

The Psychologically Rich Life Questionnaire

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The first author conceived the research idea, all the authors contributed to the item creation, the second author was in charge of the data collection for Studies 1, 2, and 4, and the third author was in charge of the data collection for Study 3, the first author did initial data analyses, the second author checked all the analyses, the first author wrote the first draft, the second author added the details on the method and results section, and the rest of the authors revised the entire manuscript.

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Abstract

Psychologists have thought of a good life in terms of its happiness or meaning. We propose that psychological richness is another, neglected aspect of a good life. In Study 1, we administered an initial questionnaire to a student sample, testing 2-week test-retest stability, convergent validity using informant reports. We conducted further tests of the scale's factor structure, its correlations with personality and demographic variables, and the generalizability of this psychological richness measure in a non-student American sample (Study 2), a nationally-representative probability sample of Americans (Study 3) and in a sample from India (Study 4). In all 4 studies, a psychologically rich life was predicted by openness to experience, extraversion, and lower levels of neuroticism.

Key Words: Happiness, Meaning in Life, Psychological Richness

The Psychologically Rich Life Questionnaire

In psychological science, well-being has traditionally been conceptualized as either hedonic or eudaimonic (Baumeister, Vohs, Aaker, & Garbinsky, 2013; Kashdan, Biswas-Diener, & King, 2008; Ryan & Deci, 2001; Vittersø, 2016). Hedonic well-being is generally agreed to be comprised of life satisfaction (Diener, 1984), happiness (Lyubomirsky & Lepper, 1999), and positive affect (Kahneman, 1999). The markers of eudaimonic well-being are somewhat less agreed-upon; it is often equated with meaning in life (Hicks & Routledge, 2013; Steger, Frazier, Oishi, & Kaler, 2006) and purpose in life (Hill, Turiano, Mroczek, & Burrow, 2016; Ryff, 1989), although some theorists consider engagement (Peterson, Seligman, & Park, 2005); flow (Csikszentmihalyi, 1990); self-acceptance, autonomy, environmental mastery, positive relationships with others, and personal growth (Ryff, 1989); or the satisfaction of basic needs such as competence, autonomy, and relatedness (Ryan & Deci, 2001) as aspects of an eudaimonic life (see Vittersø, 2016 for review). In the present article, we propose that living a psychologically rich life is another aspect of a good life that is distinct from hedonic and eudaimonic well-being.

What is a Good Life?

If a good life is either conceptualized as happy or meaningful, what does that actually look like? A happy life is characterized by stability, comfort, and pleasantness (Diener, Tay, & Oishi, 2018 for a review). People who report high levels of life satisfaction and happiness tend to have stable long-term relationships either with a partner, friends, or family members (Wilson, 1967; see also Dunn, Aknin, & Norton, 2008). In terms of personality traits, happiness is positively correlated with extraversion (meta-analytic $r = .49$), agreeableness (meta-analytic $r = .30$), and conscientiousness (meta-analytic $r = .25$), and inversely correlated with neuroticism

(meta-analytic $r = -.46$ in Steel, Schmidt, & Shultz, 2008). Happy people tend to have sufficient income to eat and sleep (Diener & Oishi, 2000) and to live in countries without major conflicts (Diener, Diener, & Diener, 1995). As ancient Greek philosophers such as Aristotle speculated, a happy life also requires a certain degree of good luck and fortune (McMahorn, 2006; Oishi, Graham, Kesebir, & Galinha, 2013) such as born in a county in peace and sufficient income (meta-analytic r between socioeconomic status and happiness = $.17$ in Pinqart & Sörensen, 2000).

A meaningful life is typically conceptualized as a life of purpose, coherence, and significance (Martela & Steger, 2016). In other words, an individual with a meaningful life has important aims and aspirations for life, understands and makes sense of life, and feels that his/her life is significant (Heintzelman & King, 2014; Steger et al., 2006). Research further shows that people feel meaning in life not only when they see their lives contributing to a larger whole and view their lives as coherent and glued together by specific guiding principles (Heintzelman & King, 2014), but also when they understand who they truly are (Schlegel, Hicks, Arndt, & King, 2011). To the extent that a meaningful life cannot be achieved by a single action or in a single day, people reporting high levels of meaning in life tend to engage in the same activities (e.g., prayer, volunteering) repeatedly. A sense of meaning is often accrued by engaging in ritualistic activities (Heintzelman & King, in press). Among the Big Five personality traits, conscientiousness is positively associated with meaning in life, as conscientious people are more likely to engage in routine activities, pursue and achieve personal goals, and lead a purposeful life ($r = .17$ in Steger et al., 2006). In previous research, meaning in life is also positively associated with extraversion ($r = .28$) and agreeableness ($r = .23$), and inversely correlated with neuroticism ($r = -.23$, all in Steger et al., 2006).

It should be noted that a meaningful life is just one aspect of eudaimonia (Vittersø, 2016). Some theorists emphasize self-realization and living in truth with the self as a defining characteristic of eudaimonia (Waterman, 1993; 2008). For instance, Waterman (2008) places feelings of personal expressiveness (e.g., engaging activities that give a feeling of being really alive) as a key to eudaimonia. As noted above, Self-Determination Theory centers a eudaimonic life on leading a life with intrinsic motivation and satisfying fundamental human needs such as autonomy, competence, and relatedness (Ryan & Deci, 2001; Ryan, Huta, & Deci, 2008). Building on Self-Determination Theory, Sheldon, Elliot, and colleagues developed the self-concordance model, in which the pursuit and attainment of goals that are consistent with the person's core values is central to a eudaimonic life (Sheldon & Elliot, 1999). Finally, based on humanistic psychology, Ryff (1989) conceptualizes that self-acceptance, autonomy, environmental mastery, positive relationships with others, and personal growth together form eudaimonia.

In contrast to either of the foregoing, we define a psychologically rich life as one characterized by a variety of interesting and perspective-changing experiences (see Besser & Oishi, 2018). Individuals who lead a psychologically rich life seek to enrich their lives through novel experiences via travel, literature, film, music, sports, and the arts. Although many experiences (e.g., travel) may require time and material resources, other experiences such as literature and music are widely available for little or no monetary cost (e.g., via libraries). Because of these novel experiences, those living a psychologically rich life often have unusual and interesting personal stories to tell others. A life devoid of psychological richness is a life of monotonous tedium (see Westgate & Wilson, 2018, for the psychology of boredom).

Why the Psychologically Rich Life?

One of our main motivations for proposing this alternative form of a good life is that many people in the world are neither lucky nor fortunate enough to lead a happy life. For instance, it would be extremely difficult for people living in Syria during a civil war to lead a happy life. That is, although certain mindsets (e.g., savoring, gratitude) are helpful for individuals to feel happy (Lyubomirsky, Sheldon, & Schkade, 2005), certain objective living conditions (e.g., war, financial difficulties) do make one's life difficult to achieve a happy life. It should be noted that many people who live in an economically depressed country (e.g., Sierra Leon) do not report leading a happy life. Nevertheless, the majority of them do report leading a meaningful life (Oishi & Diener, 2014). Thus, the lack of luck and fortune does not preclude individuals living in difficult conditions from leading a good life via leading a meaningful life.

However, not everyone seems to be interested in a meaningful life. Muriel Barbery's (2008) main character Renée in her novel *The Elegance of the Hedgehog* and Rabih Alameddine's (2013) Aaliya (his titular "Unnecessary Woman") are the cases in point. They do not lead happy lives nor meaningful lives. Both are widows with limited financial resources. They are not explicitly interested in making the world a better place, nor do they feel that their lives add up to something larger than themselves. Indeed, Renée comments on her "short, ugly and plump" appearance and bemoans the "pointlessness of my existence." Yet, both women appreciate moments of ineffable beauty, Proustian moments of elongated time and aesthetics, and lead a life full of inner richness. Neither Renée nor Aaliya can afford to travel and attend cultural events, but they live rich inner experiences vicariously through great novels (e.g., Tolstoy's *Anna Karenina*) and poetry, routinely experiencing the full range of emotions, from sadness, to envy, to jealousy, to joy, to contentment. They do not seem to be interested in

happiness or meaning in life, but rather seem to seek the aesthetic of life, trying to find the beauty and interest in the mundane everyday¹.

According to extant conceptions and measures of hedonic and eudaimonic well-being, Renée, and Aaliya are not leading happy or meaningful lives, and therefore are not living good lives, yet to ask them, it seems unlikely that they would choose a different life for themselves. In a sense, they are forgotten people in the extant scientific literature on well-being. By proposing the idea of the psychologically rich life, we attempt to shed light on the likes of Renée and Aaliya, both of whom we believe led good lives.

Do People Desire a Psychologically Rich Life?

