Social capital, positive and negative feelings and life evaluation: a cross-national examination

Rocio Calvo[1,2], Yuhui Zheng[2], Santosh Kumar[3], Analia Olgiati[2] and Lisa Berkman[2,4].

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[1]Boston College Graduate School of Social Work
[2]Center for Population and Development Studies, Harvard University
[3]Global health at the Institute for Health Metrics and Evaluation, University of Washington
[4]Harvard School of Public Health Departments of Society, Human Development, and Health; Epidemiology; and Global Health and Population

Correspondence to:
Lisa F. Berkman
9 Bow Street, Cambridge, MA 02138
T.617-495-8498, F.617-495-5418
lberkman@hsph.harvard.edu

ABSTRACT

Background

Previous research has examined the association between social capital (social support, volunteering activities, and social trust) and multiple dimensions of subjective well-being (life evaluation, positive and negative feelings) in developed countries. This study explores whether this association extends to low and middle income countries.

Methods

Using individual level data from the Gallup World Poll from 2005 to 2009 (n = 214,966) we investigate associations between individual social capital measures and ordinal measures of subjective well-being in 142 countries. Proportional odds ratios are estimated using ordered logit models with country fixed effects, adjusting for socio-demographic characteristics, including age, gender, education, marital status, and household income. Stratified analyses by country level income, geographic regions, and each country are also performed.

Results

In the pooled analyses, social capital measures are highly correlated with subjective well-being. Similar associations are observed in the analysis stratified by country level income and geographic regions. Results from country-specific analyses indicate, that for a large number of diverse countries, associations of social support and social trust with subjective well-being are positive and significant, however no such consistent associations are observed for volunteering and negative feelings score in many countries.

Conclusion

This study is the first to explore the association between multiple dimensions of social capital and a range of different subjective well-being outcomes in the developing and developed world. The analyses need to be extended to explore the importance of contextual factors.

INTRODUCTION

Is subjective well-being (SWB) related to social capital worldwide? Subjective well-being has gained popularity as an alternative to traditional economic measures to monitor quality of development across countries and to assess the effect of diverse policy initiatives[1,2]. Social capital, defined as trust within a community, `appropriable' social organizations, norms, sanctions and information channels[3,4,5], has been, in turn, deemed as an important determinant of a range of positive phenomena[6,7]. The literature on the determinants of SWB suggests that social capital is associated with happiness and life satisfaction[8,9,10]. However, the strength of these associations varies depending on the social capital indicator used and the country under study. Lacking is the global evidence on the links between multidimensional measures of social capital and both emotional and cognitive aspects of SWB.

This research employs a representative sample of the population of the world to investigate whether a universal pattern of association exists between cognitive (social trust) and structural (social support and volunteering) indicators of social capital and three distinctive features of SWB - positive and negative feelings and life satisfaction. We identify social support, volunteering, and social trust, as core domains of social capital[7]. Data comes from the Gallup World Poll, an internationally comparable survey conducted yearly from 2005 to 2009 at ages 15 and over. Volunteering was measured by self-reports of volunteering to an organization in the past month, while social support and social trust were based on self-reports of support from relatives and friends and on self-proclaimed trust attitudes respectively. Relative to previous studies using Gallup World Poll, this study examines how associations of social capital and SWB vary by country level income and geographic region. We also use a direct measure of social trust that was newly collected in the 2009 wave of the Gallup World Poll. Finally, we make use of

newest available waves of the Gallup data so that we include more countries than the previous studies.

Subjective Well-Being and Social Capital: Concepts, Measurements and Evidence

Despite substantial post-war economic growth, North Americans and British are neither happier nor more satisfied with their lives nowadays than they were a quarter of century ago [11]. A similar trend has been observed in China were people are less satisfied with their lives than they were before the astounding economic progress experienced over the last 30 years [12]. That above a modest threshold greater wealth does not bring extra happiness is fairly well-established [13,14] (see Stevenson and Wolfers [15] for a recent challenge to this assumption).

The natural question then is what does? Recent evidence suggests that social capital may be a good candidate. Both within countries and at the worldwide level, sociability has been associated to higher levels of self-reported happiness over time [16]. Also employing a sample of the world, other studies have observed a consistent positive association between different indicators of social trust -such as the expected frequency of a lost wallet returned by a neighbor or the police or living in a trustworthy environment- with higher levels of life satisfaction [17,18].

