J Happiness Stud
DOI 10.1007/s10902-017-9888-4

RESEARCH PAPER

Set-Point Theory and Societal Collapse: The Case of Russia

Roberto Stefan Foa[1] · Ronald Inglehart[2,3] · Eduard Ponarin[4] · Tatiana Karabchuk[5]

Abstract Can a society's overall level of happiness change? Until recently, it was widely held that happiness fluctuates around set-points, so that neither individuals nor societies can lastingly increase their happiness. However, data from surveys carried out in Russia from 1982 to 2011 show that happiness fell substantially following the collapse of the Soviet Union, and has begun to rise again only recently. Additional data sources, including suicide rates and indices of negative affect expression, confirm these shifts. Contrary to set-point theory, we find that the recent increase has been driven as much by generational replacement as by mean reversion among individuals. The collapse of communism led to a permanent drop in subjective wellbeing among mid-life cohorts that was subsequently never fully recovered. Happiness can be substantially and permanently impacted by life-events, including those affecting society as a whole, and societal-level happiness can rise or fall over time as a result.

✉ Roberto Stefan Foa
roberto.foa@unimelb.edu.au

Ronald Inglehart
rfi@umich.edu

Eduard Ponarin
eponarin@hse.ru

Tatiana Karabchuk
tkarabchuk@uaeu.ac.ae

[1] School of Social and Political Sciences, University of Melbourne, Melbourne, Australia

[2] University of Michigan, Ann Arbor, MI, USA

[3] Laboratory for Comparative Social Research, National Research University Higher School of Economics, Moscow, Russian Federation

[4] Laboratory for Comparative Social Research, Higher School of Economics, Moscow, Russian Federation

[5] Department of Sociology, United Arab Emirates University, Al Ain, United Arab Emirates

Published online: 20 May 2017

Keywords Russia · Happiness · Life satisfaction · Religiosity · Belief systems · Subjective well-being · World Values Survey

1 Introduction

Can a society's overall level of happiness change? A large body of social science research suggests that neither economic development nor government policy seem to have a lasting impact. Even if individuals' incomes rise substantially, after a period of adjustment they return to their baseline levels of subjective well-being, leaving us on a "hedonic treadmill" (Brickman and Campbell 1981; Diener et al. 1999; Kahneman et al. 2004). Similarly, as countries become richer, relative gains and losses are offset among the population, bringing no overall increase in subjective well-being (Kenny 2004; Easterlin et al. 2012).

A substantial empirical literature has supported the perspective that societal subjective well-being levels remain stable over time. Inglehart (1990) demonstrated that life satisfaction levels were remarkably constant from 1973 to 1988 in most West European countries, while Easterlin (2005a, b), Easterlin et al. (2012), Diener and Oishi (2000), and Kahneman and Krueger (2006) report similar findings. But the strongest apparent evidence for the claim that aggregate subjective well-being levels cannot change over time comes from the United States, where hundreds of surveys have measured happiness and life satisfaction in almost every year since 1946. No other country has a comparable database, and though per capita income has risen considerably since 1946, the US data show a flat trend.

Due to the apparent stability in societal happiness, the idea that economic development does not contribute to rising societal happiness has been widely accepted. According to the view of set-point theory, individuals are caught on a "hedonic treadmill," whereby one-off increases in income per capita lead to only temporary utility gains that fade once expectations adjust to the new income level (Brickman and Campbell 1981; Frederick and Loewenstein 1999). An explanation for the apparent stability of the aggregate happiness of nations is social comparison theory, according to which happiness stays the same in the face of rising income because of a shift in reference (Easterlin 1974, 2003). If happiness is shaped by one's *relative* position in a society, then even if a nation's overall economy grows, only those with above-average gains will experience rising happiness, and these increases will be offset by decreases among those with below-average gains. Another theory is that of habituation, which asserts that after a life change individuals adjust their expectations and desires to match these new circumstances (Brickman et al. 1978). Thus even if a country experiences a period of economic growth or a sudden economic shock, such as a recession, happiness will quickly recover as individuals habituate to new economic circumstances (Blanchflower and Oswald 2004).

2 Theoretical Discussion

More recently, however, a number of studies have begun to question the view that happiness levels remain unchanging. With respect to the happiness of individuals, Fujita and Diener (2005) used 17 years of data from a large and nationally representative panel study in Germany, and found that 24% of respondents changed significantly in subjective

wellbeing from the first to the last five years of the survey. Similarly, Lucas et al. (2003) analyzed a 15-year longitudinal study of the effects of marital transitions on life satisfaction, finding that on average, individuals moved back toward their baseline levels of satisfaction but that significant numbers remained above their original baseline level, while other remained below it. Such studies tend to a different conclusion from what set-point theory would predict: namely, that individuals are not necessarily trapped on a hedonic treadmill (Diener et al. 2006).

But the fact that happiness can change for individuals does not necessarily mean that the happiness levels of given societies change. Social comparison theory holds that the relative gains and losses of different individuals in a given nation will cancel each other out, resulting in no net shifts for the society. Findings that happiness can change for individuals do not necessarily mean that there can be shifts in the happiness levels of entire societies (Clark et al. 2008).

Cross-country studies show that there is considerable variation in happiness levels around the world and that economic development is strongly correlated with country-level happiness: using the World Values Surveys, Inglehart (1990: Chapter 1) analyzed data from 24 countries covering a wide range of economic levels and found a strong and robust correlation between per capita income and life satisfaction ($r = 0.67$), and such a finding has been confirmed in subsequent studies using the Gallup World Poll (Stevenson and Wolfers 2013). More recently, a number of longitudinal studies have also begun to question the earlier thesis that happiness levels remain stable. Inglehart et al. (2008) found that from 1981 to 2007, life satisfaction rose in 63% of the 52 countries from which a substantial time series was available (covering a median of 17 years) while happiness rose in 88% of these countries. Meanwhile, Stevenson and Wolfers (2013) find that while "Americans have experienced no discernible increase in happiness over the past thirty-five years … Japan stands out as a remarkable success story, recording rising happiness during its period of rapid economic growth" and also that "life satisfaction has trended upward in Europe, and this trend has been most evident in those countries in which economic growth has been most robust." As more time-series evidence becomes available, the plausibility of set-point theory has increasingly come into contestation, as individual country cases show the possibility of large increases—or falls—in aggregate subjective wellbeing. However, until now, country studies have only shown marginal changes in aggregate levels of happiness. As such, scholars who hold to the set-point view—that societal level wellbeing cannot change—continue to argue that such changes are due to changes in survey methodology or question ordering, rather than the impact of social change on individual happiness (Easterlin 2005a, b; Easterlin et al. 2012). There has yet to be a definitive case to prove the possibility of large-scale shifts in aggregate happiness.

