1	0.32	1,226
Lives in <i>ger</i> dwelling	0.58	1	0	1	0.49	1,226
Religion	0.69	1	0	1	0.46	1,226
Number of stress-triggering areas	1.14	1	0	6	1.06	1,226
Number of items needed to be happy	1.52	1	0	6	1.08	1,226

Table 3: Determinants of Well-Being in Mongolia, Baseline Random-Effect Ordered Logistic Regression

Independent Variables	Dependent variable: Life satisfaction	Dependent variable: Happy last week
Average <i>bag</i> life satisfaction	3.247*** (0.00)	
Average <i>bag</i> happy last week		2.299*** (0.00)
Income	0.160*** (0.00)	0.085* (0.07)
Average <i>bag</i> income	-0.526** (0.01)	-0.175 (0.33)
Unemployed	-0.466** (0.02)	-0.391** (0.03)
Married	0.572*** (0.00)	-0.002 (0.99)
Lives with extended family	-0.229 (0.16)	-0.171 (0.24)
Age	-0.051 (0.13)	-0.085*** (0.00)
Age ²	0.001 (0.18)	0.001** (0.02)
Enjoys life	0.717*** (0.00)	0.300*** (0.00)
Freedom satisfaction	0.587*** (0.00)	0.065 (0.34)
Dream fulfillment	0.287*** (0.00)	0.278*** (0.00)
Health	0.375*** (0.00)	0.186** (0.03)
Exercise	0.175*** (0.01)	0.069 (0.22)
Alcohol use	-0.265* (0.07)	-0.081 (0.55)
Female	-0.168 (0.21)	-0.047 (0.69)
Education	0.008 (0.89)	0.030 (0.59)
Home ownership	0.156 (0.43)	-0.056 (0.76)
Lives in <i>ger</i> dwelling	-0.136 (0.45)	0.057 (0.73)
Religion	0.048 (0.73)	-0.112 (0.37)
<i>N</i>	1,203	1,157
Log likelihood	-1001.89	-1278.77

Notes: We utilize random effects across *bags*, and *p*-values are provided in brackets.

* *p*<0.10, ** *p* < 0.05, *** *p*<0.01

Table 4: Determinants of Well-Being in Mongolia, Baseline Random-Effect Ordered Logistic Regression with Reported Stress Triggers Variable

Variable	Dependent variable: Life satisfaction	Dependent variable: Happy last week
Average <i>bag</i> life satisfaction	3.181*** (0.00)	
Average <i>bag</i> happy last week		2.269*** (0.00)
Income	0.162*** (0.00)	0.084* (0.07)
Average <i>bag</i> income	-0.555*** (0.01)	-0.182 (0.31)
Unemployed	-0.443** (0.03)	-0.385** (0.03)
Married	0.577*** (0.00)	-0.003 (0.98)
Lives with extended family	-0.192 (0.23)	-0.158 (0.27)
Age	-0.039 (0.24)	-0.081*** (0.01)
Age ²	0.001 (0.34)	0.001** (0.02)
Enjoys life	0.697*** (0.00)	0.294** (0.01)
Freedom satisfaction	0.562*** (0.00)	0.057 (0.41)
Dream fulfillment	0.268*** (0.00)	0.272*** (0.00)
Health	0.327*** (0.00)	0.172* (0.05)
Exercise	0.175*** (0.01)	0.067 (0.23)
Alcohol use	-0.252** (0.08)	-0.076 (0.56)
Female	-0.153 (0.25)	-0.044 (0.72)
Education	0.019 (0.76)	0.033 (0.55)
Home ownership	0.147 (0.46)	-0.056 (0.76)
Lives in <i>ger</i> dwelling	-0.152 (0.40)	0.056 (0.73)
Religion	0.087 (0.53)	-0.099 (0.43)
Number of stress-triggering areas	-0.223*** (0.00)	-0.063 (0.28)
<i>N</i>	1,203	1,157
Log likelihood	-955.49	-1278.18

Notes: We utilize random effects across *bags*, and *p*-values are provided in brackets.

