Subjective Well-Being and Peace

Ed Diener

University of Illinois, and the Gallup Organization

William Tov

University of Illinois at Urbana-Champaign

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Send Reprint Requests to: Ed Diener, Ph.D.
Department of Psychology
603 E. Daniel Street
Champaign, IL 61820
USA

Email: ediener@cyrus.psych.uiuc.edu

Abstract

Hierarchical generalized linear modeling (HGLM) was employed to examine the relations between person-level subjective well-being (SWB) and peace-relevant attitudes, and how these relations vary across nations in the World Values Survey. Person-level SWB was associated with more confidence in the government and armed forces, greater emphasis on postmaterialist values, stronger support for democracy, less intolerance of immigrants and racial groups, and greater willingness to fight for one's country. These associations were moderated at the nation level by liberal development, violent inequality, GDP, and nation-level SWB. The moderator effects indicate that happy people are not completely blind to the conditions of their society and that their endorsement of peace attitudes are sensitive to whether the conditions for peace do exist.

Will a happy citizenry create more peace? Although it is often assumed that peace establishes the conditions for happiness, we entertain the possibility that increasing happiness fosters or sustains the conditions for peace. These hypotheses are not mutually exclusive. Instead, they may play complementary roles in a process linking the well-being of a nation to the well-being of its people. The concept of peace has broad appeal because it connects with the human concern for security. However, as de Rivera (2004) notes, the United Nations' program of action for a "culture of peace" likens peace to an ideal society, one in which there is education, equality, tolerance, and freedom to communicate and participate in governance—in short, a society that is not merely safe, but flourishing. To this list of bases for a culture of peace, we propose an essential addition: the subjective well-being (SWB) of the citizenry.

Our use of the term SWB refers to a stable, overall sense of well-being—to emotional and cognitive components that are relatively enduring rather than momentary. The emotional component includes how frequently one experiences positive emotions like happiness, whereas the cognitive component includes judgments of one's satisfaction with life. The term "happiness" can refer to either momentary positive feelings or to long-term well-being. However, for ease of exposition, we will sometimes use the term "happy people" primarily to refer to individuals who have a stable, long-term sense of well-being and are not simply in a temporary positive state. In this paper, we consider the relation between individual SWB and attitudes that may be relevant to various conceptions of peace. We refer to these attitudes (such as confidence in government) as peace-relevant attitudes or simply, peace attitudes. We do not mean to imply that these attitudes cohere tightly within individuals as part of an overall "peaceful personality." Rather, our interest in these attitudes is in their implications for a culture of peace. In such a society, depending on how one conceives it, individuals might endorse some of these attitudes and not others. Whereas SWB concerns individuals' own sense of wellness, peace attitudes concern how individuals perceive the sociopolitical climate of their society.

Peace Attitudes Arising From SWB

At the individual level, SWB may foster peace attitudes by influencing the way people perceive and relate to others. A large body of psychological research suggests that positive emotions predispose individuals to trust and cooperate with others, and to engage in prosocial behaviors (for reviews see Lyubomirsky, King, & Diener, 2005; Tov & Diener, in press). Much of this research is experimental, revealing that people who are induced to feel positive moods are more likely than those who are not to trust and help others, to display greater liking towards others, and to prefer cooperative strategies. In contrast, when people perceive threat or experience fear and anger, they are more likely to endorse punitive measures (Rucker, Polifroni, Tetlock, & Scott, 2004) and are less politically tolerant (Skitka, Bauman, & Mullen, 2004; see Conejeros and Etxebarría this issue). Because prolonged periods of anger and anxiety in a society can lead to instability, it is important for a population to recover from events that threaten security, and positive emotions have been found to predict resilience and recovery in such cases (e.g., the September 11th attacks; Fredrickson, Tugade, Waugh, & Larkin, 2003).

Although the preceding research has emphasized momentary positive emotions, similar effects have been observed among individuals who are *generally* happy and satisfied with their lives (Lyubomirsky et al., 2005). Taken together, this literature suggests several possible links between SWB and peace attitudes. For instance, participatory forms of government require individuals to trust that their fellow citizens will not abuse civil and political liberties that are granted. Thus, by facilitating trust and cooperation, SWB may have important implications for tolerance, as well as support for democracy and individual freedom. If individual well-being is linked to various peace attitudes, this would support the notion of SWB as a basis for a culture of peace.

Peace, Prosperity, and SWB at the Nation Level

Our investigation of peace attitudes concerns subjective perceptions of society—that is, peace in the minds of the people. However, peace can also apply to objective conditions in a society. Previously, de Rivera (2004) conducted a factor analysis on societal indicators relevant to cultures of peace and arrived at four "peace factors": liberal development (an indicator of economic strength and democratic institutions), violent inequality (which reflects homicide rates and unequal income distribution), violent means (the extent of military spending and use), and nurturance (which includes tolerance and education spending). Using a multinational sample, we employ hierarchical generalized linear modeling (HGLM) to explore how these nation-level peace factors relate to: (1) overall levels of peace attitudes in a society, and (2) how strongly these attitudes relate to SWB at the level of the person. The first question asks how prevalent these attitudes are in various types of nations; the second question asks how likely happy people are to endorse an attitude if they are in one type of nation versus another.