3 The Case of Russia

This article examines time-series data from Russia, which from the collapse of the Soviet Union in the early 1990s to the 1998 Russian financial crisis, has undergone one of the most profound social and economic shocks to affect any modern society. Income per capita fell by 43%, while the unemployment rose from almost zero to a peak of 13.9% (International Labor Organization 2012). Concomitant with this economic collapse, Russia experienced a range of social problems, including alcoholism, divorce, and homicide, as well as an explosion of corruption, inequality, and organized crime. From a high of almost

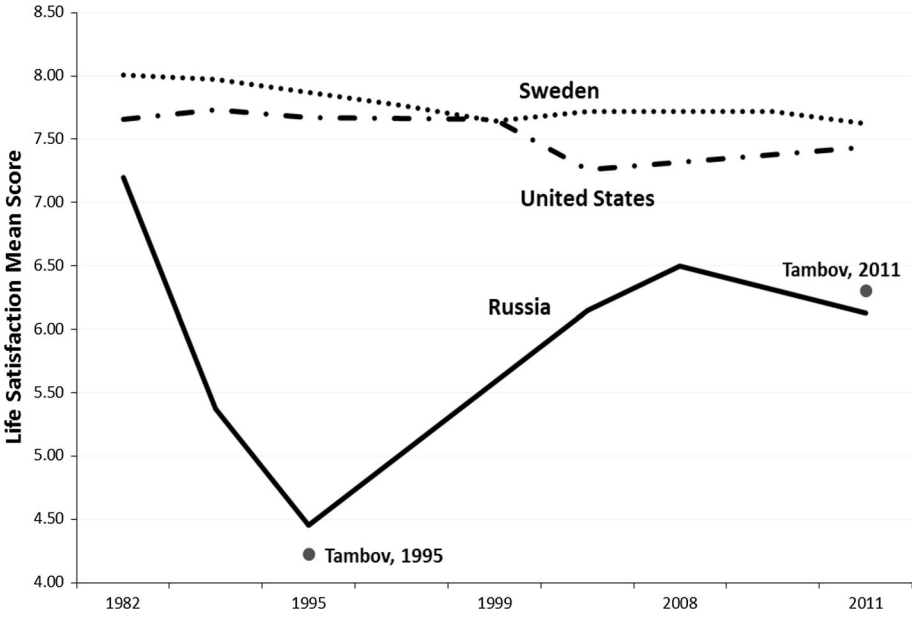


Fig. 1 Tambov oblast results in comparison with Russian World Values Survey data, 1981–2011. Mean life satisfaction scores from the World Values Surveys in years indicated

65 years during the Soviet era, by 1995 male life expectancy had fallen to just 57.6, lower than many countries within Sub-Saharan Africa (World Bank 2012).

While set-point theory would not lead us to expect a sustained shift in subjective well-being at the societal level to accompany such events, among the countries for which cross-national time-series data exists, it is in the Russian Federation that we can observe one of the largest shifts in measured subjective wellbeing of any country. From 1981 to 2014, the World Values Survey (WVS) and the European Values Study (EVS) have carried out seven waves of representative national surveys in over 100 countries containing almost 90% of the world's population, including nationally representative surveys in the Russian Federation in 1990, 1995, 1999, 2006, and 2011.[1] In addition, a 1982 sample for soviet Russia was taken from Tambov Oblast, a province of Russia's Central Economic Region: Tambov was selected as most representative of the Russian Soviet Federative Socialist Republic (RSFSR): additional surveys of Tambov oblast conducted in 1995 and again in 2011 were found to approximate the national level (Fig. 1).

The World Values Survey includes two measures of a respondent's sense of happiness, asking whether a person considers themselves to be "very happy", "quite happy", "not very happy" or "not happy at all," and to assess their level of life satisfaction on a scale from 1 (completely dissatisfied) to 10 (completely satisfied). Using the data from Tambov Oblast and identical items from the World Database of Happiness (Veenhoven 2012), it is possible to construct a time-series of subjective wellbeing in Russia covering the three decades from 1982 to 2011. Since the first surveys were conducted in Russia in 1982, to the

[1] Data for the 1990, 1995, 2006 and 2011 surveys are available in the aggregate WVS file at www.worldvaluessurvey.org, while data for the 1999 survey is included in the European Values Study aggregate file (http://www.europeanvaluesstudy.eu/page/survey-1999.html).

most recent survey in 2011, it is evident that the country has undergone profound and dramatic shifts in subjective wellbeing. From 1982 to 1999 Russia experienced a dramatic fall in subjective well-being concurrently with its economic crisis, while the subsequent economic recovery has been accompanied by an equally sharp recovery in reported happiness and life satisfaction. After a collapse from 1982 to 1995, life satisfaction had risen from an average reported life satisfaction score of 4.4 out of 10 in 1995—among the lowest levels in the world—to 6.12 in 2011, in line with the global median, though below Russia's own level from 1982. These results are consistent with those of another post-communist sample, Hungary, where a round of the World Values Survey was also conducted in 1982, showing that mean life satisfaction fell from 6.93 in the early 1980s—close to Tambov's level at the time—to a level of 6.03 in 1991 and 5.69 in 1999, before recovering to 6.3 in 2008 (World Values Survey 2014).

4 Understanding the Shifts: Human Development and Happiness

It seems evident that Russia experienced an unprecedented collapse in subjective well-being from 1982 to the late 1990s. Yet as important as it is to determine if the happiness of nations can fall, it is even more important to understand *why* it may fall. Economic development within a nation is a likely starting point for any explanation because it is demonstrably associated with psychological changes that in turn should impact people's happiness (Diener et al. 1995).

Inglehart (1997) hypothesized that economic development brings a societal-level shift from maximizing economic growth to maximizing subjective well-being:

> The transition from a society of scarcity to a society of security brings a dramatic increase in subjective well-being. But we find a threshold at which economic growth no longer seems to increase subjective well-being significantly. This may be linked with the fact that at this level, starvation is no longer a real concern for most people. Survival begins to be taken for granted. Significant numbers of Postmaterialists begin to emerge and for them, further economic gains no longer produce an increase in subjective well-being. From a rational actor's perspective, one would expect economic development to eventually bring a shift in survival strategies… At low levels of economic development, even modest economic gains bring a high return in terms of caloric intake, clothing, shelter, medical care and ultimately, in life expectancy itself. For individuals to give top priority to maximizing economic gains, and for a society to give top priority to economic growth, is a highly effective survival strategy. But once a society has reached a certain threshold of development … one reaches a point at which further economic growth brings only minimal gains in both life expectancy and in subjective well being. There is still a good deal of cross-national variation, but from this point on non-economic aspects of life become increasingly important influences on how long, and how well, people live. (Inglehart 1997, pp. 64–65).