A similar pattern of association between social capital and subjective well being has been found with smaller samples and alternative measures. For instance, Helliwell and Putnam [19] observed across a large sample of countries that individuals who visited their family, friends and neighbors frequently, belonged to community organizations and lived in high-trust environments reported the highest levels of subjective well being –measured as self-reported life satisfaction and happiness-. Another study involving countries from Europe, America and Asia revealed that national levels of generalized trust, civic participation and perceived corruption were stronger

predictors of life satisfaction than income or uncertainty [20].. Belgians who lived with a partner and socialized often were more satisfied with their lives than single and more individualistic counterparts [21]. Trusting individuals as well as those with strong social ties were more satisfied with their lives in rural China; however belonging to a civic organization did not seem to affect individuals' well being [22].

Literature suggest that social trust and life satisfaction are consistently correlated. However, subjective well being (SWB) -a complex concept that lacks universal definition- it is often understood as a personal assessment of one's life which revolves around two components: (1) a long-term cognitive dimension -life satisfaction- and (2) a temporal affective dimension -positive affect, and low levels of negative affect- [23]. Research on SWB has favored its cognitive dimension because it is related to the eudaimonic philosophical approach as it entails the realization of one's potential in accordance with one's true nature. Therefore, it has been considered a more reliable indicator of life satisfaction than the affective dimension of SWB which relates to the hedonic philosophical tradition as it stresses the immediate feeling of pleasure and the avoidance of pain [24]. Recent evidence shows that these two constructs of SWB behave differently on their relationship with income [25], but we do not know if this is the case for social capital. This is what we investigate in the present study. Unlike previous research, however, we distinguish between two indicators of well being, cognitive and affective and among three indicators of social capital: trust, social support and volunteering.

METHODS

Design and Study Sample

The data used in this study comes from The Gallup World Poll, which began in 2005 and collected data annually from randomly selected, nationally representative samples in 150 countries, - representing 95% of the world's adult population. The target population for the Poll was the entire civilian, non-institutionalized population aged 15 and older. Typically Gallup surveys around 1000 individuals in each country in a survey year, using a standard set of core questions that have been translated into major languages of the respective country. Not all countries were surveyed every year. In majority of the countries face-to-face interviews are conducted. Telephone surveys are used in countries where telephone coverage represents at least 80% of the population or is the customary survey methodology. Details on the sampling frame and survey protocols are provided in Gallup World Poll Methodology (Gallup 2009).

The Poll from 2005 to 2009 contains 154 countries, 428 country-years, and 455,104 individuals. Information on household income and education was collected in some years but not all. After excluding those country-years and there are 149 countries, 292 country-year combinations and 310,891 individuals in the data. For the variables we are going to analyze in the analysis (outcome measures, social support, volunteering, income, education, age, marital status, religiosity), average item-response rate at the country-year level is 83% for household income, and above 95% for others. Further excluding observations with missing values for these variables leads to a sample size of 142 countries, 205 country-year combinations and 214,966 individuals. This is the final sample we used for all our analyses, except for those involving the social trust measure which is only available in 2009 and in 66 countries.

Measures

Subjective Well-Being: a multidimensional construct

In accordance with previous studies[15,31,32], we analyze three measures of SWB available from the survey: positive feelings score (PFS), negative feelings score (NFS), and global life evaluation (GLE). The PFS is the number of the "yes" responses to two questions on positive feelings experienced "a lot yesterday": enjoyment and smile or laughing (1=yes, 0=no). The NFS is the number of "yes" responses to four questions on negative feeling experiences yesterday: worry, sadness, depression, and anger. PFS ranges from 0 to 2 and NFS ranges from 0 to 4. The GLE is measured using Cantril's Self-Anchoring Scale, which asks respondents to evaluate their present life in a ladder scale from 0 to 10, with 0 representing the worst possible life and 10 the best possible life. Questions needed to construct the three measures were asked in all countries between 2005 and 2009, except for the GLE, which was not asked in Yemen The correlations between the three measures are moderate: -0.37 between PFS and NFS, 0.22 between PFS and GLE, and -0.18 between NFS and GLE.