In an initial series of studies, we (Oishi et al., 2019) examined whether people desire a psychologically rich life (characterized by a variety of interesting and perspective-changing experiences) over a happy life (characterized by comfort, enjoyment, and stability), or a meaningful life (characterized by fulfillment and purpose). In one study, we asked 3,728 participants from 9 countries (U.S., Japan, Korea, India, Norway, Singapore, Portugal, Germany, Angola) to pick one of the three lives (a happy life, a meaningful life, a psychologically rich life) as the ideal life they want to lead. In every single sample, the majority favored a happy life (49.7% to 69.9%). In most samples, a meaningful life was second, from Korea at 14.2% to Singapore with 38.5%. Finally, a psychologically rich life was desired by a substantial minority of participants, even at the expense of a happy life or a meaningful life, ranging from 6.7% (Singapore) to 16.8% of participants (Germany).

¹ It should be noted that finding beauty in the literature, for instance, is a mean-making process. In this sense, finding beauty in the literature is similar to meaning in life. Finding beauty, however, is different from meaning in life in that it does not necessarily make someone feel that their lives are adding up to something larger and a coherent whole. Indeed, Renée nor Aaliya find meaning in their aesthetic activities but do not find their lives to be adding up to a larger whole.

In another study, we (Oishi et al., 2019) asked 1,611 American adults what they regret most in their lives, then if they could undo or reverse the regretful event, whether their lives would have been happier, more meaningful, or psychologically richer. Roughly 28% reported that their lives would have been psychologically richer, suggesting that these 28% participants would have liked to live a psychologically richer life. In short, our initial series of studies showed that a minority of people desire a psychologically rich life over a happy life or a meaningful life, and that some people's lives are best characterized as having a psychologically rich life rather than a meaningful life or a happy life.

Related Concepts and Personality Traits

To one familiar with the well-being literature, the concept of the psychologically rich life should not feel entirely foreign. For instance, the personal growth facet of Ryff's (1989) psychological well-being is compatible with a psychologically rich life to the extent that personal growth, like the experience of psychological richness, often happens upon encountering new and challenging experiences (see also the posttraumatic growth literature, Jayawickreme & Blackie, 2014). Although novel experiences may fuel both personal growth and a psychologically rich life, however, they differ in their emphasis on self-improvement. Personal growth focuses explicitly and squarely on one's self-determination to improve oneself (and is assessed with items such as "I have the sense that I have developed a lot as a person over time," "trying to make big improvements or changes in my life"), while a psychologically rich life does not require self-improvement, neither as an outcome nor a motivation. Rather a psychologically rich life can result spontaneously, out of pure curiosity and/or unplanned life events.

Similarly, Silvia and colleagues' construct of interest is a central aspect of a psychologically rich life (e.g., Silvia, 2001, 2005, 2008; Turner & Silvia, 2006). Interest,

according to Silva's conceptualization, occurs when a person feels they have the coping potential, or capacity, to make sense of novel and/or complex stimuli. For instance, paintings, poems, and polygons that are high in novelty and complexity (e.g., abstract art) are seen as more interesting but less enjoyable than simpler or more familiar stimuli. Thus, Silvia and colleagues demonstrate that things which are enjoyable are not necessarily interesting, and things that are interesting are not necessarily enjoyable. Likewise, we suggest that happy experiences are not necessarily interesting, deep, or psychologically rich, and conversely that psychologically rich experiences are not necessarily pleasant. Building on the impressive literature on the psychology of interest (which has focused on interesting *stimuli* and cognitive appraisal), we argue that a psychologically rich life consists of interesting *experiences* where novelty and/or complexity are accompanied by a potentially profound change in perspective. That is, while many psychologically rich experiences may also be interesting ones, interest alone is insufficient if unaccompanied by a change in perspective.

Although characteristics of the situation (e.g., novelty, complexity) contribute to psychological richness, so too do characteristics of the person, such as curiosity (e.g., Kashdan, Rose, & Fincham, 2004) and openness to experience. According to McCrae and Costa (1997), "Openness is seen in the breadth, depth, and permeability of consciousness, and in the recurrent need to enlarge and examine experience" (p. 826). Thus, curiosity is an important aspect of openness, as evident in Openness scale items such as "is curious about many different things" (John & Srivastava, 1999). Openness to experience and curiosity are personal characteristics that may help foster a psychologically rich life in that they may bias an individual towards having new experiences that may lead to feelings of richness, but they are not quite the same thing as feeling that one has lived richly.

We predict, therefore, that openness to experience should be associated with, but not identical to a psychologically rich life. This stands in contrast with previous meta-analytic results which have shown that openness to experience is not associated with life satisfaction (meta-analytic $r = .03$) or presence of meaning in life ($r = .13$ in Steger et al., 2006), although it is positively associated with happiness ($r = .13$ and positive affect $r = .20$, Steel et al., 2008). We also expect that extraversion and lower levels of neuroticism should likewise be predictors of a psychologically rich life (in addition to a happy life) because being outgoing, cheerful, and not worrying too much about potential negative consequences might help individuals to engage in novel activities.

The Present Studies

How should a psychologically rich life be measured? We conducted 4 studies to develop and validate the Psychologically Rich Life Scale, a self-report questionnaire. In Study 1, we administered an initial scale twice, and obtained informant reports. We formally tested a one-factor model, using Confirmatory Factor Analysis (CFA). In addition, we assessed test-retest stability as well as self-other agreement. We then replicated the main findings from Study 1 and tested their generalizability in a non-college student sample (Study 2), a large national probability sample in the U.S. (Study 3), and a non-Western sample from India (Study 4). All data can be found at <https://osf.io/sva2z/>

Study 1

In Study 1, we created a questionnaire to measure a psychologically rich life, administered twice over a 2-week period, in combination with informant reports. Following Campbell and Fiske's (1959) multitrait-multimethod matrix approach, we assessed a

psychologically rich life, as well as a happy life and a meaningful life, using both self-reports and informant reports.

Participants

Participants were 203 students (106 men; 97 women) at a large university in the U.S. Of the 203 students, 123 self-identified as non-Hispanic White, 28 self-identified as Black or African American, 37 self-identified as Asian or Asian American, 7 self-identified as Hispanic, and 8 chose “other.” The mean age of the sample was 18.84 ($SD = 1.29$). Participants received partial course credit for their participation.

According to MacCallum, Widaman, Zhang, and Hong (1999) factor recovery rate is 100% when the ratio of variables to factors is 20 to 3, even when communalities are low, as long as there are at least 200 participants. Because the main goal of Study 1 was to test the factor structure of the new scale, our sample size was determined in part by MacCallum et al.’s recommendation. Likewise, the current sample size had over 99% power to detect a self-informant correlation of .42, the meta-analytic mean self-informant correlation for the subjective well-being scale (Schneider & Schimmack, 2009), and 94% power to detect a correlation coefficient of .24 or greater (two-tailed, $\alpha = .05$), which was the lower end of 95% C.I of the meta-analytic mean correlation between extraversion and life satisfaction (Steel, Schmidt, & Shultz, 2008).

Procedures and Materials

Members of the research lab led by the first author and the last author generated items reflective of the key features of a psychologically rich life. From the initial pool of 82 items, we combined similar items to reduce redundancy, and eliminated items deemed too remote from the concept of a psychologically rich life. These item reductions left 36 items for use in the current

study. Participants were asked to indicate the degree to which they agreed or disagreed with each of these statements on a 7-point scale (1 = strongly disagree to 7 = strongly agree). Two weeks later, participants completed the same 36 items again.

To assess the extent to which participants led a happy life and a meaningful life, we asked participants to complete well-established well-being measures. Life satisfaction was assessed with the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985, $\alpha = .87$) using a 7-point scale (1 = strongly disagree, 7 = strongly agree). Positive affect and negative affect were assessed with the Scale of Positive and Negative Experience (SPANE; Diener et al., 2010) on a 5-point scale (1 = very rarely or never, 5 = very often or always). The positive affect subscale of the SPANE includes positive, good, pleasant, happy, joyful, and contented ($\alpha = .86$); the negative affect (NA) scale of the SPANE includes negative, bad, unpleasant, sad, afraid, and angry ($\alpha = .81$). Meaning in life was measured using the Meaning in Life Questionnaire (MLQ; Steger et al., 2006) on a 7-point scale (1 = absolutely untrue, 7 = absolutely true), consisting of a “presence of meaning” ($\alpha = .88$) and a “search for meaning” subscale ($\alpha = .87$). In addition, participants completed other potentially related scales including the Brief Sensation Seeking Scale (BSSS; Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2002, $\alpha = .79$) and the Big Five personality traits (Brody & Ehrlichman, 1997; openness to experiences, $\alpha = .70$, conscientiousness, $\alpha = .71$, extraversion, $\alpha = .80$; agreeableness, $\alpha = .78$; neuroticism, $\alpha = .84$). Because all measures had high reliability, we summed or averaged each scale. Participants then provided their demographic information including gender, age, the number of residential moves from age 5 to high school graduation, hometown size (1 = small town, 5 = a large city), and perceived social class (1 = lower/working class, 5 = upper class).