This societal-level shift is linked with individual-level value changes, from giving top priority to economic and physical security toward giving top priority to self-expression values, which emphasize participation, freedom of expression, and quality of life. Under conditions of scarcity, people focus on survival needs, giving top priority to economic and physical security. By increasing people's sense of existential security, economic

Fig. 2 Changing levels of life satisfaction and happiness in Russia, 1981–2011. *Notes* World Values Survey, 1982–2011 data for Russia (1982, 1990, 1995, 1999, 2006, 2011)

development leads people to shift their emphasis from survival values toward self-expression values and free choice, which is a more direct way to maximize happiness and life satisfaction (Inglehart 1997). Emphasis on freedom increases with rising economic security, until in many societies people value free choice as much as they value economic security (Sen 2001).

Russia after 1989 is a rare example of a society which has experienced a reversion to survival values: existential security has declined, and life has become more precarious. The exceptional drop in economic living standards, physical security, and public health over the course of the transition era has consequently led Russian citizens to revert towards their private material needs and concerns, and has been associated with a phenomenal drop in subjective well-being. Above a certain threshold, there may be diminishing returns to economic growth—but falling below that threshold, can prove disastrous (Fig. 2).

5 External Validation

Before presenting substantive statistical analysis of the Russian survey data, in this section we offer external validation of the country time-series. Are the large shifts in subjective wellbeing evident from the Russian survey time series consistent with other indicators of subjective wellbeing? Proponents of set-point theory have alleged various objections to the shifts in subjective well-being displayed in international survey projects, including that changes in question ordering may have prompted greater positive response over time to questions concerning personal happiness, or that survey sampling has been inconsistent (Smith 1986; Easterlin 2005a, b). Where there is uncertainty regarding the reliability of data, external validation using several indicators can prove a useful method for assessing the quality of the original measure (Denzin 2006). Before examining the Russia data in greater detail, therefore, in this section we seek to triangulate the subjective well-being data with other data sources which would cross-validate our claim.

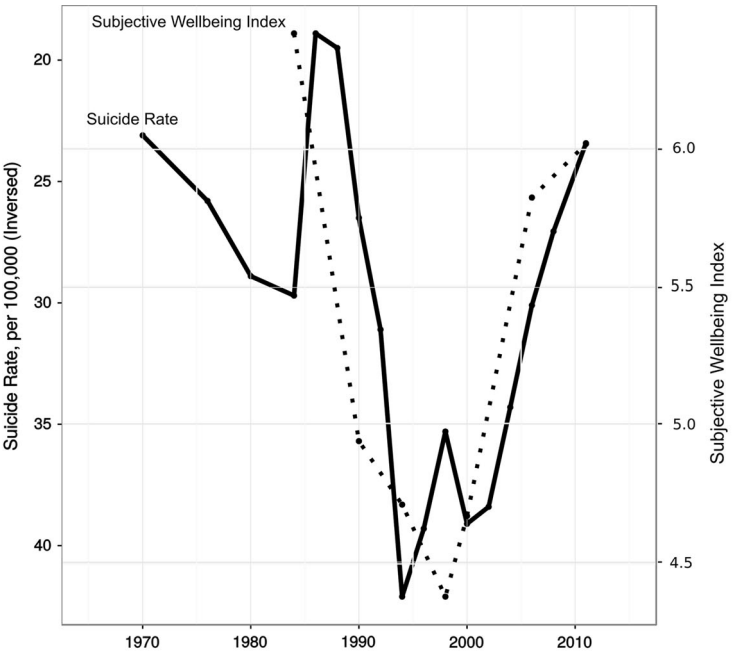
First, a significant body of evidence supports the (intuitive) hypothesis that suicide is correlated with lower subjective wellbeing, both at an individual, and community level

(Daly and Wilson 2009; Koivumaa-Honkanen et al. 2001; Bray and Gunnell 2006; Helliwell 2007). While suicide rates tend to reflect the lower end of the happiness distribution, empirical studies confirm (1) that aggregated suicide rates can substitute for measures of subjective wellbeing, and (2) that the same factors that increase suicide risk also shift people down the happiness continuum. As Daly and Wilson (2009) conclude, "suicide data may be a useful way to assess the preferences of the general population, not just those in the extreme lower tail of the happiness or well-being distribution."

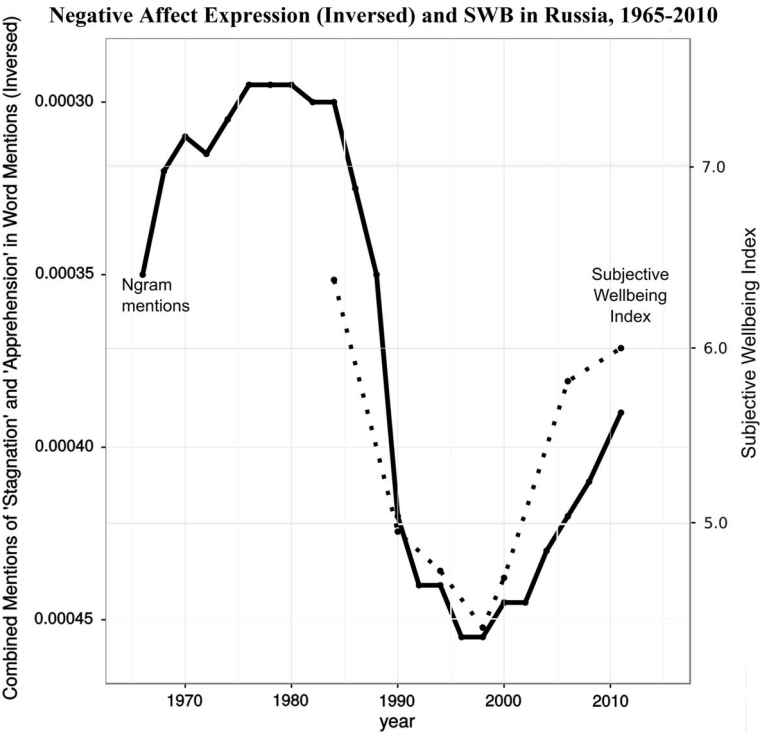
Second, a further means of measuring subjective wellbeing is through affect expression. A range of studies show that individuals who express greater positive affect, for example through more frequent use of terms that indicate gratitude, optimism, and positivity, score higher on measures of subjective wellbeing (Watkins et al. 2003). Positive affect expression has also been shown to have other positive effects: in a study of diaries written by sisters at a convent in 1930s Italy, Danner et al. (2012) found that subjects with the greatest levels of positive affect expression in early life lived 10 years longer than subjects with negative affect expression (Danner et al. 2012). At the aggregate level, groups with greater positive affect expression have also been shown to exhibit higher average levels of subjective wellbeing (Froh et al. 2006). One means of measuring positive affect expression is via word counts in print media, which reflect the general level of positive or negative affect expression in public discourse. Using Google ngrams, Acerbi et al. (2013) analyse the use of emotive affect words in twentieth century English print media, and find that the use of negative terms ("fear" and "disgust") peaked during times of social and economic distress—with "a 'sad' peak corresponding to the Second World War, and two 'happy' peaks, one in the 1920s and the other in the 1960s"—suggesting that word analysis, in combination with other indicators, may be a useful proxy for sociotropic wellbeing (Acerbi et al. 2013). Following this method, we therefore develop a proxy indicator of sociotropic wellbeing in Russia, using two negative affect terms with particular resonance in late soviet and transition-era Russia—"zastoy" (*stagnation*) and "opaseniya" (*apprehension*), combined into an equally weighted index.[2] The pairwise correlation between the two word items over the period under consideration is $r = 0.78$, while the correlation between the joint citation index and the subjective well-being index is $r = 0.95$. Together with this, we show the correlation between subjective wellbeing and the time-series of suicide data from Russia and the Soviet Union, for which data exist from the 1960s until the present day (Goscomstat/Rosstat 1981–2011).

