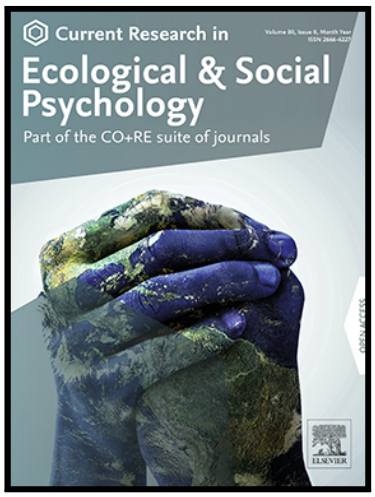

The Economic Well-Being of Nations is Associated with Positive Daily Situational Experiences

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The Economic Well-Being of Nations is Associated with Positive Daily Situational Experiences

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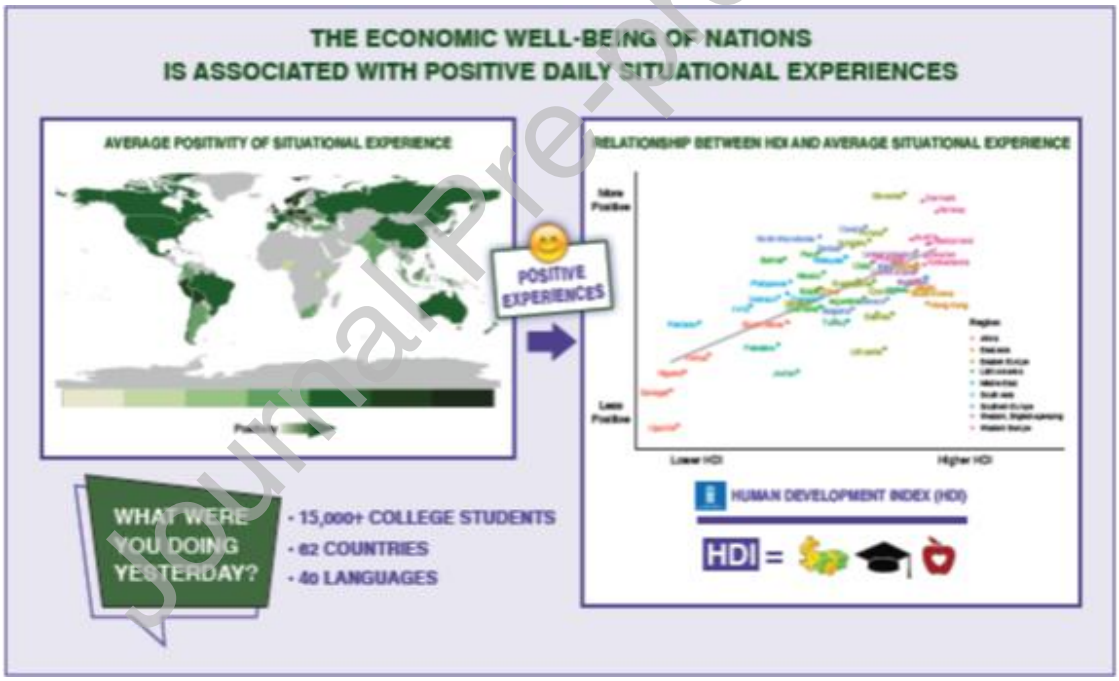
Highlights

- The present study found a strong relationship between positive daily experiences and national economic status (HDI: Human Development Index) across 62 nations.

- College students in higher HDI nations reported average daily experiences that were more positive than students from lower HDI nations where the typical situation was more neutral.
- Higher HDI may not necessarily increase positive experiences but rather decrease the negative aspects of experiences.
- The influence of national economic status was three times stronger for an individual's positive daily experiences than their family's economic status.
- The results from the present study illustrate how national economic status influences the lives of individuals even within a single instance of daily life.

Graphical abstract



Abstract

People in economically advantaged nations tend to evaluate their life as more positive overall and report greater well-being than people in less advantaged nations. But how does positivity manifest in the daily life experiences of individuals around the world? The present study asked

15,244 college students from 62 nations, in 42 languages, to describe a situation they experienced the previous day using the Riverside Situational Q-sort (RSQ). Using expert ratings, the overall positivity of each situation was calculated for both nations and individuals. The positivity of the average situation in each nation was strongly related to the economic development of the nation as measured by the Human Development Index (HDI). For individuals' daily experiences, the economic status of their nation also predicted the positivity of their experience, even more than their family socioeconomic status. Further analyses revealed the specific characteristics of the average situations for higher HDI nations that make their experiences more positive. Higher HDI was associated with situational experiences involving humor, socializing with others, and the potential to express emotions and fantasies. Lower HDI was associated with an increase in the presence of threats, blame, and hostility, as well as situational experiences consisting of family, religion, and money. Despite the increase in a few negative situational characteristics in lower HDI countries, the overall average experience still ranged from neutral to slightly positive, rather than negative, suggesting that greater HDI may not necessarily increase positive experiences but rather decrease negative experiences. The results illustrate how national economic status influences the lives of individuals even within a single instance of daily life, with large and powerful consequences when accumulated across individuals within each nation.

Key words: Positive Psychology, Ecological Psychology, Economic Development, Situational Assessment, Socioeconomic Status, Culture, Subjective Well-Being

The economic status of countries has a strong association with the psychological experience of their residents (Oyserman et al., 2002), particularly when it comes to well-being (Oishi, 2014). Previous research has found that residents of wealthier nations have higher levels

of life satisfaction and experience greater positive affect than those of poorer nations (Bonini, 2008; Diener et al., 2010; Tay & Diener, 2013). Despite plentiful evidence for the broad connection between the economic prosperity of a country and the well-being of its residents, less is known about the potential mechanisms that explains this connection (Deaton, 2008). Presumably, this relationship is at least partially mediated by the mundane experiences of everyday life, and the difference in these experiences between people who live in countries that are more or less economically well off. Little is specifically known, however, about how this influence of the economic well-being of nations translates into individuals' everyday psychological experiences. The current study addresses this issue by assessing the average daily experiences of individuals across countries with a range of economic development.

The Measurement of Well-Being Across Nations

The conceptualization of subjective well-being often includes two distinct aspects: a cognitive evaluation of one's life and an emotional aspect consisting of positive emotions or affect (Diener, 1984). An individual with high subjective well-being will experience "joy, contentment, or positive well-being, combined with a sense that one's life is good, meaningful, and worthwhile" (Lyubomirsky, 2013, p. 32). When measuring subjective well-being, cognitive aspects are typically assessed by questions about life satisfaction, while emotional aspects are assessed by questions about everyday emotions (Stone et al., 2018). These two aspects of well-being are usually highly correlated, but also have distinctive associations or predictors. For example, life satisfaction is more strongly correlated with indicators of economic prosperity, such as income, while positive emotions are more strongly associated with indicators of psychological prosperity, such as having strong social networks (Diener et al., 2010).