Social support, volunteering and social trust

The social support measure is based on responses to the following question: "If you were in trouble, do you have friends and relatives you can count on to help you whenever you need them, or not". Volunteering is measured by asking "Have you volunteered your time to an organization in the past month". Social trust is measured by asking "Do you think people can be trusted or not". social support and volunteering questions were asked in all years, while social trust was included only in 2009 and in 66 countries. Responses were categorized into "yes", "no", "do not know", and "refused" for all three questions. For analysis purposes, we recoded responses to the three questions as binary variables, with "yes" being 1 and 0 otherwise. Approximately 1% of respondents have "refused" or "do not know". Their exclusion does not alter the main results.

Social support, volunteering, and social trust are weakly correlated. Among the subsample of individuals in 66 countries with all three measures, the correlation coefficients are 0.04 between social support and volunteering, 0.05 between social support and trust, and 0.07 between volunteering and trust.

Socio-economic covariates

We include age, gender, religiosity, marital status, education, and household income (logarithm scale) as covariates that may have an impact on SWB or confound the associations between key independent variables and SWB. Age and income are continuous variables. Gender, religiosity and marital status are binary variables. The Gallup data reports education in three categories: 0-8 years of schooling; 9-15 years of schooling; and four years of education beyond high school. Zero household income was replaced with small positive value to have a meaningful log value. Religiosity was defined as the extent to which respondent consider religion as an important part of their life.

Statistical analyses

Since all three SWB outcome measures are ordinal, we use ordered logit models to determine the associations between SWB and one of three measures: social support, volunteering or social trust. We conduct analysis for all countries combined, and then stratify by either national income level or geographic region , controlling for country fixed effects, age, gender, education, marital status, household income, and interview year. In treating country-specific effects as fixed effects, we allow for potential correlations between country-specific effects and covariates, which is quite possible since countries differ in multiple dimensions. Robust standard errors are estimated

with clustering at the country level. Countries are classified by The World Bank income classification of countries and The World Bank geographical regions. Subsequently, we examine the association between social support, volunteering or social trust and SWB in each country separately. All analyses were conducted in STATA SE, version 11 (StataCorp, college station, TX, USA).

RESULTS

Descriptive statistics

Descriptive statistics for the SWB measures, social support, volunteering and social trust, as well as other explanatory variables, are shown in Table 1 and Table 2. For the pooled sample, the average PFS is 1.37, meaning the average number of positive feelings is 1.37, out of a maximum of 4; the average NFS is 0.90 (maximum is 2), while the average GLE is 5.20 (maximum is 10). For high-income countries the average PFS is 1.46, and the average GLE is 6.46. For low-income countries these scores are 1.32 and 4.38 respectively. The average NFS ranges from 0.97 in lower-middle income countries to 0.8 in low- income countries.

Seventy eight percent of the respondents said that they had someone to count on in time of need, our social support measure. By income level, this percentage was highest among high-income countries (89%) and lowest among low-income countries (69%). By geographic region, social support was highest in the United States, Canada and EU-15, and lowest in South Asia. Twenty-one percent reported doing volunteer work last month. In both low-income and high-income countries, 23% reported doing voluntary work, while in upper middle income countries

only 17% reported doing so. Twenty-two percent said that people could be trusted, with the highest percentage in United States, Canada and EU-15 (31%).

In the pooled sample, over half of the respondents are female (51%) and married (53%) (Table 2). The mean age of the sample is 38 years. The mean income is about $14,341. About 76% of the sample reported that religion is an important part of their daily life. About 47% completed more than elementary education but less than a four-year college degree and only 9% are college graduates.

Ordered logit regressions results

Table 3 shows the adjusted proportional odds ratios for the PFS. associations between social support, volunteering, social trust and the PFS are positive across the board. All odds ratios are great than one, statistically significant at the 5% level except for the odds ratios of social trust in East Asia and Pacific. Among the three social capital measures, the link between social support and PFS is the strongest, with the odds ratios of 1.68 in the global sample, meaning that having social support increases the odds of reporting k (k = 1,2,3,4) or more positive feelings by 68%, holding other covariates in the model constant. Furthermore, There is an increasing return of social support on PFS as national income gets higher: the odds ratio is 2.14 (95% CI: 1.86 to 2.45) in high-income countries, and 1.52 (1.41 to 1.65) in low-income countries. By geographic region, the association is largest in United States, Canada and EU-15: 2.37 (1.93 to 2.91), and smallest in Sub-Saharan Africa: 1.44 (1.32 to 1.58). For volunteering, the coefficients are similar across income groups and geographic regions. For social trust, the coefficients are similar across income groups, but vary across geographic regions: largest in Middle East and North Africa: 1.67 (1.39, 1.99) and non-significant in three regions: East Asia and Pacific (1.16, 95% CI 1.02

to 1.43), South Asia (1.19, 0.99 to 1.60), and Latin America and Caribbean (1.21, 0.94 to 1.56). In country-specific analyses, associations of social support on PFS are positive in 95% of the 142 countries, and statistically significant in 75% of those countries. For volunteering the percentages are 86% (positive) and 37% (positive and statistically significant), respectively. For social trust they are 85% (positive) and 35% (positive and statistically significant).

