

*Citation for published version:*

Hornsey, MJ, Bain, PG, Harris, EA, Lebedeva, N, Kashima, ES, Guan, Y, González, R, Chen, SX & Blumen, S 2018, 'How Much Is Enough in a Perfect World? Cultural Variation in Ideal Levels of Happiness, Pleasure, Freedom, Health, Self-Esteem, Longevity, and Intelligence', *Psychological Science*, vol. 29, no. 9, pp. 1393-1404. <https://doi.org/10.1177/0956797618768058>

*DOI:*

[10.1177/0956797618768058](https://doi.org/10.1177/0956797618768058)

*Publication date:*

2018

*Document Version*

Peer reviewed version

[Link to publication](#)

*Publisher Rights*

Unspecified

Hornsey, Matthew J. ; Bain, Paul G. ; Harris, Emily A. ; Lebedeva, Nadezhda ; Kashima, Emiko S. ; Guan, Yanjun ; González, Roberto ; Chen, Sylvia Xiaohua ; Blumen, Sheyla. / How Much Is Enough in a Perfect World? Cultural Variation in Ideal Levels of Happiness, Pleasure, Freedom, Health, Self-Esteem, Longevity, and Intelligence. In: *Psychological Science*. 2018 ; pp. 1393-1404. (C) 2018 The Authors. Reprinted by permission of SAGE Publications.

**University of Bath**

**Alternative formats**

If you require this document in an alternative format, please contact:  
[openaccess@bath.ac.uk](mailto:openaccess@bath.ac.uk)

**General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

## **How much is enough in a perfect world?**

### **Cultural variation in ideal levels of happiness, pleasure, freedom, health, self-esteem, longevity, and intelligence**

M.J. Hornsey<sup>1\*</sup>, P.G. Bain<sup>2</sup>, E. A. Harris<sup>1</sup>, N. Lebedeva<sup>3</sup>, E. Kashima<sup>4</sup>, Y. Guan<sup>5</sup>, R. González<sup>6</sup>, S. X. Chen<sup>7</sup>, S. Blumen<sup>8</sup>

#### **Affiliations:**

<sup>1</sup> University of Queensland, Brisbane, Australia.

<sup>2</sup> University of Bath, Bath, UK.

<sup>3</sup> National Research University, Higher School of Economics, Moscow, Russia

<sup>4</sup> LaTrobe University, Melbourne, Australia.

<sup>5</sup> Durham University Business School, Durham, UK.

<sup>6</sup> Pontificia Universidad Católica de Chile, Santiago, Chile.

<sup>7</sup> The Hong Kong Polytechnic University, Hong Kong, China

<sup>8</sup> Pontificia Universidad Católica Del Perú, Lima, Perú.

Corresponding author: Prof. Matthew Hornsey, School of Psychology, Campbell Rd, St

Lucia, University of Queensland

E: [m.hornsey@uq.edu.au](mailto:m.hornsey@uq.edu.au) T: +61 7 3365 6378 F: +61 7 3365 4466

### **Abstract**

The maximization principle – that people aspire to the highest possible level of something good if all practical constraints are removed – is a common yet untested assumption about human nature. We predict that in holistic cultures – where contradiction, change and context are emphasized – ideal states of being for the self will be more moderate than in other cultures. In two studies ( $Ns=2392$  and  $6239$ ) we asked: If participants could choose their ideal level of happiness, pleasure, freedom, health, self-esteem, longevity, and intelligence, what level would they choose? Consistent with predictions, maximization was less pronounced in holistic cultures; they aspired to less happiness, pleasure, freedom, health, self-esteem, longevity, and IQ than did members of other cultures. In contrast, no differences emerged on ideals for society. The studies show that the maximization principle is not a universal aspect of human nature, and that there are predictable cultural differences in people's notions of perfection.

## How much is enough in a perfect world?

### Cultural variation in ideal levels of happiness, pleasure, freedom, health, self-esteem, longevity, and intelligence

If people could attain unlimited amounts of good things – for example if they could choose their ideal levels of longevity, intelligence, freedom, self-esteem, health, pleasure, and happiness – what would they choose? One option – which we refer to as a *maximization principle* – is that people’s ideal worlds will comprise the maximum possible levels of things they consider positive. Maximization has been described as “the most basic, unexamined assumption about human nature” (Howard, 2000, p.511, see also Herrnstein, 1990).<sup>1</sup> It carries the advantage of being intuitive: We know that people aspire to positive things, and that they have fundamental desires to stay alive (Solomon, Greenberg, & Pyszczynski, 1991), to feel self-determined (Ryan & Deci, 2017), to be happy (Kesebir & Diener, 2008), to experience security (Maslow, 1943), and to have positive self-regard (Leary, Tambor, Terdal, & Downs, 1995). So if people could achieve unlimited levels of life, liberty, happiness, and so forth, then why would they not aspire to it? This maximization principle heavily influenced rational choice theories of economics, with most neoclassical economists presuming that individuals wish to maximize their happiness through their consumption and investment choices.

The counter-point to the maximization principle - which we call the *moderation principle* – is that people impose mindful ceilings on how much of a good thing they aspire to in a perfect world. This principle is famously encapsulated by Aristotle’s “golden mean” (Aristotle, 1967), which maintains that the ideal level is often a point between two extremes: one of excess and one of deficiency. However, the moderation principle is also threaded through East Asian philosophies and religions such as Buddhism, Confucianism, Hinduism, Jainism, and Taoism. According to Nisbett and colleagues (Miyamoto, Nisbett, & Masuda,

2006; Nisbett & Miyamoto, 2005; Nisbett, Peng, Choi, & Norenzayan, 2001), cultures influenced by these traditions develop a holistic way of thinking about themselves and the world. This holistic orientation incorporates three dimensions – contradiction, change, and context – and we argue that each of these ways of thinking lead to a relatively moderate approach to perfection.

First, the principle of contradiction – sometimes referred to as dialecticism - suggests that positive experiences imply the potential for negative experiences, and the latter can be a pre-requisite for the former (Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010). The ancient Chinese principle of yin and yang, for example, maintains that seemingly contradictory forces co-exist in a complementary, inter-related state, such that one cannot exist without the other. Evidence confirms that in holistic cultures there is less of an inverse relationship between the experience of positive and negative emotions than in the West, where positive and negative experiences operate in a state of hydraulic competition (Grossmann, Karasawa, Kan, & Kitayama, 2014; Miyamoto, Uchida, & Ellsworth, 2010; Scollon, Diener, Oishi, & Biswas-Diener, 2005; Sims et al., 2015). These insights suggest a relatively blended approach to what perfection means in holistic cultures, one that is comfortable with elements that seem flawed from a non-holistic point of view.

Second, members of holistic cultures are more likely to see experiences and states to be ever-changing. If internal states are seen to be in constant flux, it implies a futility in maximizing positive experiences: positive and negative experiences will be seen as (re)occurring in succession, so the occurrence of one implies the impending occurrence of the other.

Finally, members of holistic cultures are more likely to construe the self in a way that is contextually bound and embedded within a social network. To the extent that one has a

sense of self that is intrinsically tied to others, a maximalist prioritization of one's own health, happiness, pleasure, and self-esteem could be construed as immature and hubristic.

Surprisingly, the tension between maximization and moderation visions of ideals has not received systematic empirical attention. Where researchers measure ideal states of being, it tends to be as a benchmark from which to compare actual states (as in self-discrepancy theory; Higgins, 1987; see also Larsen & McKibban, 2008). One exception is affect valuation theory (Tsai, Knutson, & Fung, 2006; Tsai, Miao, Seppala, Fung, & Yeung, 2007) which focuses on the affective levels that are viewed as ideal in Eastern versus Western cultures. Consistent with the reasoning above, Americans aspire to maximize positive emotional experiences more than Chinese, particularly high-activation positive emotions like excitement (Sims et al., 2015; Tsai et al., 2006, 2007). However, there has been no comparison of ideals beyond emotion. Furthermore, even studies that have been conducted on affect valuation have primarily focused on comparisons of 2-3 countries, in every case with the U.S. used as a benchmark.