Historically, the measurement of individuals' well-being across nations has usually focused solely on the evaluative aspects of subjective well-being. For example, the World Happiness Report (Helliwell, Layard, & Sachs, 2019), conducted by Gallup, measures overall life evaluation by asking people to rate how close their life is to their ideal. The World Values Survey includes a question on life satisfaction, asking people "how satisfied are you with your life as a whole these days?" (World Values Survey, 2014). Answers to these questions form the basis behind the widely reported findings that report happiness is higher in wealthier nations (Bjørnskov, 2010). More recently, there have been attempts to include the affective aspect of well-being into the measurement of happiness across countries. Gallup now includes a separate question asking people about their emotional experiences from the previous day. When comparing across countries, questions on daily emotional experiences produces similar results to cognitive evaluation aspect questions, with some cross-cultural variability (Kuppens et al., 2008).

Beyond measuring national happiness through the aggregation of individual self-reports, measurement of the well-being of nations on the group level has traditionally consisted of a country's Gross Domestic Product (GDP), the total value of all goods and services produced in a country (Stone et al., 2018). Using GDP as a metric of economic well-being means higher GDP indicates greater economic productivity or "value" creation within a country. However, the use of GDP as a societal measure of well-being has been criticized for exclusion of goods and services that lack economic value but still create societal value, such as family caregiving (Kreuger, 2009). Additionally, while GDP provides an estimate for the frequency of various activities it lacks the emotional experiences of individuals during these activities. For example, greater productivity from longer work hours increases a country's GDP but may not increase the

well-being of its hard-working citizens. The emergence of daily time-use studies has attempted to fill this gap (Kreuger (2009).

Attempts at more holistic assessment of national well-being by including the emotional experience of daily activities of nations include time-use surveys such as National Time Accounting (NTA) and The Day Reconstruction Method (DRM). Kreuger (2009) proposed the NTA as a measure of activities throughout the day, such as time spent during work or during leisure activities, along with the affective experience during each activity. The well-being of a society is then defined as a proportion of time spent in activities with positive emotional states. Though promising, apart from one study in France, NTA has only been employed within the United States. The DRM was developed to measure "experienced well-being" through the detailed assessment of affective states throughout the day (Kahneman et al., 2004). The DRM has also been used largely in the United States, with one notable exception that assessed daily experiences using the DRM across seven countries (Ayuso-Mateos et al., 2013). The limited range of samples using these methods makes it difficult to generalize variation in daily emotional experience around the world, particularly as it relates to the economic development of a country. Lastly, a small subset of experience sampling studies has compared daily life and the associated emotional experiences across countries. For example, Choi and colleagues (2017) found positive affective experience from similar daily experiences in South Korea when compared to Western cultures.

Individual SES, Subjective Well-Being, and Daily Life

Despite the limited research on how the relationship between national economic status and personal well-being plays out in daily life, research on individual economic prosperity provides some theoretical guidance on the potential connections that could occur with national-

level effects. Research amply demonstrates that economically advantaged individuals are more likely to enjoy favorable individual outcomes such as greater subjective well-being (Howell & Howell, 2008) and happiness across the life-span (Letourneau et al., 2013; Luo & Waite, 2005; Pinquart & Sörensen, 2000; Quon & McGrath, 2013). The most common method of defining individual economic success is one's income, but other socioeconomic indicators, such as employment and education, are also associated with greater subjective well-being (Blanchflower, 2009). Indeed, a meta-analysis on the relationship between economic status and subjective well-being found that Socioeconomic Status (SES), typically a measure of income, education, and job status, was the strongest economic predictor of well-being, most likely due to its broad inclusion of multiple economic indicators (Howell & Howell, 2008). Thus, this connection indicates a strong positive relationship between SES and subjective well-being on the level of the individual.

Attempts to explain the relationship between SES and well-being have demonstrated how the daily experiences of individuals, particularly in emotional affect or experiential well-being, varies by SES (Almeida et al., 2005; Grzymacz et al., 2004; Surachman et al., 2019). For example, Knabe and colleagues (2010) found that employed individuals in Germany have higher positive affect compared to unemployed individuals during the same daily activities. In the US, higher income is associated with less daily sadness across 13 different daily activities (Kushlev et al., 2015). These findings were later replicated in Germany (Hudson et al., 2016). Thus, an individual's experience of well-being during daily life differs depending upon one's individual socioeconomic status.

The Current Study

The current study examines the relationship between individual daily experiences and the economic development of nations to help further explain the connection between subjective well-

being and national wealth. Building on previous research linking both individual economic status and national economic status with well-being and positive daily emotions, we compute an overall positivity score for each participant based on their self-reported psychological experience of a single situation from the previous day. We then assess the relationship between national economic status and the average situational experience of that nation to replicate previous findings on the national level between wealth and well-being. Next, we dive deeper into this relationship to explore the specific characteristics of situations that might explain the varying psychological experiences of individuals across nations. Lastly, we examine the relationship between situational experience and both individual economic status and national economic status to examine potential cross-level effects. This study was strictly exploratory and, while not designed with any a priori hypotheses, focused on three broad questions: First, is the economic development of a nation associated with the positivity of average situational experience for individuals within that nation? Second, what aspects of situational experience are associated with national economic status? Third, is the relationship between national economic status and situational positivity replicated at the individual level?

Method

The data were collected as part of the International Situations Project (ISP). Complete information, including measures not included in the current study and screenshots of how the materials were presented to participants, can be found on its Open Science Framework page (osf.io/yv2nq) and the project's website (situationslab.squarespace.com/the-international-situations-project). Initial results concerning other topics have been reported elsewhere (Baranski et al., in press, Baranski et al., 2021; Funder et al., 2020; Gardiner et al., 2019; Gardiner et al., 2020; Lee et al., 2020); however, all analyses presented here are new. Supplemental Materials,

including the data, materials, and code necessary to reproduce the results presented here can be found at (osf.io/64g3a). The research was approved by the Institutional Review Board of the University of California, Riverside (IRB-SB number HS-11-046) and, where required, by authorities in the various locales where data were gathered.

Participants

15,244 members of college communities (10,719 females, 4,446 males, 79 other or did not disclose) in 62 countries/regions were recruited at their respective universities by local collaborators (see Table 1). Because of its cultural distinctiveness from the rest of China and the separation of HDI scores available from the United Nations, Hong Kong participants are considered as a separate sample from their mainland Chinese counterparts, hereafter referred to as nations, despite not being an independent nation. The potential effects of our sample's restriction to college communities are discussed in the discussion section.

Power analyses suggested that, based on an average effect size of $r = .24$ observed in a previous wave of data collection as part of the same overarching project (Guillaume et al., 2016), 134 participants are necessary to attain 80% power at $p < .05$. Accordingly, we asked collaborators in each locale to obtain a sample size of at least 130, and most attained that number and more. Three nations with exceedingly low sample sizes (N less than 50) were excluded. As an incentive, participants were offered feedback on their personalities (based on BFI-2 scores; Soto & John, 2017), and in some cases they also received extra course credit or a small amount of monetary compensation.

