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**Title:** Values that Underlie and Undermine Well-Being : Variability Across Countries

**Year:** 2017

**Version:**

**Please cite the original version:**

Sortheix, F., & Schwartz, S. H. (2017). Values that Underlie and Undermine Well-Being : Variability Across Countries. *European Journal of Personality*, 31(2), 187-201.  
<https://doi.org/10.1002/per.2096>

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## Abstract

We examined relations of 10 personal values to life satisfaction (LS) and depressive affect (DEP) in representative samples from 32/25 countries (N=121,495). We tested hypotheses both for direct relations and cross-level moderation of relations by Cultural Egalitarianism. We based hypotheses on the growth vs. self-protection orientation and person- vs. social-focus motivations that underlie values. As predicted, openness to change values (growth/person) correlated positively with subjective well-being (SWB: higher LS, lower DEP) and conservation values (self-protection/social) correlated negatively with SWB. The combination of underlying motivations also explained more complex direct relations of self-transcendence and self-enhancement values with SWB. We combined an analysis of the environmental context in societies low vs. high in Cultural Egalitarianism with the implications of pursuing person- vs. social-focused values to predict how Cultural Egalitarianism moderates value-SWB relations. As predicted, under low vs. high Cultural Egalitarianism, (a) openness to change values related more positively to SWB, (b) conservation values more negatively, (c) self-enhancement values less negatively, and (d) self-transcendence values less positively. Culture moderated value-SWB relations more weakly for DEP than for LS. Culture moderated value-LS relations more strongly than the socio-economic context did. This study demonstrates how the cultural context shapes individual-level associations between values and SWB.

Keywords: values, subjective well-being, cultural egalitarianism, cross-cultural psychology, European Social Survey, multilevel analyses

## **Values that underlie and undermine well-being: Variability across countries<sup>1</sup>**

Recent decades have witnessed increased interest in the scientific study of well-being. Of the various constructs used to study this concept, subjective well-being (SWB) is the most widely used concept and validated measure across countries (reviewed in Diener, Oishi, & Lucas, 2003). SWB includes a cognitive component (i.e., life satisfaction) and an emotional component (positive and negative affect) (Bradburn, 1969; Lucas, Diener, & Suh, 1996). SWB relates positively to numerous desirable health, work, and family outcomes (Howell, Kern, & Lyubomirsky, 2007; Lyubomirsky, King, & Diener, 2005). It is therefore important to understand the individual level variables that foster or undermine SWB and characteristics of the life context that moderate the way these predictors affect SWB (cf. Kööts-Asumees & Realo, 2015; Sorthaix & Lönnqvist, 2014).

The current study examines relations of SWB to personal values and variation in these relations across countries. Personal values are broad goals, varying in importance, that underlie and guide attitudes and behavior (Rokeach, 1973, Schwartz, 1992). Past studies of relations between SWB and personal values have largely adopted one of two perspectives (Sagiv, Roccas, & Oppenheim, 2015). The ‘healthy’ values perspective proposes that pursuing values that satisfy psychological needs for growth and self-actualization promotes SWB directly, whereas pursuing values that promote self-aggrandizement and self-interest undermines SWB (e.g., Bobowik, Basabe, Páez, Jiménez, & Bilbao, 2011; Sagiv & Schwartz, 2000). The ‘value congruence’ perspective proposes that the fit between individuals’ values and the prevailing values (e.g., Sagiv & Schwartz, 2000) or the opportunities and constraints (Sorthaix & Lönnqvist, 2014) in the environment determines the values that promote or undermine SWB.

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<sup>1</sup> An earlier version of this paper was presented at the International Conference on the European Social Survey (Schwartz, 2012).

The current study integrates these perspectives. We propose a novel theoretical account that explains why particular values show positive, negative, or no direct associations with SWB. We also suggest how the context may moderate these associations. This theoretical account may explain the inconsistency in the size and direction of value—SWB associations reported in previous research (e.g., Bilbao, Techio, & Paez, 2007; Bobowik et al., 2011; Cohen & Shamai, 2009; Joshanloo & Ghaedi, 2009; Sortheix & Lönnqvist, 2014).

We examine the ten basic values from Schwartz (1992) and generate our hypotheses by applying his theorizing about the dynamic underpinnings of these values (Schwartz, 2006b). We also specify and test how socio-economic and cultural value contexts may moderate relations between individuals' values and their SWB. We assess our hypotheses with data from representative national samples in 32 countries, a larger and more diverse set of countries than prior studies. To measure SWB, we use both a cognitive component (life satisfaction) and an affective component (depressive affect).

### **The Schwartz Theory of Basic Individual Values**

Schwartz (1992) defines values as broad motivational goals that transcend specific situations, serve as guides to behavior and as criteria for judging people and events. Values are ordered hierarchically according to their importance. Each value is defined by the goals towards which it is directed, that is, the motivation it expresses. Table 1 presents the ten basic values and the goals that define them. According to Schwartz (1992), these values form a circular motivational continuum (Figure 1). Values close in the circle express compatible motivations; the same actions can easily express both motivations. Values distant in the circle express competing motivations; the same actions cannot easily express both motivations.

Four higher order values summarize the oppositions between competing values (second circle from the center of Figure 1). '*Openness to change*' versus '*conservation*' captures the conflict

between values that emphasize independence of thought, action, and feelings and readiness for change and values that emphasize order, self-restriction, and resistance to change. '*Self-enhancement*' versus '*self-transcendence*' captures the conflict between values that emphasize concern for the welfare and interests of others and values that emphasize pursuit of one's own interests, relative success, and dominance.

The interests that value attainment serves are a second motivational principle organizing the value circle (Schwartz, 1992, 2006b). The person-focused values on the left of Figure 1 primarily regulate how one expresses one's own personal characteristics and interests. The social-focus values on the right primarily regulate how one relates socially to others and preserves cooperative relations.

Finally, relations of values to anxiety also organize the circle (Schwartz 2006b, 2010). Self-protection/anxiety control values are based in the need to avoid or control anxiety and threat and thereby to protect the self. Conservation values avoid conflict, unpredictability, and change by submitting and passively accepting the status quo. Power values seek to overcome anxiety by actively controlling threat. In contrast, growth and self-expansion/self-expansion values are relatively anxiety free. Self-transcendence values promote the welfare of others and nature. Openness to change values emphasize autonomous, self-expressive experience. Achievement values have both protection and growth components; they control anxiety by meeting social standards and they affirm the personal sense of competence. Hence, the line separating self-protection from growth values falls in the middle of the achievement wedge in Figure 1.

### **Past theorizing and research**

Sagiv and Schwartz (2000) drew on Maslow's hierarchy of needs (1954) and on Bilsky and Schwartz's (1994) concepts of growth and deficiency values to identify 'healthy' vs. 'unhealthy' values. They suggested that pursuing growth values (self-direction, benevolence,

universalism, achievement, and stimulation) should promote well-being because they are self-actualizing. In contrast, pursuing deficiency values (conformity, tradition, security, and power) should undermine well-being because they reflect the need to protect oneself against insecurity and threat.

Others (reviewed in Sagiv, Roccas & Oppenheim, 2015) have drawn on self-determination theory (e.g., Deci & Ryan, 2000) to argue that values directed toward intrinsic goals of relatedness, autonomy, and competence should relate positively to SWB. Universalism, benevolence, self-direction, and achievement are such values. Conversely, values directed toward extrinsic goals of wealth, fame, and popularity/attractiveness should relate negatively to SWB (Deci & Ryan, 2000; Kasser, Ryan, Couchman, & Sheldon, 2004). Power and, perhaps, achievement and conformity are such values.