In response, the current paper measured participants' ideal levels of happiness, pleasure, freedom, health, self-esteem, lifespan, and intelligence using multi-national samples. One research question was purely descriptive: To the extent that people apply a moderation principle, where do they draw their "golden mean" between excessive and deficient amounts of something good? The more specific prediction was that members of holistic nations would report more moderate ideals for themselves than members of non-holistic nations.

Note that our primary research question involves perceptions of what is ideal at the intrapsychic/individual level. For comparison, however, we also measured participants' ideals for society. We made no a priori predictions regarding the effect of culture on the societal ideals, and present it here as an open research question.

## STUDY 1

### Method

**Sampling and procedure.** We sampled nine regions from five continents: Australia, Chile, China, Hong Kong, India, Japan, Peru, Russia, and the U.S. Drawing on traditional theorizing, we categorized a region as holistic if it is predominantly influenced by Buddhism, Confucianism, Hinduism, Jainism, or Taoism (see Grossmann, Huynh, & Ellsworth, 2016, p. 896). In Study 1, four regions met these criteria: China, Hong Kong, India, and Japan. The other five regions were classified as non-holistic. Participants were 2392 community members recruited through the online data collection company Social Survey International (SSI), who responded to an invitation to take part in a survey entitled “Personal ideals and views”. SSI recruits participants via partnerships and advertising. In order to be included in SSI’s proprietary panel, participants are required to pass a number of quality control questions, and response quality is continually monitored across studies. Each participant is allocated a digital fingerprint that ensures the same person cannot take a survey more than once. SSI paid participants for their time. The exact payment varied according to region to provide equivalent and appropriate compensation across countries.

The sample comprised 51.4% females, with a mean age of 39.70 years ( $SD = 13.84$ ). Sample size was constrained by budget, but given that sample sizes for holistic and non-holistic cultural groups exceeded 1000 - and that a power analysis revealed a minimum sample size of 416 to detect a small effect ( $d = 0.2$ ) with 80% power - we were confident that the design was adequately powered. The sample was skewed toward being relatively educated (40.9% had completed some sort of higher education degree) although, as will be seen below, education had a very weak relationship with ratings of self-ideals.

**Measures.** Questionnaires were translated into the native language of non-English speaking samples by the authors, using translation/back-translation procedures. We prefaced

the questions by saying “On the following pages, you’ll be asked some questions about the ideal society and the ideal life that you’d want to live. Please think carefully about each answer before responding (try not to just provide an automatic response)”. Three questions were open-ended. Intelligence was assessed by asking “If you could choose your level of intelligence, what level would you choose?” and referring participants to an IQ diagram, with labels for “moderate disability” (40), “below average intelligence” (70), “average intelligence” (100), “above average intelligence” (130) and “exceptionally gifted” (160). Participants were told “We would like you to indicate your desired intelligence level using an IQ score. NOTE: although IQ has no ‘maximum’ score, a score of 100 indicates an average level of intelligence”. Participants were then asked to write their preferred IQ level in an open-ended box. Longevity was assessed by asking “If you could choose how long you lived, how long would that be?” There were two versions of this question. In the first version, participants were told “Your answer here should presume that you would continue to age at a normal rate, and that there would be no magic pill of eternal youth”. In the second version of the question participants were told “Now imagine there was a magic pill of eternal youth. Please write below (in numbers) how long you would want to live (in whole years).” In both questions participants were told “If you want to live forever, write ‘Forever’”.

The remaining questions were assessed using closed response scales anchored from 0 to 100. Five of these attributes related to ideals for the self: *health* (“If you could choose your level of health, what level would you choose?”; 0 = completely unhealthy, 100 = completely healthy), *freedom for self* (“If you could choose the level of freedom in your own life, what level would you choose?”; 0 = absolutely no freedom, 100 = absolute freedom), *happiness* (“If you could choose the extent to which you experienced happiness and sadness in your life, what level would you choose?”; 0 = only sadness, no happiness ever, 100 = only happiness, no sadness ever), *pleasure* (“If you could choose the level of pleasure in your own life, what



level would you choose?"; 0 = absolutely no pleasure, 100 = continuous pleasure), and *self-esteem* ("If you could choose your level of self-esteem, what level would you choose?"; 0 = absolutely no self-esteem, 100 = 100% unshakeable self-esteem). These particular dimensions were chosen because they were unambiguously positively valenced, and because their antonym is unambiguously negative. We note that some items bear conceptual similarity to some of Schwartz and colleagues' (2012) values (pleasure, freedom). We emphasize, however, that we are considering distinct facets of these constructs from value-based approaches. Believing that a construct is important (or not) is distinct from the extent to which one has a maximalist or moderate approach to pursuing that construct. Furthermore, Schwartz et al.'s (2012) values do not directly address the variables of health, happiness, self-esteem, longevity, or intelligence.

The remaining nine attributes measured ideals for society: *friendliness* (0 = absolutely no friendliness, 100 = absolute friendliness in all things), *morality* (0 = absolutely no morality, 100 = absolute morality in all things), *equality of opportunity* (0 = absolutely no equality, 100 = absolute equality), *ambition* (0 = absolutely no ambition, 100 = absolute ambition in all things), *crime levels* (0 = widespread crime in society, 100 = absolutely no crime in society), *freedom in society* (0 = absolutely no freedom, 100 = absolute freedom), *creativity* (0 = absolutely no creativity, 100 = absolute creativity in all things), *technological advance* (0 = no technological advances, 100 = cutting-edge technological advances in all things), and *national security* (0 = absolutely no national security, 100 = absolute national security). In each case the wording of the items specified participants' own nation (e.g., Australian participants were asked "If you could choose the level of morality in Australian society, what level would you choose?"). All the measures of ideals were randomized.

Five demographic variables were included as control variables. First, participants were asked to provide their "age, in years". Participants were then asked to record their

*gender* (note that five participants who responded “other” were excluded from analyses including *gender*). *Income* was measured in terms of perceived household income relative to the average. Participants were given the average household income of their country, and asked to rate where they perceived their household income to lie with respect to the average (1 = much lower than the average national income, 5 = much higher than the average national income). To measure *education* we provided eight options, and coded the responses such that high scores reflect higher education levels (1 = did not finish high school or secondary school; 2 = high school or secondary school; 3 = vocational, technical or trade qualification; 4 = Bachelor’s degree; 5 = Bachelors degree; 6 = Masters degree; 7 = professional degree; 8 = Doctoral degree). Finally we measured *political ideology* by asking people to rate how liberal or conservative they are (1 = very liberal, 9 = very conservative).<sup>2</sup>

## Results

**Descriptive analyses.** There tended to be relatively high correlations among the measures of self-ideals, and relatively high correlations among the measures of societal ideals. Accordingly, we combined these items into scales of self-ideals ( $\alpha = .79$ ;  $\alpha$ s ranged from .68 to .85 across nations) and societal ideals ( $\alpha = .82$ ;  $\alpha$ s ranged from .73 to .91 across nations). Data for each country are summarized in the left side of Table 1.

Generally, participants’ self-ideals clustered around 70-80% of the way between total presence and total absence of each of the positive qualities. Only a minority of people followed the maximization principle (in the sense of aspiring to 100% of an attribute), but there were substantial differences depending on the attribute. More than one third of participants maximized on health whereas less than 1 in 10 maximized on happiness.