Although gross domestic product (GDP) per capita is a component of the liberal development factor (de Rivera, 2004), we also examine specifically how national wealth relates to peace attitudes. Insofar as wealth enables people to meet basic needs, high GDP per capita may imply that a society is relatively stable and secure. However, national wealth is often associated with greater political freedom, equality, and greater societal levels of SWB (Diener, Diener, & Diener, 1995). These conditions overlap greatly and are difficult to disentangle. Are people happier simply because they have met their basic needs? Or are people happier because other correlates of development (e.g., freedom and equality) provide an opportunity structure for individuals to pursue their goals and aspirations? It seems unlikely that increasing wealth alone would ensure peace in the face of large income disparities and growing discontentment. The direction of influence may work both ways: rising prosperity can increase SWB, but rising SWB can influence productivity (Diener & Seligman, 2004; Lyubomirsky et al., 2005) and nurture economic development and political stability (Inglehart & Klingemann, 2000).

Thus, in the interest of developing a culture of peace, factors other than economic indicators are necessary. Diener (2000; Diener & Tov, 2005) argued that societal indicators of SWB be used with economic measures to inform policy decisions. In order to further this discussion, we examine how GDP and nation-level SWB relate to peace attitudes. Although the two are strongly correlated, they may not always have the same consequences for a culture of peace. As such, the extent to which they do or do not has important implications for the utility of subjective measures in supplementing economic indicators. Nation-level SWB is also of interest as a reflection of the emotional climate within a country (Basabe, Paez, Valencia, Rimé, & Diener, 2002) and is therefore in keeping with the theme of this special issue.

Method

We obtained data from the 1995 and 1999/2000 waves of the World Values Survey (WVS; World Values Survey Organization, 2005). Data from 28 societies could not be included in our analyses either because peace factor scores were not available, or because too many cases were missing from the variables of interest. The final data set consisted of 51,929 adults (age 18 or older) from 51 nations (see Appendix). Although few African nations are represented, the sample still varied greatly in terms of geography, economics, and political structure, enabling us to explore the cross-national effects of GDP, SWB, and the peace factors on peace attitudes.

Measures

Person-Level Criterion Variables

Confidence in Parliament, Civil Service, and the Armed Forces. The confidence that people have in sociopolitical institutions helps to sustain peace in a society. Therefore, we examined confidence in parliament and civil service. Respondents indicated their level of confidence on a 4-point scale with 1 = “a great deal”, 2 = “quite a lot”, 3 = “not very much”, and 4 = “none at all”. Because peacefulness is commonly associated with nonviolence, we also considered confidence in the armed forces. One might expect peace advocates to downplay the

importance of military might. On the other hand, confidence in the armed forces might also reflect an overall sense of security. For the purposes of calculating cumulative probabilities (see below), we considered responses of 2 or less to reflect confidence in a given institution.

Endorsement of Army Rule, Autocracy, and Democracy. The WVS assessed respondents attitudes toward rule by the military (army rule), rule by a strong all-powerful leader (autocracy), and rule by democracy. Responses were made on a 4-point scale with 1 = “very good”, 2 = “fairly good”, 3 = “fairly bad”, and 4 = “very bad”. For army rule and autocracy, responses of 2 or less were counted as endorsement of these political systems. By the same criterion, democracy was endorsed by the vast majority of respondents (92%). Therefore, our results focus only on those who *fully* endorsed democracy (i.e., a response of 1). If a culture of peace supports freedom and participation (de Rivera, 2004), then individuals in such societies should endorse democracy and oppose restrictive forms of government such as army rule or autocracy.

Postmaterialist Values. According to Inglehart (2000), greater economic development leads to a shift in people’s concerns from basic needs and security (materialist values) to having greater freedom and control over one's life (postmaterialist values). Postmaterialist values seem to accord with cultures of peace, where people are both secure *and* free to focus on their individual goals. In the WVS, respondents were asked which of the following four should be their nation's first and second priorities: giving people more say in government decisions; protecting freedom of speech; maintaining order in the nation; or fighting rising prices. The first two goals reflect postmaterialist concerns whereas the latter two reflect materialist concerns. Respondents who selected two postmaterialist goals were coded as ‘1’; those who selected only one were coded as ‘2’; and those who did not select any postmaterialist goals were coded as ‘3’.

Racial Intolerance. Respondents indicated whether they objected to living near people who were of a different race or immigrants/foreign workers. As a measure of racial and ethnic intolerance, respondents who objected to living near both groups were coded as '1', those who

objected to living near one of the groups were coded as '2', and those who did not object to living near either were coded as '3'. Responses of 2 or less were counted as reflecting racial intolerance.

Restrictions on Immigration. Attitudes toward immigration policy were measured on a 4-point scale with the following value labels: 1 = "Prohibit people coming here from other countries"; 2 = "Place strict limits on the number of foreigners who can come here"; 3 = "Let people come as long as there are jobs available"; and 4 = "Let anyone come who wants to". Thus, lower numbers reflect a preference for greater restrictions on immigration. Responses of 2 or less were counted as having a restrictive attitude toward immigration.

Willingness to Fight for Country. As a measure of attitudes toward the use of violence, we examined respondents' willingness to fight for their country *if* it went to war (1 = yes, 0 = no). However, due to the framing of the questions, responses could be interpreted more specifically as an acceptance of violence only as a last resort. Also, data were only available for 36 countries (see Appendix). Despite its limitations, examining the willingness to fight could refine the "culture of peace" construct and its implications for individual attitudes.

Person-Level Predictor: Person-Level SWB

As an indicator of overall SWB, we averaged two questions regarding how happy respondents generally felt and how satisfied they were with their lives. Scores ranged from 1 (not at all happy and dissatisfied) to 7 (very happy and satisfied). In our HGLM analyses, each respondent's SWB score was used as a predictor at the person-level of analysis.

Nation-Level Predictors

Peace Factor Scores. We used each nation's factor scores on the four peace factors (liberal development, violent inequality, violent means, and nurturance; de Rivera, 2004) as predictors of between-nation differences in peace attitudes.