Table 1. *Description of Samples Across 62 Nations*

Nation	Language of Assessment	*n*	Females	Males	Mean Age
Argentina	Spanish	140	110	30	24.28

Australia	English	195	148	47	19.83
Austria	German	113	92	21	21.26
Bolivia	Spanish	135	78	57	21.01
Brazil	Portuguese	309	222	86	23.70
Bulgaria	Bulgarian	152	106	44	25.02
Canada	English/French	304	239	63	21.85
Chile	Spanish	384	254	128	21.48
China (Mainland)	Mandarin	430	205	219	22.64
Colombia	Spanish	181	134	47	21.68
Croatia	Croatian	216	140	76	21.46
Czechia	Czech	192	156	36	22.65
Denmark	Danish	245	195	48	22.90
Estonia	Estonian	292	246	46	25.84
France	French	231	195	33	22.58
Georgia	Georgian	138	110	28	20.28
Germany	German	453	337	112	24.31
Greece	Greek	224	179	43	22.58
Hong Kong (SAR)	Cantonese	144	84	58	18.99
Hungary	Hungarian	178	106	70	21.76

India	English/Marathi/Hindi	221	110	111	22.38
Indonesia	Indonesian	131	68	61	21.83
Israel	Hebrew	173	105	66	25.42
Italy	Italian	714	461	253	21.86
Japan	Japanese	241	149	91	22.57
Jordan	Arabic	141	114	27	19.87
Kenya	English	137	89	48	21.20
Latvia	Latvian	168	139	29	24.80
Lithuania	Lithuanian	144	112	31	20.27
North Macedonia	Macedonian	54	40	14	21.22
Malaysia	Malay	229	161	66	21.52
Mexico	Spanish	246	142	102	23.86
Netherlands	Dutch	300	244	55	20.11
New Zealand	English	128	110	18	19.20
Nigeria	English	133	44	88	24.78
Norway	Norwegian	157	116	41	23.91
Pakistan	English	114	57	57	20.61
Palestine	Arabic	294	246	48	22.11
Peru	Spanish	74	45	27	22.66

Philippines	English	336	228	102	19.69
Poland	Polish	233	194	39	22.35
Portugal	Portuguese	157	137	19	21.77
Romania	Romanian	176	100	76	22.85
Russia	Russian	158	123	34	21.88
Senegal	French	628	298	329	23.32
Serbia	Serbian	183	158	24	19.71
Singapore	English	135	105	30	20.94
Slovakia	Slovakian	147	102	45	22.4
Slovenia	Slovenian	123	70	52	20.59
South Africa	English	254	168	85	22.19
South Korea	Korean	281	164	117	22.35
Spain	Spanish	419	357	62	19.73
Sweden	Swedish	129	90	35	n/a
Switzerland	German/French	748	628	116	22.35
Taiwan	Taiwanese	161	123	38	19.71
Thailand	Thai	195	150	37	19.27
Turkey	Turkish	328	223	104	21.09
Uganda	English	93	60	33	22.63

Ukraine	Ukrainian/Russian	242	187	54	20.62
United Kingdom	English	136	121	15	25.64
United States	English	1359	916	437	19.86
Vietnam	Vietnamese	168	129	38	19.05

Note. Total N = 15,244 (Females: 10,719, Males: 4,446, Other: 79), mean age = 21.91. In Sweden, age was not recorded. The language of assessment is the most frequently selected language(s) in each locale.

Procedure

Participants responded via a custom-built website using the language of their choice (from 42 available). All materials were translated and back translated by international members of the ISP, compared to the original, and then revised as needed. After selecting their language and verifying informed consent, participants completed a bevy of measures including demographics, situational experience, personality traits, and other individual difference variables. Among the demographic variables was a self-assessment of socioeconomic status (see below). Using a similar method as the Gallup World Poll, to lessen memory bias of situational recall (Diener et al., 2010), participants were asked to report on their experiences from the previous day. Specifically, they were asked to select a situation from the previous day that they "remember well" [1] and then to comprehensively describe their experience of that situation using the 90-item Riverside Situational Q-sort (RSQ) version 4.1 (Sauerberger & Funder, 2020). The request to choose any experience participants remember well rather than one at a specific time was based on experience in past research, when some participants reported that they were asleep

[1] The instructions further stated that "any experience you had yesterday will do; it is only important that you remember it well."

or could not remember what they were doing at a designated time (Guillaume et al., 2016). While we presumed that a situation that a participant could not remember would be unlikely to yield informative data, we were not specifically seeking the most memorable experience of the day. And indeed, the experiences our participants reported were fairly mundane; the average rating (on a 1-7 scale) of "how often do you experience situations similar to the one you just described" (with the anchors "never" and "quite often") was 5.21 (SD = 1.42); the 5-point on the scale was labeled "occasionally." Lastly, after completely the situational Q-sort task participants were asked to rate the overall positivity of the situation they described on a 1 to 9 scale, with 1 being extremely negative and 9 being extremely positive.

Measurement of Situational Experience

Riverside Situational Q-sort. Using a drop-and-drag interface, participants rated their experience of a situation the previous day by sorting each of the 90 RSQ items across a quasi-normal distribution ranging from 1 (Extremely uncharacteristic of the situation) to 9 (Extremely characteristic of the situation). Because of the forced choice distribution, all participant RSQ ratings had a mean of 5 and a standard deviation of 1.9 across items[2]. The forced choice response style of the RSQ is particularly useful for cross-cultural research studies, such as the present study, because it limits response style biases that are a common issue for cross-cultural comparisons. For example, extremity biases are limited because each participant can only rate 3 items with the maximum possible score (9 – Extremely characteristic). Additionally, positivity biases or acquiescence biases, in which participants are more likely to agree with items or agree with all positive items, are limited because participants must rate an equal number of items as characteristic and uncharacteristic of the situation. Examples of RSQ items include "Social interaction is possible," "Talking is permitted," "Someone is under threat," and "Success

[2] Of course, item means and sd's did vary across participants.

requires cooperation" (Sauerberger & Funder, 2020). The RSQ has been translated into 44 languages and successfully employed in several cross-cultural studies, demonstrating validity-in-use across many different nations, languages, and regions of the world (Lee et al., 2020; Guillaume et al., 2016).

Positivity of Situational Characteristics. Following a similar method employed by Diener et al. (1995), positivity scores for each RSQ situational item were obtained from a group of expert raters unaware of the specific research questions of the project. These expert raters consisted of 39 collaborators from the ISP who were both trained psychologists and members of their local cultural region, thus providing a balanced judgement of situational ratings. These expert judges rated the subjective positivity for each of the 90 situational items on a scale from 1 (Extremely Negative) to 10 (Extremely Positive), that were then averaged together to create one overall positivity score for each item. Despite the range of cultural backgrounds there was extremely high agreement among raters regarding the positivity of each item (average alpha = .99[3]). The most positively rated experience was "The situation is humorous or potentially humorous" (mean rating = 8.11); the most negatively rated was "You are being abused or victimized" (mean rating = 1.37) (see Supplementary Materials for a list of ratings for all 90 items).

Economic Status

National Economic Status. The socioeconomic status for each nation was indicated by the Human Development Index (HDI), a widely used composite including measures of life expectancy, expected and mean years of schooling, and gross national income per capita, as reported by the United Nations Development Programme (2019). As is common in previous

[3] For this analysis, each of the 39 raters is treated as an "item" and the 90 RSQ items are treated as the "participants" being rated; as in conventional analyses the alpha reflects the reliability of the discrimination between the items as determined by the degree of inter-rater agreement.

