Subjective Well-Being and Prosociality Around the Globe: Happy People Give More of Their Time and Money to Others

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Word Count: 3040

Abstract

Subjective well-being (SWB) is positively related to helping others, but so far research has not explored the association of individual aspects of well-being with prosocial behavior across the world. We used a representative sample ($N = 1,433,078$) from the Gallup World Poll (GWP) to explore the relationship between each aspect of well-being and prosocial behavior. We explored these associations between and within 161 countries. We found that different aspects of SWB are not equally associated with prosocial behavior: While life satisfaction and positive affect consistently predicted being more prosocial, negative affect did not consistently predict being less prosocial. Our findings underline the importance of studying the effects of the different components of SWB separately, indicating that, across the globe, it is satisfaction and positive emotions—not the lack of negative emotions—that are associated with being prosocial.

Keywords. Subjective Well-Being, Happiness, Prosocial Behavior, Gallup World Poll

Abbreviations. SWB-Subjective Well-Being; PA-Positive Affect; NA-Negative Affect.

Who engages in more prosocial behavior: happy people or unhappy people? Previous research has shown that happiness and prosocial behavior are positively related (Batson, Coke, Chard, Smith, & Taliaferro, 1979; Borgonovi, 2008; Dunn, Aknin, & Norton, 2008; Meier & Stutzer, 2008; Wilson & Musick, 1999)—and that the relationship is both causal and reciprocal (Aknin, Dunn, & Norton, 2012; Aknin, Van de Vondervoort, & Hamlin, 2018). Some research, however, also suggest that unhappiness—or experiencing negative emotions—also predicts prosocial action (Frijda, Kuipers, & ter Schure, 1989; Iyer, Schmader, & Lickel, 2007; Roseman, Wiest, & Swartz, 1994). Using a sample of over one million individuals across 161 nations, we explore whether prosocial behavior is associated with all or only some of the components of subjective well-being (SWB): life satisfaction, positive affect, and negative affect (Diener, 2000). In addition, we explore the differences between and within countries.

Prosocial Behavior and Positive Affect

Research shows that people who engage in prosocial behavior, such as volunteering or spending money on others, are happier—but also that those who are happier are more likely to engage in prosocial behavior (Aknin et al., 2018; Boehm & Lyubomirsky, 2008; Lyubomirsky, King, & Diener, 2005). The strongest evidence for this link between SWB and prosocial behavior, however, comes primarily from research focusing on positive affect. Aknin and her colleagues (2012), for example, asked participants to recall whether a previous purchase was spent on themselves or on others, and then gave them the choice to spend \$5 or \$20, on themselves or on others. The participants who recalled spending more money on others indicated feeling happier on the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999), and the participants who felt happier were more likely to decide to spend the money on others. This reciprocal relationship between positive affect and prosocial behavior has been replicated across

a dozen studies with samples from across the globe (for a review, see Aknin, Whillans, Norton, & Dunn, 2019). Thus, past research has established a causal, reciprocal relationship between prosocial behavior and positive affect.

Prosocial Behavior and Life Satisfaction

The evidence for a relationship between prosocial behavior and life satisfaction comes primarily from correlational research. In one study of with over 200,000 participants in 136 countries from the Gallup World Poll, life satisfaction and prosocial spending were positively related, even after controlling for factors such as income, social support, and perceived corruption (Aknin et al., 2013). In addition to focusing on a single component of SWB, this research examined only one component of prosocial behavior: donating to charity. But prosocial behavior, of course, encompasses not only giving away one's money, but also giving away one's time in the form of volunteering or helping others. Previous research has found that volunteering is also positively correlated with life satisfaction (Binder, 2014).

Prosocial Behavior and Negative Affect

Evidence is mixed regarding the relationship between prosocial behavior and negative affect. Indeed, the existing evidence on this outcome points to several possibilities. If happier people are indeed more prosocial and being prosocial makes people feel better (Aknin et al., 2018), we might expect that more negative affect would be associated with being less prosocial. At the same time, people who are prone to experiencing negative affectivity have been shown to be more likely to detect possible threats and act in the face of danger (Ein-Dor, Mikulincer, & Shaver, 2011; Oettingen, 2000). It is, therefore, possible that negative affect is actually positively associated with prosocial behavior—especially once we account for the statistical effects of positive affect and life satisfaction.