Figure 3 shows the combined data for subjective wellbeing in Russia from 1982 to 2011, overlaid with each of these two external validation measures respectively. The upper chart shows trends in suicide rates for Russia and the Soviet Union for the period from 1965 to the present, overlaid with trend data for subjective well-being, using a combined and rescaled summary measure of average life satisfaction, assessed on a scale of 1–10, and

[2] One proxy for subjective affect can be gleaned from frequency of word citation (Michel et al. 2011). The most common method of doing so is via the "n-gram" a contiguous sequence of *n* items from a given sequence of text or speech, which can be phonemes, syllables, letters, words or base pairs. The n-gram model is a type of probabilistic language model for predicting the next item in such a sequence in the form of a Markov model, and such models are now widely used in probability, communication theory, computational linguistics, computational biology, and data compression. We use the Russian language search of the Google Ngram database, which covers all books predominantly in the Russian language; for the period under consideration, these are overwhelmingly soviet publications (Google 2010). The coverage of this database is exceptionally broad; within the English language corpus, for example, are as many as 4% of all published English language texts over the past two centuries. The results are normalised by the number of texts published in each year, thereby ensuring results are indicative of relative frequency and not affected by the obvious increase in publication material over time.



Suicide Rates (Inversed) and SWB in Russia, 1965-2010.



◀**Fig. 3** Validation of subjective wellbeing data: suicide rates and affect expression. *Notes* suicide data from Soviet/Russian National Statistics; subjective wellbeing index derived from World Values Surveys (1981–2011) and Veenhoven, World Database of Happiness (2012). Standard errors for the subjective wellbeing index range from 0.049 to 0.054. *Notes* Negative affect data from Google (2010); subjective wellbeing index derived from World Values Surveys (1981–2011) and Veenhoven, World Database of Happiness. Standard errors for the subjective wellbeing index range from 0.049 to 0.054

happiness, according to four potential category responses.[3] The timing and magnitude of the subjective wellbeing collapse and recovery in Russia appear strongly confirmed by time-series suicide data, which show a significant depression in the two decades from 1982 to 2004, followed by a gradual recovery. Consistent with the intuition that suicide decisions are preceded by a prior deterioration in psychological wellbeing, declines in subjective well-being also appear a leading indicator of suicide rates, with a lag of approximately 3–5 years, a lag also found in other longitudinal studies (e.g. Koivumaa-Honkanen et al. 2001).

Next, in the lower chart we show a composite index of negative affect expression overlain upon the subjective well-being series for the period 1965–2010. Again, the trend in affect expression through print media are consistent with the hypothesis that subjective wellbeing underwent a profound negative crest in the 1990s and have only since begun to recover gradually. Over the course of the transition era, not only public opinion surveys, but also suicide records and negative affect expression jointly suggest that Russia underwent a major trough in subjective well-being.

6 Age and Cohort Analysis

Is the dramatic fall in personal happiness shown in Fig. 3 necessarily inconsistent with set-point theory? A modified version of the set-point argument might posit that negative events have very long lags, of as much as a decade or more, or that recovery from certain categories of event is never total (Fujita and Diener 2005). However, standard presentations of the argument suggest that mean reversion occurs within several years of a negative life event, such as divorce, grievance, or the loss of gainful employment.

Figure 4 shows the levels of reported happiness for three generations of Russians: the "Stalinist" generation born before 1925, which came of age under Stalin's rule (and was already in retirement by 1991); the "Khrushchev" generation, born after World War II (and in middle-age by 1991); and the "Gorbachev" generation, between the age of 15–24 when communism fell, and which came of age during the years of economic transition. Concurrent with the collapse of communism, both the Khrushchev and the Stalin generations experience a large fall in reported happiness, but contrary to expectations of mean reversion, did not regain the level of subjective well-being it had previously enjoyed in less than a duration of two decades. At least part of the happiness recovery by 2011 is due to generational replacement: by this point there are no more respondents born before 1925 in the sample, while the new cohort born after 1977 start from a much higher baseline level of subjective well-being.

Cohort analysis from across the sample of post-communist societies suggests not simply mean reversion, but also generational replacement as the explanation for subjective well-being increases since the mid-1990s. The collapse of communism proved to be a durable,

[3] The subjective wellbeing index is calculated by rescaling both the life satisfaction score (1–10) and the happiness response (1–4) to a 0–10 range, and then averaging across the two measures, providing a combined 0–10 index of subjective wellbeing.