Table 4 presents the results for the NFS. In the pooled sample, social support is associated with reduced odds of NFS, with odds ratio of 0.64 (95% CI: 0.60 to 0.67) in the pooled sample. This means that having social support is associated with 36% reduction in the odds of reporting k (k=1,2) or more number of negative feelings, holding other covariates constant. Social trust is also negatively associated with NFS in the pooled sample: odds ratio 0.79 (0.73 to 0.85). Contrary to our hypothesis, volunteering is positively associated with the NFS, though the association is weak, with odds ratio of 1.07 (1.03, 1.12). The negative association with social support and the positive association with volunteering hold across income groups and geographic regions. For social trust, the association is negative across income groups, and across most geographic regions except that it is positive and insignificant in South Asia: 1.20 (0.91 to 1.58). It is negative and insignificant in East Asia and Pacific: odds ratio 0.79 (0.57 to 1.09) and in Latin America and the Caribbean: odds ratio 0.9 (0.77 to 1.05). In country-specific analysis, associations of social support on NFS are negative in 94% of the 142 countries, and statistically significant in 75% of those countries. For volunteering the percentages are only 39% (negative) and 3.5% (negative and statistically significant), respectively. For social trust they are 79% (negative) and 27% (negative and statistically significant).

Table 5 shows results for the GLE. In the pooled sample, the odds ratio of social support is positive and significant: 1.81 (95% CI: 1.73 to 1.90), meaning having social support increases the odds of reporting k (k = 1,2...10) or higher GLE by 81%. The odds ratios are 1.17 (1.13 to 1.21) and 1.26 (1.16, 1.38) for volunteering and social trust respectively. In analyses stratified by country level income, the positive associations with social support, volunteering or social trust hold across all country level incomes. The associations are largest in high-income countries and smallest in low-income countries. The positive association with social support/volunteering also holds across geographic regions. The relationship with social trust is less consistent across geographic regions. It is positive and strongest in United States, Canada and EU-15 with odds ratio of 1.61 (1.43 to 1.82), close to zero in East Asia and Pacific: 0.96 (0.78 to 1.18) and negative in South Asia: 0.79 (0.67 to 0.94). In country-specific analyses, associations of social support on GLE are positive in 96% of the countries, and statistically significant in 84% of those countries. For volunteering the percentages are 76% (positive) and 22% (positive and statistically significant), respectively. For social trust they are 71% (positive) and 36% (positive and statistically significant).

DISCUSSION

Our study explores the associations between subjective well being and social capital in 145 countries spanning low, middle and high income countries and all regions of the world. In the pooled analysis, we find evidence of significant associations between measures of social capital and better subjective well-being, after adjustment for age, gender, religiosity, marital status, education, and household income. Individuals with social support, volunteering activities, and

interpersonal trust are more likely to have higher life evaluations and higher positive feeling score, compared to those without these individual social capital measures.

The strength of association between social support and life evaluation is highest in high-income countries and lowest in low-income countries. Similar patterns are found for the association between volunteering, social trust, and life evaluation. For outcomes such as positive and negative feelings we observe similar pattern with associations being strongest in high-income countries and lowest in low-income countries.

Country-level analyses portray a similar association in many but not all countries. The associations between volunteering and SWB however, are not consistent . For example, the association between volunteering and the negative feeling score is positive in as many as 57% of the countries. In general the association with volunteering is quite weak and statistically not significant in many countries. Although we cannot state for sure why the association between volunteering and SWB is different from those between social support, social trust and SWB, we suspect that this is because volunteering signals an attempt to gain social capital, while the other two specify the gaining of social capital. People with more negative feelings might try to engage in society, and volunteering is an accessible way of doing that. For example, in a study by Berry and Hansen[33], 105 college students were asked to keep a diary of their social interactions for a week, and then they took a survey regarding their personality, including positive and negative affect. The authors found that both positive and negative affect are positively related to the frequencies of social interactions, but only positive affect is positively related to the pleasantness of the interactions. Other studies also point out that the quality of volunteering matters. A study of quality of life in early old age across 14 European countries finds that volunteering with

reciprocity was associated with improved quality of life, while volunteering without reciprocity was not[34].