The Present Research

Though research has both suggested a correlation and hinted at reciprocal causality between SWB and prosocial spending, most research has treated SWB as a single dimension. In reality, SWB has several related but independent components: It consists of life satisfaction, positive affect, and negative affect (Diener & Emmons, 1984). Steering clear from the issue of causality, we instead use correlational data from the Gallup World Poll, consisting of over one million individuals across 161 countries. Our goal is to characterize the size of the relationship between prosocial behavior and each separate component of SWB—life satisfaction, positive affect, and negative affect.

We expect to replicate past research with the Gallup World Poll (Aknin et al., 2013) and find a positive relationship between life satisfaction and prosocial behavior. We build on this past research by using a much larger sample of individuals over a greater range of years, from 2005 to 2017. In addition, we look beyond prosocial spending to include volunteering and helping strangers as measures of prosocial behavior. Based on past research on the reciprocal relationship between positive affect and prosocial behavior (e.g., Aknin et al., 2018), we also hypothesize that positive affect will predict more prosocial behavior. Regarding negative affect, we adopt an exploratory approach, making no specific predictions.

We control for between-country differences by statistically partitioning the variance of each variable into between-country and within-country variance. We are thus able to estimate the size of the relationships due to variance between countries and individuals. Notably, because our research cannot establish evidence for causality, we do not attempt to control for all possible confounds. Rather, we focus on estimating and comparing the value of each component of SWB in predicting prosocial behavior across the globe and within countries.

Method

Participants

During the period between 2006 and 2017, the Gallup World Poll representatively sampled over 1.7 million people in 161 nations, both through random digit dialing and door-to-door interviews. Our effective sample size was $N = 1,433,078$ individuals who responded to all the measures of SWB and prosocial behavior. Of those respondents, 54% were female, with the mean age of the sample, $M = 40.71$ years old ($SD = 17.62$). Sensitivity analyses indicated that our person-level sample size allows us to detect effects as small as $\rho = .003$ with 95% power ($\alpha = .05$, two-tailed); for our within-country analyses; our country-level sample size allows us to detect effect sizes of $\rho = .27$ with 95% power and $\rho = .22$ with 80% power ($\alpha = .05$, two-tailed).

Measures

Prosocial behavior. Respondents were asked whether or not (*yes* or *no*) in the past month, they had: *Donated money*, *Volunteered time*, and *Helped a stranger* (see Table 1 for descriptives).

Subjective well-being. Gallup assesses life satisfaction with Cantril's Self-Anchoring Ladder (Cantril, 1965). The ladder is a measure of the cognitive–evaluative component of SWB. Participants respond on an 11-point scale, after imagining their life as a ladder with steps numbered from 0 to 10, where 0 represents the *worst possible life* for them and 10 represents the *best possible life* for them. Participants are then asked: *On which step of the ladder would you say you personally feel you stand at this time?* This single-item measure is a well-validated measure of life satisfaction and has been used widely in national and international polls of well-being (Deaton, 2008; Diener, Ng, Harter, & Arora, 2010). See Table 1 for descriptives.

For the affective components of SWB, participants were asked to report how they felt and what they did on the previous day (i.e., ‘yesterday’). To form a composite of positive affect, we followed past research (e.g., Helliwell & Wang, 2012; Kahneman & Deaton, 2010) and took the mean of two survey questions: whether or not participants had experienced *smiling/laughing* and *enjoyment* “a lot of the day yesterday” (yes or no for each item), $\alpha = .61$. For negative affect, we averaged the responses to three items (Helliwell & Wang, 2012): whether or not people had experienced *worry*, *anger*, and *sadness* “a lot of the day yesterday,” $\alpha = .61$. Consistent with past research, positive and negative affect were moderately associated, $r = .35$. Life satisfaction was associated with both positive affect, $r = .24$, and negative affect, $r = -.19$ (see Table 1 for descriptives).

Income. Participants reported their monthly household income in their local currency, which was then annualized to compute annual household income. Annual household income was divided by the number of persons in a household to form a measure of per capita income (Median = \$2,734 ID; Mean = \$7,432 ID; SD = \$16,169 ID). Local income was converted to International Dollars using the World Bank's individual consumption purchasing power parity (PPP) conversion factor, making income estimates comparable across all countries. Based on the per capita income in International Dollars, participants were placed in income quintiles, from the poorest 20% to the richest 20%. For use in regression analyses, we log-transformed per capita income by $\log_{10}(\text{Income} + 1)$. Income data is not available for the 2006, 2007, and 2008 Gallup surveys, yielding a sample of 1,126,864 for analyses including income. For further information on the Gallup World Poll methodology, see

https://osf.io/3m4yw/?view_only=1d5329674aae4ffbb4f33496405463e1.