Gross Domestic Product (GDP) Per Capita. We obtained per capita GDP data from the Penn World Tables (Heston, Summers, & Aten, 2002) in constant 1996 dollars. Due to the wide variance in GDP, all analyses employed the natural log of GDP per capita (log GDP).

Nation-Level SWB. For each nation, mean SWB was computed by averaging across all respondents within the same nation.

Data Analytic Strategy

Because all peace attitudes were measured using at most four response categories, the data were often skewed and random effects were not normally distributed. In such cases, ordinal logistic regression models are preferable. Treating the criterion variables as ordinal requires a nonlinear approach (HGLM; however see Basabe and Valencia in this issue for a complementary analysis using collective level correlations of logged variables). Instead of predicting a raw score ($\hat{Y}_{ij}$), ordinal HGLM (Raudenbush & Bryk, 2002) generates a regression equation that can be used to predict the log-odds (η_{ij}) of giving a certain response. Log-odds can then be converted into probabilities via the following formula: $\exp(\eta_{ij})/[1 + \exp(\eta_{ij})]$. In the present study, we will often present cumulative log-odds and hence, cumulative probabilities (e.g., the probability that a respondent will select a 2 or lower on a 4-point scale). At the person-level, the log-odds that person *i* in country *j* will endorse a peace attitude is predicted from his or her level of SWB:

$$\text{Person-Level Model:} \qquad \eta_{ij} = \beta_{0j} + \beta_{1j}(SWB_{ij} - NSWB_{.j})$$

where β_{1j} represents the effect of SWB on the likelihood that person *i* in nation *j* will endorse an attitude. Each person's score (SWB_{ij}) is centered on his or her nation's average ($NSWB_{.j}$) so that the intercept (β_{0j}) represents the average log-odds that people in nation *j* endorse a given attitude.

Preliminary tests of random-coefficients models (Raudenbush & Bryk, 2002) indicated that the 51 nations in our sample varied significantly in terms of the average log-odds of endorsing peace attitudes (i.e., the size of the intercept β_{0j}), as well as how strongly person-level SWB was associated with log-odds of endorsement (i.e., the size of the slope β_{1j}). Therefore, we

sought to determine whether nation-level characteristics were associated with cross-national differences in the intercept and slope, as presented in the following equations:

$$\text{Nation-Level Intercept Model:} \quad \beta_{0j} = \gamma_{00} + \gamma_{01}W_{1j} + u_{0j}$$

$$\text{Nation-Level Slope Model:} \quad \beta_{1j} = \gamma_{10} + \gamma_{11}W_{1j} + u_{1j}$$

In the nation-level intercept model, γ_{00} is the grand intercept (typical log-odds of endorsement for nations that have average nation-level characteristics–e.g., average GDP), and γ_{01} represents the effect of a nation-level predictor W_{1j} (e.g., GDP) on the size of the intercept (β_{0j}) in nation *j*. In the nation-level slope model, γ_{10} is the grand slope (average effect of person-level SWB on log-odds of endorsement across all 51 nations), and γ_{11} is a moderator effect (the effect of a nation-level predictor (W_{1j}) on the size of the slope (β_{1j}) in nation *j*). All nation-level predictors were grand-mean centered before entering them into the models. Finally, u_{0j} and u_{1j} are residuals representing variance in the intercept and slope, respectively, that remain unaccounted for by nation-level predictors.

Results

Hierarchical Models Using Peace Factors

Interpreting the results of HGLM analyses. We explored the relation between nation-level peace factors, person-level SWB, and person-level peace attitudes using four types of hierarchical models. For each model, a peace factor score (e.g., liberal development) was used as the nation-level predictor (W_{1j}). These models (Models 1 to 4) are presented in Table 1 with the unit-specific estimates of the grand intercept and unstandardized/standardized coefficients (see Raudenbush & Bryk, 2002, for a discussion of unit-specific estimates). As an example, take Model 1 in which liberal development is used as a nation-level predictor. In the first column, we see that $\gamma_{01} = -.18$ ($p < .10$), indicating that liberal development is associated with a lower log-odds (at the nation-level) of being confident in civil service. This suggests that societal levels of confidence tend to be lower when liberal development is high. We can compute the average log-

odds of confidence when liberal development is high (e.g., liberal development factor score = 1) as $\beta_{0j} = \gamma_{00} + \gamma_{01}W_{1j} = -.25 + (-.18)(1) = -.43$. Thus, in a country where liberal development is high, the overall probability of confidence in civil service is equal to $\exp(-.43)/[1 + \exp(-.43)] = .39$, or 39%. In Table 1, we also see that on average, person-level SWB is associated with greater log-odds of confidence in civil service ($\gamma_{10} = .12$). However, the effect of liberal development on the slope ($\gamma_{11} = -.00$) is not significant. This suggests that the strength of association between person-level SWB and confidence in civil service (β_{1j}) does not vary across nations as a function of how liberally developed they are. Nevertheless, for illustrative purposes, a unit increase in person-level SWB in a nation where liberal development is high leads to an increase of $\beta_{1j} = \gamma_{10} + \gamma_{11}W_{1j} = .12 + (-.00)(1) = .12$ in the log-odds of confidence in civil service. Thus, the total log-odds that a "happy person" in a liberally developed nation will be confident in civil service is equal to $\eta_{ij} = \beta_{0j} + \beta_{1j}(SWB_{ij} - NSWB._j) = -.43 + (.12)(1) = -.31$. This translates into a probability of $\exp(-.31)/[1 + \exp(-.31)] = .42$, or 42%.