In terms of intelligence, the mean ideal IQ score was distorted by the fact that a small group of participants recorded very high ideal IQ scores (> 1000) creating positive skew. To adjust for this, we placed an artificial ceiling on scores that corresponded to the highest IQ

score ever recorded: 228. After winsorizing the 0.3% of participant responses greater than 228, the mean IQ score was 122.52 ( $SD = 25.23$ ).

Because longevity scores could be infinitely high (people could write “forever”) the median provides the only interpretable index of central tendency. In the absence of a promise of eternal youth, the median score on longevity was 90 (only modestly higher than the current average life expectancy of the respective nations). When participants were asked to imagine that they could take a magic pill guaranteeing eternal youth, the median score was higher (median = 120). Even here, however, only 29.3% of participants indicated they would like to live “forever”, and the median life span was only about 40 years greater than the average current life expectancy of the nine nations.

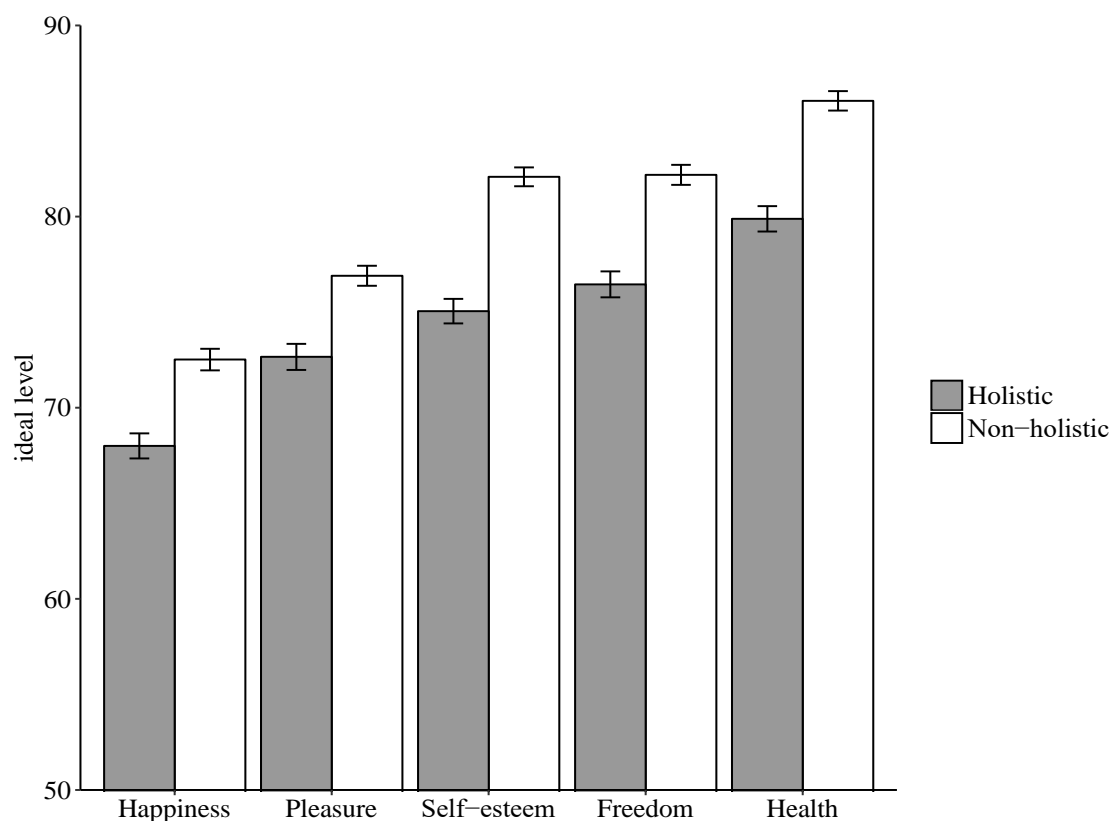
Table 1. Summary data across nations for each study.

|              | Study 1 (9 nations) |             |                |        |      |              | Study 2 (27 nations) |             |                |        |      |              |
|--------------|---------------------|-------------|----------------|--------|------|--------------|----------------------|-------------|----------------|--------|------|--------------|
|              | <i>n</i>            | Ideals self | Ideals society | IQ     | Life | Life + youth | <i>n</i>             | Ideals self | Ideals society | IQ     | Life | Life + youth |
| Argentina    |                     |             |                |        |      |              | 222                  | 79.85       | 69.00          | 125.13 | 90   | 150          |
| Australia    | 281                 | 79.31       | 76.54          | 124.38 | 90   | 150          | 230                  | 79.57       | 76.92          | 131.45 | 90   | 150          |
| Brazil       |                     |             |                |        |      |              | 214                  | 82.33       | 71.93          | 128.80 | 90   | 160          |
| Canada       |                     |             |                |        |      |              | 199                  | 80.00       | 78.97          | 132.80 | 95   | 150          |
| Chile        | 276                 | 79.54       | 69.21          | 122.99 | 85   | 127.50       | 233                  | 74.71       | 62.29          | 127.23 | 86.5 | 150          |
| China        | 238                 | 76.70       | 69.60          | 118.38 | 90   | 199.50       | 182                  | 78.66       | 75.06          | 124.06 | 90   | 120          |
| France       |                     |             |                |        |      |              | 197                  | 74.72       | 70.05          | 124.12 | 90   | 150          |
| Germany      |                     |             |                |        |      |              | 209                  | 72.17       | 70.46          | 121.37 | 90   | 150          |
| Hong Kong    | 218                 | 72.87       | 68.71          | 118.97 | 80   | 99           | 181                  | 69.58       | 65.94          | 123.04 | 85   | 100          |
| India        | 227                 | 75.09       | 72.63          | 114.11 | 75   | 100          | 166                  | 75.55       | 73.08          | 120.36 | 80   | 100          |
| Indonesia    |                     |             |                |        |      |              | 185                  | 81.72       | 76.30          | 128.93 | 80   | 100          |
| Ireland      |                     |             |                |        |      |              | 184                  | 77.28       | 76.31          | 129.45 | 90   | 150          |
| Japan        | 259                 | 73.06       | 73.19          | 122.58 | 85   | 100          | 215                  | 71.08       | 71.15          | 124.12 | 85   | 100          |
| Mexico       |                     |             |                |        |      |              | 207                  | 84.36       | 71.86          | 129.89 | 85   | 110          |
| New Zealand  |                     |             |                |        |      |              | 202                  | 81.21       | 78.87          | 130.02 | 90   | 150          |
| Peru         | 286                 | 79.33       | 66.95          | 128.52 | 85   | 150          | 245                  | 74.93       | 64.46          | 128.49 | 88.5 | 500          |
| Philippines  |                     |             |                |        |      |              | 228                  | 81.92       | 81.79          | 123.92 | 85   | 200          |
| Poland       |                     |             |                |        |      |              | 200                  | 72.02       | 64.12          | 123.79 | 86   | 120          |
| Portugal     |                     |             |                |        |      |              | 231                  | 80.84       | 75.33          | 124.79 | 95   | 200          |
| Russia       | 333                 | 76.14       | 69.27          | 120.22 | 90   | 150          | 207                  | 72.39       | 68.27          | 122.00 | 90   | 150          |
| Singapore    |                     |             |                |        |      |              | 196                  | 72.72       | 73.00          | 130.07 | 80   | 100          |
| South Africa |                     |             |                |        |      |              | 233                  | 76.02       | 68.00          | 128.79 | 90   | 200          |
| South Korea  |                     |             |                |        |      |              | 214                  | 64.39       | 61.27          | 132.38 | 88   | 100          |
| Spain        |                     |             |                |        |      |              | 211                  | 81.27       | 73.03          | 130.11 | 90   | 500          |
| Sweden       |                     |             |                |        |      |              | 201                  | 73.62       | 69.49          | 126.17 | 95   | 110          |
| UK           |                     |             |                |        |      |              | 222                  | 80.25       | 77.87          | 131.81 | 90   | 155          |
| USA          | 274                 | 80.95       | 78.25          | 130.62 | 95   | 150          | 236                  | 81.44       | 79.03          | 133.55 | 95   | 250          |