Seven studies report correlations between values and subjective life satisfaction or positive affect (Bilbao, Techio, & Paez, 2007; Bobowik et al., 2011; Cohen & Shamai, 2009; Joshanloo & Gahedi, 2009; Oishi, Diener, Lucas, & Suh, 1999; Sagiv & Schwartz, 2000; Sorthaix & Lönnqvist, 2014). Online supplement A summarizes the findings of these studies. For life satisfaction, there were no fully consistent findings. Hedonism, stimulation, self-direction, and benevolence tended to relate positively, power to relate negatively, and tradition, conformity, security, achievement, and universalism showed no clear trend. Similar results were reported for positive affect. In sum, although there were trends, there was much inconsistency.

Sorthaix and Lönnqvist (2014) sought to clarify some of this inconsistency. In a multi-level analysis, they treated the socio-economic development of countries as a moderator of relations between values and the life satisfaction (LS) component of SWB. They analyzed data from 25 national representative samples from the 2006-7 round of the European Social Survey (ESS) and used Human Development Index scores (HDI, 2006) to measure countries' level of

development. They argued that the associations between values and life satisfaction depend on how well a value aligns with the socio-economic context in the country, the fit of the value to the environment. They posited that social-focused values (self-transcendence and conservation) would promote LS in high HDI countries because the context of economic welfare and democracy makes investing in cooperative social relations beneficial. In contrast, self-enhancement values, concerned with self-promotion at the expense of the needs of others, would undermine LS in this context. They further posited that person-focused values (self-enhancement and openness to change) would promote LS in low HDI countries because the context of underdevelopment and neediness makes investing in personal advancement and coping with change necessary to adapt successfully. In contrast, social focused values (conservation and universalism, but not benevolence) would undermine LS in this context. They expected benevolence to relate positively to LS across contexts because it contributes to better interpersonal relationships that are crucial for wellbeing.

The pattern of associations supported their idea that the associations vary as a function of national levels of socio-economic development, but did not support part of their theorizing. Contrary to expectations: the social-focused security, conformity, and universalism values did not relate significantly to LS in high HDI countries; the person-focused power value related negatively to LS under low HDI; and their theorizing provided no rationale to explain why openness to change values related positively to LS under high HDI. Thus, there is a need to go beyond the distinction between social- vs. person-focused values to account for associations between values and SWB.

### **The Current Study**

As noted, we investigate value-SWB associations with both life satisfaction (LS) and depressive affect (DEP). Although LS and DEP are not opposite poles of a continuum, they

operate in parallel (e.g., Cacioppo & Berntson, 1999). The LS measure used in this study refers to how satisfied and happy people are with their lives in general. The DEP measure is the frequency with which respondents experienced feelings symptomatic of depression during the past week. LS and DEP differ conceptually not only in valence (positive vs. negative), but also in their level of activation (medium-high vs. low levels of emotional arousal) (Russell & Carroll, 1999). In this study, the two measures correlated moderately negatively ( $r = -.46$ ). Thus, we formulate our hypotheses based on research findings and our theorizing concerning mainly LS. DEP is a second outcome variable that can shed light on whether the hypotheses apply to a negative form of SWB. We expected personal values to relate to them in opposite directions. To simplify the formulation of hypotheses, we use “high SWB” to refer to *high* LS and to *low* DEP.

### **A theoretical model for predicting direct value-SWB associations**

To predict direct associations between values and SWB, we consider the interplay of two sources of the dynamic organization of the value circle (Schwartz, 2006b, 2010). First is the opposition of self-protective, anxiety-based values vs. self-expansive, growth values. Second is the opposition of social- vs. personal-focus. In addition, we consider two contextual variables, Cultural Egalitarianism and level of Human Development, as moderators of associations between personal values and SWB.

Table 2 presents an overview of our theoretical predictions for direct associations of personal values with SWB. The signs in this 2 X 2 table indicate the predicted directions of association for the values in each quadrant. These predictions derive from the combination of the two sets of underlying motivations that the values express, noted above: growth vs. self-protection orientation and person- vs. social-focus (cf. Figure 1). We expect the motivation for growth and self-expansion, with relative freedom from anxiety, to promote SWB. Such motivation promotes pursuit of the intrinsically satisfying needs of autonomy, relatedness, and



competence (e.g., Deci & Ryan, 2000; Sagiv et al., 2015; Sagiv & Schwartz, 2000). In contrast, we expect the motivation to protect the self and avoid anxiety to accompany or even foster poor SWB. Such motivation reflects a perceived need to overcome or prevent threat and uncertainty when the environment is seen as unpredictable, unsafe, or threatening, physically or psychologically (Schwartz, 2015).

Regarding the distinction of a person- vs. a social-focus, we expect a person-focus to be conducive to SWB because it motivates individuals to pursue their own goals, to behave autonomously while developing and expressing their personal capacities and interests. Doing so may require relating to others<sup>2</sup>, but the primary objective of the person-focus is to regulate one's expression of personal interests and characteristics. In contrast, we expect the social-focus to undermine SWB because it motivates individuals to be concerned with the needs, problems, and expectations of others. Doing so may require individual action, but the primary objective of the social-focus is to regulate one's social interactions and to preserve positive social relations. Furthermore, whereas individual initiative and efforts may suffice for the pursuit of person-focused values, the pursuit of social-focused values requires continuous coordination with others.

The three openness to change values (stimulation, self-direction, and hedonism<sup>3</sup>) combine a growth orientation with a person focus. We therefore hypothesize that they relate positively to SWB. A positive association with well-being is consistent with prior findings in three large samples (Bilbao, Techio, & Paez, 2007; Bobowik et al., 2011; Sortheix & Lönnqvist, 2014). Pursuing openness to change values satisfies intrinsic needs for autonomy (i.e., being the agent of one's actions), thereby promoting SWB. These values welcome novelty and challenge,

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<sup>2</sup> The pursuit of power, a person-focused value, might also generate negative reactions from others and undermine SWB (see below).

<sup>3</sup> We treat hedonism as an openness to change value because it was closer to openness to change in 88% of MDS projections in 72 ESS samples and closer to self-enhancement in only 6% (Bilsky & Janik, 2008).

fostering an active, out-going, expression of feelings and ideas that is compatible with high LS but discordant with depressive affective states. People who feel anxious, sad, pessimistic, and unable to get themselves going, aspects included in the depressive affect measured here, are unlikely to pursue openness to change values (Grucza, Przybeck, Spitznagel, & Cloninger, 2003). Hypothesis 1: Openness to change values (self-direction, stimulation and hedonism) relate positively to SWB.

The three conservation values (security, conformity, and tradition) combine a self-protection orientation with a social focus. We therefore hypothesize that all three conservation values relate negatively to SWB. This hypothesis is consistent with findings for security and conformity in two large sample studies (Bobowik et al., 2011; Sortheix & Lönnqvist, 2014). The increased importance of all three of these values in response to the threatening, uncertainty, and anxiety-arousing circumstances of a terrorist attack (Verkasalo, Goodwin, & 2006) and of migration to a new country (Lönnqvist, Jasinskaja-Lahti, & Verkasalo, 2011) illustrates their self-protective orientation.

Hypothesis 2: Conservation values (tradition, conformity and security) relate negatively to SWB.

The sets of motivation that underlie self-transcendence and self-enhancement values have opposing implications for SWB (See Table 2). Other things being equal, therefore, we might expect no associations between these values and SWB. We first consider the self-transcendence and then the self-enhancement values.

Universalism is a self-expansive, growth value with a social focus. Its self-expansive, growth goal of rising above self-preoccupation to contribute to the general welfare should promote SWB. However, its social focus on needs and problems in the wider society and the world of nature, problems that are often intractable and overwhelming, may undermine SWB. Without grounds to postulate which of these offsetting factors is stronger, we expect the tradeoff

between the growth orientation and the social focus to result in no overall association between universalism values and SWB.

Benevolence, like universalism, is a self-expansive, growth value with a social focus. Its self-expansive, growth goal of helping close others should promote SWB. However, the social focus of benevolence values on the needs and problems of family and friends may not undermine SWB. This is because benevolence values often lead to behaviors with positive consequences that may neutralize the negative effects of the social focus on SWB. Unlike efforts to resolve societal problems, the helpful and cooperative behavior toward close others that benevolence values motivate (Schwartz, 2010) often succeeds. Even when it fails, it is likely to promote positive relations with family and friends, thereby satisfying relatedness needs (Deci & Ryan, 2000). We therefore expect the tradeoff between the growth orientation and the neutralized social focus to promote SWB, consistent with prior findings in large samples (Bobowik et al., 2011; Sorthaix & Lönnqvist, 2014).