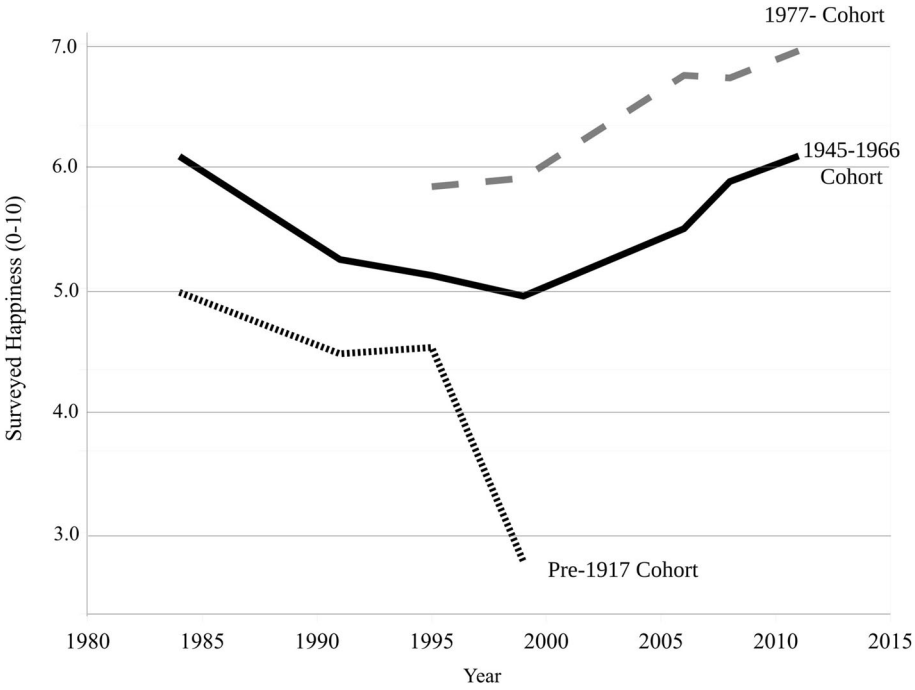


Fig. 4 A tale of 3 generations: age cohort and happiness in Russia, 1982–2006. *Notes* World Values Survey, 1982–2011 data for Russia (1982, 1990, 1995, 1999, 2006, 2011). Average response to item: "taking life as a whole these days, would you say you are (4) very happy, (3) fairly happy, (2) not very happy, or (1) not happy at all?" after rescaling to 0–10

one-time shock to an entire generation of soviet citizens. Communist rule is not necessarily linked with low levels of subjective well-being, as China and Vietnam—still ruled by communist parties and currently enjoying high rates of economic growth—show much higher levels of well-being than the soviet successor states. But the decay of the Soviet Union, and the collapse of its political, economic, and value system seems to have permanently reduced the subjective well-being of older cohorts. The so-called "Sputnik generation"—who came of age in Russia following the successful satellite launch of 1957—were raised to believe that they would achieve communism and win the Cold War. These hopes were cruelly disappointed. "The Sputnik generation came of age at the zenith of soviet socialism, only to see the system crumble some three decades later" (Raleigh 2006).

For a time, however, it was possible to maintain the faith that the system would deliver upon its promises. As Zubkova notes, "a complex of hopes and expectations prompted by the sacrifice of the great victory led to major changes in soviet society" (Zubkova 1998). In his study of the life trajectories of soviet baby-boomers, consisting in a series of interviews with high school graduates from one school in central Russia from the year 1967, Raleigh for example notes how:

> The new emphasis on improving living conditions helped to buoy the popular mood. Surveys conducted at the time capture the population's unprecedented optimism circa 1960, as the Sputnik generation entered their teenage years. In one survey, 73.2 per cent responded that their living standards had improved, as measured in terms of

> higher pay, more goods, a better diet, a shortened workday, and better housing. Other surveys confirmed a sense of optimism and personal satisfaction. People took pride in their generation's patriotism, moral values, loyalty, and regard for the collective. Soviet youth aspired to serve their country by becoming top-notch specialists and "real" Communists… Khrushchev issued with considerable fanfare a new Communist Party program that not only claimed the USSR would surpass the United States in per capita production by 1970, but also boasted that communism would be achieved by 1980 (Raleigh 2006).

Such dreams, obviously, did not come to pass. Yet for a time, the belief that they were building a better society may have given a sense of purpose to many people's lives; Raleigh notes how even in 2004 "the majority of the people I interviewed at first looked favorably upon the Brezhnev leadership" (Raleigh 2006). It would be difficult to understand the rise to power of the communist movements in Russia, China, and Vietnam without recognizing the motivating power of a belief system that once gave meaning to many people's lives. The younger generation who came of age after *Glasnost* and *Perestroika* were liberated from such beliefs and their consequent anomie and disappointment. Unencumbered by communist ideology, the youth of the post-communist era were able to better adapt to the institutions, values and expectations of the new era, and achieve a higher, indeed rising, level of subjective well-being in the new Russia.

7 Statistical Models: Cohorts, Belief-Systems and Happiness

In this section, we test this intuition more rigorously by estimating the role of political orientation upon with subjective well-being in transition-era Russia, and show that it is robust to the inclusion of the socio-demographic attributes with which political orientation is associated, such as occupational group, employment status, and age cohort. Regressions are estimated according to a model:

$$y \sim x_1 + x_2 + X_3 + X_4$$

where y refers to one of two indicators of subjective wellbeing, x_1 is the political orientation of the respondent, x_2 is the respondent gender, X_3 is a cohort vector (dummy variables by decade of birth), and X_4 refers to a vector of variables assessing their employment status (part-time employment, in study, retired, domestic employment, or unemployed). As measures of subjective wellbeing we estimate three regressions, the first using an item (rescaled from 0 to 10) in which respondents were asked to rate their happiness, ranging from 1 ("not happy at all") to 4 ("very happy"), to the second using a 0–10 life satisfaction scale, by which respondents were asked to assess themselves when considering "their life as a whole these days", and the third showing results of a combined subjective wellbeing index (0–10) of both the life satisfaction and happiness measures. As a measure of political orientation, we use the standard ten-point left to right self-placement scale, in which respondents were asked to assess their own position on a scale from "1" (left) to "10" (right). Results are shown in Table 1.

The estimated coefficients from models 1–3 suggest that political orientation is significantly associated with subjective wellbeing during the transition era in Russia. More left-wing respondents report substantially lower levels of happiness in post-communist society. A significant positive association is also found between younger age cohorts and reported happiness. The estimated partisan effects are large: on average, a "communist" respondent

(placing "1" on a 10-point left to right scale), will have a subjective wellbeing assessment that is a full point lower than a deeply "conservative" respondent (who places themselves at "9" on the same scale). Moreover, this effect is robust to the inclusion of controls for age cohort and occupational category. Groups who are more likely to place on the political left in transition-era Russia, such as retirees and the unemployed (-0.85 and -1.015 on the subjective wellbeing index, respectively) have significantly lower subjective wellbeing, and groups in Russia more likely to place on the right, such as students and housewives (respectively $+0.361$ and $+0.608$ on the life satisfaction scale) have significantly higher levels of reported happiness. These differences among demographic groups are trumped by a much broader division across post-soviet Russia, which is not socio-demographic, but also, ideological: whether a respondent was an adherent of Russia's political and economic transformation towards a new era, or merely one of its unwilling participants. Those individuals who supported the transition, regardless of age, gender, or occupation, were more likely to experience self-fulfilment and self-realization, than those who did not.