Person-level SWB effects. The relation of person-level SWB to person-level peace attitudes are represented by the γ_{10} coefficients, which are the average effects of person-level SWB across the 51 nations. Notice that for each peace attitude, the estimates of γ_{10} remain the same even as we enter different nation-level predictors (Table 1). This is to be expected due to the large sample size as well as the way hierarchical modeling partitions the total variance into person- and nation-level variances (Raudenbush & Bryk, 2002).

On average, person-level SWB was associated with a greater likelihood of being confident in parliament and civil service, endorsing democracy and postmaterialist values, and a lower likelihood of being racially intolerant or having a restrictive attitude toward immigration. However, person-level SWB was also associated with greater confidence in the armed forces and willingness to fight for one's country, and was not significantly related to the endorsement of army rule or autocracy. On balance, happy people appear to have several important peace

attitudes, but how peaceful they are depends on which aspect of peace is emphasized. In terms of valuing freedom and trusting others, person-level SWB is a frequent correlate and may be an important cause (Tov & Diener, 2005). However, with regards to nonviolence, happy people appear to feel that violence is justified in certain situations (e.g., defending one's country). These findings imply that raising individual well-being does not completely diminish the value that one places on security. Moreover, the relation between person-level SWB and peace attitudes is moderated by nation-level variables such as liberal development. Next we examine the effects of nation-level predictors on the overall level of peace attitudes in society (γ_{01}) and on the relation between person-level SWB and person-level attitudes (γ_{11}).

Model 1: Liberal Development. The significantly negative γ_{01} coefficients in Table 1 suggest that nation-level liberal development is associated with lower societal levels of confidence in armed forces, endorsement of army rule, and willingness to fight a war. One interpretation of these results is that nonviolent ideologies are more prevalent in liberal societies. Liberal development was also associated with lower prevalence of racial intolerance and greater postmaterialist values at the societal level. These findings are reminiscent of past work on the authoritarian personality (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950). However, it is important to note that this peace factor was not associated with endorsement of democracy.

The significant γ_{11} coefficients indicate that nation-level liberal development moderated how strongly person-level SWB correlated with racial intolerance and endorsement of autocracy and democracy. For endorsement of democracy, *both* γ_{10} and γ_{11} are positive suggesting that a unit-increase in person-level SWB has a greater *positive* effect on support for democracy in countries with higher nation-level scores on liberal development. For racial intolerance and endorsement of autocracy, *both* γ_{10} and γ_{11} are negative suggesting that a unit-increase in person-level SWB has a greater *negative* effect on these attitudes in countries with higher nation-level scores on liberal development.

Another way to conceptualize these moderator effects (also known as cross-level interactions) is to use the γ coefficients to predict the log-odds of endorsing these attitudes, and then convert these log-odds into probabilities (see Table 3). To examine the effect of a nation-level variable, we computed the probability of endorsement in countries that were high or low on that variable. For instance, the effect of nation-level liberal development was assessed at values that were 1 standard deviation above ("high") and below ("low") the grand mean. Similarly, person-level SWB was assessed at values that were 1 SD above ("happy person") and below ("unhappy person") the mean of person-level SWB (which was zero because all scores were group-centered).

Table 3 shows that when nation-level liberal development is low, person-level SWB is not associated with racial intolerance or attitudes toward democracy and autocracy. However, when liberal development is high, person-level SWB correlates negatively with racial intolerance and endorsement of autocracy, and positively with endorsement of democracy. To illustrate these effects with concrete examples, we can compare the correlations within specific countries (after reverse coding the items to ease interpretation). In China (about –1 SD on liberal development), the correlations of person-level SWB with racial intolerance, support for democracy, and support for autocracy were all non-significant (all *r*'s around .01). However, in New Zealand (about +1 SD on liberal development), person-level SWB correlated significantly with racial intolerance and support for democracy (*r*'s = -.11 and .10, respectively, *p*'s < .02), though not significantly with support for autocracy (*r* = -.02). Thus, variations among liberally developed nations do exist. Nevertheless, on average, happy people in these societies tend to be more supportive of democracy, less supportive of autocracy, and less likely to be racially intolerant than unhappy people. These findings suggest that full support of democracy may be contingent upon individual well-being in liberally developed nations, and are consistent with the idea that SWB plays a critical role in legitimizing liberal democratic governments (Inglehart & Klingemann, 2000).

Because liberally developed nations tend to be democratic, unhappy people in these countries may feel disillusioned. Individuals who are unhappy because they cannot meet even the most basic needs may feel a discrepancy between their personal experiences and the ideology of freedom and equality espoused by democratic regimes. Consequently, these individuals may become more critical and less likely to fully endorse democracy. This issue is quite complex and merits further research.

Model 2: Violent Inequality. The γ_{01} coefficients indicate that nation-level violent inequality was associated with greater societal levels of support for army rule and autocracy, and lower levels of support for democracy. Thus, in nations marred by high rates of homicide and inequality, increasing segments of the population favor strong leadership or military rule.

Violent inequality also moderated (γ_{11}) how strongly person-level SWB correlated with confidence in parliament and civil service. Notice that whereas the effect of person-level SWB (γ_{10}) on confidence is positive, the moderating effect of violent inequality (γ_{11}) is negative. This suggests that a unit-increase in person-level SWB has a *less positive* effect on confidence in countries with higher nation-level scores on violent inequality. In other words, person-level SWB correlates more strongly with confidence in parliament and civil service when nation-level violent inequality is low than when it is high. As shown in Table 3, happy people are increasingly more likely than unhappy people to be confident in governance among societies that are low on violent inequality. As an example, we compare Belgium (low in violent inequality) with Argentina (high in violent inequality). In Belgium, person-level SWB correlated .13 and .09 (p's < .0001) with confidence in parliament and civil services, respectively. However, in Argentina, the same correlations were smaller and nonsignificant: .05 and .01.