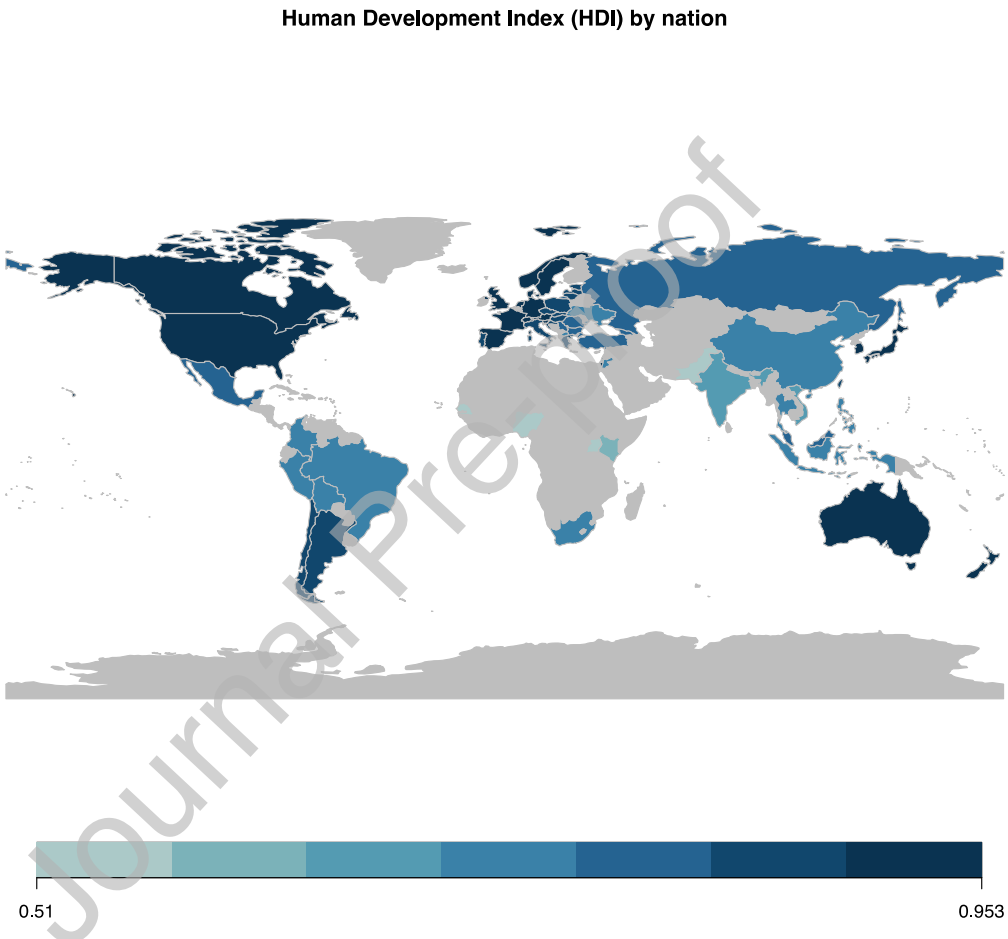
research (Dinsa et al., 2012; Wu et al., 2013; Xu et al., 2017) we chose HDI as an indicator of national SES, rather than GDP, because of the stronger conceptual overlap with individual SES that typically includes not only an individual's income but measures of prestige or social status such as educational attainment. Additionally, HDI does not need to be first log-transformed before computing correlations, unlike GDP, which makes results concerning GDP more difficult to interpret. We used HDI values for 2017, the year the data were collected. Among the nations included in our study, Norway had the highest HDI (.95) and Uganda had the lowest (.52) (see Figure 1 for a heatmap of HDI values across locations).

Individual Economic Status. The socioeconomic status of each individual was indicated by self-report. Using a variation of the MacArthur SES ladder (Adler & Stewart, 2007), participants rated their family's socioeconomic status with a numeric rating from 1 (least well off) to 10 (most well off).

Comparison of Individual and National Measures of Economic Status. To compare the individual and national measures of socioeconomic status, we computed an average SES score for each of the 61 nations and 1 region (Hong Kong, SAR) using the individual self-reports gathered by our study. We then correlated that average with the HDI score provided by the United Nations, yielding an $r(60) = .39$ ($p = .002$). This correlation confirms that that individuals' perceptions of their family's socioeconomic status significantly covary with the socioeconomic status of the nations in which they reside, notwithstanding the likely restriction of range within college samples compared to the nations at large. Nevertheless, we suggest that for between-group comparisons HDI remains preferable because of the objective nature of its components (education, life expectancy, and income) and its widespread use (e.g., Dinsa et al., 2012; Wu et al., 2013; Xu et al., 2017). The HDI is also preferable in the present study because,

having been computed by the United Nations, it was derived completely independently of our participants' self-reported SES scores and so the relations between the two cannot be considered artifactual.

Figure 1. Heatmap of Human Development Index (HDI) by nation



Note. Data from regions in gray did not overlap with our sample. Source of data: United Nations Development Programme (2019)

Results

All analyses were computed using the open-source statistical software "R" (R Core Team, 2019). For a list of the packages used see the R code available on the project OSF page: osf.io/64g3a).

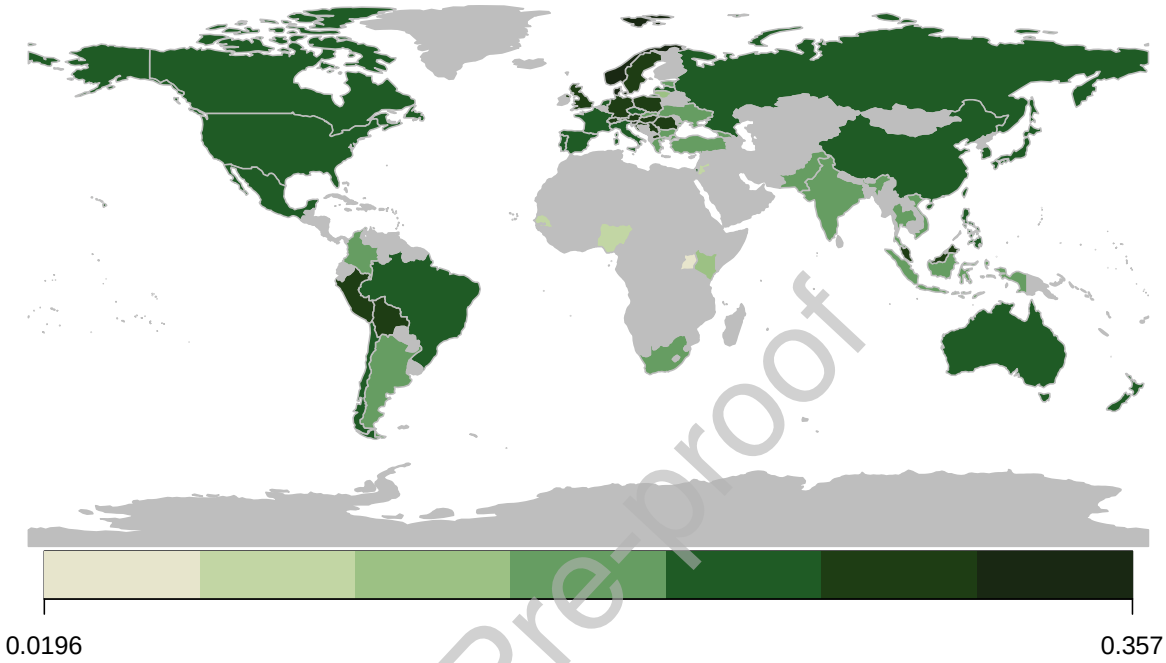
First Research Question: Is national-level economic development associated with the positivity of average situational experience?