These observations points to an important factor in understanding changes in happiness over time, which are the role of generational values and beliefs in determining citizens' subjective well-being. For example, while social comparison theory might lead us to view part of the decline in aggregate happiness as due to rising income inequality, due to a shift in reference group (Easterlin 1974, 2003), this cannot explain the subsequent reversal since 1995 among a younger generation of Russians, who if anything can anticipate living under even less equal distributions of wealth; reference values, rather than reference groups, may be what matter. Rises in inequality are especially odious for groups raised under the egalitarian values of soviet communism, but less so, for younger cohorts raised in the values of the new system. Similarly, even before the onset of economic transition, the collapse of communism by 1990 appears to have instilled a large drop in subjective well-being among older generations, due to a loss of purpose, national identity, and belonging. Younger cohorts, by contrast, are more likely to relish the freedom of expression and consumption brought by the country's post-1991 institutions, and this intergenerational difference of values, is taking an increasing salience for contemporary Russian political and social life.

In contrast to the view that the unhappy in post-soviet Russia are simply the economic losers from the transition process who subsequently become drawn to left politics in protest, because the association between right orientation and subjective wellbeing in post-soviet Russia, the estimated coefficients in Table 1 are robust to demographic controls for employment status. Nonetheless, we can provide further confirmation for this intuition by examining trends in the relationship between left–right orientation and subjective wellbeing over time. Figure 5 shows respondents divided into two categories in the two decades from 1982: "left" respondents are those identifying as 1–4 on a 10-point left to right scale, and 'right' respondents, those identifying with values from 5 to 10. Consistently between a quarter and one-third of Russian respondents place themselves on the "left" of the political spectrum, with the remainder of the sample on the right.

For the 1990–1999 Russia data, this question has been included in the survey, though in the soviet sample from 1982, no ideological placement items could be included in the questionnaire. Accordingly, our estimates for 1982 subjective wellbeing are based on a synthetic panel design: In a synthetic panel, a model of consumption (or in this case, subjective wellbeing) is estimated in the first round of cross-sectional data, using a specification which includes only time-invariant characteristics, such as gender or age cohort, and parameter estimates from this model are then applied to the same time-invariant regressors in the second survey round to provide an estimate of the (unobserved) first period's subjective wellbeing for the individuals surveyed in that round. Analysis of

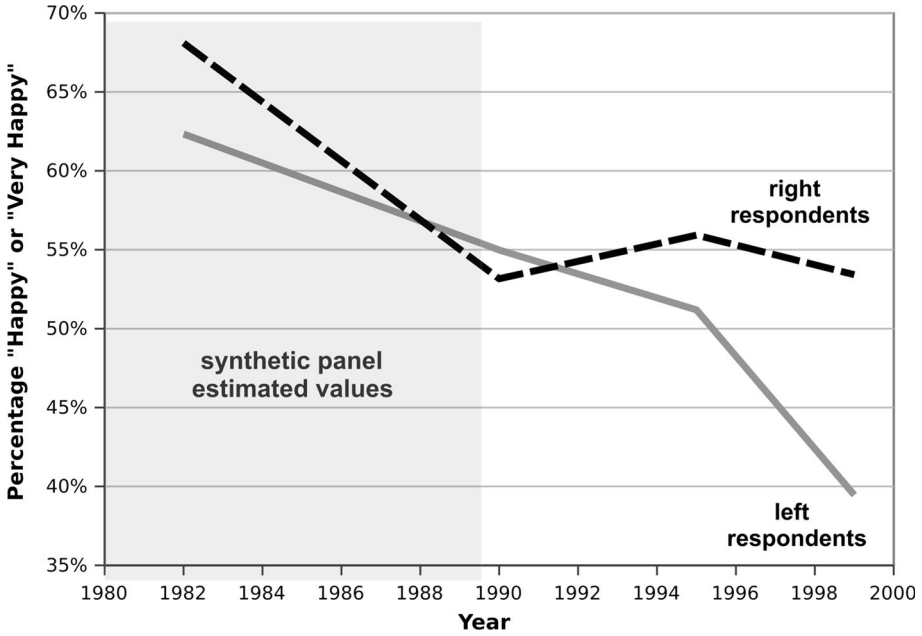


Fig. 5 Political orientation and happiness in Russia. *Notes* World Values Survey, 1982–2011 data for Russia, including synthetic panel estimates of respondent political orientation in 1982 data

subjective wellbeing trajectories can then be based on the actual level of happiness observed in the second round along with this estimate from the first round (Bourguignon et al. 2004; Antman and McKenzie 2007; Lanjouw et al. 2011). By constructing a synthetic panel for the Russian World Values Survey data that includes the initial survey from Tambov Oblast in 1982, we are able to make an estimate of the past subjective well-being level of current left respondents. Regression estimates for this imputation model are shown in the Table 2, assuming stability of political preferences (Tilley 2002, 2003; Gerber Green and Shachar 2003; Fowler 2006; Aldrich et al. 2007).

As the ideological "winners and losers" interpretation would suggest, the gap between left and right respondents emerges only over the course of the transition era of the 1990s. In 1990, in a survey taken before the collapse of the Soviet Union, left respondents on average exhibited a +1.8% point lead in reported happiness over right respondents. By 1995, this lead had collapsed to a −4.7% point deficit, before widening to a 14% point deficit by the last survey of the decade in 1999. Assuming stability of political orientation over the course of the 1990s, of the 25% point fall in the proportion of Russians describing themselves as "happy" or "very happy" in this time, almost all of this drop was concentrated among the third of the Russian population situated on the political left: while the happiness of right-wing respondents, accounting for two-thirds of society, remained stable. Our finding thus suggests a bold conclusion. One of the central contributors to subjective wellbeing is living in a social order that is consistent with one's own innermost beliefs and values. After the collapse of the Soviet Union, a significant proportion of the Russian population continued to believe in the values and expectations of the former system, and this portion of Russian society became increasingly alienated and embittered over the course of the transition era. By contrast, the portion of Russian society with a more liberal or conservative political orientation was able to maintain its level of subjective well-being, despite also sharing in hardships such as rising inflation, unemployment, and criminality.

8 Conclusion

In recent years, a substantial body of research has suggested that neither economic development nor government policy can have a lasting impact on subjective wellbeing. Even if individuals' incomes rise substantially, after a period of adjustment they return to their baseline levels of subjective well-being, leaving us on a "hedonic treadmill" (Brickman and Campbell 1981; Diener et al. 1999; Kahneman et al. 2004). Similarly, as countries become richer, relative gains and losses are offset among the population, bringing no overall increase in subjective well-being (Kenny 2004; Easterlin et al. 2012). While several recent studies have shown country-level declines in happiness in response to economic shocks (e.g. Delle Fave 2014; Halvorsen 2016), this raises the question of whether such effects represent a durable shift, or will lead to mean reversion (Veenhoven and Hagerty 2006 ; Inglehart et al. 2008).