Hypothesis 3: Universalism values are unrelated to SWB (3a), and benevolence values relate positively to SWB (3b).

Achievement is a self-protection value with a person-focus. Its self-protection goal of attaining social approval/popularity is a core extrinsic goal likely to undermine SWB (Kasser et al., 2004). However, its person-focus on developing one's competence is a core intrinsic goal likely to promote SWB (Deci & Ryan, 2000). Without grounds to postulate which of these offsetting factors is stronger, we expect the tradeoff between the self-protection orientation and the person focus to result in no overall association between achievement values and SWB (cf. Bobowik et al., 2010).

Power, like achievement, is a self-protection value with a person-focus. Its self-protection goal of overcoming threats to one's status implies a sense of anxiety and need to control that may

undermine SWB. Although the person-focus of freely expressing one's aspirations and self-interests may promote SWB, this positive effect is likely to be neutralized. The aspirations of power values are for dominance and wealth, core extrinsic goals (Deci & Ryan, 2000) that increases anxiety and depressive symptoms (Kasser et al., 2004). Moreover, pursuing dominance is liable to elicit negative reactions from others. These negative consequences may neutralize the positive effects of the person-focus on SWB. We therefore expect the tradeoff between the self-protection orientation and the neutralized person-focus to undermine SWB, consistent with prior findings in the large samples (Bobowik et al., 2011; Sortheix & Lönnqvist, 2014).

Hypothesis 4: Achievement values are unrelated to SWB (4a) and power values relate negatively to SWB (4b).

#### **Egalitarian cultural values as a moderator of value-SWB relations**

Cultural values refer to the normative system of value emphases in a society. They reflect a society's adaptations to its unique ecological, historical, economic, political, and demographic experiences. These cultural values underlie the functioning of informal and formal societal institutions (Schwartz, 2006a, 2014). An egalitarian normative value context provides specific support or constraints for individuals' value pursuits that may moderate their associations to SWB beyond the effect of objective indicators such as the Human Development Index (HDI). We use Cultural Egalitarianism to index the cultural context. This cultural value refers to the extent to which people are socialized and expected to engage voluntarily in collaborative, productive work, based on internalized commitments, the extent to which they *should* act for the benefit of the larger society out of personal choice rather than in response to external demands and control (Schwartz, 2006a). The level of Cultural Egalitarianism correlates positively with countries' levels of development, democracy, rule of law, non-corruption, equality, government accountability, and with the proportion of GDPpc spent on health, social security, unemployment

and sickness benefits, and other welfare investments (Licht, Goldschmidt, & Schwartz, 2007; Schwartz, 2006a; Siegel, Licht, & Schwartz, 2011).

Cultural Egalitarianism is manifest in the importance of equality and responsibility for protecting less privileged members of society. More culturally egalitarian societies provide a supportive and predictable environmental context that encourages and supports cooperative efforts that multiply individuals' capacities. Such societies provide much that individuals need. In contrast, the context in low egalitarian societies provides much less. Normative support for cooperation is low and competitive striving more legitimate. The environment is more threatening, unstable, anxiety-provoking and constraining. Individuals must draw more upon their own capacities and resources and take personal initiatives in order to succeed.

We base our hypotheses for cross-level moderation by Egalitarianism on person-situation fit and congruence ideas widely used in organizational literature (Cable & Edwards, 2004; Kristof, 1996; O'Reilly, Chatman, & Caldwell, 1991). Specifically, we refer to the mechanism of *complementary fit* as the link between values and the context. Complementary fit describes a particular kind of compatibility between a person's characteristics and the envioning context. It refers to a situation in which "the weaknesses or needs of the environment are offset by the strength of the individual, and vice-versa" (Muchinsky & Monahan, 1987, p. 271). In our case, complementary fit is present when an individual's values can make up for what the context does not provide and when the context can make up for what the individual's values do not provide. When complementary fit is present, individuals function more effectively and experience SWB.

Complementary fit suggests that person-focused values confer an advantage in low egalitarian societies. Pursuit of person-focused values implies active, individual efforts to attain personal interests and to develop and express one's own ideas and capacities even if doing so challenges the status quo and introduces change. These actions can compensate, at least partially,

for what is lacking in the non-supportive and threatening circumstances of low egalitarian societies. In contrast, the more passive pursuit of harmony that social-focused values imply is less likely to compensate for what a low egalitarian society lacks. The motivation for these values is unlikely to generate the individual energy and skill needed to cope successfully with the recalcitrant institutions on which people depend or the self-assertiveness to defy or work around prevailing difficult circumstances. We draw upon these ideas in developing the interaction hypotheses for each value below.

Earlier, we hypothesized that openness to change values relate positively to SWB (H1). This is even more the case in low egalitarian societies. Those who endorse these values are better equipped to deal with the problems inherent in these societies. In addition to the advantages of person-focused values listed above, openness to change values foster tolerance for ambiguity (Bardi, Guerra, & Ramdeny, 2009) and pursuit of new and creative ways to cope (Schwartz, 2015). Thus, openness to change values are particularly helpful in enabling individuals to compensate for the lack of stability and support that characterize low egalitarian societies. Hypothesis 5: Openness to change values relate more positively to SWB in countries with less egalitarian cultures.

Regarding self-enhancement values, we earlier hypothesized that power values relate negatively to SWB (H4). We proposed no directional hypothesis for achievement values because they include offsetting approval and competence motivations (cf. Bobowik et al., 2010). Power and achievement provide the advantages of person-focused values in low egalitarian contexts noted above. This should somewhat mitigate negative impacts on SWB. Power values may additionally compensate for what is lacking in low egalitarian societies because they motivate individuals to assert themselves and compete for scarce resources of wealth and power.

Achievement values may also help individuals to succeed in this competitive and challenging environment because they motivate demonstrating competent performance.

Hypothesis 6: Power values (6a) and achievement values (6b) relate less negatively to SWB in countries with less egalitarian cultures.

We hypothesized that conservation values relate negatively to SWB (H2). This should be even more the case in low egalitarian societies. The disadvantages of social-focused values listed above leave those who endorse them more poorly equipped to cope with the challenges and engage in the strivings needed to compensate for what is lacking in these societies. Moreover, conservation values reflect especially great vulnerability to the anxiety-provoking potential of the threat, instability, and uncertainty characteristic of low egalitarian societies. Even if individuals from low egalitarian countries may find some relief and sense of security through traditional institutions (family and religion) these individual efforts are not likely to compensate from the lack of structural support. In turn, in countries higher on Cultural Egalitarianism public expenditures are higher and as a result that need of security is partly fulfilled.

Hypothesis 7: Conservation values relate more negatively to SWB in countries with less egalitarian cultures.

Regarding self-transcendence values, we earlier hypothesized that benevolence values relate positively to SWB (H3). We proposed no directional hypothesis for universalism values. We suggested that the positive impact of commitment to the welfare of all others on SWB may be offset by the negative impact of frustration from the intractability of societal problems. As social-focused values, benevolence and universalism lead individuals to seek harmony through cooperation rather than to act in the assertive, self-interested, and competitive ways that are more likely to foster success in low egalitarian societies. Thus, self-transcendence values may handicap individuals as they try to acquire the resources that they, their families, or the social

groups they seek to help need. Moreover, the needs of others that benevolence and universalism values aim to relieve are greater in low egalitarian societies, and there is less social support to help address them. So the intensity of personal concern that these values elicit is liable to be greater, undermining SWB.

Hypothesis 8: Universalism values (8a) and benevolence values (8b) relate less positively to SWB in countries with less egalitarian cultures.