Model 3: Violent Means. Nation-level violent means was associated with greater societal levels of confidence in the armed forces. No other significant effects were observed.

Model 4: Nurturance. Nation-level nurturance was not significantly associated with societal levels of peace attitudes. Only one significant moderator effect was observed for confidence in parliament (see Tables 1 and 3). Person-level SWB correlates more strongly with confidence in parliament when nation-level nurturance is low than when it is high. As nurturance itself was not significantly related to a nation's average log-odds of confidence in parliament, this finding is difficult to interpret and we refrain from offering possible explanations.

Hierarchical Models Comparing GDP and SWB

At the nation-level, SWB correlated strongly with log GDP, $r(51) = .75$, $p < .01$. Recall that GDP is also a component of the liberal development factor score (de Rivera, 2004). Indeed, in our sample we found that liberal development was the only peace factor to correlate with nation-level SWB, $r(51) = .66$, $p < .01$. Therefore, it was of interest to consider GDP separately and in conjunction with nation-level SWB. In comparing how GDP per capita and nation-level SWB are associated with peace attitudes, we examined three models. Models 5 and 6 employ GDP and SWB separately as nation-level predictors. Model 7 employs both GDP and SWB as nation-level predictors. All models included person-level SWB, enabling us to explore the moderating effects of nation-level SWB and GDP. Table 2 presents the results of these three models.

Model 5 (GDP only) and Model 6 (Nation-level SWB only). A comparison of Models 5 and 6 reveals that GDP and SWB have significant effects on the intercept (γ_{01}) for five peace attitudes, and significant effects on the person-level SWB slope (γ_{11}) for three peace attitudes (see Table 2). In all eight cases the effects are in the same direction, suggesting a considerable overlap in the implications of GDP and nation-level SWB for peace attitudes. Both nation-level variables were associated with greater societal levels of postmaterialist values, and lower societal levels of confidence in armed forces, support for army rule and autocracy, and racial intolerance. In addition, GDP but not nation-level SWB was associated with a lower overall willingness in

society to fight for one's country. We will postpone discussion of moderator effects for Model 7, in which the effects of GDP and nation-level SWB are controlled for each other.

Model 7: GDP and Nation-level SWB entered simultaneously. In Model 7, we interpret γ_{01} and γ_{11} as the effect of GDP on the intercept and slope, respectively. Because Model 7 contains two nation-level predictors, we introduce γ_{02} and γ_{12} as the effect of nation-level SWB on the intercept and slope, respectively. After controlling for both nation-level predictors, GDP (γ_{01}) but not nation-level SWB (γ_{02}) was associated with lower societal levels of racial intolerance and support for army rule. The effects of GDP mirror those obtained for liberal development, suggesting that sociopolitical norms heavily influence societal attitudes. Wealthy, democratic nations also tend to be multicultural societies, making the issue of diversity and racial tolerance more salient. Interestingly, GDP also moderated (γ_{11}) how strongly person-level SWB correlated with racial intolerance. When GDP is low, person-level SWB does not correlate with racial intolerance. When GDP is high, person-level SWB tends to correlate negatively with racial intolerance. Thus, in wealthy countries, happy people are less likely than unhappy people to be racially intolerant (see Table 3). Recall that liberal development also showed a similar moderating effect (not surprising given that GDP was one component of this peace factor).

However, neither GDP nor nation-level SWB predicted greater societal levels of confidence in parliament or civil service. If anything, the effect of GDP on confidence in governance is in the negative direction. GDP (γ_{01}) was also not associated with support for democracy at the nation level. In contrast, nation-level SWB (γ_{02}) was associated with greater societal levels of support for democracy, although the effect did not reach significance ($p = .07$). Our failure to obtain significance may be due to insufficient power to detect these effects at the nation level. At the person-level, the sample size is large and SWB remained significantly associated with confidence in governance and endorsement of democracy.

Nevertheless, GDP (γ_{11}) and nation-level SWB (γ_{12}) moderated how strongly person-level SWB related to endorsement of democracy. When GDP is low, person-level SWB did not correlate with endorsement of democracy. When GDP is high, person-level SWB correlated positively with endorsement. As we observed with liberal development, this suggests that in wealthy democratic societies, support for democracy is contingent on individual well-being. In contrast, when nation-level SWB is high, person-level SWB does not correlate with endorsement of democracy. For instance, in Denmark (high nation-level SWB), person-level SWB correlated .04 with support for democracy. Notice however, that overall endorsement of democracy tends to be higher in societies that are high on nation-level SWB (see Table 3). When nation-level SWB is low, person-level SWB correlates positively with democratic endorsement. Interestingly, the moderating effect of nation-level SWB remained even after controlling for the variance of person-level SWB in a country (which tends to be smaller where nation-level SWB is high). It is noteworthy that of the 10 countries with the lowest nation-level SWB in our sample, 7 were former Communist societies (e.g. Albania, Ukraine, Russia, Belarus, Romania, Bulgaria, and Lithuania). Of these, the correlation between person-level SWB and support for democracy was significantly positive in Ukraine, Russia, Bulgaria, and Lithuania (average $r = .17$, p's $\leq .001$). Given that democratic changes in these nations have occurred within the past two decades, these findings raise further questions about the causal link between democracy and SWB (e.g., Inglehart & Klingemann, 2000) that should be pursued in future research.