In this article, we have shown that following a major economic and social collapse, in the two decades after 1982 subjective well-being fell substantially in the Russian Federation, and began to recover only recently. There are large differences in the subjective well-being trajectories of different generations, and, contrary to the expectations of set-point theory, the recent increase has been driven as much by generational replacement as by mean reversion. These facts imply that individual and societal happiness can be substantially and permanently impacted by life-events, including the trauma of the end of the Soviet Union and the ensuing economic transition. The collapse of communism was followed by a durable drop in subjective wellbeing among older and left-oriented Russian cohorts that has never been fully recovered, except among younger generations raised with different expectations and hopes in life.

Acknowledgements Financial support from the U.S. National Science Foundation and from the Government of the Russian Federation within the 5-100 program roadmap of the National Research University, Higher School of Economics is gratefully acknowledged.

Appendix

See Tables 1 and 2.

Table 1 Subjective wellbeing by cohort, political orientation, demographic attributes

	Happiness (0–10)	Life satisfaction (0–10)	Subjective Wellbeing Index (0–10)
Political orientation (left = 1; right = 10)	0.076*** (0.019)	0.128*** (0.022)	0.103*** (0.018)
Gender (female = 2)	−0.307*** (0.077)	−0.337*** (0.087)	−0.307*** (0.071)
Working part time	−0.242 (0.19)	−0.601** (0.218)	−0.419* (0.175)
Retired	−0.599*** (0.138)	−1.093*** (0.157)	−0.85*** (0.127)
Housewife	0.679*** (0.198)	0.593** (0.223)	0.608*** (0.182)
Student	0.295 (0.218)	0.458+ (0.246)	0.361+ (0.2)

Table 1 continued

	Happiness (0–10)	Life satisfaction (0–10)	Subjective Wellbeing Index (0–10)
Unemployed	−0.868*** (0.159)	−1.122*** (0.181)	−1.015*** (0.146)
Year of birth—1930s	−0.148 (0.152)	−0.368* (0.173)	−0.286* (0.14)
Year of birth—1940s	0.006 (0.175)	−0.534** (0.2)	−0.262 (0.162)
Year of birth—1950s	0.102 (0.178)	−0.707*** (0.202)	−0.314+ (0.163)
Year of birth—1960s	0.306+ (0.183)	−0.452* (0.208)	−0.072 (0.169)
Year of birth—1970s	0.78*** (0.2)	0.123 (0.228)	0.457* (0.184)
Other	−0.216 (0.123)	0.356 (0.405)	
Constant	5.191*** (0.213)	4.947*** (0.241)	5.057*** (0.196)
N	3721	3847	3700
Adj. r^2	0.055	0.054	0.073

World Values Survey in Russia 1990, 1995, 1999 surveys; Political orientation item not included in wave 1 (1982) or 5 (2006) surveys. Figures in parentheses are standard errors

* Significant at the 0.05 level; ** significant at the 0.01 level; *** significant at the 0.001 level; + significant at the 0.1 level

Table 2 Estimated parameters of left–right placement and support for economic transition, by survey year

	Respondent favors privatization (1) versus renationalization (10)			Political orientation (1 = left; 10 = right)
	Year = 1990	Year = 1995	Year = 1999	Year = 1999
Dependent variable				
Gender (female = 2)	0.886*** (0.137)	0.312** (0.106)	0.337** (0.118)	0.021 (0.111)
Year of birth	−0.046*** (0.006)	−0.041*** (0.005)	−0.041*** (0.006)	0.028*** (0.005)
Part time	–	0.513* (0.228)	−0.212 (0.243)	−0.059 (0.227)
Self-employed	–	−1.914*** (0.457)	−1.268** (0.407)	0.335 (0.435)
Retired	−0.146 (0.233)	0.466** (0.174)	0.188 (0.2)	−0.03 (0.191)
Housewife	−0.112 (0.279)	−0.115 (0.281)	−0.643 (0.329)	−0.493 (0.321)
Student	0.106 (0.339)	−1.168** (0.335)	−0.192 (0.322)	−0.213 (0.311)
Unemployed	0.228 (0.724)	0.31 (0.208)	0.248 (0.198)	−0.245 (0.189)

Table 2 continued

	Respondent favors privatization (1) versus renationalization (10)			Political orientation (1 = left; 10 = right)
	Year = 1990	Year = 1995	Year = 1999	Year = 1999
Other	0.666 (0.723)	−0.12 (0.514)	0.352 (0.711)	−0.499 (0.681)
Constant	94.654*** (11.759)	85.868*** (9.551)	86.549*** (10.812)	−49.434*** (10.294)
n	1773	2424	2180	1580
r^2	0.08	0.14	0.09	0.04

Parameters used in the estimation of missing values in the synthetic panel results displayed in Fig. 5, showing estimated levels of subjective wellbeing among left and right respondents in the earliest survey in Russia. Figures in parentheses are standard errors

* Significant at the 0.05 level; ** significant at the 0.01 level; *** significant at the 0.001 level

References

Acerbi, A., Lampos, V., Garnett, P., & Bentley, R. A. (2013). The expression of emotions in 20th century books. *PLoS ONE, 8*(3), e59030. doi:10.1371/journal.pone.0059030.

Aldrich, J. H., Taylor, A., & Wood, W. (2007). Repeated turnout as a habit. *Paper presented at the 65th annual meeting of the midwest political science association.* Chicago, IL, April 12–15.

Antman, F., & McKenzie, D. (2007). Earnings mobility and measurement error: a pseudo-panel approach. *Economic Development and Cultural Change, 56*(1), 125–161.

Blanchflower, D., & Oswald, A. (2004). Well-being over time in Britain and the USA. *Journal of Public Economics, 88*(7), 1359–1386.

Bourguignon, F., Goh, C., & Kim, D. (2004). Estimating individual vulnerability to poverty with pseudo-panel data. World Bank policy research working paper no. 3375.

Bray, I., & Gunnell, D. (2006). Suicide rates, life satisfaction and happiness as markers for population mental health. *Social Psychiatry and Psychiatric Epidemiology, 41*(5), 333–337.

Brickman, P., & Campbell, D. T. (1981). Hedonic relativism and planning the good society. In M. Appley (Ed.), *Adaptation-level theory* (pp. 287–305). New York: Academic Press.

Brickman, P., Coates, D., & Janoff-Bulman, R. (1978). Lottery winners and accident victims: Is happiness relative? *Journal of Personality and Social Psychology, 36*(8), 917–927.