To obtain informant reports, we asked each participant to nominate up to two informants who knew them well and to provide their email addresses. Following Vazire (2006), we contacted informants via email and solicited them to complete an online survey about the target participant. The informants rated the target participant's psychological richness ($\alpha = .91$), life satisfaction ($\alpha = .85$), positive affect ($\alpha = .85$) and negative affect ($\alpha = .81$), and meaning in life (presence of meaning: $\alpha = .85$, search for meaning: $\alpha = .87$), using the same scales that participants used (Psychologically Rich Life items, SWLS, SPANE, MLQ). For instance, informants were asked to answer items like "X's life has been psychologically rich" and "X is satisfied with his/her life." Participants nominated 372 informants with valid email addresses, 245 of whom (65.9%) responded. Informants were not compensated for their participation. Data collection took place in Fall 2016.

Results and Discussion

Item Selection

First, we tested whether a one-factor model fit the data from Time 1. We then repeated the same one-factor confirmatory factor analysis of the 36 items using Time 2 data (two weeks later). Eighteen of the 36 items that had factor loadings higher than .400 in the initial confirmatory factor analyses for both timepoints. Of these, one of the items "I seek out adventures" was very similar to items on the sensation seeking scale. To avoid item overlap, we removed this item. Thus, we retained the 17 items with factor loadings of .400 or higher in both confirmatory factor analyses (see Appendix).

We next formally tested a one-factor model allowing the four reversed items' error terms to associate with one another: $CFI = .857$, $RMSEA = .109$, $SRMR = .061$. Modification indices suggested that the fit would improve by allowing the error terms to be associated between some

item pairs. Thus, we allowed the following pairs' error terms to be associated: in addition to all four of the reverse items, items 1, 2, and 3 which shared the word "rich," items 4 and 5 which shared the phrase "had a lot of ...experiences," items 11 and 12 that shared the phrase "On my death bed," as well as items 8 ("dramatic") and 13 ("good movie") that were drama-related. With these modifications, the one factor model fit the data well; $CFI = .947$, $RMSEA = .068$ (90% CI: .054 to .082), $SRMR = .050$, $\chi^2(107) = 208.055$, $p < .001$. We followed the guidelines of Hu and Bentler (1999) who recommend "that practitioners use a cutoff value close to .95 for TLI (BL89, RNI, CFI, or Gamma Hat) in combination with a cutoff value close to .09 for SRMR to evaluate model fit" (p. 27). In the end, we retained these 17 items for the remainder of analyses ($\alpha = .926$).

Test-Retest Stability

Using the 17 items selected above, we computed a 2-week test-retest reliability coefficient. The same 17 items were very internally reliable at Time 2 ($\alpha = .924$), and the test-retest stability of the 17-item Psychologically Rich Life Scale was quite high, $r(193) = .801$, $p < .001$. For comparison, the 2-week test-retest reliabilities for other well-established well-being measures in this sample fell in a similar range: SWLS, $r(192) = .829$, $p < .001$, PA, $r(196) = .719$, $p < .001$, and NA, $r(196) = .648$, $p < .001$, the presence subscale of MLQ, $r(189) = .809$, $p < .001$, and the search subscale of MLQ, $r(189) = .734$, $p < .001$ (see Table 1).

Table 1
Descriptive Statistics and Correlations Among Key Variables in Study 1

	R1	R2	LS1	LS2	PA1	PA2	NA1	NA2	PM1	PM2	SM1	SM2	M (SD)
Rich T1	—	.801 **	.525 **	.514 **	.499 **	.368 **	-.118	-.181 *	.467 **	.460 **	.085	.020	5.28 (0.90)
Rich T2		—	.429 **	.463 **	.514 **	.482 **	-.235 **	-.268 **	.476 **	.535 **	.020	.040	5.11 (0.91)

LS T1	—	.829 **	.626 **	.508 **	-.346 **	-.358 **	.377 **	.406 **	-.191 **	-.126	23.45 (6.63)
LS T2		—	.588 **	.554 **	-.348 **	-.453 **	.368 **	.443 **	-.273 **	-.140	24.24 (6.02)
PA T1			—	.719 **	-.421 **	-.462 **	.393 **	.455 **	-.130	-.128	3.83 (0.61)
PA T2				—	-.399 **	-.519 **	.395 **	.519 **	-.150 *	-.092	3.72 (0.71)
NA T1					—	.648 **	-.234 **	-.254 **	.136	.086	2.49 (0.65)
NA T2						—	-.143 *	-.207 **	.189 **	.137	2.22 (0.68)
PM T1							—	.809 **	-.165 *	-.125	4.46 (1.27)
PM T2								—	-.218 **	-.209 **	4.48 (1.26)
SM T1									—	.734 **	4.94 (1.23)
SM T2										—	4.89 (1.15)

Note. * $p < .05$. ** $p < .01$. Rich = Psychological Richness, LS = Life Satisfaction, PA = Positive Affect, NA = Negative Affect, PM = Presence of Meaning, SM = Search for Meaning, T1 = Time 1, T2 = Time 2. Correlation coefficients in the bold face are the test-retest reliability coefficients. $N = 191$ to 203 .

Convergent-Discriminant Validity

Did other people's perceptions concur with participants' own self-reports? To find out, we explored self-other agreement on our key measures of a good life: psychological richness, satisfaction with life, positive/negative affect, and meaning in life. Informants for each participant rated the psychological richness of the participant's life using the same 17 items as the participant ($\alpha = .902$). We took the average of the two reports for those who had two informants ($n = 80$) and used one report for those who had only one ($n = 80$). In total, 160 participants had at least one informant report. The Psychologically Rich Life Scale had good convergent validity, and was significantly associated with informant reports of psychological richness, $r(158) = .342, p < .001$ for Time 1, $r(154) = .325, p < .001$ for Time 2, $r(158) = .349, p < .001$ for the overall mean of Times 1 and 2. Self-reports of psychological richness were

modestly correlated with informant reports of the SWLS ($r = .220, p = .005$) and PA ($r = .185, p = .019$), but not significantly associated with informant reports of NA ($r = -.070, p = .374$), presence of meaning ($r = .114, p = .155$), and search for meaning ($r = -.012, p = .883$). Most important, self-reports of psychological richness were more strongly associated with informant reports of psychological richness than with informant reports of other well-being measures (SWLS, $z = 1.628, p = .052$; PA, $z = 2.004, p = .023$; NA, $z = 3.42, p < .001$; Presence of meaning, $z = 2.839, p = .002$; Search for meaning, $z = 3.798, p < .001$, calculated by Lenhard & Lenhard's [2014] software program, based on Eid, Gollwitzer, & Schmitt, 2011). According to Campbell and Fiske (1959), this pattern of correlations shows both convergent and discriminant validity for the Psychologically Rich Life Scale, as the key "monotrait-multimethod" coefficient ($r = .349$) was higher than the relevant "multitrait-multimethod" coefficients ($r = -.070$ to $.220$).

To place this level of self-other agreement on the Psychologically Rich Life Scale in context, we also examined the degree of self-other agreement on two well-established measures of happiness and meaning. Self-reports for mean SWLS were significantly positively correlated with informant reports for SWLS, $r(158) = .444, p < .001$ for Time 1, $r(153) = .368, p < .001$ for Time 2, $r(158) = .418, p < .001$ for the overall mean of Times 1 and 2. These estimates are nearly identical to the meta-analytic mean of self-informant correlation reported by Schneider and Schimmack (2009). Likewise, self-reports of PA were positively associated with informant reports of PA, $r(159) = .332, p < .001$ for Time 1, $r(156) = .267, p = .001$ for Time 2, and $r(159) = .317, p < .001$ for the overall mean of Times 1 and 2. Self-reports for the presence subscale of the MLQ were also significantly associated with informant reports of the presence subscale, $r(156) = .283, p < .001$ for Time 1, $r(148) = .299, p < .001$ for Time 2, and $r(156) = .301, p < .001$ for the overall mean of Times 1 and 2. Thus, the degree of self-other agreement on the

Psychologically Rich Life Scale is very similar to that on well-established well-being measures such as the SWLS, SPANE-PA, and the MLQ.

Correlates of a Psychologically Rich Life

As expected, psychological richness was positively correlated with life satisfaction, positive affect, and the presence of meaning in life (see Table 1), with correlations ranging from .430 to .564. These values suggest that, while not unrelated, leading a psychologically rich life is distinct from a happy life or a meaningful life.

Was psychological richness related to openness and extraversion, as expected? Having a psychologically rich life (overall mean of Times 1 & 2) was positively associated with extraversion, $r(201) = .490, p < .001$, openness, $r(201) = .378, p < .001$, sensation seeking, $r(201) = .370, p < .001$, agreeableness, $r(201) = .308, p < .001$, conscientiousness, $r(201) = .232, p = .001$, and negatively associated with neuroticism, $r(201) = -.270, p < .001$. Again, these correlation sizes indicate that psychological richness is distinct from the Big Five personality traits and sensation seeking. Notably, openness and sensation seeking were related to psychological richness as expected, but only moderately associated with SWLS ($r = .155, p = .027$; $r = .210, p = .003$), PA ($r = .212, p = .002$; $r = .148, p = .035$), and presence of meaning ($r = .286, p < .001$; $r = .079, p = .261$). Thus, one difference between a psychologically rich life and a state of hedonic or eudaimonic well-being is that a psychologically rich life contains an element of openness and boldness, which may serve to foster engagement in new and interesting experiences.