Interestingly, the level of postmaterialist values in a society was predicted by both GDP (γ_{01}) and nation-level SWB (γ_{02}). In wealthier countries, people place more value on freedom of speech and having more say in government. Beyond the effects of national wealth, greater societal SWB also contributes to increasing postmaterialist concerns at the nation-level. Notice that nation-level SWB predicts postmaterialist values even after controlling for person-level SWB. These "compositional effects" suggest that when levels of SWB are high throughout a

society, both happy and unhappy people are increasingly likely to prioritize civil and political freedom over economic stability or maintaining social order. These compositional effects are net of GDP and may reflect emotional norms or emotional climates (Basabe et al., 2002).

Finally, nation-level SWB significantly moderated the association between person-level SWB and restrictive immigration attitudes. Person-level SWB correlates more strongly with restrictive attitudes when nation-level SWB is low than when it is high. The results in Table 3 suggest that an unhappy person in an "unhappy country" is increasingly more likely to endorse restrictions on immigration than is a happy person in the same country.

In sum, both GDP and nation-level SWB have important implications for peace attitudes. Given that these two predictors are so strongly correlated with each other as well as with other third variables (e.g., rights and freedom), we would caution against arguing that one is more important than the other. Furthermore, person-level SWB remains significantly related to peace attitudes at the individual level.

Discussion

Global peace efforts often give strong emphasis to economic and democratic development within societies. The belief is that freedom, equality, and wealth will bring lasting peace to the world. Our results provide support for these efforts in showing that the social, political, and economic structures of a society are related to peace, as reflected in the attitudes of the people living in that society. In nations where GDP and liberal development are high, there are greater levels of opposition to military rule and less willingness to fight a war for one's country. In addition, liberal development and GDP were associated with a greater emphasis on postmaterialist concerns and lower levels of racially intolerant attitudes in society. Overall, these two nation-level variables have important links to peace. They may be involved in fostering or reinforcing ideologies that emphasize individual rights, democratic participation, and nonviolence.

However, there is no single key for attaining a culture of peace in its various forms. For instance, GDP and liberal development did not predict other desirable peace attitudes. Overall levels of confidence in government or full endorsement of democracy were not necessarily higher among more liberally developed, wealthy nations. If a peaceful society is one in which participation is not merely optional but valued as a means of effecting change, then there must be a perception that the political system is fair and just. Our analyses suggest that increasing national wealth or civil and political liberties—though important—does not ensure that people will be confident in their government.

In contrast, individual well-being was related to several peace attitudes. Person-level SWB was associated with greater confidence in parliament and civil services, and these effects were not moderated by GDP or liberal development. Person-level SWB was also associated with endorsement of democracy, greater emphasis on postmaterialist values, and less intolerance of immigrants and members of different racial and ethnic groups—attitudes that are important for a peaceful society that is open and free to all people. These findings may not be coincidental, given the role of positive emotions in facilitating trust and cooperation (Lyubomirsky et al., 2005; Tov & Diener, 2005). Therefore, we contend that SWB be thought of not only as a by-product of peace, but also as a crucial element in sustaining peace over time. In that regard, SWB may be a critical base for a culture of peace.

At the same time, important moderator effects were observed. Whether happy people endorse a peace attitude is influenced by the norms of their society and whether the conditions for peace exist. For example, although person-level SWB is positively related to confidence in government, the effect is stronger where violent inequality is *low*. This finding counters the belief that happy people are “Pollyannas” who see everything positively, blind to objective social conditions. On the contrary, a happy person is increasingly more confident in the government when homicide rates and economic inequality are low. Similarly, person-level SWB is associated

with less racial intolerance, but not where there is poverty or little protection of human rights. Thus, we would not want to simply increase SWB without improving the political and economic situation of the people living in a society. Even so, it is interesting that in the former communist societies where nation-level SWB is low, happy people are still more supportive of democracy and less supportive of restrictive immigration policies compared with their unhappy compatriots.

Future research would benefit from a larger sample of nations, as well as a closer examination of how happy people differ across nations. Happy people in an "unhappy country" might base their well-being on a different set of considerations than happy people in a "happy country". Greater attention should also be focused on the role that SWB plays in actually bringing about and sustaining a culture of peace. The present analyses are correlational, limiting our ability to infer the direction of causal influence. Multiple methods could yield additional insights. For instance, experimental economics could be used to simulate the conditions under which SWB or short-term positive moods influence cooperation and social perception.

We have seen that wealth, equality, and freedom are each associated with different peace attitudes. Subjective well-being of the person and the nation are also related to peace attitudes, and these associations are not fully accounted for by other socioeconomic and political indicators. Multimethod research is needed to explore and disentangle these effects. To that end, efforts to establish a culture of peace have much to gain by incorporating subjective measures into a comprehensive set of peace indicators.

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Table 1.

Hierarchical Models Predicting Attitudes from Individual-Level SWB and Nation-Level Peace Factor Scores