### **Comparing Cultural Egalitarianism and Human Development**

Cultural values are positively associated with socio-economic development and HDI (cf. Schwartz, 2006; Sørtheix & Lönngqvist, 2014). Both Egalitarianism and HDI provide a more favorable context for individuals' lives. Despite their intercorrelation, egalitarianism describes a normative cultural values context, while HDI refers to structural factors. HDI is an index of citizens' income, access to education, and life expectancy. In this study, we also assessed first, whether the moderating role of Egalitarianism holds when controlling for HDI. Second, we tested the interactions between values and HDI, separately from those of Egalitarianism, to assess which one explained more of the variability of the values-SWB associations across countries. We test the moderating role of HDI in a larger sample than before and compare our results using Egalitarianism to the moderation effects of HDI (Sørtheix & Lönngqvist, 2014)<sup>4</sup>.

## **Methods**

### **Participants**

Participants were individuals from the first three rounds of the European Social Survey (ESS, NSD 2002-2007) who responded to the measures used here. The ESS conducted face-to-

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<sup>4</sup>All the cross-level interactions of HDI with values in Sørtheix and Lönngqvist (2014) were in the same direction as our expectations for Egalitarianism. However, some of these interactions did not fit the Sørtheix and Lönngqvist hypotheses.



face interviews with strict probability samples, representative of the population 15 years and older, in 32 countries. Data were downloaded from [www.ess.nsd.uib.no](http://www.ess.nsd.uib.no). The sample for life satisfaction included 121,495 respondents from the 2002/3, 2004 and 2006 rounds of the ESS. The sample for depressive affect (measured only in the 2006 round) included 42,972 respondents from 25 countries. We weighted responses using design weights provided by the ESS to correct for different probabilities of selection. Online supplement B provides the individual and country-level demographic breakdown.

### Measures

**Life satisfaction (LS).** Two items assessed general life satisfaction: “How satisfied are you with life as a whole?” and “how happy are you? Responses on 11pt anchored scales (0—*extremely dissatisfied/unhappy*, 10—*extremely satisfied/happy*) were averaged to create a single score. Average Cronbach’s alpha across countries was .78 (range .69 to .86). The ESS country rankings for happiness and life satisfaction are almost identical ( $r = .987$ ) (Helliwell, Layard, & Sachs, 2012).

**Depressive affect.** Six items from the Center for Epidemiologic Studies-Depression (CES-D; Radloff, 1977) scale measured depressive affect. They asked how often in the week before the survey respondents had felt each of the following: felt depressed, felt that everything was an effort, slept badly, felt lonely, felt sad, and could not get going. Labeled response categories ranged from 1—*none or almost none of the time* to 4—*all or almost all of the time*. We summed responses across items. Average Cronbach’s alpha across countries was .81 (range .68 to .87). Van de Velde, Bracke, Levecque, and Meuleman (2010) established the partial metric invariance of the 8-item version of this scale<sup>5</sup> across gender and countries.

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<sup>5</sup> We excluded two items that asked how often people felt they enjoy life and felt happy in order to avoid overlap with our measure of LS.

**Personal values.** We measured personal values with the 21-item version of the Portrait Values Questionnaire (PVQ21) adapted by Schwartz (2005) for the ESS.<sup>6</sup> Each item describes a different person in terms of what is important to him/her. For instance, “thinking up new ideas and being creative is important to her. She likes to do things her own original way” is a portrait that describes someone for whom self-direction is important. The ESS included female and male versions. Respondents are asked: “How much like you is this person?” on a scale from 1—*very much like me* to 6—*not like me at all*. We recoded responses so that higher scores represent greater similarity. Reliabilities of the two-item indexes of the values (three for universalism) averaged .55, ranging from .38 for tradition to .69 for achievement. As expected, they were low, because each value is intended to represent a broad concept. Nonetheless, there is firm evidence for the validity of the PVQ21. Multidimensional scaling and multi-group confirmatory factor analyses of PVQ21 data support the equivalence of meaning of the values across ESS countries (Bilsky, Janik, & Schwartz, 2011; Schwartz & Rubel, 2005). We controlled for individual differences in scale use by centering individuals’ value scores on their own mean response (Schwartz, 1992, 2005). This converted absolute scores into scores that indicate the individual’s value priorities.

**Control variables.** We included age, gender, education, income, having a partner, and being unemployed (versus not) as control variables because they correlate with value priorities and/or SWB (Diener, Suh, Lucas & Smith, 1999; Schwartz, 1992; Schwartz & Rubel, 2005). We used number of completed years of education to index education level.

**Cultural Egalitarianism.** We calculated a Cultural Egalitarianism score for each country by averaging the responses of individuals from that country to the following four items: equality,

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<sup>6</sup> The full scale is available in the online supplementary materials.

tolerance, help and care for others, and loyalty (two universalism and two benevolence items). This index was confirmed by confirmatory multidimensional analyses of the sample means for the 21 PVQ items across both the 32 countries in this study and across 115 ethno-linguistic subsamples in the ESS rounds 1-3 data. Both analyses yielded the same spatial regions for each cultural value in the Schwartz (2006a) theory. These four items, chosen a priori, formed the region that represented Cultural Egalitarianism. Coefficient alpha for this index, based on the 32 countries, was .87. Iceland, France, and Sweden were highest in Cultural Egalitarianism in this study and Latvia, Romania, and Russia were lowest.

***Human Development Index (HDI)***. We used the 2004 HDI of the United Nations Development Programme (UNDP; 2005) as an indicator of socio-economic development. This index assesses country development levels based on three indicators: life expectancy, adult literacy and the logarithm of purchasing power adjusted per capita GDP.

## **Analyses**

Individual respondents were nested within country. We took the hierarchical structure of the data into account when testing the hypotheses by conducting multilevel modeling analyses using the Hierarchical Linear Modeling program HLM 6.0 (Raudenbush, Bryk, Cheong, Congdon, & Du Toit, 2011). We ran separate random-coefficients regression models to predict LS and DEP with each of the ten values. The level-1 predictors were the individual values and the five control variables. We fixed the errors terms of all individual level predictors except individual values. Thus, we treated values as a random variable whose slope could vary across countries. A random intercept was modelled to account for the interdependence of respondents in each country.

Model 1 included the values and individual-level controls. It assessed effects of values on SWB and whether these effects varied across countries. Model 2 added main effects for the two

country-level variables, Egalitarianism and HDI, and the cross-level interaction of Egalitarianism with each individual value. Model 3 substituted the cross-level interaction of HDI with each value for the interaction with Egalitarianism of Model 2. We group-centered all individual-level predictors and grand-mean centered the country-level predictors. Models 2 and 3 tested the moderation hypotheses.

## **Results**

Online supplement B presents descriptive statistics for each country: means for life satisfaction (LS), depressive affect (DEP), the ten values, and scores on Cultural Egalitarianism and HDI. The between-country variance in the dependent variables was 21.2% for LS and 9.6% for DEP, making multilevel analyses appropriate. The two country-level variables, HDI and Egalitarianism, correlated highly across samples ( $r=.73, p<.001$ ).

### **Main Effects of Personal Values on Life Satisfaction and Depressive Affect**

Tables 3 and 4 present results of the HLM analyses for LS. Model 1 presents the results for the associations between each value and LS controlling for the covariates at the individual level. Results confirmed hypotheses 1-4. LS related positively to self-direction, stimulation, and hedonism values (H1) and negatively to security, conformity and tradition values (H2). Universalism values were unrelated to LS (H3a) and benevolence values related positively (H3b). Achievement values were unrelated to LS (H4a) and power values related negatively to LS (H4b). Model 1 also the between-country variance for each value effect and its  $X^2$  significance test. All of the value effects varied significantly, confirming that it was appropriate to examine moderators to explain the cross-country variation.