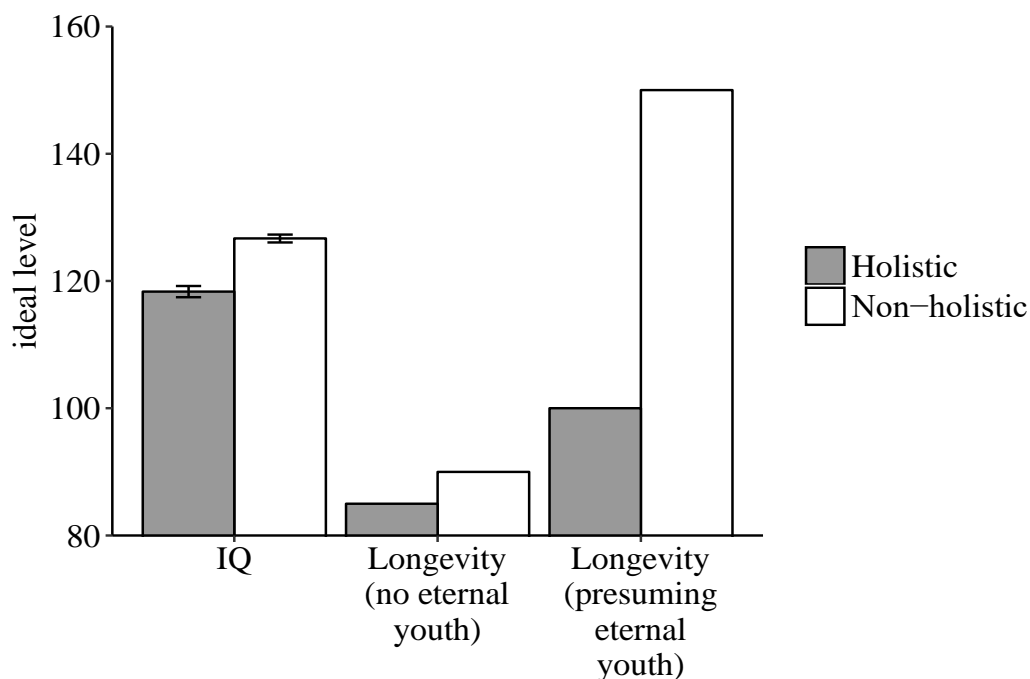
Note. Lifespan scores are medians.

**Tests of cultural differences.** To test our focal prediction, we compared participants from the four holistic regions – China, Hong Kong, Japan, and India - with those from the five non-holistic regions. In doing so, we used pairwise deletion, and controlled for age, income, education, political ideology, and sex (coded -0.5 = male, 0.5 = female). Results are summarized in Figures 1 and 2.

In line with expectations, on ratings of ideal levels for the self, members of non-holistic cultures ( $M = 79.95, SE = 0.42$ ) maximized more than members of holistic cultures ( $M = 74.39, SE = 0.49$ ),  $F(1,1971) = 71.00, p < .001, \eta_p^2 = .04$ . To ensure that the effects of culture on self-ideals were not carried disproportionately by one item, we repeated the analyses for each of the self-ideal items individually.



*Figure 1.* Study 1: Mean ratings of the closed-response items relating to ideals for the self. 100 represents the maximum amount of the attribute. Scores are adjusted means after controlling for demographics. Error bars represent standard error of the mean.



*Figure 2.* Study 1: Ratings of the open-ended items relating to ideals for the self. IQ scores are adjusted means after controlling for demographics. Error bars on IQ represent standard error of the mean. Longevity scores are medians.

The tendency for members of non-holistic cultures to maximize more than members of holistic cultures emerged on all five items: happiness,  $F(1,1968) = 26.37, p < .001, \eta_p^2 = .01$ , pleasure,  $F(1,1968) = 20.42, p < .001, \eta_p^2 = .01$ , freedom,  $F(1,1968) = 38.05, p < .001, \eta_p^2 = .02$ , self-esteem,  $F(1,1970) = 66.87, p < .001, \eta_p^2 = .03$ , and health,  $F(1,1969) = 45.43, p < .001, \eta_p^2 = .02$ . Members of non-holistic cultures ( $M = 126.68, SE = 0.74$ ) also reported a higher ideal IQ score than did members of holistic cultures ( $M = 118.32, SE = 0.86$ ),  $F(1,1971) = 51.77, p < .001, \eta_p^2 = .03$ .

In contrast to the consistent relationship between culture and self-ideals, no reliable effects emerged on societal ideals: members of non-holistic cultures ( $M = 72.62, SE = 0.47$ ) reported a higher ideal score than members of holistic cultures ( $M = 71.24, SE = 0.55$ ), but only marginally so,  $F(1,1970) = 3.51, p = .061, \eta_p^2 = .00$ .

Because participants in the holistic and non-holistic categories were also nested within nations, we re-analyzed the data using multilevel modelling. The multilevel model estimated the fixed effects of holistic (coded -0.5) versus non-holistic cultures (coded 0.5) after accounting for the random effect of country. We also controlled for our five demographic covariates. For each analysis, *p*-values were calculated using the “lmerTest” package in R, which runs the lme4 models through a Satterthwaite’s approximation test to calculate degrees of freedom. Because all continuous variables were standardized, and the dichotomous independent variables was contrast coded, the effects are reported as Betas below (identical to Cohen’s *d*). Sample sizes ranged from 1975 to 1978 after excluding participants with missing values.

Results confirmed that members of non-holistic cultures had higher levels of self-ideals than did members of holistic cultures ( $\beta = .38, SE = .05, p < .001$ ). To test the stability of the effects of self-ideals, we repeated the analysis five times, with each individual item used as a criterion. The significant effects emerged on all five dimensions: happiness, pleasure, health, self-esteem, and freedom ( $\beta$ s ranged from .20 to .36, all *ps* < .042). A significant effect of culture also emerged on IQ ( $\beta = .35, SE = .11, p = .010$ ). In contrast, there was no effect of culture on societal ideals, either when analyzed as a scale ( $\beta = .09, SE = .15, p = .582$ ), or when the nine individual items were analyzed separately (all *ps* > .125).

For the longevity scores, parametric tests are not possible due to some participants recording an infinite score (“forever”). But comparison of the medians indicates a clear trend in line with predictions. In the absence of a guarantee of eternal youth, the median lifespan score of the members of non-holistic cultures (90.0) was five years longer than that of holistic cultures (85.0). In the event of a magic pill guaranteeing eternal youth, the divergence was even greater: the median lifespan score of non-holistic cultures (150.0) was half a century longer than that of holistic cultures (100.0). Mann-Whitney U-tests confirmed that the

distributions of the holistic and non-holistic samples were significantly different for both measures of lifespan ( $ps < .001$ ).