We began by computing a positivity score for the situational experience of each of our 15,244 participants. The overall positivity of situational experience was computed using the expert ratings of the RSQ items as described in the methods. The averages of these ratings created a 90-item ideal profile, or "template," for a positive situation (cf. Bem & Funder, 1978). Positivity scores were computed for the situational experience reported by each individual in our sample by correlating each participant's 90 self-reported RSQ item scores with the 90 item template values rated by our international collaborators to generate one positivity profile score for each participant. To compute national level positivity profiles of situational experience we averaged the positivity profiles of individuals within each location. Figure 2 displays a heat map of the positivity scores for the average situation in each locale included in our sample. These positivity scores are correlational values (sometimes referred to as *q* correlations (Block, 1955)) and can thus be interpreted along similar lines, with higher, positive scores indicating more positivity in the situation and the maximum possible positivity score of 1. The nation with the most positive average situational experience was Slovenia (r = .36), with Denmark (r = .34), and Norway (r = .33) close behind, and the one with the least positive average situational experience was Uganda (r = .02), followed by Senegal (r = .07), Nigeria (r = .10) and Jordan (r = .10). These nation-level positivity values were then correlated with each locale's socioeconomic

condition, according to the HDI. Figure 3 illustrates the strong relationship between national HDI and the average positivity of situational experience ($r(61) = .67$ [.50, .79], $p < .001$).

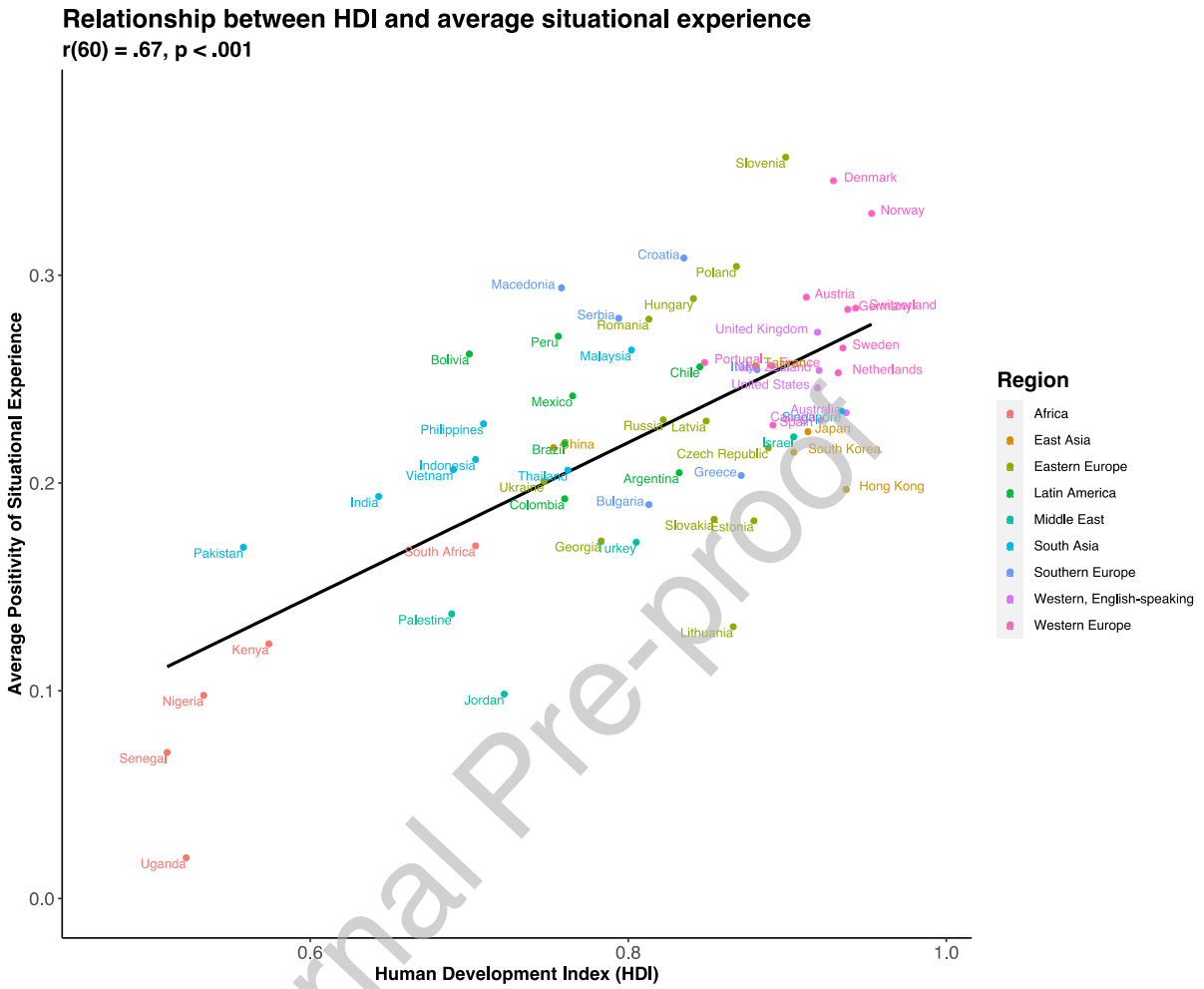
In addition to the positivity profile scores for each situational description, participants also rated the overall positivity of their experience from 1 to 9, with 1 being extremely negative and 9 being extremely positive. On average participants rated their situation as a 6.5 out of 9, between somewhat to fairly positive. Notably, none of the nations had an average positive rating that was negative. The nation with the lowest positive situational rating was Uganda, with a neutral rating of 5.5. Out of 62 nations, 57 had an average rating above 6 (somewhat positive): Uganda, Turkey, Senegal, Bulgaria, and Vietnam. Example situational descriptions rated with the lowest possible positivity score (i.e., 1 out of 9 possible) include "I dropped my phone and it broke" (Istanbul, Turkey) and "I woke up scared because my child had a fever" (Sofia, Bulgaria). Six nations had an average positive rating above 7 (fairly positive): Germany, Indonesia, Norway, Hungary, Austria, and Slovenia. Example situations rated as the maximum positivity include "I met with a friend for a nice breakfast" (Berlin, Germany) and "Watching the Northern Lights" (Oslo, Norway). Neutral situational ratings were given for situational descriptions such as "I was sitting on the bus on my phone" (Quebec, Canada) and "Smoking a cigarette after eating" (Naples, Italy). The 1-item positivity rating was highly correlated with the positivity profile across individuals ($r(15292) = .68$, $p < .001$) and nations ($r(60) = .70$, $p < .001$), corroborating that the participants' self-reported assessment of their situational positivity was highly similar to the positive situational characteristics as rated by our international collaborators.

Figure 2. Heatmap of the positivity of average situational experience in each nation



Note. The measure of positivity is the correlation between the positivity template and the average situational experiences in each nation. Darker green indicates higher positivity. Nations in gray were not included in our sample.

Figure 3. Scatterplot of positivity of average situational experience and HDI by locale.



Second Research Question: What aspects of daily situational experience are associated with national economic status?