To test whether personality differentially predicts different forms of the good life, we conducted a series of regression analyses, predicting each well-being measure from Big Five personality traits, gender, age, the size of hometown, self-reported social class, and residential

moves. As can be seen in Table 2, life satisfaction was best predicted by extraversion ($\beta = .280$, $t = 4.570$, $p < .001$), neuroticism ($\beta = -.222$, $t = -3.862$, $p < .001$), conscientiousness ($\beta = .166$, $t = 2.840$, $p = .005$) and agreeableness ($\beta = .165$, $t = 2.844$, $p = .005$), but not by openness ($\beta = .049$, $t = 0.861$, $p = .390$). Among demographic variables, social class was a strong predictor of life satisfaction ($\beta = .262$, $t = 4.489$, $p < .001$). These patterns are largely consistent with previous findings.

Table 2 Multiple Regression Analyses in Study 1

DV:	<u>Rich Life</u>			<u>Happy Life</u>			<u>Meaningful Life</u>		
IVs:	β	t	p	β	t	p	β	t	p
Openness	.257	4.411	<.001	.049	.861	.390	.187	2.796	.006
Conscientious	.061	1.016	.311	.166	2.840	.005	-.010	-0.149	.881
Extraverted	.400	6.343	<.001	.280	4.570	<.001	.220	3.038	.003
Agreeable	.196	3.283	.001	.165	2.844	.005	.266	3.884	<.001
Neurotic	-.121	-2.055	.041	-.222	-3.862	<.001	-.118	-1.749	.082
Age	.039	0.656	.513	.005	.084	.933	.009	0.137	.891
Gender	.022	0.371	.711	-.021	-.370	.712	-.009	-0.139	.890
CitySize	.055	1.135	.258	-.066	-1.181	.239	-.044	-0.668	.505
Social Class	.059	.990	.324	.262	4.489	<.001	-.068	-0.985	.326
Moves	.056	0.911	.363	-.094	-1.565	.119	-.036	-0.514	.608
<i>DF</i>	188			188			188		
<i>R</i> ²	.412			.445			.226		

Note. CitySize denotes the size of hometown (1 = small town to 5 = large city). Moves denotes the number of times participants moved to a new town or city from age 5 till graduating from high school.

Contrary to our predictions, conscientiousness did not predict meaning in life ($\beta = -.010, t = -0.149, p = .881$). Meaning in life was, however, predicted by agreeableness ($\beta = .266, t = 3.884, p < .001$), extraversion ($\beta = .220, t = 3.038, p = .003$), openness ($\beta = .187, t = 2.796, p = .006$), and neuroticism ($\beta = -.118, t = -1.749, p = .082$). There were no demographic differences in meaning.

Finally, our predictions regarding a psychologically rich life were largely supported. As expected, psychological richness was predicted by openness ($\beta = .257, t = 4.411, p < .001$), as well as extraversion ($\beta = .400, t = 6.343, p < .001$), agreeableness ($\beta = .196, t = 3.283, p = .001$), and neuroticism ($\beta = -.121, t = -2.055, p = .041$). It was not predicted by conscientiousness ($\beta = .061, t = 1.016, p = .311$). There were no demographic differences in psychological richness.

In sum, in Study 1 we introduced a 17-item Psychologically Rich Life Scale, and showed that it has high test-retest reliability over a two-week period ($r = .801$), solid self-other agreement ($r = .349$), and correlations indicative of convergent and discriminant validity. That is, individuals who thought their lives were psychologically rich at one point in time continue to think that their lives are psychologically rich two weeks later, and informants who know them well tended to agree. It is also noteworthy that informants' reports on the psychological richness of the targets' lives were independent of their reports on how satisfied the targets seemed with their lives ($r = .220$), how often the targets seemed to experience positive affect ($r = .184$), and how meaningful the targets seemed to feel their lives to be ($r = .150$). Finally, personality predictors of a psychologically rich life were different from those of a happy life, with openness to experience playing a notable role in psychological richness.

Study 2: A Replication Among a Non-student Sample

Study 1 provided initial evidence that the 17-item Psychologically Rich Life Scale is reliable, stable, and shows convergent and discriminant validity. However, Study 1 was conducted with a college student sample, for whom psychological richness might be particularly salient or valued. We therefore attempted to replicate the scale's one-factor structure with a non-college sample.

Participants

Participants were 409 Amazon mTurk workers (203 males, 204 females, 2 other). Using the same criteria as Study 1, we aimed to get at least 200 participants to replicate Study 1. Because many mTurk workers fail the attention check, we were conservative to recruit 409 participants. Mean age was 36.45 ($SD = 12.60$, ranged from 18 to 75). Of 409 participants, 263 (64.3%) self-identified as European Americans, 53 (13%) self-identified as African Americans, 35 (8.6%) identified as Asian Americans, 22 (5.4%) identified as Hispanic Americans, 24 (5.9%) identified as mixed, 11 (2.7%) identified as Native Americans, and 1 (0.2%) indicated as "other."

Out of the 409 participants who agreed to participate in this study, 369 (90.2%) passed the attention check. Thus, we used the data from these 369 respondents (172 males; 195 females) for the following analyses. Their mean age was 36.59 ($SD = 12.69$, range: 18-75). Out of 369 participants, 240 (65%) self-identified as European Americans, 46 (12.5%) self-identified as African Americans, 33 (8.9%) as Asian Americans, 20 (5.4%) as Hispanic Americans, 23 (6.2%) as mixed, 6 (1.6%) as Native Americans, and 1 (0.3%) as "other." In Study 1, we found the correlation coefficients between the psychologically rich life and Big Five traits in range of .23 to .49. Our sample size had over 99% power (two-tailed, $\alpha = .05$) to detect the effect size $r = .23$.

Procedures and Materials

After completing materials unrelated to this study, participants completed the 17-item Psychologically Rich Life Scale, the Big 5 personality traits scale (Brody & Ehrlichman, 1997; openness to experiences, $\alpha = .75$, conscientiousness, $\alpha = .82$, extraversion, $\alpha = .79$; agreeableness, $\alpha = .88$; neuroticism, $\alpha = .89$) and demographic information including age, gender, size of hometown (1 = small town, 5 = a large city), social class (1 = lower/working, 5 = upper), political orientation, and residential mobility. Participants answered two political orientation items, one concerning their political outlook on economic issues and one their outlook on social issues. For residential mobility, participants indicated the number of times they had moved during elementary school, middle school, and high school, respectively. Residential mobility was calculated by summing the total number of moves during the three time periods. All participants received \$1 as compensation. Data collection took place in May 2018.

Results and Discussion

We ran the same CFA model specified in Study 1 (allowing error terms for the 4 reverse-items, the first three items with the word “rich,” the two items with “had a lot of ...experiences”, the two items with “On my deathbed”, and two items related to a drama to be associated), using the same software program (i.e., Mplus version 4.21). The results for the fit indices were nearly identical to Study 1 and indicate a good fit: $CFI = .947$, $RMSEA = .072$ (90% CI: .062 to .081), $SRMR = .041$, $\chi^2(107) = 309.135$, $p < .001$ ². Cronbach’s alpha was also nearly identical to that of Study 1 and high: .930.

Correlates of a Psychologically Rich Life

² For the 17-item version, even when we ran the same analysis with the full sample (i.e., 409 participants), the model fit was identical, $CFI = .949$, $RMSEA = .069$ (90% CI: .060 to .078), $SRMR = .042$, $\chi^2(107) = 316.357$, $p < .001$. Cronbach’s alpha was .917. Similarly, the 12-item version showed good model fit, $CFI = .963$, $RMSEA = .075$ (90% CI: .062 to .088), $SRMR = .033$, $\chi^2(49) = 160.888$, $p < .001$. Cronbach’s alpha was .930.

Correlations with Big Five personality traits were very similar to those found in Study 1. Individuals high in a psychologically rich life tended to be more open to experiences ($r = .507, p < .001$), more extraverted ($r = .427, p < .001$), more conscientious ($r = .327, p < .001$), more agreeable ($r = .328, p < .001$) and less neurotic ($r = -.192, p < .001$).

The college sample used in Study 1 was fairly homogeneous in terms of age and socioeconomic status. In contrast, the sample used in Study 2 was much more diverse. Thus, we investigated whether there were demographic variations in who reported leading a psychologically rich life. There were no reliable correlations with age ($r = .063, p = .230$), social class ($r = .036, p = .490$), or the size of hometown ($r = -.069, p = .186$). Whereas political liberalism is typically associated with lower levels of happiness (e.g., Napier & Jost, 2008; see however, Stavrova & Luhmann, 2016), neither liberalism in terms of economic issues ($r = -.034, p = .512$) nor social issues ($r = -.043, p = .405$) was reliably associated with a psychologically rich life. The only demographic variable that was significantly associated with psychological richness was residential mobility ($r = .125, p = .016$). Individuals who moved more frequently while growing up had a psychologically richer life compared to those with fewer moves, consistent with the idea that novel perspective-shifting experiences facilitate feelings of psychological richness.