Tables 5 and 6 present results of the HLM analyses for DEP. We assumed that the effects of each value would be the mirror opposite of those for LS. As expected, this was the case: Self-direction, stimulation, and hedonism values related negatively to DEP (H1 Reversed), security,

conformity and tradition values related positively (H2R), universalism values were not significantly related (H3aR), benevolence values related negatively (H3bR), achievement were unrelated (H4aR), and power values related positively (H4bR).

Model 2 in Tables 3 and 4 includes the main effects of the two country-level variables for predicting LS and the cross-level interaction of each value with Cultural Egalitarianism. The effects of the values are unaffected by the added variables and continue to vary significantly across countries. Both country-level variables predict the country means of LS significantly and about equally strongly.

### **Moderation of associations between life satisfaction and values**

**Cultural Egalitarianism.** The key question that Model 2 addresses is whether egalitarianism moderates the value effects as hypothesized. The cross-level interactions answer this question. Figure 2 can help to follow these interactions. For every value, the interaction is in the hypothesized direction and significant (marginal for hedonism). The interactions indicate that in less egalitarian countries: self-direction, stimulation, and hedonism values relate more positively to LS (H5); power and achievement values relate less negatively to LS (H6a and H6b); security, conformity, and tradition values relate more negatively to LS (H7); and universalism and benevolence values relate less positively to LS (H8a and H8b). Thus, Cultural Egalitarianism moderates all of the value-LS associations as hypothesized.

Figure 2 displays the pattern of value-LS association at three levels of Cultural Egalitarianism. To prepare the Figure, we used the Preacher, Curran and Bauer (2006) online tool for a level-1 predictor with a level-2 moderator. Based on the HLM results, this tool allowed to evaluate the simple slopes of the values at low (mean -1 SD), moderate (mean), and high (mean +1 SD) levels of Cultural Egalitarianism. A table with the specific slopes for the interactions is provided as supplementary material (Online Supplement C).

**HDI.** Model 3 in Tables 3 and 4 addresses the question of whether HDI moderates the value effects on LS by including the cross-level interaction between each value and HDI. As in Model 2, the effects of the values are unaffected by the added variables and continue to vary significantly across countries. However, HDI now predicts the country means of LS whereas Cultural Egalitarianism does not. The cross-level interactions of HDI were significant for eight values (marginal for self-direction). The pattern of the significant interactions was the same as with Cultural Egalitarianism. However, HDI did not moderate the effects of benevolence or of hedonism. Moreover, the moderation by HDI was weaker for every value but power.

#### **Moderation of associations between depressive affect and values**

**Cultural Egalitarianism.** Model 2 in Tables 5 and 6 presents the cross-level interactions that test moderation of the associations of values with DEP by Egalitarianism. We expected those DEP findings to be the reverse of the hypothesized LS findings. The interaction coefficients indicate significant moderation of only four value effects. As expected, in less egalitarian countries: self-direction and achievement values relate more negatively to DEP and conformity and tradition values relate more positively to DEP. There was no moderation of the effects of the other six values, contrary to expectations.

**HDI.** Model 3 in Tables 5 and 6 present the cross-level interactions that test moderation of the value-DEP associations by HDI. HDI significantly moderated the effects of same four values on DEP as Egalitarianism did plus the effect of power values. As expected, in countries lower on HDI: self-direction, achievement, and power values relate more negatively to DEP and conformity and tradition values relate more positively to DEP. There was no moderation of the effects of the other five values, contrary to expectations.

#### **Discussion**

This study examined associations of the ten basic individual values in the Schwartz (1992) theory with life satisfaction (LS) and with depressive affect (DEP) and the moderation of these associations by Cultural Egalitarianism and HDI. Results from large national representative samples suggested that the combination of the growth vs. protection orientation and person- vs. social-focus that underpins each value can largely explain its overall association with LS across 32 countries and with DEP across 25 countries. Moreover, the cultural context of Egalitarianism in these countries can explain variation in the strength and direction of the value-LS associations for all values and the value-DEP associations for four values.

### **Main effects of values on SWB**

Across countries, the values with a growth orientation and person focus—the three openness to change values—related positively to SWB. In contrast, the values with a self-protection orientation and social focus—the three conservation values—related negatively to SWB. The combinations of orientation and focus underpinning the other four values have opposing implications for SWB. This suggests a tradeoff resulting in no association with SWB. This was indeed the case for universalism and achievement values. Together, these findings support the theorizing that the growth orientation and the person-focus both promote SWB and the self-protection and social-focus both undermine SWB.

The growth orientation and social focus underlying benevolence values also suggest a tradeoff resulting in no association. Nonetheless, we theorized that these opposing forces would yield a positive association with SWB. We reasoned that the social focus of benevolence values motivates successfully helping family and friends and would, therefore, promote positive relations that satisfy relatedness needs. This should weaken the negative influence of the social focus in the tradeoff with the growth orientation, resulting in a positive benevolence-SWB association.

The self-protection orientation and person focus underlying power values also suggest a tradeoff resulting in no association. Nonetheless, we theorized that these opposing forces would yield a negative association with SWB. We reasoned that the person focus of power values motivates pursuit of dominance, an extrinsic goal likely to damage personal well-being (Deci & Ryan, 2000) and to elicit negative reactions from others. This should weaken the positive influence of the personal focus in the tradeoff with the self-protection orientation, resulting in a negative power-SWB association.

The theorizing in past research on direct relations of values to SWB explained some of the observed associations (summarized in online supplement A) but offered no comprehensive explanation of the full pattern of findings. By drawing upon the two dynamic underpinnings of values and relevant characteristics of benevolence and power, we successfully predicted direct associations of eight basic values with both LS and DEP and specified two values for which we expected no association.

The value-environment congruence hypothesis proposes that similarity between individual and contextual values explains value-SWB relations (Bobowik et al., 2011; cf. Fulmer et al., 2010 for personality traits). This approach implies that each of the values should correlate more positively with SWB the higher its average endorsement in a country. Although this congruence prediction has been supported for value congruence between individuals' values and those of their in-groups (e.g., Sorthaix & Lönnqvist, 2015), it has not been supported when comparing individuals' values to those of larger groups (e.g., countries) (Schwartz 2012; Sorthaix & Lönnqvist, 2014). Although we did not test the congruence predictions here, Schwartz (2012) reported such a test of value-LS associations based on the same data we used. Contradicting the value-congruence hypothesis, self-direction, stimulation, hedonism, security, conformity, and tradition values correlated less positively with LS the greater their average



endorsement in a country. The value-environment fit hypothesis proposed by Sortheix and Lönnqvist (2014) offers an alternative view. It considers that the extent to which the individual's values are aligned with the socioeconomic context afforded by the country in which he or she lives is associated with LS. We build on these ideas to argue that value-SWB relations depend on the combination of dynamic motivations that underlie each value and their tradeoffs, and how these motivations interact with cultural characteristics of the context.

### **Moderation of value/SWB associations**

To develop the moderation hypotheses, we drew on the mechanism of complementary fit. We considered the extent to which pursuing each personal value might help individuals to compensate for what the environments of societies that are low in Cultural Egalitarianism fail to provide. Theory and past research (e.g., Schwartz, 2014; Siegel, Licht, & Schwartz, 2011) characterize the environment in less culturally egalitarian societies as relatively threatening, unstable, anxiety-provoking, and constraining. Normative support for cooperation is low and competitive striving more legitimate. Because such societies provide few resources, individuals must draw more upon their own capacities and resources and take personal initiatives in order to succeed. In contrast, more culturally egalitarian societies provide a supportive and predictable environment that encourages cooperative efforts. Such societies enjoy higher levels of affluence and invest in the welfare of their citizens. Hence, it is easier for individuals to obtain what they need whatever their value priorities.

We theorized that person-focused values help individuals to compensate for what is lacking in the environment of societies low in Egalitarianism. Person-focused values motivate individuals to engage actively in pursuing personal interests, to develop and utilize their unique ideas and capacities, to take risks, and to challenge the status quo. Based on this reasoning, we hypothesized and found that, in low Egalitarian countries, openness to change values relate more

positively and achievement and power values relate less negatively to SWB. The finding for power values accords with findings in past research showing that power values related less negatively to LS in low HDI countries (Sortheix & Lönnqvist, 2014) and that materialistic interests related less negatively to well-being in less developed countries (Dittmar, 2008). For DEP, Egalitarianism moderated the associations of person-focused self-direction and achievement as expected, but not the associations of hedonism, stimulation, or power.