Our paper also shows some evidence that the positive feeling score and negative feeling score are distinctive constructs rather than opposite sides of the same continuum. Although social support and social trust are positively correlated with positive feelings score and negatively correlated with negative feeling score, the magnitudes of the associations are not the same. For example, the coefficient of social support on positive feeling score is 0.107 (95% CI: 0.102, 0.112), while the coefficient of social support on negative feeling score is -0.074 (95% CI: -0.078, -0.070). Moreover, volunteering is positively correlated with both positive feeling score and negative feeling score in the pooled analysis and majority of the country-specific analysis.

One strength of our paper lies in the large international sample that includes 145 countries in our analysis. All geographic regions in Asia, Africa, and the Middle East are adequately represented. In previous studies, these regions were poorly represented. However, our results should not be interpreted causally with social capital measures influencing subjective well being. Though we have adjusted for observable potential confounders in our model, a third, unmeasured confounder could still exist. Reverse causation is another concern. It is possible that being happier or being more satisfied with life makes it easier to gain or perceive high levels of social capital. An article reviewing cross-sectional, longitudinal, and experimental studies on associations between happiness and successful outcomes including social capital, concluded that the impacts are bi-directional[35]. Finally, our measure of life satisfaction may measure with error the actual cognitive component of SWB, by asking respondents to evaluate their *present*, rather than their *whole*, life. This is a potentially serious confound, as temporal specificity of this item may affect response patterns. Before 2009 GWP also asked respondents to evaluate their

life five years ago, and to guess where they will stand in the future, using the same ladder scale from 0 to 10. We constructed a measure using the average of answers to the three questions and it is highly correlated with the GLE on current life (correlation coefficient is 0.88). Regressions using this measure generate very similar results as the regressions using GLE on current life. Since the question on evaluating life five years ago were not asked in most countries in 2009, we stick to the measure of GLE on current life. Furthermore, we have controlled for religiosity and marital status in the analyses. This is a conservative strategy since religious activities may be a substantial source of social capital. Analysis with and without religiosity are not very different suggesting that religiosity does not influence the link between social capital and SWB.

Our study has limited capacity to the mechanisms through which social capital affects subjective well-being. It is challenging to pinpoint the pathways in a cross-national study because of diverse country specific characteristics. Differences in culture might influence the relationship between social capital and SWB. It is also plausible that there may be systematic differences in the meaning attributed to the response items in different languages or there may be reporting biases that are culturally-based. Pathways linking social capital to subjective well being might include behavioral pathways related to increased social interactions, collective actions that might increase a range of pubic goods and services that would increase subjective well being and cognitive processes that lead directly to well being.

Finally, the importance of contextual variables cannot be over emphasized. Social and economic contexts may shape patterns of social capital however; the identification of such contextual conditions is beyond the scope of this paper. The main objective of this analysis is to extend the association between social capital and SWB in low and middle-income countries and examine if these association holds across such a culturally diverse regions and countries.

We conclude that social capital is associated with better subjective well-being among individuals in many countries. Associations found in Western, largely high and middle income countries are found in low income countries and in all regions around the world. Associations are weaker in low income countries however and often less robust in low-income regions of the world including Sub-Saharan Africa and East Asia and the Pacific. Further research must identify the reasons for the differing associations so that we can understand whether differing associations are the result of cultural differences in the meaning and interpretation of the questions or reflect more genuine differences. As we move closer to considering ways to improve subjective well being, it will be important to understand the causal ties between social capital and subjective well-being as well as the options available to improve social capital. Both, are challenging tasks but rest on the findings here that link social support and trust to well being.