Personality and Demographic Predictors of a Psychologically Rich life

Next, we ran a multiple regression analysis predicting a psychologically rich life from Big Five personality traits, age, gender, the size of hometown, political orientation, social class, and the number of moves. As predicted, openness to experience was a strong predictor of leading a psychologically rich life, as well as extraversion and lower neuroticism (see Table 3 for the full results).

Table 3 Multiple Regression Analyses Predicting A Psychologically Rich Life in Study 2

	β	t	p	β	t	p
Openness	.401	8.192	< .001	.399	7.962	< .001
Conscientious	.030	.607	.544	.032	.621	.535
Extraverted	.242	4.868	< .001	.244	4.858	< .001
Agreeable	.051	.991	.322	.051	1.000	.318
Neurotic	-.162	-3.412	.001	-.160	-3.354	.001
Age	-.035	-.806	.421	-.034	-.782	.435
Gender	.056	1.259	.209	.054	1.188	.235
CitySize	-.061	-1.429	.154	-.062	-1.436	.152
Social Class	-.045	-1.028	.305	-.044	-.997	.320
Moves	.050	1.164	.245	.050	1.168	.243
Soc Liberal				-.024	-.349	.727
Econ Liberal				.016	.241	.810
DF	358			356		
R ²	.378			.378		

Note. CitySize denotes the size of hometown (1 = small town to 5 = large city). Moves denotes the number of times participants moved to a new town or city from age 5 till graduating from high school.

In sum, Study 2 largely replicated the factor structure found in Study 1 using a larger more diverse non-student sample. We also replicated our finding that openness to experience, along with extraversion and a lack of neuroticism, are personality predictors of leading a psychologically rich life.

Study 3: Replication in a Nationally Representative Sample

Although the sample in Study 2 was larger and more diverse than our original student sample, it was still a non-representative convenience sample. Furthermore, we were not able to include other well-being measures in the previous study, as the data were collected primarily for another research project. Therefore, in Study 3 we aimed to replicate Study 2 with a national probabilistic sample and a broader array of well-being measures, including all the well-being measures used in Study 1 as well as Ryff's Psychological Well-Being scale.

Participants

Participants were 2,534 American adults drawn from a sample, stratified with unequal probabilities of selection, to match the nation's adult population in terms of gender, age, education, ethnicity (Hispanic vs. not), race (allowing each respondent to select more than one race), region, and income (based on the Current Population Survey of the US Census Bureau. Out of 2,534 individuals who began the study, 2,021 completed the survey. We included two attention check items. One is that participants were instructed to select "Slightly Disagree (5)." The other one is that we had participants report at the end of the survey whether they thought their data should be included in analysis because they paid close attention to the study. For the second attention item, 258 participants who selected their data should not be analyzed or did not respond to the item were excluded. For the first item, 201 participants who selected other than "Slightly Disagree (5)" were additionally excluded. Thus, 1,562 (77.3%) passed both attention check items and were retained in the following analyses (1,108 females, 445 males, 9 other; 69.4% Non-Hispanic White, 11.6% African-American, 11% Hispanic/Latinx, 4% Asian American, 2.2% Multicultural, 0.6% Native American and Alaskan Native, 0.1% Native Hawaiian and other Pacific Islander, 1.1% "Other"; mean age = 39.18, $SD = 12.16$, age range =

18-90³). Because Study 3 data were collected as a part of a larger study, the sample size was determined by other research purposes. The current sample size had over 97% power to detect a small effect size $r = .10$ (two-tailed, $\alpha = .05$).

Procedures and Materials

After completing materials for a separate, unrelated project, all participants received measures from Study 1: the Psychologically Rich Life Scale; SWLS (Diener et al., 1985) for life satisfaction ($\alpha = .92$), the SPANE (Diener et al., 2010) for positive affect ($\alpha = .92$) and negative affect ($\alpha = .89$); the MLQ (Steger et al., 2006) for presence of meaning in life ($\alpha = .86$) and the search for meaning in life ($\alpha = .91$), and the Big Five (Brody & Ehrlichman, 1997; openness to experiences, $\alpha = .77$, conscientiousness, $\alpha = .83$, extraversion, $\alpha = .82$; agreeableness, $\alpha = .87$; neuroticism, $\alpha = .87$). In addition, they completed the 42-item Psychological Well-Being scale (Ryff, 1989; autonomy, $\alpha = .72$, environmental mastery, $\alpha = .78$, personal growth, $\alpha = .71$, positive relations with others, $\alpha = .74$, purpose in life, $\alpha = .67$, self-acceptance, $\alpha = .81$) on a 6-point scale (1 = strongly disagree, 6 = strongly agree) as well as additional demographics including age, gender, hometown size, social class, political orientation, and residential mobility as in Study 2. Data collection took place from August to November 2018.

Results and Discussion

One-Factor Model

We ran the same CFA model specified in Studies 1 and 2 (allowing error terms for the 4 reverse-items, the first three items with the word “rich,” the two items with “had a lot of ...experiences”, the two items with “On my deathbed”, and two items related to a drama to be

³ Two participants reported their age as 4 and 65795435218, respectively, so we recorded them as missing.

associated), using the same software program (i.e., Mplus version 4.21). The results for the fit indices were acceptable but slightly lower than in Studies 1 and 2: $CFI = .919$, $RMSEA = .084$ (90% CI : .080 to .088), $SRMR = .059$, $\chi^2(107) = 1295.032$, $p < .001$. Cronbach's alpha was also slightly lower than that of Study 1: .899⁴.

An inspection of the communalities indicated that the 4 reversed items were not well-explained by the latent factor (r^2 ranged from .037 to .079). In addition, item 8 (“dramatic”) had a low communality (.108). The removal of these 5 items improved the model fit in terms of CFI and $SRMR$: $CFI = .950$, $RMSEA = .086$ (90% CI : .080 to .093), $SRMR = .040$, $\chi^2(49) = 619.985$, $p < .001$. Cronbach's alpha was comparable to that of Studies 1 and 2: .930⁵. These analyses suggest that these 12 items may be the most coherent scale items.

Correlates of a Psychologically Rich Life

The 17-item version was highly correlated with the 12-item version of the psychologically rich life questionnaire, $r(1,560) = .953$, $p < .001$. Thus, practically speaking, they were virtually identical. To facilitate comparison with Studies 1 to 2, we will report both the original 17-item scale's correlations as well as the 12-item version (Results of Studies 1 and 2 with the 12-item scale may be found in Supplementary Materials). First, the 17-item version of the Psychologically Rich Life Scale was positively correlated with life satisfaction ($r = .476$, $p < .001$) and presence of meaning in life ($r = .533$, $p < .001$), but not with search for meaning ($r = .036$, $p = .155$). The 17-item Psychologically Rich Life Scale was also positively correlated

⁴ The model fit of the full sample (i.e., 2,021 participants) for the 17-item version was almost identical, $CFI = .919$, $RMSEA = .086$ (90% CI : .082 to .089), $SRMR = .060$, $\chi^2(107) = 1677.121$, $p < .001$. Cronbach's alpha was .891.

⁵ The model fit of the 12-item version for the full sample (i.e., 1,387) was good, $CFI = .949$, $RMSEA = .089$ (90% CI : .084 to .095), $SRMR = .040$, $\chi^2(49) = 824.393$, $p < .001$. Cronbach's alpha was .930.

with PA ($r = .495, p < .001$) and inversely correlated with NA ($r = -.278, p < .001$). It was positively correlated with all 6 facets of Ryff's Psychological Well-Being scale: self-acceptance $r = .528$, personal growth $r = .513$, purpose $r = .491$, positive relations $r = .478$, environmental mastery $r = .410$, and autonomy $r = .291$ ($ps < .001$).

Similar to studies 1 and 2, the 17-item Psychologically Rich Life Scale was also positively correlated with openness to experiences ($r = .468, p < .001$), extraversion ($r = .497, p < .001$), conscientiousness ($r = .335, p < .001$), agreeableness ($r = .387, p < .001$), and inversely correlated with neuroticism ($r = -.187, p < .001$). It was unrelated to age ($r = .020, p = .440$), social liberalism ($r = .014, p = .578$), economic liberalism ($r = -.023, p = .355$), and the number of times they moved in childhood ($r = .004, p = .862$). It was positively associated with social class ($r = .221, p < .001$) and the size of the city/town they grew up ($r = .127, p < .001$).