We further theorized that social-focused values are unlikely to help individuals to compensate for what is lacking in the environment of societies low in Egalitarianism. Social-focused values motivate the pursuit of harmony rather than the self-assertive energy and skill development needed to cope successfully with difficult institutional and economic circumstances. Moreover, conservation values, with their goal of self-protection, are likely to increase anxiety when the sources of threat are largely due to circumstances beyond individuals' control. Based on this reasoning, we hypothesized that social-focused values relate more negatively (or less positively) to SWB under low than under high Cultural Egalitarianism. In line with this analysis, the three conservation values related more negatively to SWB under low Egalitarianism. For DEP the moderation of security was not significant.

The reasoning regarding the costs of social-focused values also applies to universalism and benevolence values. Moreover, the problems of others whose welfare these values seek to promote are usually more severe and less amenable to solution in low egalitarian societies. This is likely to undermine SWB. We therefore hypothesized that universalism and benevolence values relate less positively (or more negatively) to SWB under low Egalitarianism. The results supported this idea for LS but, despite trends in the expected direction, moderations were not significant for DEP.

### **Comparing the Moderation by Cultural Egalitarianism and HDI**

Cultural Egalitarianism moderated effects of all ten values on LS and of four values on DEP. HDI moderated effects of eight values on LS and of five values on DEP. We compared the strength of the moderation effects by comparing the *t*-values of the tests of the cross-level interactions. For LS, the moderation effects of Egalitarianism (Model 2) were stronger than those of HDI (Model 3) for all values except power. For DEP, the five significant moderation effects were all stronger for HDI. Overall, Cultural Egalitarianism is clearly the more effective moderator of value-LS relations. Neither Cultural Egalitarianism nor HDI is a consistent moderator of value-DEP relations, but HDI is more effective for five values.

Our theorizing analyzed the way life circumstances in societies low vs. high in Cultural Egalitarianism interact with the pursuit of person-focused vs. social-focused values. It predicted the pattern of interactions for the ten values and LS more accurately and comprehensively than Sørtheix and Lönnqvist (2014) did with HDI. The moderation of ten values' relation to LS by Egalitarianism in our study was consistent with our theorizing and hypotheses. The moderation of eight values by HDI in their study was only partially consistent with their theorizing and hypotheses. Their expectation that all social-focused values would relate positively to LS in countries high in HDI was not supported. Furthermore, their theorizing could not explain why openness to change values related positively with LS in highly developed countries.

As noted above, Cultural Egalitarianism moderated value effects on LS more strongly for all values except power. Why might HDI be the stronger moderator of power values? One of the three components of the Human Development Index is country wealth. HDI correlates  $-.87$  with perceived adequacy of income across our 32 countries. Power values concern pursuing wealth and overcoming the lack of resources. Thus, their goals are directly linked conditions HDI captures.

Diener, Harter, and Arora (2010) reported that HDI positively influenced mean country differences in the cognitive aspect of SWB. Predicting mean country differences in SWB is not a focus of our study. Nonetheless, our analyses allowed us to ask whether the cultural context, in the form of Cultural Egalitarianism, added to the influence of the socio-economic context on SWB. The direct effects of the two country-level predictors on SWB in Tables 3-6 revealed (1) consistent evidence of a small positive effect of Cultural Egalitarianism on LS that was weaker than the HDI effect and (2) no consistent evidence of Cultural Egalitarianism effects on DEP, compared with consistent and substantial negative effects of HDI. Thus, the socio-economic context appears to be more important for the average level of SWB in a country than the aspect of culture we measured. This is consistent with Veenhoven's (1995) livability theory: societies with higher HDI are more livable and provide more resources to satisfy individuals' needs. Hence their average SWB is higher.

**LS vs. DEP.** The two contextual variables moderated the effects of all ten values (Egalitarianism) or eight values (HDI) on LS. They moderated the effects of only four or five values on DEP. This suggests that contextual moderation of value-SWB associations may be stronger for the cognitive than for the affective component of SWB. A similar difference between the cognitive and affective components of SWB has been noted in the personality literature. Schimmack and colleagues (2002) suggested that culture moderates the influence of personality on the cognitive component of SWB but that the influence of personality on the emotional component of SWB is pancultural. A possible interpretation of this difference between the cognitive and affective components of SWB is that the latter may have a stronger biological basis, making it less susceptible to contextual factors (Kendler, Gatz, Gardner, & Peterson, 2006)

Regardless of whether the biological interpretation is correct, the fact is that the two contextual variables did moderate value effects on DEP for several values. This contradicts the

claim that the influence of personality on the emotional component of SWB is pancultural. Our findings suggest that it is more accurate to conclude that culture has a weaker moderating effect on relations of personality to the affective component than to the cognitive component of SWB. Further research is needed to elucidate the specific mechanisms through which context may moderate the associations of values with DEP.

Although values explain only limited variance in SWB, it is noteworthy that the pattern of significant positive and negative associations fits theorizing based on the dynamic underpinnings of basic values. Value associations with SWB are comparable to those of other psychological variables. Meta-analyses of predictors of LS (Richard, Bond, & Stokes-Zoota, 2003), including social activity, ethnicity, marital status, and gender, reported effect sizes ranging from  $r = .00$  (gender) to  $r = .15$  (social activity). We calculated equivalent effect sizes for values as predictors of LS in the ESS data. These ranged from  $r = .03$  (universalism) to  $r = -.19$  (security).

### **Limitations and future directions**

The analyses in this study relied on cross-sectional data and could not shed light on causality between values and SWB. Some degree of reciprocal causality is likely. Longitudinal and experimental studies are needed to clarify the dynamics of value-SWB associations. Second, we measured both values and SWB with self-reports. Although the questions tapping SWB preceded those tapping values in the interview by approximately half an hour, there may have been some influence of the former on the latter. Non-self-report methods to measure both types of variables are being developed, but they are not suitable for large-scale surveys across countries. Fortunately, many studies have shown that the self-report measures used here demonstrate substantial validity in their theory-based relations to other variables. Third, neither of the two moderators of value-SWB associations fully explained the between-country variance

in these associations. Future research might consider whether other contextual variables (e.g., unemployment rates, democratic traditions, or welfare arrangements) also offer theoretically plausible mechanisms of moderation.

### **Conclusion**

The current study goes beyond prior research on relations between values and SWB in several ways. (1) It investigates a larger set of countries than any previous study by including representative samples from 32 countries from East and West Europe and the Middle East, and responds to calls for including more heterogeneous samples of countries in research (Sortheix & Lönnqvist, 2014; Fischer & Boer, 2011). (2) It considers relations of values to both LS, a cognitive, positive aspect of SWB, and DEP, an emotional, negative aspect. (3) It derives hypotheses from theorizing about both dynamic bases of values, growth vs protection orientation and person- vs. social-focus. (4) It demonstrates that Cultural Egalitarianism moderates the value-SWB associations and identifies complementary fit as a theoretical mechanism useful for explaining these moderation effects.

Our reasoning and findings regarding the mechanisms that underlie the cross-level interactions between contextual variables and values in predicting SWB contribute to the socio-ecological approach to psychological processes (Oishi, 2014). This approach focuses on the physical, societal, and interpersonal environments that influence the human mind and behavior. This study has demonstrated how the cultural context can shape the links between individual psychological variables. Associations of values with SWB varied significantly across a heterogeneous set of 32 countries. Country levels of Cultural Egalitarianism explained much of this variability. Cultural Egalitarianism holds promise as a potential moderator of other individual psychological processes as well.