	Peace Attitude				
	Confidence in Civil Service	Confidence in Parliament	Confidence in Armed Forces	Army Rule Endorsement	Autocracy Endorsement
MODEL 1					
Intercept, γ_{00}	-.25	-.44	.54	-2.06	-.85
Liberal Development, γ_{01}	-.18 (-.24)†	-.12 (-.19)	-.36 (-.41)**	-.61 (-.62)***	-.21 (-.21)
Person-Level SWB Slope, γ_{10}	.12 (.17)***	.11 (.17)***	.09 (.13)***	-.02 (-.03)	-.02 (-.03)†
Liberal Development, γ_{11}	-.00 (.00)	.01 (.02)	.02 (.03)†	-.02 (-.03)	-.03 (-.04)*
MODEL 2					
Intercept, γ_{00}	-.25	-.44	.54	-2.06	-.85
Violent Inequality, γ_{01}	-.19 (-.18)	-.20 (-.21)	-.14 (-.14)	.45 (.58)*	.41 (.45)**
Person-Level SWB Slope, γ_{10}	.12 (.17)***	.11 (.17)***	.09 (.13)***	-.02 (-.03)	-.02 (-.03)
Violent Inequality, γ_{11}	-.03 (-.05)*	-.04 (-.07)**	-.02 (-.04)	.02 (.03)	-.00 (-.00)
MODEL 3					
Intercept, γ_{00}	-.25	-.44	.54	-2.06	-.85
Violent Means, γ_{01}	.14 (.18)	.10 (.11)	.48 (.53)***	.19 (.20)	.09 (.11)
Person-Level SWB Slope, γ_{10}	.12 (.17)***	.11 (.17)***	.09 (.13)***	-.02 (-.03)	-.02 (-.03)
Violent Means, γ_{11}	.02 (.02)	.01 (.02)	-.01 (-.01)	.02 (.02)	.01 (.00)
MODEL 4					
Intercept, γ_{00}	-.25	-.44	.54	-2.06	-.85
Nurturance, γ_{01}	-.00 (-.01)	.00 (-.01)	-.01 (-.09)	-.24 (-.24)†	-.18 (-.18)†
Person-Level SWB Slope, γ_{10}	.12 (.17)***	.11 (.17)***	.09 (.13)***	-.02 (-.03)	-.02 (-.03)
Nurturance, γ_{11}	-.01 (-.02)	-.03 (.04)*	-.00 (.01)	.01 (.01)	.00 (.01)

Table 1. (continued)

	Peace Attitude				
	Democracy Endorsement	Postmaterial Values	Racially Intolerant	Restrict Immigration	Fight for Country
MODEL 1					
Intercept, γ_{00}	.01	-1.91	-1.48	-.14	1.26
Liberal Development, γ_{01}	.01 (-.02)	.43 (.45)***	-.57 (-.60)***	.01 (.01)	-.46 (-.49)**
Person-Level SWB Slope, γ_{10}	.05 (.09)***	.03 (.05)**	-.09 (-.13)***	-.07 (-.09)***	.09 (.15)***
Liberal Development, γ_{11}	.03 (.05)**	-.01 (.01)	-.06 (-.10)***	.02 (.03)	.01 (-.01)
MODEL 2					
Intercept, γ_{00}	.01	-1.91	-1.48	-.14	1.26
Violent Inequality, γ_{01}	-.33 (-.33)**	-.07 (.06)	-.30 (-.25) †	-.08 (-.06)	-.18 (-.17)
Person-Level SWB Slope, γ_{10}	.05 (.09)**	.03 (.05)**	-.09 (-.13)***	-.07 (-.09)***	.09 (.15)***
Violent Inequality, γ_{11}	.00 (-.01)	-.00 (.00)	.02 (.03)	.01 (.01)	.00 (-.01)
MODEL 3					
Intercept, γ_{00}	.01	-1.91	-1.48	-.14	1.26
Violent Means, γ_{01}	-.02 (-.01)	-.13 (-.11)	.07 (.07)	.04 (.04)	.02 (.00)
Person-Level SWB Slope, γ_{10}	.05 (.09)**	.03 (.05)**	-.09 (-.13)***	-.07 (-.09)***	.09 (.14)***
Violent Means, γ_{11}	.01 (.02)	.00 (.01)	.02 (.03)	-.01 (-.01)	.03 (.04)†
MODEL 4					
Intercept, γ_{00}	.01	-1.91	-1.48	-.14	1.26
Nurturance, γ_{01}	.11 (.11)	.15 (.16)†	-.20 (-.21)	.08 (.09)	-.06 (-.04)
Person-Level SWB Slope, γ_{10}	.05 (.09)**	.03 (.05)**	-.09 (-.13)***	-.07 (-.09)***	.09 (.15)***
Nurturance, γ_{11}	-.01 (-.02)	-.01 (-.01)	-.02 (-.03)	.01 (.02)	-.01 (-.04)

Note. Coefficients outside parentheses are unstandardized; coefficients inside parentheses are standardized. All intercepts represent cumulative log-odds except for endorsement of democracy and fight for country.

†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 2.

Hierarchical Models Predicting Attitudes from Person-Level SWB and Nation-Level SWB and GDP

	Peace Attitude				
	Confidence in Civil Service	Confidence in Parliament	Confidence in Armed Forces	Army Rule Endorsement	Autocracy Endorsement
MODEL 5					
Intercept, γ_{00}	-.25	-.44	.54	-2.06	-.85
GDP Per Capita, γ_{01}	-.16 (-.14)	-.17 (-.14)	-.47 (-.38)**	-.85 (-.70)***	-.39 (-.33)**
Person-Level SWB Slope, γ_{10}	.12 (.17)***	.11 (.17)***	.10 (.13)***	-.02 (-.03)	-.02 (-.03)
GDP Per Capita, γ_{11}	-.00 (-.00)	.00 (.01)	.04 (.04)**	-.02 (-.02)	-.03 (-.03)†
MODEL 6					
Intercept, γ_{00}	-.25	-.44	.54	-2.06	-.85
Nation-Level SWB, γ_{01}	-.00 (.00)	.02 (.02)	-.48 (-.32)**	-.62 (-.42)**	-.45 (-.31)**
Person-Level SWB Slope, γ_{10}	.12 (.17)***	.11 (.17)***	.09 (.13)***	-.02 (-.03)	-.02 (-.03)
Nation-Level SWB, γ_{11}	-.02 (-.02)	-.01 (-.01)	.05 (.05)**	-.01 (-.01)	-.02 (-.01)
MODEL 7					
Intercept, γ_{00}	-.25	-.44	.54	-2.06	-.85
GDP Per Capita, γ_{01}	-.36 (-.31)†	-.43 (-.36)†	-.40 (-.33)†	-1.08(-.88)***	-.26 (-.22)
Nation-Level SWB, γ_{02}	.33 (.23)	.41 (.29)	-.11 (-.07)	.37 (.23)	-.21 (-.14)
Person-Level SWB Slope, γ_{10}	.12 (.17)***	.11 (.17)***	.09 (.13)***	-.02 (-.03)	-.02 (-.03)
GDP Per Capita, γ_{11}	.02 (.03)	.02 (.02)	.01 (.01)	-.03 (-.03)	-.03 (-.04)
Nation-Level SWB, γ_{12}	-.04 (-.04)	-.02 (-.03)	.04 (.05)†	.02 (.02)	.00 (.02)