**The role of demographics other than culture.** As discussed above, we included age, sex, income, political ideology, and education in our multilevel tests of culture. Although these demographics were included as control variables, it is interesting in its own right to examine whether there are differences in ideals across these demographic boundaries. For the record, women ( $\beta = .28, SE = .04, p < .001$ ), older participants ( $\beta = .15, SE = .02, p < .001$ ), and richer participants ( $\beta = .12, SE = .02, p < .001$ ) had more maximalist self-ideals, but there was no relationship with education ( $\beta = .01, SE = .02, p = .583$ ) or political ideology ( $\beta = .02, SE = .02, p = .310$ ). In contrast, ideal IQs were related to education ( $\beta = .08, SE = .02, p < .001$ ), political orientation, ( $\beta = -.09, SE = .02, p < .001$ ), and perceived household income ( $\beta = .07, SE = .02, p = .004$ ).

We then ran analyses to test whether the demographic variables interacted with culture to influence self-ideals. The only interaction effect to emerge was on income ( $\beta = -.13, SE = .05, p = .006$ ): the difference between holistic and non-holistic cultures on self-ideals was stronger for those who had relatively low perceived household incomes. The interaction effects for the other four demographics were all non-significant ( $ps > .21$ ). When examining ideal IQ, we found no significant interactions ( $ps > .12$ ).

**Testing collectivism as an alternative cultural dimension.** Our prediction is that there is something specific to holistic cultures that leads to greater moderation relative to non-holistic cultures. However, there is a degree of covariation between the cognitive dimension of holism and the social-cultural dimension of collectivism, as demonstrated correlationally and in terms of cross-over priming effects (Grossmann et al., 2016; Grossmann & Jowhari, 2018; Oyserman & Lee, 2008; Varnum, Grossmann, Kitayama, & Nisbett, 2010). This raises the possibility that the effects are not driven by cultural differences in cognitive style per se,



but rather by socio-motivational processes (e.g., in collectivist cultures there may be greater vigilance to others' needs in the social environment, resulting in a more sensitive balance between personal and interpersonal interests).

To test this possibility, we conducted the same multilevel analyses reported above, but this time with collectivism scores used as a continuous predictor variable rather than holism. We did these analyses using Hofstede's replications and extensions of his original cross-cultural measurements (Hofstede, Hofstede, & Minkov, 2010) rather than GLOBE data, partly because the GLOBE data does not sample from Peru and Chile. These analyses showed that collectivism was not a significant predictor of the self-ideal scale ( $\beta = .08$ ,  $SE = .06$ ,  $p = .252$ ) or any of its constituent items (all  $ps > .082$ ). Neither was collectivism a significant predictor of ideal IQ scores ( $\beta = .10$ ,  $SE = .07$ ,  $p = .185$ ). This indicates that self-ideals are not well explained by interdependence or a greater emphasis on collectivist values.

**A note on Russia.** Although Russia does not meet our criteria for inclusion as a holistic culture (it does not have a strong influence of Buddhism, Confucianism, Hinduism, Jainism, or Taoism) previous studies have shown that Russians display more holistic cognitive styles than Americans or Western Europeans (Grossmann & Varnum, 2011; Varnum et al., 2010). Given this, we re-ran the analyses but this time with Russia included as a holistic culture. The effects remained the same: holistic cultures reported more modest self-ideals ( $\beta = .36$ ,  $SE = .06$ ,  $p < .001$ ) and more modest IQ scores ( $\beta = .37$ ,  $SE = .10$ ,  $p = .005$ ). Median life-span scores remained identical to those reported above, and the relationship between culture and societal ideals remained non-significant ( $\beta = .12$ ,  $SE = .15$ ,  $p = .431$ ).

## STUDY 2

Study 2 replicated Study 1, but with a larger cross-section of cultures. In so doing we included two nations – the Philippines and Indonesia - that are collectivist but not holistic. If

holism is the primary driver of our effects, we would expect that the Philippines and Indonesia would report self-ideals that are as maximalist as the non-holistic nations.

### Method

**Sampling.** We sampled 6874 participants from 27 nations across six continents (50.3% women;  $M_{\text{age}} = 41.20$  years). As in Study 1, participants were community members recruited through the online data collection company Social Sampling International (SSI). In addition to the data quality checks SSI uses to select high quality responders, we embedded a screening question and attention check in our second study. Participants who did not report living in the country being sampled were screened out ( $n = 442$ ; 6.4% of the initial sample). Second, participants who did not pass an attention check were excluded from analyses (“To show that you are paying attention, please select 100 for this question”,  $n = 782$  failed, 12.2% of the screened sample). It should be noted, though, that the conclusions were the same regardless of whether or not the inattentive participants were included. Our final sample comprised 5,650 participants. Summary data for each country – after removing those who failed the attention check – are included in the right side of Table 1.

We sampled from the same four holistic nations sampled in Study 1, as well as two new nations considered holistic: South Korea and Singapore. Approximately three-quarters of Singapore are ethnically Chinese, and the modern state of Singapore was closely guided by Confucian ethics. South Korea is also heavily influenced by Confucianism: during the Tang Dynasty, two of the three Kingdoms of Korea were considered tributary states of China, and Confucian philosophies became embedded in Korean culture from this time.

We used the same non-holistic nations in Study 2 as we did in Study 1, but also added several more: Argentina, Brazil, Canada, France, Germany, Indonesia, Ireland, Mexico, New Zealand, Philippines, Poland, Portugal, South Africa, Spain, Sweden, and the UK. To provide a more focused test of our hypotheses, this group includes two Asian nations – the

Philippines and Indonesia - that cannot be considered holistic according to our criteria (i.e., predominantly influenced by Buddhism, Confucianism, Hinduism, Jainism, or Taoism). The Philippines is the only Christian nation in Asia, with approximately 94% of the nation self-identifying as Christians (Philippine Statistics Authority, 2015). In contrast, Indonesia is a predominantly Muslim nation (approximately 87% at the latest census, Badan Pusat Statistik, 2010). Confucianism was imported to Indonesia by Chinese merchants, but emerged as a loose set of individual practices rather than as a consolidated philosophical practice (only 1.2% of Indonesians are ethnically Chinese).

**Measures.** The measures were presented in a randomized order, and were the same as those used in Study 1, except education was measured using a 5-point scale (1 = less than high school; 2 = high school; 3 = trade qualification; 4 = university degree; 5 = postgraduate degree). As in Study 1, we excluded participants who reported their gender as ‘other’ ( $n = 7$ ) and coded male = -0.5 and female = 0.5. Again, closed-response items were combined into scales of self-ideals ( $\alpha = .82$ ;  $\alpha$ s ranged from .71 to .91 across nations) and societal ideals ( $\alpha = .85$ ;  $\alpha$ s ranged from .75 to .93 across nations). Questionnaires were translated and back-translated by a professional translation company. Translations for the self-ideals and the societal ideals are provided in the Supplementary Materials online.<sup>3</sup>

## Results

Data were analyzed using the same strategy used in Study 1. As can be seen in Table 1, means approximated the same levels as found in Study 1, with ideals for the self mostly clustering in the 70-80% range. Inspection of the means on self-ideals confirmed that Philippines and Indonesia were outliers among the Asian nations, reporting the third and fourth most maximalist self-ideals respectively of the 27 nations. This reinforces our prediction that the most diagnostic cultural distinction is between holistic and non-holistic societies, rather than between Asian and Non-Asian societies.