To assess the associations between national/regional socioeconomic status and average situational experience, we correlated each of the 90 average RSQ-item placements in each of the 62 international samples with each locale's HDI index. We conducted a randomization test to avoid capitalizing on chance, and to account for the number of comparisons and the complex intercorrelations of RSQ items that makes the exact degrees of freedom difficult to determine

(Sherman & Funder, 2009). In this method, each group is disassociated from their data and paired with data obtained from another randomly chosen group, all of the correlations are calculated, and the number of significant correlations is counted. The process is repeated with a different random reassortment for a total of 1,000 simulations. The average of the results from these 1,000 simulations provides a quite precise – and assumption-free – estimate of the number of significant relationships that would be expected by chance. This number is compared to the number of significant relationships obtained when participants are paired with their actual data[4].

Across 61 countries and 1 region, 53 of the 90 RSQ items had significant associations with HDI (4.51 expected by chance; the chance of finding as many as 53 significant correlations is $p < .001$). The items with the strongest positive relationships with national HDI were: "The situation is potentially enjoyable" ($r(60) = .74$, $p < .001$), "The situation is humorous or potentially humorous" ($r(60) = .70$, $p < .001$), and "The situation could arouse positive emotions" ($r(60) = .68$, $p < .001$). The items with the strongest negative relationships with national HDI were: "Someone is under threat" ($r(60) = -.63$, $p < .001$), "Power is important" ($r(60) = -.60$, $p < .001$), and "You are being abused or victimized" ($r(60) = -.59$, $p < .001$). A full list of the item correlations can be found in Table 2[5].

The item "The situation is potentially enjoyable", which had the strongest correlation with HDI across nations, had the highest mean placement for situations in Norway ($M = 7.12$), New Zealand ($M = 7.08$), and Slovenia ($M = 6.98$) and the lowest mean item placement in Uganda (M = 5.09), Jordan (M = 5.13), and Senegal ($M = 5.20$). Examples of situations that

[4] The article introducing this method (Sherman and Funder, 2009) and the associated R package "multicon" also provides the by-chance and actual average absolute effect size as a more nuanced metric, but the simple "number of significant correlates" is closely related and easy to understand.

[5] We also computed the same correlations with RSQ items on the individual level using SES. Those results are available in the Supplementary Materials but are extremely similar to the ones presented here (vector correlation: $r(88) = .76$, $p < .001$).

participants rated as the maximum possible score for potentially enjoyable included, "shopping with friends at the mall" (Toulouse, France), "taking my son to the park" (Tel Aviv, Israel), "celebrating Mother's Day" (Wellington, New Zealand), "learning how to skate" (Nairobi, Kenya), "at a museum with my boyfriend" (Lund, Sweden), "celebrating my friend's birthday" (Lahore, Pakistan), and "waking up to a soccer game across the street from my house" (Joao Pessoa, Brazil).

Most of the negative situational characteristics that were correlated with lower HDI across nations still had a lower average rating overall, despite being more common in lower HDI nations. For example, the item "someone is under threat" had the strongest negative correlation with HDI and had the lowest mean ratings in Slovenia (M = 2.92), Portugal (M = 2.92) and Denmark (M = 2.95), but still below the midpoint rating of 5 for the nations that had the highest mean rating (Uganda: M = 4.99, Georgia: M = 4.39, Senegal: M = 4.33). Thus, someone under threat was more common in nations with lower HDI but still uncommon overall. In Georgia, only 5% of participants rated their situation as extremely characteristic of the item "someone is under threat" (i.e. 9 out of 9 possible) while a majority (61%) rated the item as uncharacteristic of their situation (i.e. below 5). In contrast, 81% of participants in Portugal and 88% of participants in Slovenia rated the item as uncharacteristic of their situation, while only 5% said the item was at least somewhat characteristic of their situation and none rated it as extremely characteristic. For most participants around the world, the experience of someone being under threat was a rare event, but this characteristic was relatively more salient for participants in lower HDI nations.

Table 2. *Correlations between National HDI and Average Situational Experience Characteristics*

#	RSQ item description	*r*-value	*p*-value

1	The situation is potentially enjoyable	.74	< .001
48	The situation is humorous or potentially humorous	.70	< .001
67	The situation could arouse positive emotions	.68	< .001
40	It is possible to ruminate, daydream or fantasize	.66	< .001
47	Social interaction is possible	.61	< .001
7	Talking is permitted	.57	< .001
89	It is important for people to get along	.56	< .001
21	A reassuring person is present	.53	< .001
39	Emotions can be expressed	.53	< .001
52	Clear rules define appropriate behavior	.52	< .001
18	The situation is playful	.49	< .001
46	Desires could be gratified	.49	< .001
62	The situation is simple and clear-cut	.48	< .001
8	Talking is expected or demanded	.46	< .001
41	The situation is noisy	.44	< .001
77	Many things are happening at once	.44	< .001
50	Sensations are important	.43	< .001
42	The people who are present have close personal relationships with each other	.41	.001
63	People are comparing themselves to each other	.41	.001
90	Entertainment is present	.40	.001
11	Minor details are important	.38	.002
43	Someone present (other than you) is counted on to do something	.35	.005
31	The situation includes small annoyances	.29	.024
69	There are opportunities to display verbal fluency	.29	.024

68	The situation could arouse negative emotions	.26	.044
65	Masculinity can be expressed	.25	.048
15	Someone is under threat	-.63	< .001
64	Power is important	-.60	< .001
59	You are being abused or victimized	-.59	< .001
75	Religion is relevant in this situation	-.58	< .001
22	Someone is blaming you for something	-.57	< .001
35	Physical threats are present	-.54	< .001
54	Art is an important part of the situation	-.54	< .001
37	Moral or ethical issues are relevant	-.53	< .001
84	Money is important	-.52	< .001
53	Someone is breaking rules	-.51	< .001
17	Someone is attempting to dominate or boss you	-.47	< .001
36	Emotional threats are present	-.47	< .001
51	The situation is relevant to your health	-.46	< .001
20	Someone is unhappy or suffering	-.45	< .001
32	The situation could make people feel hostile	-.44	< .001
83	A matter of honor is at stake	-.43	< .001
58	Sexuality is relevant	-.40	.001
28	Your physical attractiveness is important	-.39	.002
10	Someone needs help	-.36	.004
16	Someone is criticizing you	-.36	.004
82	Family is important in this situation	-.36	.004
60	The presence of members of the opposite sex is an important part of	-.35	.005

	this situation		
5	Someone is trying to convince you of something	-.31	.016
38	Quick action is necessary	-.31	.013
86	Someone is feeling shame	-.30	.019
78	People are being physically active	-.27	.032
13	Intelligence is important	-.26	.045

Notes. N (of nations) = 62.