Table 1. Summary statistics of subjective well-being measures and social capital measures

		Mean positive feelings score	Mean negative feelings score		Mean life evaluation	Social support (%)	Volunteering (%)	Social trust (%)
		1.37	0.90		5.20	78%	21%	22%
High income		1.46	0.87		6.46	89%	23%	25%
Upper middle		1.37	0.94		5.44	83%	17%	20%
Lower middle		1.36	0.97		4.98	74%	20%	19%
Low		1.32	0.8		4.38	69%	23%	25%
United States, Canada and EU-15		1.55	0.8		6.96	93%	26%	31%
Europe and Central Asia		1.19	0.88		5.19	81%	20%	24%
Middle East and North Africa			1.28	1.12	5.41	80%	13%	22%
South Asia		1.3	0.94		4.69	62%	19%	16%
East Asia and Pacific		1.49	0.8		5.46	80%	24%	21%
Sub-Saharan Africa	1.34	0.81			4.29	69%	22%	24%
Latin America and the Caribbean		1.57	1		5.68	84%	21%	15%
Sample size		214,966	214,966		214,966	214,966	214,966	56,561

Data source: Gallup World Poll, 2005-2009.

Table 2. Summary statistics of socio-demographic characteristics

	Mean age (years)	Female (%)	Married (%)	High school (%)	College (%)	Religiosity (%)	Income (dollars)
All	38.31	51%	53%	47%	9%	76%	14,341
Income categories							
High income	44	50%	59%	60%	18%	49%	40,247
Upper middle	40.63	52%	46%	56%	11%	68%	11,585
Lower middle	36.93	50%	53%	45%	8%	85%	7,998
Low	34.07	51%	55%	35%	4%	90%	4,772
Regions							
United States, Canada and EU-15	46.55	51%	57%	62%	18%	43%	45,610
Europe and Central Asia	43.08	53%	58%	60%	14%	55%	14,305
Middle East and North Africa	34.26	48%	55%	53%	11%	93%	19,093
South Asia	34.81	49%	70%	27%	4%	93%	4,127
East Asia and Pacific	39.32	51%	63%	44%	13%	71%	23,674
Sub-Saharan Africa	34.1	50%	47%	34%	2%	93%	4,569
Latin America and the Caribbean	37.39	51%	36%	52%	10%	80%	10,049
Sample size	214,966	214,966	214,966	214,966	214,966	214,966	214,966

Data source: Gallup World Poll, 2005-2009.

Table 3. Adjusted proportional odds ratios (OR) for positive feelings score (PFS)

	Social support		Volunteering		Social trust	
	OR	95% C.I.	OR	95% C.I.	OR	95% C.I.
All countries	1.68*	(1.60 , 1.76)	1.32*	(1.26 , 1.37)	1.40*	(1.29 , 1.52)
Income categories						
High income	2.14*	(1.86 , 2.45)	1.35*	(1.23 , 1.47)	1.43*	(1.15 , 1.77)
Upper middle	1.89*	(1.74 , 2.05)	1.33*	(1.21 , 1.46)	1.44*	(1.19 , 1.74)
Lower middle	1.60*	(1.48 , 1.73)	1.37*	(1.26 , 1.49)	1.43*	(1.21 , 1.69)
Low	1.52*	(1.41 , 1.65)	1.24*	(1.15 , 1.35)	1.33*	(1.18 , 1.50)
Regions						
United States, Canada and EU-15	2.37*	(1.93 , 2.91)	1.44*	(1.30 , 1.59)	1.64*	(1.33 , 2.03)
Europe and Central Asia	1.97*	(1.83 , 2.13)	1.33*	(1.25 , 1.43)	1.50*	(1.33 , 1.69)
Middle East and North Africa	1.62*	(1.40 , 1.88)	1.27*	(1.06 , 1.52)	1.67*	(1.39 , 1.99)
South Asia	1.64*	(1.44 , 1.87)	1.46*	(1.19 , 1.79)	1.19	(0.88 , 1.60)
East Asia and Pacific	1.62*	(1.38 , 1.91)	1.39*	(1.25 , 1.54)	1.16	(0.74 , 1.83)
Sub-Saharan Africa	1.44*	(1.32 , 1.58)	1.18*	(1.08 , 1.29)	1.20*	(1.02 , 1.43)
Latin America and the Caribbean	1.75*	(1.63 , 1.88)	1.29*	(1.16 , 1.43)	1.21	(0.94 , 1.56)

Notes:
* p value < 5 percent
Data source: World Gallup Poll, 2005-2009.
Each cell shows proportional odds ratios of a social capital measure (social support, volunteering, or trust) on PFS, estimated using a ordered logit regression with country fixed effects, also controlling for age, gender, education, household income, marital status, religiosity, and year dummies.