Table 1. *Sample Descriptive Statistics*

Variable	Mean	SD	Minimum	Maximum
Sex	0.54		0-Male	1-Female
Age	40.71	17.62	13	101
Life Satisfaction	5.43	2.29	0	10
Positive Affect	0.71	0.38	0	1
Smile and Laugh	0.72	0.45	0	1
Enjoyment	0.71	0.45	0	1
NA	0.26	0.32	0	1
Worry	0.36	0.48	0	1
Sadness	0.22	0.41	0	1
Anger	0.20	0.40	0	1
Prosocial Behavior	0.33	0.32	0	1
Donate	0.31	0.46	0	1
Volunteer	0.21	0.41	0	1
Helped a Stranger	0.48	0.50	0	1

Results

Because we are working with a very large sample, we do not use null hypothesis significance testing to interpret the findings or draw conclusions. In fact, even correlations as small as $r = .005$ were significant at $p < .001$. Thus, we focus on reporting and interpreting the standardized effect sizes for each association. We consider any associations of $r = .05$ or smaller ($R^2 = .0025$) to be of negligible size. We consider $rs = .10$ ($R^2 = .01$) or larger to indicate a meaningful association between variables.

In Table 2, we present the associations between the three types of subjective well-being and each of the three prosocial behaviors for the global sample and within income quintiles. The overall pattern of bivariate associations supports the idea that people higher in life satisfaction and positive affect engage in more prosocial behaviors. In contrast, negative affect was negligibly associated with all three prosocial behaviors. Life satisfaction and positive affect were more strongly associated with donating money as compared to volunteering time and helping a stranger. The associations formed a similar pattern when we used the composite measure of prosocial behavior combining across all three types of prosocial behavior: Both life satisfaction ($r = .15$) and positive affect ($r = .13$) were associated with prosocial behavior, but negative affect was not ($r = -.01$).

Income per household capita was associated with higher SWB, including higher life satisfaction ($r = .35$) and positive affect ($r = .09$) and lower negative affect ($r = -.08$). Income was also associated with engaging in more prosocial behavior overall ($r = .12$)—an association driven primarily by being more likely to donate money ($r = .18$); income had negligible associations with volunteering ($r = .04$) and helping strangers ($r = .02$). Controlling for log income, however, did not explain away the associations of life satisfaction and positive affect

with donating money ($r_{\text{partial}} = .12$ for LS and $r_{\text{partial}} = .10$ for PA), volunteering time ($r_{\text{partial}} = .07$ for LS and $r_{\text{partial}} = .08$ for PA), helping a stranger ($r_{\text{partial}} = .06$ for LS and $r_{\text{partial}} = .09$ for PA), or the overall prosocial composite ($r_{\text{partial}} = .12$ for LS and $r_{\text{partial}} = .13$ for PA).

Furthermore, as shown in Table 2, the associations between prosocial behavior and the three indicators of subjective well-being are remarkably consistent across income brackets. Still, the associations between well-being and prosocial behavior are slightly, but consistently, stronger for those in the bottom quintile of the income distribution than those in the top quintile, the richest 20%.

The pattern of associations was also similar for men and women. Life satisfaction was associated with prosocial behavior slightly less strongly in men, $r = .13$, than in women, $r = .16$, but this difference was negligible, amounting to less than 0.1% difference in variance explained. Positive affect was associated with prosocial behavior at $r = .13$ for both men and women. Finally, the relationship between negative affect and prosocial behavior approximated 0 in both men, $r = -.003$, and women, $r = -.006$.

Table 2. *Correlations of Subjective Well-Being and Prosocial Behavior in Global Sample and by Income Quintiles.*