* *p*<0.10, ** *p* < 0.05, *** *p*<0.01

Table 5: Well-Being in Subsamples, Random-Effect Linear Regression

Variable	Dependent variable: Life satisfaction		Dependent variable: Happy last week	
	< Median happy subsample	> Median happy week	< Median life satisfaction	> Median life satisfaction
Average <i>bag</i> life satisfaction	0.722*** (0.00)	1.031*** (0.00)		
Average <i>bag</i> happy last week			0.955*** (0.00)	-0.167 (0.64)
Income	0.052* (0.04)	0.014 (0.70)	0.018 (0.69)	-0.102** (0.03)
Average <i>bag</i> income	-0.090 (0.31)	-0.042 (0.77)	0.052 (0.77)	0.017 (0.93)
Unemployed	-0.206** (0.02)	-0.159 (0.42)	-0.239 (0.11)	-0.348 (0.29)
Married	0.196*** (0.01)	0.317*** (0.00)	0.070 (0.58)	-0.141 (0.35)
Lives with extended family	-0.097 (0.20)	0.208* (0.08)	-0.014 (0.92)	0.014 (0.93)
Age	0.013 (0.41)	-0.040* (0.07)	0.015 (0.63)	-0.039 (0.23)
Age ²	-0.000 (0.43)	0.001 (0.13)	0.000 (0.76)	0.000 (0.49)
Enjoys life	0.191*** (0.00)	0.161* (0.07)	0.174 (0.14)	0.393*** (0.00)
Freedom satisfaction	0.130*** (0.00)	0.220*** (0.00)	-0.031 (0.63)	-0.079 (0.25)
Dream fulfillment	0.112*** (0.00)	0.030 (0.53)	0.100 (0.13)	0.084 (0.24)
Health	0.129*** (0.00)	0.065 (0.33)	0.069 (0.39)	-0.081 (0.40)
Exercise	0.070** (0.02)	0.094** (0.02)	-0.032 (0.68)	0.006 (0.89)
Alcohol use	-0.094 (0.18)	0.056 (0.59)	0.032 (0.82)	-0.139 (0.31)
Female	-0.052 (0.42)	-0.050 (0.60)	-0.085 (0.51)	-0.042 (0.74)
Education	-0.013 (0.66)	-0.104** (0.01)	0.102* (0.08)	-0.035 (0.57)
Home ownership	0.063 (0.49)	0.185 (0.23)	-0.190 (0.23)	0.723*** (0.00)
Lives in <i>ger</i> dwelling	0.120 (0.14)	-0.078 (0.52)	0.331** (0.02)	-0.161 (0.33)
Religion	0.082 (0.22)	-0.022 (0.82)	-0.032 (0.79)	-0.108 (0.41)
Constant	-1.271* (0.123)	-0.780 (0.48)	-2.018 (0.12)	4.419*** (0.00)
<i>N</i>	491	199	214	183
<i>R</i> ² (<i>within</i>)	0.236	0.279	0.098	0.203
<i>R</i> ² (<i>between</i>)	0.473	0.801	0.588	0.639
<i>R</i> ² (<i>overall</i>)	0.253	0.379	0.148	0.231

Notes: We utilize random effects across *bags*, and *p*-values are provided in brackets.

* *p*<0.10, ** *p* < 0.05, *** *p*<0.01

Table 6: Determinants of Well-Being in Income Subsamples, Random-Effect Linear Regression