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Table 1. *List of the ten basic values and their definition in terms of motivational goals.*

Value	Motivational goals
<b>Security</b>	Safety, harmony and stability of society, of relationships, and of self
<b>Conformity</b>	Restraint of actions likely to upset others and violate social expectations or norms
<b>Tradition</b>	Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self
<b>Benevolence</b>	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact
<b>Universalism</b>	Understanding, and protection for the welfare of all and the environment
<b>Self-Direction</b>	Independent thought and action-choosing, creating, exploring
<b>Stimulation</b>	Excitement, novelty and challenge in life
<b>Hedonism</b>	Pleasure and sensuous gratification for oneself
<b>Achievement</b>	Personal success through demonstrating competence according to social standards
<b>Power</b>	Social status and prestige, control or dominance over people and resources

Table 2. *Influence of the theorized motivations underlying values on subjective well-being: Growth versus Self-protection Orientation and Person- versus Social-Focus.*

Motivational bases of values and their effects on SWB	Growth—Positive (+)	Self-Protection—Negative (-)
Person-Focus—Positive (+)	Hedonism, Stimulation, Self-Direction (+ +)	Power Achievement (+ -)
Social-Focus—Negative (-)	Benevolence Universalism (+ -)	Security, Tradition Conformity (- -)

*Note.* (++) = positive associations; (--) = negative associations; (+-) and (-+) = association depends on the relative strength of the motivational bases.

Table 3. Predicting life satisfaction with person-focused values, controls, and cross-level interactions of values with country-level Cultural Egalitarianism and HDI.

	Self-Direction		Stimulation		Hedonism		Achievement		Power	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>Model 1</i>										
Intercept	6.90***	.16	6.90***	.16	6.90***	.16	6.90***	.16	6.90***	.16
Individual-level variables <sup>A</sup>										
Value	.09***	.02	.04**	.01	.13***	.01	-.03	.02	-.14***	.16
Variance Between Countries	.01***		.01***		.01***		.02***		.01***	
$X^2$ (df)	292.18 (31)		410.40 (31)		267.64(31)		535.40 (31)		229.99 (31)	
<i>Model 2<sup>B</sup></i>										
Individual-level variables										
Value	.09***	.02	.05*	.01	.13***	.02	-.03	.02	-.14***	.01
Variance Between Countries	.01***		.01***		.01***		.01***		.01***	
$X^2$ (df)	167.95 (30)		218.69(30)		233.65(30)		255.92 (30)		163.87 (30)	
Country-level variables										
Egalitarianism	1.88*	.81	2.04**	.86	1.69 <sup>+</sup>	.86	2.89**	.81	2.01*	.90
HDI	8.40**	2.17	7.59**	2.42	9.21**	2.74	4.26**	1.82	7.87*	3.23
Cross-level value x Egalitarianism	-.47***	.09	-.41***	.08	-.16 <sup>+</sup>	.08	-.53***	.10	-.26**	.08
<i>Model 3<sup>C</sup></i>										
Value	.09***	.02	.05**	.02	.13***	.01	-.03	.02	-.14***	.01
Variance Between Countries	.01***		.01***		.01***		.01***		.002***	
$X^2$ (df)	205.76(30)		233.55(30)		250.87(30)		202.58 (30)		105(30)	
Country-level variables										
Egalitarianism	.91	.90	1.02	.92	1.21	.88	.91	.63	1.84	.88
HDI	10.67**	3.01	10.42**	3.08	9.99**	3.19	10.68***	2.58	8.63*	3.22
Cross-level Value x HDI	-1.05 <sup>+</sup>	.54	-1.05*	.47	-.26	.31	-1.71**	.49	-1.15***	.12

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , <sup>+</sup> $p < .08$ . Note. Coeff. = HLM coefficient. HDI= Human Development Index.  $N = 121,495$

<sup>A</sup>Average effects of control variables (Coeff/SE): age (-.011\*\*\*/.002), gender (male=0, female=1, .113\*\*/.021), years of education (.002/.003), subjective income (.737\*\*\*/.041), having a partner (.391\*\*\*/.021) and being unemployed (-.38\*\*\*/.029). <sup>B</sup>Including same individual-level controls as Model 1. <sup>C</sup> Same as Model 2 but including the interaction of HDI and individual values instead of that of Egalitarianism.



Table 4. Predicting life satisfaction with social-focused values, controls, and cross-level interactions of values with country-level Cultural Egalitarianism and HDI.

	Security		Conformity		Tradition		Benevolence		Universalism	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>Model 1</i>										
Intercept	6.90***	.16	6.90***	.16	6.90***	.16	6.90***	.16	6.90***	.16
Individual-level variables <sup>A</sup>										
Value	-.11***	.03	-.04**	.01	-.03*	.01	.12***	.01	-.01	.02
Variance Between Countries	.02***		.01***		.02***		.005***		.02***	
$X^2 (df)$	518.96(31)		442.44(31)		549.10(31)		116.24(31)		259.91(31)	
<i>Model 2<sup>B</sup></i>										
Individual-level variables										
Value	-.11***	.03	-.03*	.02	-.03*	.01	.12***	.01	-.001	.01
Variance Between Countries	.01***		.008***		.01***		.004***		.01***	
$X^2 (df)$	254.93(30)		265.89(30)		306.37(30)		87.18(30)		175.54(30)	
Country-level variables										
Egalitarianism	2.68**	.83	2.23**	.79	2.34**	.85	2.00**	.76	2.02**	.88
HDI	5.12*	1.98	6.96**	1.97	6.53**	2.45	7.95**	2.27	7.83**	2.94
Cross-level value x Egalitarianism	.56***	.11	.38***	.09	.44***	.10	.25**	.08	.45***	.10
<i>Model 3<sup>C</sup></i>										
Value	-.11***	.02	-.03*	.02	-.03*	.01	.12***	.01	-.001	.02
Variance Between Countries	.01***		.009***		.01***		.004***		.01***	
$X^2 (df)$	198.25(30)		265.62(30)		298.11(30)		88.28(30)		162.68(30)	
Country-level variables										
Egalitarianism	1.00	.76	.97	.77	1.19	.88	1.39	.78	1.55	.93
HDI	10.49**	2.77	10.54**	2.81	10.06**	3.04	9.63**	2.92	9.28**	3.21
Cross-level Value x HDI	1.77***	.56	1.05*	.44	1.33**	.45	.65	.35	1.31**	.41

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , + $p < .08$ . Note. Coeff. = HLM coefficient. HDI= Human Development Index.  $N = 121,495$

<sup>A</sup>Average effects of control variables are presented in Table 3. <sup>B</sup>Including same individual-level controls as Model 1. <sup>C</sup> Same as Model 2 but including the interaction of HDI and individual values instead of that of Egalitarianism.

Table 5. Predicting depressive affect with person-focused values, controls, and cross-level interactions of values with country-level Cultural Egalitarianism and HDI.

	Self-Direction		Stimulation		Hedonism		Achievement		Power	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>Model 1</i>										
Intercept	1.64***	.04	1.64***	.04	1.64***	.04	1.64***	.04	1.64***	.04
Individual-level variables <sup>A</sup>										
Value	-.05***	.01	-.01**	.00	-.03***	.01	.01	.01	.03***	.00
Variance Between Countries	.0009***		.0006***		.001***		.002***		.0004***	
$X^2$ (df)	115.55 (24)		112.07 (24)		159.96 (24)		227.11 (24)		68.18 (24)	
<i>Model 2<sup>B</sup></i>										
Individual-level variables										
Value	-.05***	.01	-.01*	.01	-0.03***	.01	.01	.01	.03***	.00
Variance Between Countries	.0005***		.0005***		.001***		.001***		.0004***	
$X^2$ (df)	69.67 (24)		97.04 (23)		160.12 (23)		159.60 (23)		68.15 (23)	
Country-level variables										
Egalitarianism	-.21	.13	-.20	.14	-0.15	.14	-0.31*	.14	-0.16	.12
HDI	-1.96***	.30	-1.98***	.34	-2.18***	.37	-1.52**	.41	-2.11**	.32
Cross-level value x Egalitarianism	.11***	.04	.05	.03	.004	.04	.12**	.04	.00	.03
<i>Model 3<sup>C</sup></i>										
Value	-.05***	.01	-.01*	.01	-0.03***	.01	.01	.01	.03***	.00
Variance Between Countries	.0005***		.0005***		.001***		.001***		.0003***	
$X^2$ (df)	72.67(23)		98.50 (23)		159.85 (23)		114.72 (23)		57.84 (23)	
Country-level variables										
Egalitarianism	-.10	.14	-.12	.13	-0.14	.11	-0.18	.13	-.17	.13
HDI	-2.27***	.34	-2.22***	.37	-2.17***	.37	-2.09***	.37	-2.11**	.31

Cross-level Value x HDI .33\*\* .09 .16 .47 -.00 .11 .52\*\*\* .10 .15\* .06

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , +  $p < .08$ . Note. Coeff. = HLM coefficient. HDI= Human Development Index.  $N = 42,972$ .