Table 2 (continued)

	Peace Attitude				
	Democracy Endorsement	Postmaterial Values	Racially Intolerant	Restrict Immigration	Fight for Country
MODEL 5					
Intercept, γ_{00}	.01	-1.91	-1.48	-.14	1.26
GDP Per Capita, γ_{01}	.09 (.08)	.61 (.51)***	-.69 (-.58)***	-.00 (-.01)	-.57 (-.44)**
Person-Level SWB Slope, γ_{10}	.05 (.09)***	.03 (.05)**	-.09 (-.13)***	-.07 (-.09)***	.09 (.15)***
GDP Per Capita, γ_{11}	.03 (.03)†	-.02 (-.02)	-.09 (-.11)***	.04 (.04)*	.01 (-.01)
MODEL 6					
Intercept, γ_{00}	.01	-1.91	-1.48	-.14	1.26
Nation-Level SWB, γ_{01}	.25 (.17)†	.76 (.51)***	-.70 (-.48)***	-.02 (-.02)	-.34 (-.18)
Person-Level SWB Slope, γ_{10}	.05 (.08)**	.03 (.05)**	-.09 (-.13)***	-.06 (-.09)***	.09 (.14)***
Nation-Level SWB, γ_{11}	-.00 (-.01)	-.04 (-.04)*	-.07 (-.07)*	.06 (.06)***	-.01 (-.03)
MODEL 7					
Intercept, γ_{00}	.01	-1.91	-1.48	-.14	1.26
GDP Per Capita, γ_{01}	-.14 (-.12)	.33 (.28)**	-.61 (-.51)**	.02 (.02)	-.75 (-.61)**
Nation-Level SWB, γ_{02}	.38 (.26)†	.45 (.31)**	-.14 (-.09)	-.04 (-.04)	.30 (.25)
Person-Level SWB Slope, γ_{10}	.05 (.08)***	.03 (.05)**	-.09 (-.13)***	-.06 (-.09)***	.09 (.15)***
GDP Per Capita, γ_{11}	.07 (.09)**	.01 (.01)	-.10 (-.12)**	-.01 (-.00)	.03 (.02)
Nation-Level SWB, γ_{12}	-.07 (-.08)**	-.05 (-.05)†	.02 (.02)	.07 (.07)**	-.03 (-.04)

Note. Coefficients outside parentheses are unstandardized; coefficients inside parentheses are standardized. All intercepts represent cumulative log-odds except for endorsement of democracy and fight for country.

†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 3.

Probability of Having Various Peace Attitudes as a Function of Person-Level SWB and Nation-Level Moderators

			Person-Level SWB[b]	
	Nation-Level		Unhappy	Happy
Criterion Variable	Moderator	Level[a]	Person	Person
Confidence in	Violent Inequality	High	33	38
Parliament		Low	39	48
	Nurturance	High	37	42
		Low	35	44
Confidence in	Violent Inequality	High	37	43
Civil Service		Low	43	52
Autocracy	Liberal Development	High	27	24
Endorsement		Low	35	35
Democracy	Liberal Development	High	48	53
Endorsement[c]		Low	50	51
	GDP (Model 7)	High	44	51
		Low	54	53
	SWB (Model 7)	High	57	57
		Low	41	47

Table 3 (continued)

Criterion Variable	Nation-Level Moderator	Level[a]	Person-Level SWB[b]: Unhappy Person	Person-Level SWB[b]: Happy Person
Racially Intolerant	Liberal Development	High	13	9
		Low	30	29
	GDP (Model 7)	High	15	10
		Low	28	27
Restrict Immigration	SWB (Model 7)	High	46	45
		Low	51	44

Note. Except where noted, values represent the cumulative probability of giving an affirmative response.

[a]High levels represent countries that were 1 SD above the grand mean of the nation-level predictor. Low levels countries that were 1 SD below the mean.

[b]Unhappy persons were 1 SD below the grand mean of person-level SWB. Happy persons were 1 SD above the grand mean.

[c]Values represent the probability of giving the *strongest* endorsement (1 = very good).

Appendix

Sample of countries included in analyses: Albania*, Algeria, Argentina*, Australia*, Austria*, Bangladesh*, Belarus*, Belgium, Brazil*, Bulgaria, Canada*, Chile*, China*, Croatia*, Czech Republic, Denmark, Finland*, France*, Germany*, Greece, India*, Indonesia, Ireland, Italy*, Jordan, Korea*, Lithuania*, Luxembourg*, Mexico*, Morocco*, Netherlands, New Zealand*, Norway*, Pakistan, Peru*, Philippines*, Poland, Portugal, Romania*, Russia*, Slovenia*, South Africa*, Spain*, Sweden, Switzerland*, Turkey, United States*, Ukraine*, Uruguay*, Venezuela*, Zimbabwe*.

*Countries included in analyses of willingness to fight for country.