Consistent with predictions, members of non-holistic cultures ( $M = 78.18$ ,  $SE = 0.24$ ) maximized more on their ideals for the self than did members of holistic cultures ( $M = 71.76$ ,  $SE = 0.47$ ),  $F(1,5129) = 145.79$ ,  $p < .001$ ,  $\eta_p^2 = .03$ . Again, individual ANOVAs revealed significant effects for each of the five dimensions that comprised the scale: happiness,  $F(1,5128) = 94.90$ ,  $p < .001$ ,  $\eta_p^2 = .02$ , pleasure,  $F(1,5126) = 79.32$ ,  $p < .001$ ,  $\eta_p^2 = .02$ , freedom,  $F(1,5127) = 58.25$ ,  $p < .001$ ,  $\eta_p^2 = .01$ , self-esteem,  $F(1,5126) = 90.08$ ,  $p < .001$ ,  $\eta_p^2 = .02$ , and health,  $F(1,5125) = 102.15$ ,  $p < .001$ ,  $\eta_p^2 = .02$  (see Figure 3). As in Study 1, we winsorized IQ scores greater than 228 (this applied to 0.6% of the data). Members of non-holistic cultures ( $M = 128.42$ ,  $SE = 0.37$ ) reported a higher ideal IQ score than did members of holistic cultures ( $M = 125.24$ ,  $SE = 0.74$ ),  $F(1,5125) = 14.71$ ,  $p < .001$ ,  $\eta_p^2 = .003$ , although this effect was extremely weak (see Figure 4).

The above results were confirmed by multilevel models estimating the fixed effects of holistic (coded -0.5) versus non-holistic cultures (coded 0.5) after accounting for the random effect of country and controlling for the five demographic covariates (sample sizes ranged from 5131 to 5135 after excluding participants with missing values). Results confirmed that members of non-holistic cultures had more maximalist self-ideals than members of holistic cultures ( $\beta = .39$ ,  $SE = .11$ ,  $p = .002$ ), and that the effect emerged on all five dimensions (all  $\beta$ s  $> .24$ , all  $ps < .021$ ). A marginally significant effect of culture also emerged on IQ ( $\beta = .16$ ,  $SE = .08$ ,  $p = .057$ ). However, the size of this effect was very small indeed; as such, it is fair to say that the effects of culture on IQ were more pronounced in Study 1 than in Study 2, and that overall the effects of culture on IQ was less consistent than it was for the other dimensions.

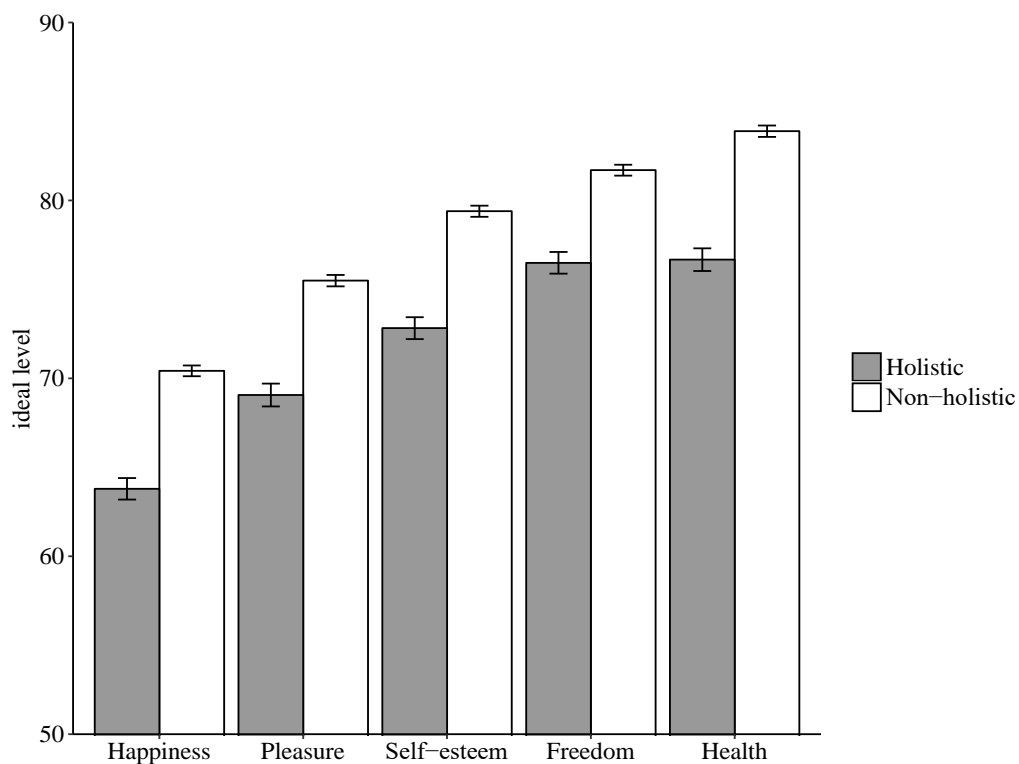
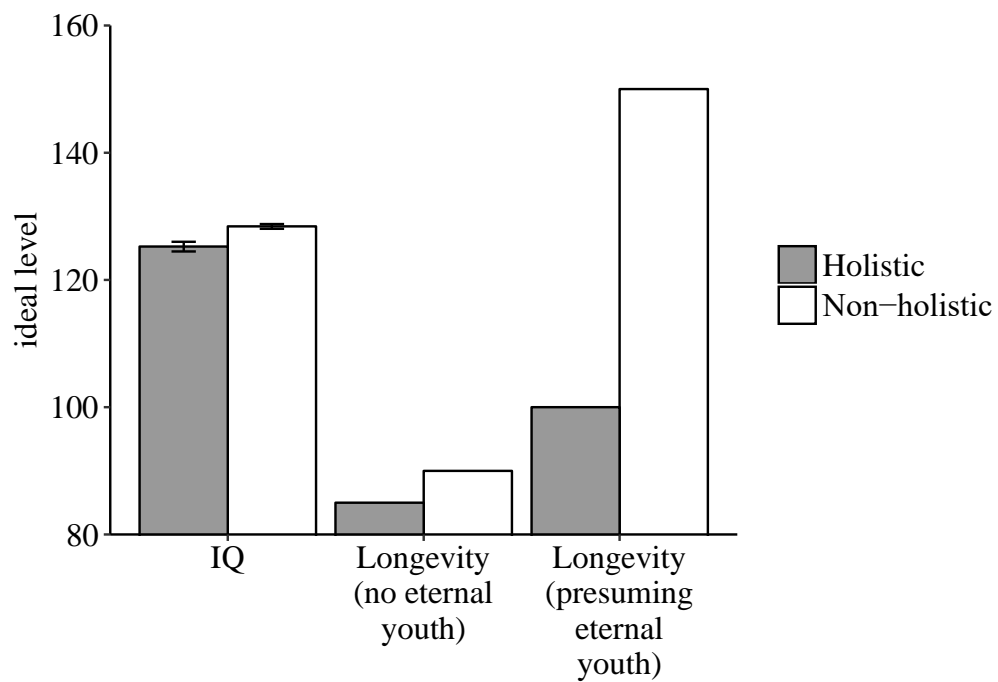


Figure 3. Study 2: Mean ratings of the closed-response items relating to ideals for the self.

100 represents the maximum amount of the attribute. Scores are adjusted means after controlling for demographics. Error bars represent standard error of the mean.



*Figure 4.* Study 2: Ratings of the open-ended items relating to ideals for the self. IQ scores are adjusted means after controlling for demographics. Error bars on IQ represent standard error of the mean. Longevity scores are medians.

Consistent with Study 1, no effect of culture emerged on ideals for society ( $\beta = .15$ ,  $SE = .14$ ,  $p = .284$ ). Examination of the effects of culture on each individual item within the societal ideals scale revealed significant results in just two of nine analyses: non-holistic cultures had more maximalist ideals for society on the dimensions of freedom ( $\beta = .25$ ,  $SE = .11$ ,  $p = .028$ ) and creativity ( $\beta = .40$ ,  $SE = .15$ ,  $p = .015$ ).