<sup>A</sup>Average effects of control variables (Coeff/SE): age (.004\*\*\*/.001), gender (male=0, female=1, .104\*\*008), years of education (-.009/.001), subjective income (-.145\*\*\*/.006), having a partner (-.150\*\*\*/.001) and being unemployed (.057\*\*\*/.009). <sup>B</sup>Including same individual-level controls as Model 1. <sup>C</sup> Same as Model 2 but including the interaction of HDI and individual values instead of that of Egalitarianism.

Table 6. Predicting depressive affect with social-focused values, controls, and cross-level interactions of values with country-level Cultural Egalitarianism and HDI.

	Security		Conformity		Tradition		Benevolence		Universalism	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>Model 1</i>										
Intercept	1.64***	.03	1.64***	.03	1.64***	.03	1.64***	.03	1.64***	.03
Individual-level variables <sup>A</sup>										
Value	.03***	.01	.01**	.01	.02***	.00	-.02**	.00	-.01	.01
Variance Between Countries	.0007***		.001**		.002***		.0003***		.001***	
$X^2$ (df)	100.00 (24)		194.45 (24)		240.16 (24)		43.95 (24)		89.33 (24)	
<i>Model 2<sup>B</sup></i>										
Individual-level variables										
Value	.03***	.01	.01*	.02	.02***	.01	-.02**	.00	-.01	.01
Variance Between Countries	.0008***		.0008***		.001***		.0003***		.001***	
$X^2$ (df)	96.47 (23)		134.54 (23)		179.12 (23)		43.86 (23)		87.92 (23)	
Country-level variables										
Egalitarianism	-.20	.14	-0.27**	.13	-.33*	.14	-.14	.12	-.24	.88
HDI	-1.97***	.38	-1.68***	1.97	-1.46***	.34	-2.21***	.28	-1.80***	.36
Cross-level value x Egalitarianism	-.03	.04	-.11**	.03	-.11*	.04	.01	.02	-.02	.04
<i>Model 3<sup>C</sup></i>										
Value	.03***	.01	.01*	.02	.02**	.01	-.02**	.01	-.01	.01
Variance Between Countries	.0007***		.0007***		.001***		.0003***		.001***	
$X^2$ (df)	94.98 (23)		120.50 (23)		137.99 (30)		44.057 (23)		81.14 (30)	
Country-level variables										

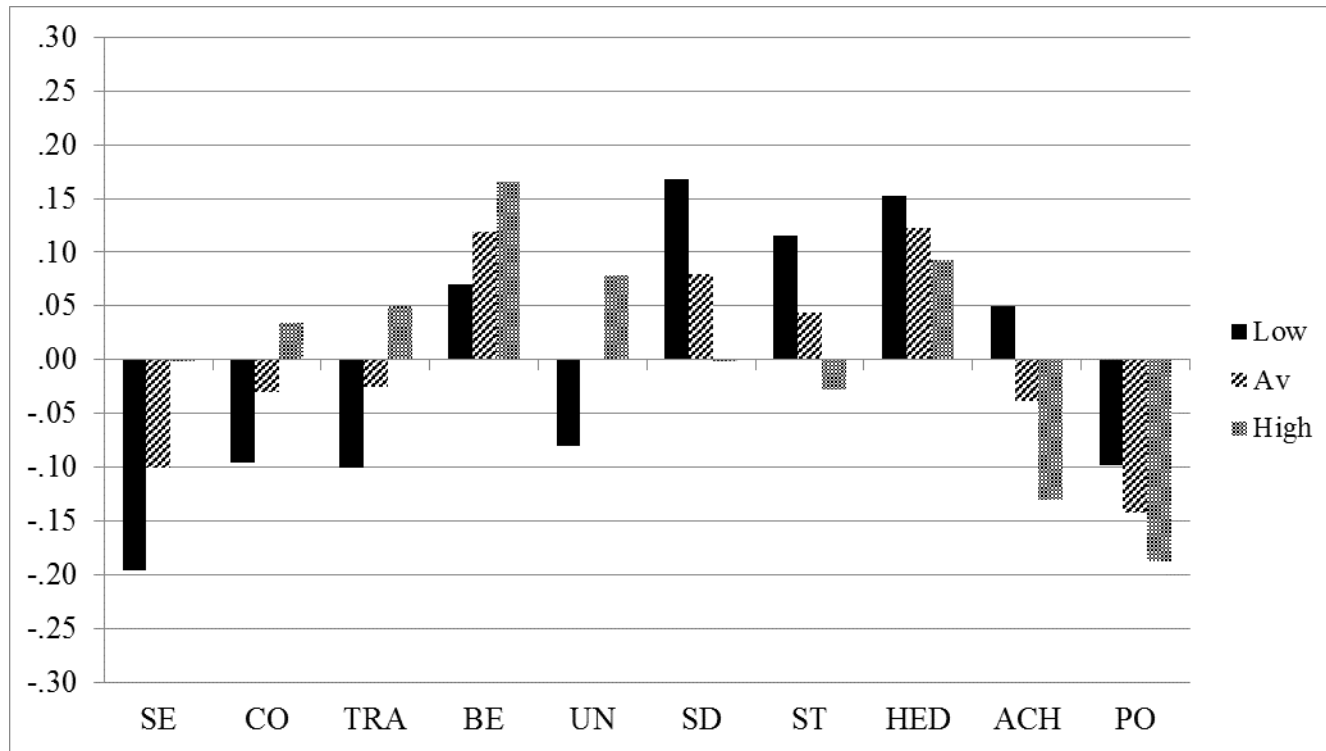
Egalitarianism	-.16	.12	-0.10	.12	-.16	.12	-.14	.12	-.22 <sup>+</sup>	.12
HDI	-2.13***	.37	-2.26***	.32	-2.13***	3.04	-2.18***	.29	-1.98***	.37
Cross-level Value x HDI	-.12	.13	-.36**	.10	-.45***	.10	-.03	.08	-.16	.13

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , +  $p < .08$ . *Note.* Coeff. = HLM coefficient. HDI= Human Development Index.  $N = 42,972$ .

<sup>A</sup>Average effects of control variables are presented in Table 5. <sup>B</sup>Including same individual-level controls as Model 1. <sup>C</sup> Same as Model 2 but including the interaction of HDI and individual values instead of that of Egalitarianism.



Figure 1. The circular structure of ten basic values, four higher order values, and two underlying motivational sources (adapted from Schwartz, 2015).



*Figure 2.* Multilevel slope estimates of the 10 values predicting life satisfaction at high (+ 1 SD), average (av) and low (-1 SD) levels of Cultural Egalitarianism. Slopes larger than  $/.08/$  are significant at  $p < .001$  and slopes larger than  $/.06/$  are significant  $p < .01$ . The coefficients for slopes are provided in Online Supplement C.

*Note.* SE = security; CO = conformity; TR = tradition; BE = benevolence; UN = universalism; SD = self-direction; ST = stimulation; HE = hedonism; AC = achievement; PO = power.