The 12-item version of the Psychologically Rich Life Scale was also positively correlated with life satisfaction ($r = .531, p < .001$), meaning in life ($r = .527, p < .001$), PA ($r = .518, p < .001$), NA ($r = -.234, p < .001$), self-acceptance ($r = .477, p < .001$), positive relationships ($r = .408, p < .001$), purpose in life ($r = .375, p < .001$), personal growth ($r = .402, p < .001$), environmental mastery ($r = .327, p < .001$), autonomy ($r = .225, p < .001$), openness to experiences ($r = .500, p < .001$), extraversion ($r = .538, p < .001$), conscientiousness ($r = .334, p < .001$), agreeableness ($r = .396, p < .001$), social class ($r = .242, p < .001$), and the size of the city/town they grew up ($r = .157, p < .001$). It was inversely associated with neuroticism ($r = -.085, p = .001$). Unlike the 17-item scale, it was also positively associated with search for meaning ($r = .141, p < .001$). It was unrelated to social liberalism ($r = -.008, p = .767$), economic liberalism ($r = -.031, p = .226$), and residential mobility ($r = .023, p = .357$).

Personality and Demographic Predictors

A multiple regression analysis found that, as predicted, openness to experience was a strong predictor of the 17-item Psychologically Rich Life Scale as well as extraversion, agreeableness and neuroticism, social class, and social liberalism (see Table 4). The 12-item Psychologically Rich Life Scale was also predicted by openness to experience, extraversion, agreeableness, neuroticism, as well as social class.

Table 4 Multiple Regression Analyses in Study 3

DV:	<u>Rich Life</u>			<u>Happy Life</u>			<u>Meaningful Life</u>		
IVs:	β	t	p	β	t	p	β	t	p
Openness	.247	8.814	< .001	-.038	-1.309	.191	.090	3.166	.002
Conscientious	-.030	-1.146	.252	.057	2.086	.037	.028	1.046	.296
Extraverted	.279	10.571	< .001	.317	11.625	< .001	.268	9.939	< .001
Agreeable	.155	5.877	< .001	.061	2.229	.026	.116	4.297	< .001
Neurotic	-.174	-7.535	< .001	-.149	-6.230	< .001	-.216	-9.122	< .001
Age	-.006	-.279	.780	-.078	-3.281	.001	.007	.318	.751
Female	.011	.491	.624	.023	1.011	.312	.055	2.467	.014
CitySize	.014	.641	.521	-.013	-.576	.565	.020	.883	.377
Social Class	.099	4.332	< .001	.268	11.348	< .001	.137	5.861	< .001
Moves	-.001	-.045	.964	-.067	-2.993	.003	-.076	-3.414	.001
Soc Liberalism	.080	2.550	.011	-.104	-3.187	.001	-.146	-4.551	< .001
Econ Liberalism	-.053-1.661		.097	.010	.319	.750	-.018	-.561	.575
<i>DF</i>		1408			1406			1408	
<i>R</i> ²		.360			.321			.332	

Note. When the 12-item Psychologically Rich Life Scale was used as the dependent variable instead of the 17-item version, the results were as follows: $DF = 1,408$, $R^2 = .376$. Openness ($\beta = .260$, $t = 9.427$, $p < .001$),

Conscientiousness ($\beta = -.037, t = -1.407, p = .160$), Extraversion ($\beta = .319, t = 12.241, p < .001$), Agreeableness ($\beta = .138, t = 5.302, p = .001$), Neuroticism ($\beta = -.079, t = -3.456, p = .001$), age ($\beta = -.016, t = -.706, p = .480$), female ($\beta = -.007, t = -.341, p = .733$), size of city ($\beta = .031, t = 1.381, p = .167$), social class ($\beta = .114, t = 5.026, p < .001$), moves ($\beta = -.021, t = -.964, p = .335$), social liberal ($\beta = .042, t = 1.363, p = .173$), and economic liberal ($\beta = -.027, t = -.864, p = .388$).

In contrast, life satisfaction was not predicted by openness to experience, but was predicted by extraversion, conscientiousness, agreeableness, and neuroticism. In this sample, younger people, people of a higher social class, and those who were more politically conservative on social issues were more satisfied with their lives. Contrary to our prediction, meaning in life was not predicted by conscientiousness. It was predicted by extraversion, agreeableness, openness, neuroticism, political conservatism, gender, social class, and the number of moves.

In short, the 17-item one factor model showed a slightly worse fit than in Studies 1 and 2. The 12-item one-factor model, in which the 4 reversed items and the item “dramatic” were removed, fit the data very well. The patterns of correlations with life satisfaction and meaning in life were very similar to those in Study 1. The demographic correlations were similar in terms of age and political orientation, but quite different in terms of social class, residential mobility, and the size of one’s hometown. We also found that while a psychologically rich life was associated with all 6 facets of Ryff’s (1989) Psychological Well-Being scale, it was far from identical with those facets (r s ranged from .291 to .528 with the 17-item scale; r s ranged from .225 to .477 with the 12-item scale). Finally, a psychologically rich life was again predicted most strongly by openness to experience and extraversion, whereas a happy life was predicted most strongly by

extraversion and the lack of neuroticism, and a meaningful life by extraversion, the lack of neuroticism, and social conservatism.

Study 4: A Non-Western Replication

Could the desire for a psychologically rich life simply be a luxury of modern industrialized society? Although Studies 1 to 3 provide substantial evidence for the psychometric properties of the Psychologically Rich Life Scale, the data were collected solely in the U.S. and could reflect the values of highly educated Western industrialized rich democratic societies, rather than people more generally. We therefore wanted to see whether our findings could be generalized to a non-Western sample.

Participants

We recruited participants residing in India from Amazon Mechanical Turk. In total, 1,002 participants started the study. Of these, 449 participants were excluded because they failed to pass the attention check items. The attention check items began with asking their attitudes toward the U.S. economy, but then asked participants to select “Quite a bit” (4) for all four items no matter what they feel about the U.S. economy. We excluded participants if they did not select “Quite a bit” in any of the four items. This resulted in a final sample of 553 Indian participants (399 males, 154 females; mean age = 32.91, $SD = 8.96$, range: 20-78).

As the correlation coefficients between the psychologically rich life and Big Five ranged from .19 to .51 in Studies 1 to 3, we sought to recruit 1,000 participants with the anticipation that 20-30% might fail the attention check (700 to 800 participants, which would have given over 99% power to detect the effect size $r = .19$). Our final sample of 553 still gave us over 99% power to detect the effect size $r = .19$ (two-tailed, $\alpha = .05$).

Procedures and Materials

After agreeing to participate in the study, participants completed the Psychologically Rich Life Scale; the SWLS (Diener et al., 1985) for life satisfaction ($\alpha = .88$), the SPANE (Diener et al., 2010) for positive affect ($\alpha = .87$) and negative affect ($\alpha = .90$), the MLQ (Steger et al., 2006) for presence of meaning in life ($\alpha = .81$) and the search for meaning in life ($\alpha = .86$), and the Big Five (Brody & Ehrlichman, 1997) for personality traits (openness to experiences, $\alpha = .61$, conscientiousness, $\alpha = .79$, extraversion, $\alpha = .74$; agreeableness, $\alpha = .77$; neuroticism, $\alpha = .80$). They then provided demographic information including age, gender, hometown size, social class, and residential mobility in terms of the number of cities they had moved after age 5. All measures were administered in English and participants received \$1 for their participation. Data collection took place in March, 2018.

Results and Discussion

We ran the same 17-item CFA model specified in Studies 1, 2, and 3 (allowing error terms for the 4 reverse-items, the first three items with the word “rich,” the two items with “had a lot of ...experiences”, the two items with “On my deathbed”, and two items related to a drama to be associated), using the same software program (i.e., Mplus version 4.21). The results for the fit indices were acceptable but slightly worse than in Studies 1 and 2 and slightly better than Study 3: $CFI = .929$, $RMSEA = .072$ (90% CI: .064 to .079), $SRMR = .059$, $\chi^2 (107) = 409.509$, $p < .001$. Cronbach’s alpha was .868.⁶

⁶ For the 17-item version, even when we ran the same analysis with the full sample (i.e., 1,002 participants), the model fit was virtually identical, $CFI = .940$, $RMSEA = .066$ (90% CI: .061 to .071), $SRMR = .056$, $\chi^2 (107) = 575.491$, $p < .001$. Cronbach’s alpha was .979.

We next ran the 12-item CFA model from Study 3. This model fit our Indian data well: $CFI = .946$, $RMSEA = .077$ (90% CI: .067 to .088), $SRMR = .039$, $\chi^2(49) = 210.796$, $p < .001$.

Cronbach's alpha was comparable to that of Studies 1 and 2: .907.⁷

Correlates of a Psychologically Rich Life

Again, the 17-item version was highly correlated with the 12-item version, $r(550) = .925$, $p < .001$. However, to facilitate comparison with Studies 1 to 3, we report correlations with both the 17-item and 12-item versions of the scale. Similar to previous results in American samples, the 17-item version was positively correlated with life satisfaction ($r = .450$, $p < .001$), presence of meaning in life ($r = .508$, $p < .001$), positive affect ($r = .523$, $p < .001$), and inversely associated with negative affect ($r = -.296$, $p < .001$). Unlike Study 3, the 17-item psychologically rich life scale was positively associated with search for meaning as well ($r = .264$, $p < .001$).