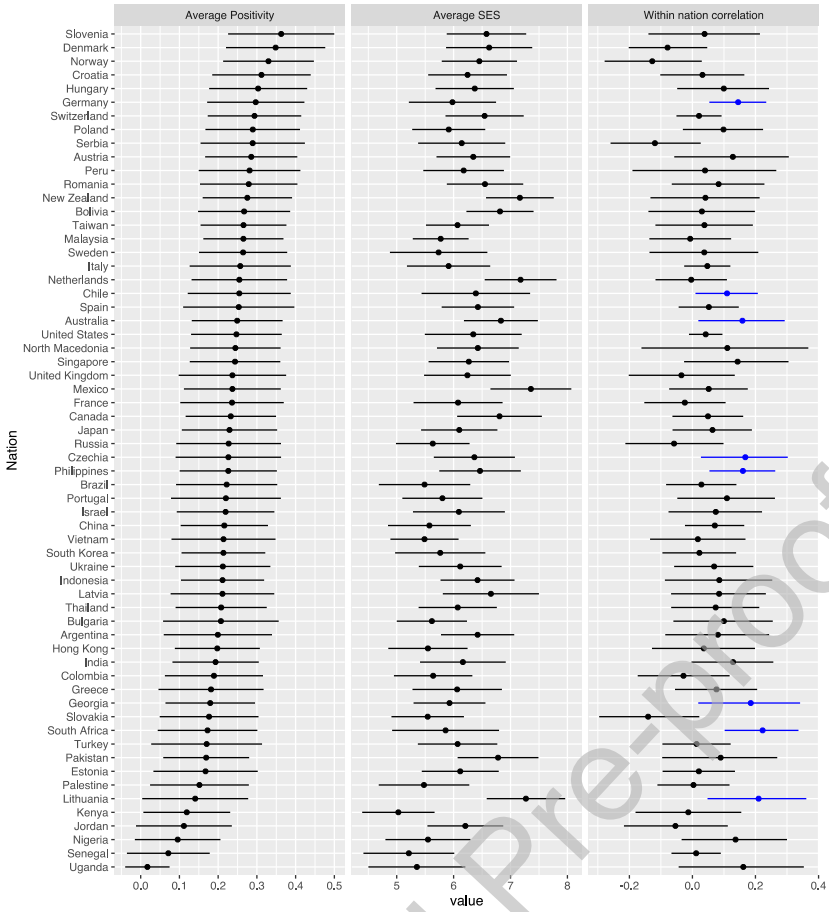
Third Research Question: Is the relationship between national economic status and situational positivity replicated at the individual level?

The previous two research questions addressed the relationship between economic status and positivity on the group level. Our final research question assesses a similar relationship on the individual level. The same positivity scores of situational experience are used for both levels, however, for economic status, individual-level SES scores are used in place of group-level HDI. Within each of the 62 nations, we computed a correlation between SES and situational positivity. The resulting 62 correlations are displayed in the third panel in Figure 4. The correlations ranged from $r(145) = -.14$, $p = .09$ in Slovakia to $r(252) = .22$, $p < .001$ in South Africa. Most correlations within each nation were slightly positive, with an average correlation of |.06|, but only 8 out of 62 locations had a statistically significant correlation at $p < .05$ (South Africa, Lithuania, Georgia, Czechia, The Philippines, Australia, Germany, and Chile). As seen from the first column in Figure 4, these nations with statistically significant correlations between SES and situational positivity represent a range of average socioeconomic statuses.

To examine the independent effects of individual-level economic status with national-level economic status on individual situational positivity, we computed a multilevel regression

model, allowing for random slopes and intercepts for individual SES. Standardized Betas, 95% Confidence Intervals, and corresponding *p*-values are presented in Table 3. Both individual SES and national HDI were significantly related to individual situational positivity, but nation-level HDI was a much stronger predictor of situational positivity than individual-level SES. We also tested for potential interaction effects between individual SES and country HDI. The interaction was not statically significant and did significantly improve model fit (see Supplementary Materials), likely because the two independent measures are already correlated at the aggregate level. However, the standardized coefficients suggest that the effects of HDI has a more robust relationship with average daily positivity than individual SES.

Figure 4 The relationship between economic status and situational positivity at the individual level



Note. The first panel is the average positivity of situational experience within each nation (also shown as a heat map in Figure 2). The second panel is the Socioeconomic Status (SES) calculated by averaging family self-reported SES within each nation. The third panel displays the correlation between SES and the situational positivity score within each nation for individuals. Correlations statistically significant at $p < .05$ are in blue. Nations are sorted from high to low Average Positivity of Situational Experience.

Table 3. *Multilevel modeling regression results predicting situational positivity scores from family and national economic status*

	Situation Positivity		
Predictors	*std. Beta*	*std. 95% CI*	*std. p*

Family Economic Status (SES)	.05	.04 – .07	< **.001**
National Economic Status (HDI)	.16	.12 – .21	< **.001**

Random Effects

σ^2	0.06
$\tau_{00\ Nation}$	0.00
$\tau_{11\ Nation.SES}$	0.00
$\rho_{01\ Nation}$	0.38
ICC	0.03
$N_{\ Nation}$	62
Observations	15244
Marginal R^2 / Conditional R^2	0.032 / 0.057

Note. Model includes random slopes & intercepts for Family Economic Status (SES) across nations. "Nation" here is used to define the group level variable but also includes Hong Kong (SAR) separately from China.

Discussion

The Positivity of Situational Experience

The average daily experience college of students around the world tends to be more positive in nations with higher economic status. These findings supplement previous cross-national assessments that found that people in higher income countries report greater well-being when measured as a cognitive evaluation of one's life. Thus, the greater overall well-being of

individuals in nations with higher incomes is reflected in the experience of even a single moment of a single day. Importantly, the influence of an individual's national economic status was three times stronger predictor of their positive daily experiences than their family's economic status. While the strength of the relationship between HDI and positive experiences on the national level is quite large, the effect size of national HDI on the positivity of daily experiences for individuals is small. This much smaller effect size is to be expected, given that the experiences of a single instance of daily life have wide ranging influences from not only the country of context but the individual's own personality and situation in life. However, small effects can accumulate with much larger implications overtime (Funder & Ozer, 2019), as evident in the current data by the large effect size found when the data are aggregated from individuals to nations.

It is important to note that the nations with the lowest situational positivity were not necessarily having negative experiences in general, but rather the experiences were, on average, neutral or only mildly positive. Perhaps because of our reliance on college student participants, whose situation in life must be at least well off enough in order to attend a university in their home country, the typical daily experience in lower HDI locations is not negative, but more mixed. In contrast, the typical daily experience in higher income nations is on average quite positive. This finding is similar to research on individual SES and well-being conducted within the US and later replicated in Germany that found higher income is associated with less daily sadness but not more daily happiness (Hudson et al., 2016; Kushev et al., 2015). Higher incomes, and by extension higher income nations, may not necessarily increase positive experiences but rather decrease negative experiences.

Situational Characteristics of High and Low HDI Nations

Further analyses on the specific characteristics of typical daily situations between high and low HDI nations reveal what aspects of these situations make the experience more positive for individuals in higher HDI nations. First, positivity bias is prevalent in the most common situational characteristics. Higher HDI nations have average daily situations that are playful, enjoyable, humorous, and arouse positive emotions. For example, humorous situations were, on average, somewhat characteristic of situations in Norway, Hungary, Denmark, and New Zealand while somewhat uncharacteristic of situations in Senegal, Kenya, Colombia, and Pakistan. Lower HDI nations have more negative characteristics of situations, and these aspects are often more specific. For example, low HDI situations are more likely to involve threats and people who are being criticized, abused, or unhappy. However, as noted previously, these negative aspects of situations were still present only for a minority of individuals in lower HDI nations, despite being more common than in higher HDI nations where negative descriptions of situational experience are rare.