For the lifespan items, the median scores were identical to those found in Study 1: In the absence of a guarantee of eternal youth, the median lifespan score of non-holistic cultures (90.0) was five years longer than that of holistic cultures (85.0), a gap that widened dramatically in the event of a magic pill guaranteeing eternal youth (non-holistic cultures  $Mdn = 150$ ; holistic cultures  $Mdn = 100$ ; see Figure 4). As in Study 1, Mann-Whitney U-tests confirmed that the distribution of the holistic and non-holistic samples were significantly different for both measures of lifespan ( $ps < .001$ ).

**The role of demographics other than culture.** As in Study 1, women ( $\beta = .10$ ,  $SE = .03$ ,  $p < .001$ ), older participants ( $\beta = .13$ ,  $SE = .01$ ,  $p < .001$ ), and richer participants ( $\beta = .10$ ,  $SE = .01$ ,  $p < .001$ ) had more maximalist self-ideals. There was no relationship with education ( $\beta = .02$ ,  $SE = .01$ ,  $p = .171$ ) or political ideology ( $\beta = .01$ ,  $SE = .01$ ,  $p = .345$ ).

We then ran analyses to test whether the demographic variables interacted with culture to influence self-ideals. As in Study 1, an interaction effect emerged on income ( $\beta = -.14$ ,  $SE = .04$ ,  $p < .001$ ), such that the difference between holistic and non-holistic cultures on the self-ideal scale was stronger for those who had relatively low perceived household incomes. This time a significant interaction also emerged on education ( $\beta = -.12$ ,  $SE = .04$ ,  $p$

< .001), such that the difference between holistic and non-holistic cultures on the self-ideal scale was stronger for those who had relatively low education. The interaction effects for the other three demographics were non-significant ( $ps > .079$ ). No interaction effects emerged on ideal IQ scores either ( $ps > .081$ ).

**Testing collectivism as an alternative cultural dimension.** As in Study 1, we re-ran the multilevel analyses, but this time with collectivism scores as the predictor. Again, collectivism did not emerge as a significant predictor of the self-ideal scale ( $\beta = .06$ ,  $SE = .06$ ,  $p = .315$ ). We also tested the relationship between individualism and each item of the self-ideals scale and found only a marginally significant relationship between individualism and health ( $\beta = .10$ ,  $SE = .05$ ,  $p = .053$ ), with all remaining  $ps$  non-significant ( $ps > .13$ ). Members of collectivist countries did report more modest ideal IQ scores ( $\beta = .08$ ,  $SE = .03$ ,  $p = .019$ ) but given that this was the only significant effect of collectivism across 12 analyses (spanning two studies) we conclude that there is little evidence that collectivism provides a better explanatory tool than holism in terms of accounting for self-ideals.

**A note on Russia.** As in Study 1, we re-ran the analyses but this time with Russia included as a holistic culture. The effects remained unchanged: holistic cultures reported more modest self-ideals ( $\beta = .42$ ,  $SE = .10$ ,  $p < .001$ ) and more modest IQ scores ( $\beta = .19$ ,  $SE = .07$ ,  $p = .014$ ). Median life-span scores remained identical to those reported above, and the relationship between culture and societal ideals remained non-significant ( $\beta = .20$ ,  $SE = .13$ ,  $p = .141$ ).

### General Discussion

We examined two questions: (1) how maximalist are people's ideal ways of being? and (2) are ideal ways of being influenced by culture? The first question is purely descriptive, but also revealing. Data confirm that most people want to be happy, free, and healthy, and they want to feel self-esteem and pleasure, but not to the exclusion of other more negative

experiences (on average they aspired to 70-80% of a good thing). Even when questions placed no upper limit on the extent to which people could aspire - for intelligence and longevity - it was illuminating that many people set a ceiling for themselves: about 30% higher than the existing average on IQ, and 50% higher than the existing average on lifespan (when presuming eternal youth).

Knowing the limits of the extent to which people see good things as ideal helps explain behaviors that may otherwise seem paradoxical or self-defeating. For example, it is of benefit to health professionals to know that there are limits to what people see as ideal levels of health, happiness, and self-esteem, and for researchers of life extension technology it is helpful to know that there are limits to how long people want to live. It should also be noted that these moderation strategies might be functional: recent theorizing and data suggest that many psychological variables that seem objectively positive can have ironic negative effects on well-being when experienced in extremely high quantities (Grant & Schwartz, 2011).

We predicted that holistic cultures would report more modest self-ideals than non-holistic cultures. Although the effects were small-to-medium in size, this prediction was confirmed with high consistency. Previous studies have shown that Chinese value happiness and excitement less than Westerners (specifically Americans; Sims et al., 2015; Tsai et al., 2006; Uchida & Kitayama, 2009). The current data suggest that these effects may be part of a broader phenomenon that encompasses a wide range of nations and dimensions, including the desire for self-esteem, freedom, health, longevity, and intelligence.

Research shows that participants from collectivist nations tend to avoid extreme endpoints when filling out scales (e.g., Chen, Lee, & Stevenson, 1995). However, there are three pieces of evidence that speak against the notion that our data are an artefact of response bias. First, our measures of longevity and IQ required participants to write in scores rather than using scales. These scores are not susceptible to the response bias critique, and yet the



predicted effect emerged. Second, in Study 2 we included collectivist, Asian countries that are not holistic (Philippines and Indonesia). If our data were reducible to a tendency for Asians to gravitate toward the mid-point, we should see low scores in these countries. Instead, respondents from these two countries reported relatively maximalist self-ideals. Third, the effect of holism does not emerge on societal ideals, suggesting that there is not a blanket tendency for holistic cultures to score closer to the mid-point.

It is well understood that cultural mechanisms are understood at the cultural level, and so cannot be reliably tested by measuring individual differences in thinking and showing mediation (e.g., Na et al., 2010; Schweder, 1973; Sims et al., 2015). However, we acknowledge that we do not measure holism directly, and so cannot show definitively that holistic ways of thinking are the active cultural ingredient driving our effects. Although we found no evidence that collectivism/individualism was a better explanatory tool, systematic disentangling of these cultural dimensions is a priority for future research.

Given the null results on societal ideals, we emphasize that effects of holism are likely to be specific to intrapsychic, individual-level variables. It seems plausible that the “context” element of holism – the sense of connectedness of all things, and a conception of self that is fused with context – would channel the effects of change and contradiction in a way that specifically promotes modesty and humility on self-related variables, but not at the collective or relational level. Alternatively, it is possible that participants simply found the process of recording hypothetical states of perfection for a collective more abstract and difficult than defining perfection for themselves, creating more error variance. Future research is required to identify the variables that best capture variance in people’s utopian beliefs about society, or their ideal levels of socially-embedded variables such as harmony or social sensitivity.

In sum, many advertisements, proclamations, and scientific advances work from the assumption that people aspire to as much as possible of a good thing (e.g., health, freedom,

happiness). Our studies show that this belief is typically less prevalent in more holistic cultures where religious and other traditions extol the virtues of moderation. In highlighting this, we hope to encourage a greater appreciation of the ways people differ in their notion of perfection.

### Endnotes

1. We use the word “maximization” differently from how it is used in the literature on maximizing versus satisficing (e.g., Roets, Schwartz, & Guan, 2012; Schwartz et al., 2002). In that literature, maximization refers to the desire to optimize pragmatic choices (e.g., regarding which TV show to watch or which gift to buy) and is compared with the “good-enough” strategy preferred by satisficers. In contrast, our participants are asked hypothetical questions about abstract, ideal states of being.
2. Other items addressed two distinct research questions. One question related to euthanasia. In addition to measures tapping end-of-life attitudes, this section comprised measures of personality, religiosity, superstition, and well-being. The second section comprised measures of SDO, entity beliefs, and attitudes toward apologies, which have been published elsewhere. In both studies, participants also recorded their ideal annual income in an open-ended format. The data proved unreliable, however: some participants appeared to report weekly or monthly incomes. Furthermore, there are intrinsic difficulties in comparing income across multiple currencies and in countries with different standards of living. Thus, ideal income data are not reported.
3. Also included were participants’ perceptions of control and their attitudes toward mining. Because these measures were not relevant to their ideals, they are not reported here. As in Study 1, ideals were measured at the beginning of the survey.