In terms of Big Five personality traits, psychological richness was positively correlated with openness to experiences ($r = .444$, $p < .001$), extraversion ($r = .578$, $p < .001$), conscientiousness ($r = .497$, $p < .001$), and agreeableness ($r = .378$, $p < .001$), and inversely correlated with neuroticism ($r = -.257$, $p < .001$). It was unrelated to age ($r = .059$, $p = .164$) and the number of cities they lived in ($r = .021$, $p = .615$), but positively associated with social class ($r = .195$, $p < .001$) and the size of the city/town they grew up ($r = .127$, $p = .003$).

Results for the 12-item version were similar. Leading a psychologically rich life was positively correlated with life satisfaction ($r = .474$, $p < .001$), presence of meaning in life ($r = .435$, $p < .001$), positive affect ($r = .489$, $p < .001$), openness to experiences ($r = .433$, $p < .001$), extraversion ($r = .576$, $p < .001$), conscientiousness ($r = .451$, $p < .001$), agreeableness ($r = .433$, $p < .001$), and inversely associated with neuroticism ($r = -.257$, $p < .001$).

⁷ The 12-item version also showed a good model fit, $CFI = .965$, $RMSEA = .061$ (90% CI: .053 to .069), $SRMR = .030$, $\chi^2(49) = 231.882$, $p < .001$. Cronbach's alpha was .980.

= 314, $p < .001$), social class ($r = .188, p < .001$), the size of the city/town they grew up ($r = .099, p = .019$), and inversely associated with negative affect ($r = -.121, p = .005$). Unlike the 17-item scale, it was also positively associated with search for meaning ($r = .385, p < .001$). Psychological richness was unrelated to neuroticism ($r = -.059, p = .163$), age ($r = -.020, p = .645$), and residential mobility ($r = .035, p = .417$).

Personality and Demographic Predictors

As predicted, openness to experience was a primary predictor of the 12-item Psychologically Rich Life Scale, as well as extraversion and social class (see Table 5 for the full results of multiple regression analyses). The 17-item Psychologically Rich Life Scale was also predicted by openness and extraversion, as well as by neuroticism. In contrast, life satisfaction was primarily predicted by extraversion, neuroticism, and social class and, as expected, was not related to openness. Meaning in life was predicted by conscientiousness, as well as extraversion, and living in a fewer number of cities. Openness was unrelated to meaning in life.

Table 5. Multiple Regression Analyses in Study 4

DV:	<u>Rich Life</u>			<u>Happy Life</u>			<u>Meaningful Life</u>		
IVs:	β	t	p	β	t	p	β	t	p
Openness	.175	3.979	<.001	-.008	-.153	.879	-.032	-.696	.487
Conscientious	.057	1.090	.276	.076	1.270	.205	.183	3.384	.001
Extraverted	.425	9.781	<.001	.370	7.429	<.001	.368	8.227	<.001
Agreeable	.022	.499	.618	-.090	-1.789	.074	.044	.969	.333
Neurotic	-.216	-6.442	<.001	-.124	-3.206	.001	-.269	-7.785	<.001
Age	.009	.257	.797	.038	.964	.336	.026	.736	.462
Gender	-.028	-.852	.395	.119	3.118	.002	.023	.668	.504

CitySize	.002	.048	.962		-.030	-.783	.434		-.028	-.790	.430
Social Class	.067	1.953	.051		.157	3.998	< .001		.066	1.869	.062
Moves	.007	.215	.830		-.050	-1.322	.187		-.089	-2.636	.009
<i>DF</i>	541				541				541		
<i>R</i> ²	.428				.246				.392		

Note. When the 12-item Psychologically Rich Life Scale was used as the dependent variable instead of the 17-item version, the results were as follows: $DF = 541$, $R^2 = .372$. Openness ($\beta = .181$, $t = 3.911$, $p < .001$), Conscientiousness ($\beta = .075$, $t = 1.369$, $p = .172$), Extraversion ($\beta = .449$, $t = 9.870$, $p < .001$), Agreeableness ($\beta = -.046$, $t = -1.015$, $p = .311$), Neuroticism ($\beta = -.026$, $t = -0.730$, $p = .466$), age ($\beta = -.036$, $t = -1.000$, $p = .318$), female ($\beta = -.033$, $t = -0.959$, $p = .338$), size of city ($\beta = -.014$, $t = -0.386$, $p = .700$), social class ($\beta = .082$, $t = 2.275$, $p = .023$), residential moves ($\beta = .017$, $t = 0.504$, $p = .614$).

In short, our sample of Indian participants looked very similar to the American samples used in studies 1-3 with respect to the Psychologically Rich Life Scale. As in Study 3, the Psychologically Rich Life Scale formed a single factor, with a 12-item version (eliminating the four reverse items and the item “dramatic”) fitting slightly better than the original 17-item version. We largely replicated the correlations with life satisfaction, meaning in life, PA, NA, and Big Five personality traits found in Studies 1 and 3 in American samples, as well as the demographic correlations from Study 3. The primary difference between our American and Indian samples was that Indian participants who were high in leading a psychologically rich life were also high in search for meaning. Finally, personality predictors of richness were also consistent with the previous three studies: A psychologically rich life was predicted mainly by openness to experience and extraversion, whereas a happy life was predicted mainly by extraversion and the lack of neuroticism. Unlike Studies 1 and 3, but consistent with our initial

prediction, a meaningful life was predicted by conscientiousness, as well as extraversion and low neuroticism.

Table 6

The Results of Confirmatory Factor Analysis for the 17-item Version of the Psychologically Rich Life Scale

	Study 1	Study 2	Study 3	Study 4
CFI	.947	.947	.919	.929
RMSEA	.068	.072	.084	.072
SRMR	.050	.041	.059	.059
χ^2 ($df = 107$)	208.05	309.14	1,295.03	409.51

Note. CFI = Comparative Fit Index. RMSEA = Root Mean Square Error of Approximation.

SRMR = Standardized Root Mean Square Residual.

General Discussion

What is a psychologically rich life? Across four studies, we found that people were able to self-report the extent to which they were leading a psychologically rich life, that such psychological richness was related to but distinct from happiness or meaning in life, and that openness to experience was especially predictive of leading a rich life, rather than a happy or a meaningful one. Specifically, in Study 1 we developed a 17-item scale with a high level of internal consistency, test-retest stability over a 2-week period, and convergent validity with informant reports⁸. Psychological richness was related to, but distinct from, measures of well-being, meaning in life, the Big 5 personality traits, and sensation-seeking. As predicted, leading a

⁸ In Study 1, the correlation between the 17-item version and the 12-item version was high, $r(201) = .976, p < .001$.

psychologically rich life was predicted by high levels of openness to experience, extraversion, agreeableness, and low levels of neuroticism. In Study 2, we extended our findings to a non-college sample, finding that the same one-factor model fit the data well⁹ (see Table 6), and that similar personality traits (openness to experience, extraversion and low levels of neuroticism) predicted a psychologically rich life. In Study 3, we attempted to replicate in an even broader national probabilistic sample. Unlike the first two studies, a single-factor did not fit the 17-item scale very well. When the 4 reversed items and another item (“dramatic”) were removed, however, the single factor did fit the remaining 12-item scale very well. Again, we found that openness to experience, extraversion, agreeableness, and low levels of neuroticism predicted a psychologically rich life. In Study 4, we attempted to extend our findings to a non-Western sample. Among Indian participants, a one-factor solution fit the 17-item scale reasonably well, while the one-factor solution fit the reduced 12-item very well. Again, openness to experience, extraversion and lower levels of neuroticism predicted a psychologically rich life.

Together, the current findings provide initial support that a psychologically rich life is distinct from a happy life or a meaningful life, and that the 17-item scale is a valid measure of a psychologically rich life that is corroborated by informant reports. It should be noted, however, that the 12-item scale fit the data in Studies 3 (a large national probabilistic sample in the U.S) and 4 (an Indian MTurk sample) well. We believe that the 12-item version is a viable alternative to the 17-item version (see Appendix for specific items).

Leading a psychologically rich life was consistently predicted by openness to experience, extraversion, and lower levels of neuroticism, according to multiple regression analyses. As

⁹ In Study 2, the 17 item version was highly associated with the 12-item version, $r(367) = .967$, $p < .001$.

predicted, openness to experience appears to be especially conducive to leading a psychologically rich life consisting of varied, interesting experiences.

One possibility is that openness to experience leads people to seek out the novel interesting experiences that contribute to a psychologically rich life. However, all four of our studies were correlational, and thus open to an alternative explanation: namely, that individuals who believe they are leading a psychologically rich life may, over time, begin to view themselves as open to new experiences, especially if they frequently observe themselves engaged in such activities (Bem, 1972). Such an explanation is entirely consistent with our data. It will therefore be important to conduct long-term longitudinal studies to document how personality predicts future experiences and how experiences change personality perceptions and reports of hedonic, eudaimonic, and richness-based well-being.