Clark, A., Frijters, P., & Shields, M. (2008). Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature, 46*(1), 95–144.

Daly, M. C., & Wilson, D. J. (2009). Happiness, unhappiness, and suicide: An empirical assessment. *Journal of the European Economic Association, 7*(2–3), 539–549.

Danner, D., Snowdon, D., & Friesen, W. V. (2012). Positive emotions in early life and longevity: Findings from the nun study. *Journal of Personality and Social Psychology, 80*(5), 804–813.

Delle Fave, A. (2014). Well-being in times of crisis: Interdisciplinary evidence and policy implications. *Journal of Happiness Studies, 15*(1), 119–123.

Denzin, N. (2006). *Sociological methods: A sourcebook*. Aldine Transaction: Piscataway.

Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology, 69,* 851–864.

Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *American Psychologist, 61,* 305–314.

Diener, E., & Oishi, S. (2000). Money and happiness: Income and subjective well-being across nations. In E. Diener & E. Suh (Eds.), *Subjective well-being across cultures*. Cambridge: MIT Press.

Diener, E., Suh, E., Lucas, E., & Smith, H. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125,* 276–302.

Easterlin, R. A. (1974). Does economic growth improve the human lot? In P. A. David & M. Reder (Eds.), *Nations, households and economic growth* (pp. 98–125). New York: Academic Press.

Easterlin, R. A. (2003). Explaining happiness. *Proceedings of the National Academy of Sciences, 100*(19), 11176–11183.
Easterlin, R. A. (2005a). Feeding the illusion of growth and happiness: A reply to Hagerty and Veenhoven. *Social Indicators Research, 75,* 429–443.
Easterlin, R. A. (2005b). Feeding the illusion of growth and happiness: A reply to Hagerty and Veenhoven. *Social Indicators Research, 74,* 429–443.
Easterlin, R. A., Morgan, R., Switek, M., & Wang, F. (2012). China's life satisfaction, 1990–2012. *Proceedings of the National Academy of Sciences, 109*(25), 9775–9780.
Fowler, J. H. (2006). Habitual voting and behavioral turnout. *The Journal of Politics, 68*(2), 335–344.
Frederick, S., & Loewenstein, G. (1999). Hedonic adaption. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: Foundations of hedonic psychology*. New York, NY: Russell Sage Foundation.
Froh, J., Sefick, W., & Emmons, R. A. (2006). Counting blessings in early adolescents: An experimental study of gratitude and subjective well-being. *Journal of School Psychology, 46*(2008), 213–233.
Fujita, F., & Diener, E. (2005). Life satisfaction set point: Stability and change. *Journal of Personality and Social Psychology, 85,* 155–164.
Gerber, A. S., Green, D. P., & Shachar, R. (2003). Voting may be habit-forming: Evidence from a randomized field experiment. *American Journal of Political Science, 47*(3), 540–550.
Google. (2010). The Google books Ngram viewer. https://books.google.com/ngrams.
Goscomstat. (1981–1990). Statistical yearbook of the Soviet Union. Moscow: Goscomstat.
Halvorsen, K. (2016). Economic, financial, and political crisis and well-being in the PIGS-countries. *Sage Open*. doi:10.1177/2158244016675198.
Helliwell, L. (2007). Well-being and social capital: Does suicide pose a puzzle? *Social Indicators Research, 81*(3), 455–496.
Inglehart, R. (1990). *Culture shift in advanced industrial society*. Princeton: Princeton University Press.
Inglehart, R. (1997). *Modernization and postmodernization: Cultural, cconomic and political change in 43 societies*. Princeton: Princeton University Press.
Inglehart, R., Foa, R. S., Welzel, C., & Peterson, C. (2008). Development, freedom, and rising happiness: A global perspective, 1981–2007. *Perspectives on Psychological Science*, *3*(4).
International Labor Organization. (2012). Laborstat. http://laborsta.ilo.org/.
Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives, 20,* 3–24.
Kahneman, D., Krueger, A. B., Schkade, D. A., Schwartz, N., & Stone, A. A. (2004). A survey method for characterizing daily life experience: The day reconstruction method. *Science, 3,* 1776–1780.
Kenny, C. (2004). Does development make you happy? Subjective wellbeing and economic growth in developing countries. *Social Indicators Research, 65,* 1–22.
Koivumaa-Honkanen, H., Honkanen, R., Viinamäki, H., Heikkilä, K., Kaprio, J., & Koskenvuo, M. (2001). Life satisfaction and suicide: a 20-year follow-up study. *American Journal of Psychiatry, 158*(3), 433–439.
Lanjouw, P., Dang, H., Luoto, J., & McKenzie. D. (2011). Using repeated cross-sections to explore movements in and out of poverty. Development economics research group policy research working paper 5550. Washington, DC: World Bank.
Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2003). Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status. *Journal of Personality and Social Psychology, 84,* 527–539.
Michel, J. B., Shen, Y. K., Aiden, A. P., Veres, A., Gray, M. K., Brockman, W., et al. (2011). Quantitative analysis of culture using millions of digitized books. *Science, 331*(6014), 176–182.
Raleigh, D. (2006). *Russia's Sputnik generation: Soviet baby boomers talk about their lives*. Bloomington, IN: Indiana University Press.
Sen, A. (2001). *Development as freedom*. New York: Alfred Knopf.
Smith, T. W. (1986). *Unhappiness on the 1985 GSS, GSS methodological report*. New york, CH: NORC.
Stevenson, B., & Wolfers, J. (2013). Subjective well-being and income: Is there any evidence of satiation? *American Economic Review, American Economic Association, 103*(3), 598–604.
Tilley, J. (2002). Political generations and partisanship in the UK, 1964–1997. *Journal of the Royal Statistical Society. Series A (Statistics in Society), 165*(1), 121–135.
Tilley, J. (2003). Party identification in Britain: Does length of time in the electorate affect strength of partisanship? *British Journal of Political Science, 33*(2), 332–344.
Veenhoven, R. (2012). World database of happiness. www1.eur.nl/fsw/happiness/.
Veenhoven, R., & Hagerty, M. (2006). Rising happiness in nations, 1946–2004. *Social Indicators Research, 79,* 421–436.

Watkins, P., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationships with subjective wellbeing. *Social Behavior and Personality, 31*(5), 431–452.

World Bank. (2012). World development indicators. http://data.worldbank.org/data-catalog/world-development-indicators.

World Values Survey. (2014). Longitudinal aggregate data file, World Values Survey Association. Aggregate File Producer: JDSystems, Madrid. www.worldvaluessurvey.org.

Zubkova, E. (1998). Russia after the war: Hopes, illusions, and disappointments. 1945–1957 (R. Hugh Trans.) Armounk, NY: M.E. Sharpe.