		Global Sample	Poorest Quintile	Second Quintile	Middle Quintile	Fourth Quintile	Richest Quintile
Median	HH Income	9,656	2,767	6,117	8,334	11,308	19,341
Means	LS	5.43	4.79	5.12	5.34	5.61	5.99
	PA	.71	.66	.68	.71	.73	.76
	NA	.26	.32	.28	.26	.24	.22
Pearson Correlations							
Donated Money	% Yes	31%	25%	27%	30%	32%	36%
	LS	0.18	0.17	0.17	0.17	0.17	0.16
	PA	0.11	0.12	0.11	0.11	0.1	0.09
	NA	-0.03	-0.03	-0.02	-0.02	-0.01	-0.01
Volunteered Time	% Yes	21%	19%	19%	20%	21%	22%
	LS	0.07	0.09	0.08	0.07	0.07	0.06
	PA	0.08	0.09	0.09	0.08	0.08	0.07
	NA	-0.01	-0.01	-0.01	-0.01	.00	.00
Helped a Stranger	% Yes	48%	44%	46%	47%	49%	54%
	LS	0.06	0.08	0.06	0.05	0.04	0.04
	PA	0.09	0.1	0.09	0.09	0.08	0.07
	NA	0.02	0.02	0.03	0.03	0.03	0.03
Prosocial Composite							
	LS	0.15	0.16	0.14	0.14	0.14	0.12
	PA	0.13	0.15	0.14	0.13	0.13	0.11
	NA	-0.01	.00	.00	.00	0.01	0.01

Note: HH Income = Household income in International Dollars (\$ID); LS = Life Satisfaction, PA = Positive Affect, NA = Negative Affect.

To look at the pattern of associations within specific countries, we used color-coded maps to visualize the strength of the associations of prosocial behavior with positive affect (Figure 1), life satisfaction (Figure 2) and negative affect (Figure 3). As shown in Figure 1, positive affect is associated with more prosocial behavior across the majority of countries with correlations varying from $r = .01$ in Congo and Ecuador to $r = .22$ in Macedonia. The only countries with no correlation between positive affect and prosocial behavior ($r = .00$) were Syria and Swaziland. Life satisfaction was also consistently correlated with more prosocial behavior, with the correlation ranging from $r = .01$ in Mexico and Haiti to $r = .29$ in Somaliland. In contrast, as shown in Figure 3, negative affect was weakly and inconsistently associated with prosocial behavior, with correlations varying from $r = -.11$ in Afghanistan to $r = .08$ in Madagascar.

We next estimated the relationship of prosocial behavior with SWB using function *StatsBy* from package *psych* in R, yielding two sets of correlations based on variance *between* countries, r_{bg} , and on variance between individuals *within* countries, r_{wg} (Pedhazur, 1997). The between-country correlations are simply the correlations between country-level means. The within-country correlations, in contrast, show the size of the associations at the person level within each country, pooled across all countries and weighted by the sample size of each country. Thus, the within-country correlations cannot be caused by between-country differences.

Overall, the associations between SWB and prosocial behavior were larger at the country level than at the individual level (see Table 3). Specifically, life satisfaction predicted prosocial behavior between countries more strongly ($r_{bg} = 0.49$) than between individuals within countries ($r_{wg} = 0.09$). The correlation of positive affect and prosocial behavior was also stronger at the country level than at the person level ($r_{bg} = 0.46$, $p < .001$; $r_{wg} = 0.11$). Negative affect predicted less prosocial behavior between countries ($r_{bg} = -.16$), though the effect size was substantially

weaker than that of positive affect or life satisfaction. There was a negligible association between negative affect and prosocial behavior at the person level within countries ($r_{wg} = 0.005$).

Multilevel Models

Finally, we examined the unique associations of prosocial behavior with each of the three SWB components in a series of mixed linear models (see Table 4). We first entered life satisfaction as a predictor of prosocial behavior and then calculated the additional variance in prosocial behavior explained by PA and then NA. These models showed that life satisfaction alone ($\beta = .10, p < .001, R^2 = .01$) accounted for 1% of the variation in prosocial behavior. Positive affect ($\beta = .09, p < .001, R^2 = .008$) accounted for 0.8% in additional variance. These two measures were both associated with being more prosocial. Interestingly, after controlling for the unique contributions of life satisfaction and PA, negative affect was weakly but positively associated with prosocial behavior ($\beta = .06, p < .001, R^2 = .003$), accounting for only 0.3% in additional variance. This pattern of associations remained unchanged after controlling for income (Table 4).