Table 4. Adjusted proportional odds ratios (OR) for negative feelings score (NFS)

	Social support		Volunteering		Social trust	
	OR	95% C.I.	OR	95% C.I.	OR	95% C.I.
All countries	0.64*	(0.60 , 0.67)	1.07*	(1.03 , 1.12)	0.79*	(0.73 , 0.85)
Income categories						
High income	0.52*	(0.41 , 0.66)	1.02	(0.94 , 1.11)	0.67*	(0.55 , 0.83)
Upper middle	0.55*	(0.51 , 0.59)	1.12*	(1.02 , 1.22)	0.75*	(0.65 , 0.85)
Lower middle	0.68*	(0.64 , 0.71)	1.05	(0.97 , 1.15)	0.87*	(0.79 , 0.95)
Low	0.70*	(0.64 , 0.75)	1.11*	(1.02 , 1.20)	0.81*	(0.68 , 0.97)
Regions						
United States, Canada and EU-15	0.37*	(0.30 , 0.45)	0.93	(0.87 , 1.00)	0.63*	(0.52 , 0.75)
Europe and Central Asia	0.56*	(0.51 , 0.61)	1.04	(0.95 , 1.15)	0.65*	(0.57 , 0.76)
Middle East and North Africa	0.64*	(0.55 , 0.75)	1.14	(0.96 , 1.35)	0.87	(0.75 , 1.00)
South Asia	0.67*	(0.62 , 0.74)	1.06	(0.88 , 1.27)	1.2	(0.91 , 1.58)
East Asia and Pacific	0.76*	(0.64 , 0.92)	1.12	(1.00 , 1.25)	0.79	(0.57 , 1.09)
Sub-Saharan Africa	0.71*	(0.65 , 0.77)	1.12*	(1.01 , 1.23)	0.80*	(0.69 , 0.93)
Latin America and the Caribbean	0.59*	(0.54 , 0.64)	1.10*	(1.02 , 1.19)	0.9	(0.77 , 1.05)

Notes:
* p value < 5 percent
Data source: World Gallup Poll, 2005-2009.
Each cell shows proportional odds ratios of a social capital measure (social support, volunteering, or trust) on NFS, estimated using a ordered logit regression with country fixed effects, also controlling for age, gender, education, household income, marital status, religiosity, and year dummies

Table 5. Adjusted proportional odds ratios (OR) for life evaluation (GLE)

	Social support		Volunteering		Social trust	
	OR	95% C.I.	OR	95% C.I.	OR	95% C.I.
All countries	1.81*	(1.73 , 1.90)	1.17*	(1.13 , 1.21)	1.26*	(1.16 , 1.38)
Income categories						
High income	2.21*	(1.96 , 2.49)	1.24*	(1.16 , 1.32)	1.38*	(1.18 , 1.62)
Upper middle	2.09*	(1.94 , 2.25)	1.14*	(1.05 , 1.23)	1.27*	(1.13 , 1.42)
Lower middle	1.75*	(1.62 , 1.90)	1.15*	(1.07 , 1.24)	1.30*	(1.12 , 1.52)
Low	1.66*	(1.53 , 1.79)	1.16*	(1.08 , 1.23)	1.17	(0.93 , 1.47)
Regions						
United States, Canada and EU-15	2.49*	(1.99 , 3.11)	1.24*	(1.13 , 1.36)	1.61*	(1.43 , 1.82)
Europe and Central Asia	2.13*	(2.01 , 2.25)	1.16*	(1.08 , 1.25)	1.37*	(1.24 , 1.52)
Middle East and North Africa	1.84*	(1.60 , 2.11)	1.24*	(1.07 , 1.43)	1.22*	(1.03 , 1.45)
South Asia	1.90*	(1.63 , 2.22)	1.1	(0.94 , 1.28)	0.79*	(0.67 , 0.94)
East Asia and Pacific	1.65*	(1.47 , 1.86)	1.16*	(1.03 , 1.30)	0.96	(0.78 , 1.18)
Sub-Saharan Africa	1.63*	(1.49 , 1.79)	1.17*	(1.09 , 1.26)	1.2	(0.89 , 1.61)
Latin America and the Caribbean	1.77*	(1.57 , 1.99)	1.12*	(1.02 , 1.23)	1.57*	(1.14 , 2.16)

Notes: * p value < 5 percentData source: World Gallup Poll, 2005-2009.
Each cell shows proportional odds ratios of a social capital measure (social support, volunteering, or trust) on NFS, estimated using a ordered logit regression with country fixed effects, also controlling for age, gender, education, household income, marital status, religiosity, and year dummies.

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