## References

- Aristotle. (1967). *The ethics of Aristotle: The Nichomachean ethics* (J. A. K. Thomson, Trans.). London, UK: Penguin.
- Badan Pusat Statistik (2010). *Population by Region and Religion, Indonesia*. Retrieved from: <https://sp2010.bps.go.id/index.php/site/tabel?tid=321&wid=0>.
- Chen, C., Lee, S-Y, & Stevenson, H. W. (1995). Response style and cross-cultural comparisons of rating scales among East Asian and North American students. *Psychological Science, 6*, 170-175.
- Grant, A. M., & Schwartz, B. (2011). Too much of a good thing: The challenge and opportunity of the inverted-U. *Perspectives on Psychological Science, 6*, 61-76.
- Grossmann, I., Huynh, A. C., & Ellsworth, P. C. (2016). Emotional complexity: Clarifying definitions and cultural correlates. *Journal of Personality and Social Psychology, 111*, 895-916.
- Grossmann, I., & Jowhari, N. (2018). Cognition and the self: Attempt of an independent close replication of the effects of self-construal priming on spatial memory recall. *Journal of Experimental Social Psychology, 74*, 65-73.
- Grossmann, I., Karasawa, M., Kan, C., & Kitayama, S. (2014). A cultural perspective on emotional experiences across the life span. *Emotion, 14*(4), 679-692.
- Grossmann, I., & Varnum, M. E. W. (2011). Social class, culture, and cognition. *Social Psychological and Personality Science, 2*, 81-89.
- Herrnstein, R.J. (1990). Rational choice theory: Necessary but not sufficient. *American Psychologist, 45*, 356-367.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*, 319-340.

- Hofstede, G., Hofstede, G., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. (3<sup>rd</sup> Ed.). NY: McGraw Hill.
- Howard, G.S. (2000). Adapting human lifestyles for the 21<sup>st</sup> Century. *American Psychologist* 55, 509-515.
- Kesebir, P., & Diener, E. (2008). In pursuit of happiness: Empirical answers to philosophical questions. *Perspectives on Psychological Science*, 3, 117-125.
- Larsen, J. T., & McKibban, A. R. (2008). Is happiness having what you want, wanting what you have, or both? *Psychological Science*, 19, 371-377.
- Leary, M.R., Tambor, E.S., Terdal, S.K., & Downs, D.L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality and Social Psychology*, 68(3), 518-530.
- Maslow, A.H. (1943). A theory of human motivation. *Psychological Review*, 50, 370-396.
- Miyamoto, Y., Nisbett, R.E., & Masuda, T. (2006). Culture and the physical environment: Holistic versus analytic perceptual affordances. *Psychological Science*, 17, 113-119.
- Miyamoto, Y., Uchida, Y., & Ellsworth, P.C. (2010). Culture and mixed emotions: Co-occurrence of positive and negative emotions in Japan and the United States. *Emotion*, 10(3), 404-415.
- Na, J., Grossmann, I., Varnum, M.E.W., Kitayama, S., Gonzalez, R., & Nisbett, R.E. (2010). Cultural differences are not always reducible to individual differences. *Proceedings of the National Academy of Sciences*, 107, 6192-6197.
- Nisbett, R. R., & Miyamoto, Y. (2005). The influence of culture: Holistic versus analytic perception. *Trends in Cognitive Sciences*, 9, 467-473.
- Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, 108, 291–310.
- doi:10.1037/0033-295X.108.2.291

- Oyserman, D., & Lee, S. W. S. (2008). Does culture influence how and what we think? Effects of priming individualism and collectivism. *Psychological Bulletin*, *134*, 311-342.
- Peng, K., & Nisbett, R.E. (1999). Culture, dialectics, and reasoning about contradiction. *American Psychologist*, *54*(9), 741-754.
- Philippine Statistics Authority (2015). *2015 Philippine Statistical Yearbook*. Quezon City, Philippines: Philippine Statistics Authority.
- Roets, A., Schwartz, B., & Guan, Y. (2012). The tyranny of choice: A cross-cultural investigation of maximizing-satisficing effects on well-being. *Judgment and Decision Making*, *7*, 689-704.
- Ryan, R. M. & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: Guilford Publishing.
- Schwartz, B., Ward, A., Monterosso, J., Lyubomirsky, S., White, K., & Lehman, D. R. (2002). Maximizing versus satisficing: Happiness is a matter of choice. *Journal of Personality and Social Psychology*, *83*, 1178-1197.
- Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C. ... & Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, *103*, 663-688.
- Schweder, R.A. (1973). The between and within of cross-cultural research. *Ethos*, *1*, 531-545.
- Scollon, C.N., Diener, E., Oishi, S., & Biswas-Diener, R. (2005). An experience sampling and cross-cultural investigation of the relation between pleasant and unpleasant affect. *Cognition & Emotion*, *19*(1), 27-52.
- Sims, T., Tsai, J.L., Jiang, D., Wang, Y., Fung, H.H., & Zhang, X. (2015). Wanting to maximize the positive and minimize the negative: Implications for mixed affective

- experience in American and Chinese contexts. *Journal of Personality and Social Psychology, 109*(2), 292-315.
- Solomon, S., Greenberg, J. & Pyszczynski, T. (1991). A terror management theory of social behavior: The psychological functions of esteem and cultural worldviews. *Advances in Experimental Social Psychology, 24*, 93–159.
- Spencer-Rodgers, J., Williams, M. J., & Peng, K. (2010). Cultural differences in expectations of change and tolerance for contradiction: A decade of empirical research. *Personality and Social Psychology Review, 14*, 296-312.
- Tsai, J.L., Knutson, B., & Fung, H.H. (2006). Cultural variation in affect valuation. *Journal of Personality and Social Psychology, 90*, 288-307.
- Tsai, J.L., Miao, F.F., Seppala, E., Fung, H.H., & Yeung, D.Y. (2007). Influence and adjustment goals: Sources of cultural differences in ideal affect. *Journal of Personality and Social Psychology, 92*, 1102-1117.
- Uchida, Y., & Kitayama, S. (2009). Happiness and unhappiness in east and west: Themes and variations. *Emotion, 9*(4), 441-456.
- Varnum, M. E. W., Grossmann, I., Kitayama, S., & Nisbett, R. E. (2010). The origin of cultural differences in cognition: Evidence for the social orientation hypothesis. *Current Directions in Psychological Science, 19*, 9-13.

### **Author contributions**

Hornsey and Bain developed the study concept and contributed to the study design. Translation and data collection were performed by Harris, Lebedeva, Kashima, Guan, González, Chen, and Blumen. Data analyses were conducted by Hornsey, Bain, and Harris. Hornsey drafted the manuscript, and all authors contributed to revisions.

### **Acknowledgements**

We thank Ángel Gómez, Miguel Fonseca, and Yoshihisa Kashima for feedback on earlier drafts. Chilean data collection was supported by Centre for Social Conflict and Cohesion Studies (FONDAP15130009) and Center for Intercultural and Indigenous Research (FONDAP15110006). Russian data were supported by a subsidy granted by the Government of the Russian Federation for implementation of the Global Competitiveness Program.