Table 3. *Between-country correlations (above diagonal) and within-country correlations (below diagonal).*

	Life Satisfaction	Positive Affect	Negative Affect	Prosocial Behavior	Donate	Volunteer	Helped a Stranger
Life Satisfaction		.55	-.23	.49	.63	.26	.10
Positive Affect	.20		-.45	.46	.48	.37	.16
Negative affect	-.20	-.34		-.16	-.18	-.23	.07
Prosocial Behavior	.09	.11	.01		.85	.80	.66
Donate	.08	.08	-.02	.69		.53	.25
Volunteer	.05	.06	.00	.66	.24		.47
Help a Stranger	.06	.08	.02	.73	.22	.22	

Figure 1

Correlation Between Positive Affect and Prosocial Behavior Across the World

Note. Lighter colors represent a weaker correlation, while darker colors represent a stronger correlation. Countries with zero correlation are shown in dark grey. Countries with no data are marked in light grey.

Figure 2

Correlations Between Life Satisfaction and Prosocial Behavior Across the World

Note. Lighter colors represent a weaker correlation and darker colors represent a stronger correlation. All correlations are positive. Countries with no data are marked in light grey.

Figure 3

Correlation Between Negative Affect and Prosocial Behavior Across the World

Note. Negative correlations are shown in orange, while the positive correlations are shown in blue. Countries with zero correlations are shown in dark grey. Countries and regions with no data are shown in light grey.

Table 4. *Multilevel models of the relationships between different aspects of subjective well-being and prosocial behavior.*

	B	CI	Beta	B	CI	Beta	B	CI	Beta	B	CI	Beta
Fixed Components												
(Intercept)	0.34	.33-.36		0.27	.25-.28		0.23	.22-.24		0.20	.18-.21	
Life Satisfaction				.01	.01-.01	.10	.01	.01-.01	.08	.01	.01-.01	.09
Positive Affect							.07	.07-.08	.09	.09	.09-.09	.11
Negative Affect										.06	.05-.06	.06
Random Components												
σ^2		.09			.09			.09			.09	
τ_{00}		.01			.01			.01			.01	
ICC _{country}		.10			.09			.09			.09	
R^2		.000			.010			.018			.021	
AIC		641257.256			628586.365			616951.528			612548.710	

Discussion

In a sample of more than one million individuals across 161 countries, we found that life satisfaction and positive affect were both consistently associated with greater prosocial action. These associations were remarkably consistent across the population—from the poorest to the richest individuals. In contrast, negative affect was a weaker and less consistent predictor of prosocial behavior, predicting more prosocial action in some countries but less prosocial action in others. Furthermore, life satisfaction and positive affect each explained unique variance in prosocial behavior, whereas negative affect explained little variance over and above the other indicators. Thus, people high in life satisfaction and positive affect have a slightly higher probability of engaging in prosocial behavior, whereas the association of negative affect with prosocial behavior seems to depend on cultural and demographic differences between countries.

These findings replicate and extend previous research (Aknin et al., 2013), with a larger sample from the Gallup World Poll across a greater period of time. These findings are also consistent with emerging evidence in samples from the United States showing that positive affect, rather than negative affect, is associated with being more socially, politically, and environmentally active (Kushlev, Drummond, Heintzelman, & Diener, 2019).

Limitations and Implications for Future Research

Though we observed substantial associations at the country level, the associations at the person level within countries were relatively small. The size of these associations may in part be due to limitations in the measures employed in large international surveys, such as the Gallup World Poll. For example, all prosocial behaviors were measured on dichotomous yes–no scales rather than more precise frequency scales that can capture greater variability between individuals. This lack of fine-grained measures may result in underestimating the strength of the

associations. The mismatch between the time period referenced in the questions about affect (yesterday) and prosocial behavior (in the past month) may also be contributing to an underestimation of the size of the associations. Of course, statistically small effects are not necessarily practically insignificant, especially when applied on a global scale. Most importantly, the small associations of life satisfaction and positive affect with prosocial behavior were consistent—that is, replicated—across the majority of nations around the globe and across income brackets. Thus, happier people are slightly but consistently more likely to give their time and money to others.

The present research neither intends to, nor can it provide any evidence of causality. Even though we used the three components of subjective well-being as ‘predictors’ and the prosocial behavior as an ‘outcome,’ our findings should not be taken to provide any evidence of causality between predictors and outcomes. In fact, from past experimental evidence, we know that the causal relationship between subjective well-being and prosocial behavior is likely reciprocal (Aknin et al., 2018). Our findings simply show that happy people—those high in positive affect and more satisfied with their lives—engage in more prosocial behavior around the globe and across demographically and culturally distinct populations. Notably, our findings indicate that negative affect in some countries is also positively associated with being prosocial, opening a fertile area for future research to examine the cultural and demographic factors that determine when negative emotions are associated with more versus less prosocial behavior.

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