Variable	Dependent variable: Life satisfaction		Dependent variable: Happy last week	
	< Median income	> Median income	< Median income	> Median income
Average <i>bag</i> life satisfaction	0.892*** (0.00)	0.670*** (0.00)		
Average <i>bag</i> happy last week			1.037*** (0.00)	0.847*** (0.00)
Income	0.044 (0.40)	0.004 (0.94)	0.072 (0.24)	0.023 (0.79)
Average <i>bag</i> income	-0.195** (0.02)	0.049 (0.61)	-0.119 (0.25)	0.055 (0.71)
Unemployed	-0.088 (0.28)	-0.175 (0.12)	-0.082 (0.39)	-0.317* (0.07)
Married	0.211*** (0.00)	0.166** (0.02)	0.024 (0.76)	-0.047 (0.67)
Lives with extended family	-0.001 (0.99)	-0.076 (0.25)	0.027 (0.77)	-0.089 (0.39)
Age	-0.017 (0.25)	-0.014 (0.36)	-0.045*** (0.01)	0.005 (0.85)
Age ²	0.000 (0.31)	0.000 (0.48)	0.001** (0.02)	-0.000 (0.85)
Enjoys life	0.197*** (0.00)	0.223*** (0.00)	0.169** (0.02)	0.058 (0.50)
Freedom satisfaction	0.138*** (0.00)	0.212*** (0.00)	0.036 (0.38)	-0.000 (0.99)
Dream fulfillment	0.100*** (0.00)	0.101*** (0.00)	0.130*** (0.00)	0.025 (0.63)
Health	0.105** (0.02)	0.099** (0.02)	0.068 (0.19)	0.107* (0.09)
Exercise	0.067** (0.04)	0.037 (0.13)	0.007 (0.85)	-0.029 (0.44)
Alcohol use	-0.074 (0.31)	-0.102 (0.10)	0.051 (0.55)	-0.123 (0.21)
Female	-0.035 (0.59)	-0.057 (0.30)	-0.010 (0.89)	-0.014 (0.87)
Education	-0.042 (0.16)	0.020 (0.44)	0.020 (0.57)	0.001 (0.98)
Home ownership	0.065 (0.45)	0.086 (0.41)	-0.125 (0.20)	0.284* (0.09)
Lives in <i>ger</i> dwelling	-0.108 (0.19)	0.088 (0.27)	-0.123 (0.21)	0.196 (0.12)
Religion	0.008 (0.90)	0.071 (0.24)	-0.038 (0.62)	0.011 (0.91)
Constant	-0.616 (0.45)	-0.996 (0.19)	-0.249 (0.74)	-0.601 (0.56)
<i>N</i>	497	427	477	413
<i>R</i> ² (<i>within</i>)	0.162	0.236	0.108	0.038
<i>R</i> ² (<i>between</i>)	0.781	0.757	0.720	0.458
<i>R</i> ² (<i>overall</i>)	0.207	0.272	0.173	0.091

Notes: We utilize random effects across bags, and p-values are provided in brackets.

* p<0.10, ** p < 0.05, *** p<0.01

Table 7: Reported Number of Items Needed to be Happy, Random-Effect Linear Regression

Independent Variables	Dependent variable: #Needs to be happy	Dependent variable: #Needs to be happy
Residual life satisfaction	-0.234*** (0.00)	
Residual happy last week		-0.050 (0.21)
Average <i>bag</i> life satisfaction	-0.452** (0.02)	
Average <i>bag</i> happy last week		-0.404** (0.02)
Income	-0.005 (0.86)	-0.001 (0.96)
Average <i>bag</i> income	0.031 (0.75)	0.027 (0.78)
Unemployed	0.095 (0.33)	0.104 (0.30)
Married	-0.270*** (0.00)	-0.279*** (0.00)
Lives with extended family	0.031 (0.69)	0.030 (0.71)
Age	0.026 (0.10)	0.026 (0.11)
Age ²	-0.001** (0.01)	-0.001** (0.02)
Enjoys life	-0.061 (0.31)	-0.051 (0.41)
Freedom satisfaction	-0.006 (0.86)	0.009 (0.82)
Dream fulfillment	-0.168*** (0.00)	-0.172*** (0.00)
Health	-0.018 (0.70)	-0.018 (0.70)
Exercise	0.018 (0.55)	0.010 (0.74)
Alcohol use	0.177** (0.01)	0.178** (0.01)
Female	-0.057 (0.37)	-0.055 (0.40)
Education	0.082*** (0.00)	0.086*** (0.00)
Home ownership	-0.233** (0.01)	-0.231** (0.02)
Lives in <i>ger</i> dwelling	0.129 (0.12)	0.192** (0.03)
Religion	0.055 (0.40)	0.045 (0.51)
Constant	3.637*** (0.00)	3.220*** (0.00)
<i>N</i>	1,203	1,157
<i>R</i> ² (<i>within</i>)	0.124	0.111
<i>R</i> ² (<i>between</i>)	0.274	0.288
<i>R</i> ² (<i>overall</i>)	0.129	0.116

Notes: We utilize random effects across *bags*, and *p*-values are provided in brackets. Residual well-being measures were obtained from running random-effect model on well-being measures with the baseline specification as in Table 3.

* *p*<0.10, ** *p* < 0.05, *** *p*<0.01



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