Social interaction is also an important aspect of the situations that differentiates high and low HDI nations. Higher HDI nations have average situations where talking is permitted or expected, in addition to social interaction being possible. Additionally, the social interactions tend to be more positive. For example, high HDI nations have situations in which close personal others are present, a reassuring person is present, or that it is important for people to get along. Denmark, Sweden, and Norway had the highest average ratings for close personal others present in their situation, with descriptions such as “taking a walk with my three best friends” (Sweden) and “I was stressed due to an exam and was comforted by a friend” (Norway). In contrast, “someone is trying to convince you of something,” “someone is attempting to dominate or boss you,” and “someone needs help” are situational characteristics that were more common in lower

HDI nations. Someone needing help was particularly salient in situations reported in Thailand, India, and Argentina, such as "a roommate suddenly had a stomachache" (Thailand) or seeing a woman "suddenly faint alongside the road" (India). Thus, the situational characteristics involving social interaction in low HDI nations tends to be mixed, with more negative aspects of interacting with others highlighted. Other interactions with others in low HDI nations suggest power differentials as a crucial component to the interaction. For example, power is more likely to be rated as an important aspect of situations in Jordan, Palestine, and India and less important in Austria, Hungary, and Czechia.

Nations with higher HDI had situations that were more likely to involve daydreams, fantasizing, sensations, emotions, and desires, while people in lower HDI nations tended to report the importance of money, family, religion, and art in their average situations. Daydreaming and fantasizing were rated highest in Japan, where some individuals reported that they were "listening to Future Funk music in bed" and "writing about what I want to do and my future". Religious aspects of the situation were more characteristic of situations in Malaysia and Kenya while money was important in situations in Pakistan and Thailand. Art was more characteristics of situations in Vietnam and India but less so in the Netherlands. Overall, nations with higher HDI had situational characteristics that were more internally focused on psychological experiences, such as sensations and emotions, while lower HDI nations had situational characteristics that described external, physical aspects of the situation such as money being important or family being present.

Evidence for National Metrics as Meaningful Units for Predicting Daily Life

While both individual and national-level economic status were related to the positivity of situational experience, national-level economic status was more strongly related overall. The

effects of individual-level economic status on situational experiences were weak on average and insignificant within most nations tested. The role of national economics influencing average daily situational experiences above individual economic status illustrates the importance of the cultural context in influencing the experiences of daily life. Additionally, these findings provide a more nuanced explanation for previously established broad relationships found between average national income and well-being. The numerous positive situational characteristics of daily life found in nations with greater economic development provide one possible explanation for why people in higher income countries report greater well-being and higher life satisfaction. When people are asked to evaluate their life as a whole, such as questions in the Gallup World Poll or World Values Survey often do, they might judge not just how positive they are feeling in the moment but how many positive experiences they have had on average. In nations with lower economic development where the typical daily experience has more negative aspects, it is perhaps unsurprising that individuals judge their overall life satisfaction as lower than individuals living in nations where the typical daily experience is much more positive. Thus, even small, but meaningful daily situational experiences can accumulate over time into one's overall subjective life experiences or well-being (Funder & Ozer, 2019, Götz et al., 2021)

The stronger effects found using national HDI as a group-level metric as compared to individual SES also provides evidence for the "nationology" theory of cultural research that nations are meaningful units of study in cross-cultural research (Akaliyki et al., 2021). Our findings show that among college students around the world, an individual's subjective experience of daily life is more correlated with their nation's economic development than with their family's socioeconomic standing within that nation. While our findings are limited due to the constrained range of socioeconomic statuses for college students, previous research using

representative samples from the World Values Survey also found evidence that nations reflect meaningful clusters beyond those of linguistic, religious, or ethnic groups. Thus, our findings highlight that even among a perhaps relatively homogenous groups of college students within each nation, strong cross-national differences in daily life still emerge across nations. These findings have important implications for cross-cultural researchers who often must rely on convenience samples. Within nation assessments might require the difficult task of acquiring representative samples of the population of interest, but cross-national comparisons even of college students still reflect their cultural contexts, particularly when comparing across national-level variables such as economic development.

Measurement Strengths & Limitations

Nation level differences in situational experience are not simply an artifact of the measurement methods used or cultural biases. The assessment of situational experience using the Riverside Situational Q-sort (RSQ) limits response style biases common to cross-cultural research (Smith et al., 2016) because it is a forced-choice measure. Acquiescence bias, extremity bias, and positivity bias are all constrained through the RSQ because every participant is limited to the same number of items that can be rated as highly characteristic or highly uncharacteristic of the situation, with the majority of items forced in the middle of the scale to create a normal distribution. Additionally, the use of the Human Development Index (HDI) nation scores as independently sourced data from the United Nations means that the relationships between situational experience and HDI are not artificially inflated due to method bias, a well-documented issue in research on SES and well-being (Tan et al., 2020). Lastly, the positivity of situational experience is not simply a reflection of WEIRD (Western, Educated, Industrialized, Rich, Democratic; Heine et al., 2010) researchers' perspectives on what they consider positive

aspects of situations, but rather a composite of expert judgements from psychological researchers from both WEIRD and non-WEIRD countries, who strongly agreed about what aspects of situations are most and least positive. Using expert ratings of situational positivity also removes potential reference group biases that might occur if participants were asked directly to rate the positivity of their experience. If asked directly, participants might compare their situation to the typical situations they or others around them experience within their country. Using positivity ratings of situational experiences from independent raters representing a range of various cultures means the resulting positivity scores are more cross-culturally generalizable.

Another potential measurement limitation might be the selection of the situations reported in the present study. Asking participants to recall situations from the previous day is a common method used in cross-cultural research, such as the Gallup World Poll, to lessen memory biases while preserving accuracy but are still be prone to biases in the situations participants are able to recall or willing to report. In the present study participants were asked to choose a well-remembered situation from the previous day to describe. Thus, the situation chosen could reflect cultural differences in situational salience rather than represent a typical situation. However, when participants were asked how frequently they experienced the type of situation they reported more than three quarters indicated their situation was more common than uncommon. Additionally, previous work published from the International Situation Project indicates this potential issue is unlikely. Specifically, in a separate ISP study, participants were asked to report on what they were doing at a specific time (i.e., at 7:00 pm; Guillaume et al., 2016). A comparison between the previous study and the current study found that participants reported on extremely similar situations whether they were constricted to a specific time or were

free to choose a situation of their preference from the previous day (Lee et al., 2020), suggesting that the situations reported in the present study are fairly typical.

Lastly, as previously indicated the results of the current study are limited by the range of countries assessed and the participants included in the study. Despite the similarity in self-reported economic status with national indicators of wealth, the situational correlates of psychological experiences may still not be representative of typical experiences for individuals in each country. For example, interpersonal relationships can change over time, with younger adults spending more time with friends while older adults might spend more time with family members or co-workers. Thus, some of the specific relationships found between interpersonal experiences and HDI may not extend to older adults. Additionally, while the number of nations sampled in the present study is quite large compared to most cross-cultural studies, there are still regions of the world under-represented in the current data, such as countries in Africa and the Middle East. Future research should explore the average daily situational experience of older adults and in a wider range of non-WEIRD samples (Henrich et al., 2010).

Conclusions

Studies reporting the well-established finding that countries with greater economic development also have happier people have largely overlooked how this relationship might play out in daily life. Previous evidence from work on individual SES and well-being suggests economic status plays a role in the everyday positive experiences people have. The present study utilized a robust assessment of situational experience and found a strong relationship between daily experiences and national economic status (HDI). College students in higher HDI nations reported average daily experiences that were more positive than students from lower HDI nations where the typical situation was more mixed. Additionally, the positivity of situational experience

was more of a reflection of national economic status than family economic status. The results from the present study reveal a detailed illustration of how national economic status influences the lives of individuals even within a single instance of daily life.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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