As a first step in this process, a recent longitudinal study (Oishi, Choi, & Kurtz, 2019), found that living through novel and unusual experiences does change self-reported psychological richness. College students who lived abroad for several months as part of a study-abroad program came to view their lives as psychologically richer. Although these students did not differ in richness from other students who wished to study abroad (but could not) at baseline, after a semester abroad they viewed their lives as much richer, relative to both their own baseline as well as to students in the comparison group who did not get to study abroad. Indeed, those students who remained behind showed little change in richness over the course of the semester. These findings suggest that unusual and perspective-changing experiences, such as living and studying abroad for an extended period of time, may make people's lives psychologically richer.

Study abroad, foreign travel, and other interesting experiences can be expensive, and individuals from higher SES may be better able to afford them. However, SES did not predict

psychological richness in two of the four studies, and predicted only moderate boosts to a psychologically rich life in Studies 3 and 4. It may well be possible to lead an interesting life without many monetary or material resources, particularly if people seek out lower-cost second-hand experiences, such as those available via literature or interpersonal story-telling. A critical outstanding question is how people from different SES strata and backgrounds seek out, acquire, and integrate psychologically rich experiences.

Whereas the personality predictors of leading a psychologically rich life were consistently distinct from predictors of a happy life, there was substantial overlap in predictors of a rich versus a meaningful life in two of the studies (Studies 1 and 3). In those studies, openness to experience, extraversion, and lower levels of neuroticism were predictive of leading a meaningful life (measured by the MLQ) as well as a psychologically rich life. However, these predictors diverged in the sample of Indian participants in Study 4, which found that a psychologically rich life was predicted by openness to experience but not by conscientiousness, whereas a meaningful life was predicted by conscientiousness but not by openness. Moreover, in that sample, social conservatism was positively associated with a meaningful life but not a psychologically rich life. These findings suggest that the profiles of individuals leading a psychologically rich life may be distinct from those leading a meaningful life, at least among Indian participants. Future research should explore whether other established predictors of meaning in life (e.g., the propensity to engage in routine activities) are also predictive of a psychologically rich life. We predict that routine activities, inherently lacking in novelty or the potential to change one's worldview, will be inversely associated with a psychologically rich life, in contrast to findings which show that routine is positively associated with living a meaningful life (Heintzleman & King, in press).

In the current work, we have focused primarily on the Big Five personality traits, but many other individual difference and personality variables may play a role in leading a psychologically rich life. In particular, it would be fruitful to explore differences in personal narratives (McAdams, 2001), as individuals leading psychologically rich lives may recount more dramatic changes and diverse experiences in their personal narratives, compared to those leading happy or meaningful lives, perhaps even when these experiences are quite similar. Indeed, Bauer, McAdams, and Pals (2008) found that individuals high in ego development told stories that emphasize personal growth and transformative experiences, which could contribute to a feeling of psychological richness.

As we have seen, psychological research on well-being over the last two decades has been dominated by hedonic and eudaimonic well-being (Dwyer, Dunn, & Hershfield, 2017; Kashdan et al., 2008; Ryan & Deci, 2001; Ryff, 1989; Steger et al., 2006). This distinction has been productive. Most subjective well-being researchers now concede that happiness is not everything, although happiness is, in general, associated with many desirable outcomes (Lyubomirsky, King, & Diener, 2005). For example, happier people are not always better off in terms of earnings and educational attainment compared with moderately happy people (Oishi, Diener, & Lucas, 2007). Recent studies have found that valuing happiness too much might even be associated with undesirable outcomes, such as depression (Ford, Mauss, & Gruber, 2015). While some researchers have noted that there are multiple approaches to happiness, such as seeking engagement and meaning (see Peterson et al., 2005), nevertheless, much of the empirical literature on well-being has been dominated by this dichotomy of hedonic and eudaimonic well-being, and has not considered other types of well-being. The present research suggests that a psychologically rich life is another type of a good life, and that just as past work has successfully

distinguished between hedonic and eudaimonic well-being, the same approach might fruitfully be applied to understanding how psychological richness differs from both.

Our concept of a psychologically rich life is an attempt to capture the life of Renée, Aaliya, and their ilk (see Besser and Oishi, 2018 for more examples). In the past, their lives were viewed simply as lacking happiness and meaning, and thus as somehow undesirable. Now we have the means to understand them as individuals leading psychologically rich lives, one of the many shapes a good life can take.

Limitations, Future Directions, and Conclusion

There are several limitations of the current research, including the reliance on self-reports and use of English-speaking samples. Informant reports from Study 1 add corroborating evidence to the validity of this approach, but these self-other agreement findings should be replicated in other samples. Similarly, Study 4 was conducted in a non-American sample using Indian participants but retained the English-language questionnaire. It is critical to investigate the psychometric properties of the Psychologically Rich Life scale in other languages and non-English speaking samples. Second, the 17-item scale failed to reach the acceptable level of fit in Study 3. One possibility is that panel respondents in Study 3 were not as engaged as participants in the previous studies, an observation supported by the large number of participants who failed the attention check. However, it is also possible that the 5 problematic items (4 reversed items and “dramatic”) simply do not cohere with other items on the scale. We note that the 12-item version of the scale (dropping the problematic items above) fit well, both in this and a subsequent sample, and offers a sound alternative. Scale development is an iterative process, and researchers should continue examining the psychometric properties of the Psychologically Rich Life Scale, including potential new items in the future.

Our studies did not resolve all structural issues regarding a good life. Given the sizes of correlations we observed, it is unlikely that a good life is characterized by just one general factor (i.e., a happy life, a meaningful life, and a psychologically rich life are one thing). However, there are other theoretical possibilities. For instance, it may be that a meaningful life is the superordinate factor of a good life, with a happy life and a psychologically rich life as two constituents of the meaningful life. Alternatively, a happy life could be the superordinate factor of a good life, with a meaningful life and a psychologically rich life as two paths to a leading a happy life. In future work, it will be important to explore various structural relations among the three dimensions of a good life.

Finally, in the current studies we focused on meaning in life as a eudaimonic life. As stated earlier, there are many other forms of a eudaimonic life such as feelings of personal expressiveness (Waterman, 2008), engagement (Peterson et al., 2005), autonomy, competence, and relatedness (Ryan et al., 2008), and self-concordance (Sheldon & Elliot, 1999). It will be important to explore the relations between a psychologically rich life and other forms of a eudaimonic life.

Researchers have long debated the relative importance of hedonic versus eudaimonic well-being (Baumeister et al., 2013; King & Napa, 1998; Ryff, 1989; Vittersø, 2016). Is it more important to be happy or to have meaning? While we appreciate the field's growing understanding of the similarities and differences between hedonic and eudaimonic well-being (Kashdan et al., 2008; Nelson, Kushlev, & Lyubomirsky, 2014), it is also important to move beyond this dichotomous model of well-being. Our current work suggests that the psychologically rich life exists, and can be reliably and validly measured. With this new concept of a psychologically rich life and a means of measuring it, people like Renée and Aaliya will no

longer be forgotten in the well-being literature. As such, we believe that recognizing the psychologically rich life as a neglected aspect of a good life deepens and enriches our understanding of well-being.

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Appendix: A Psychologically Rich Life Scale

1. My life has been psychologically rich*
2. My life has been experientially rich*
3. My life has been emotionally rich*
4. I have had a lot of interesting experiences*
5. I have had a lot of novel experiences*
6. My life has been full of unique, unusual experiences*
7. My life consists of rich, intense moments*
8. My life has been dramatic
9. I experience a full range of emotions via first-hand experiences such as travel and attending concerts*
10. I have a lot of personal stories to tell others*
11. On my deathbed, I am likely to say "I had an interesting life"*
12. On my deathbed, I am likely to say "I have seen and learned a lot"*
13. My life would make a good novel or movie*
14. My life has been monotonous (r)
15. I often feel bored with my life (r)
16. My life has been uneventful (r)
17. I can't remember the last time I've done or experienced something new (r)

Note. The 12-item version is composed of the items with *.

*Note. Respondents used the following 7-point scale: 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, 7 = strongly agree.

Appendix: A Psychologically Rich Life Scale (Original 36-item Version) administered in Study 1

1. _____ My life has been psychologically rich.
2. _____ My life has been experientially rich.
3. _____ My life has been emotionally rich.
4. _____ I have had a lot of interesting experiences.
5. _____ I have had a lot of novel experiences.
6. _____ I have had a lot of difficult experiences.
7. _____ My life has been full of unique, unusual experiences.
8. _____ My life consists of rich, intense moments.
9. _____ My life has been dramatic.
10. _____ I have acquired different perspectives on life.
11. _____ I experience a full range of emotions fairly regularly via literature, films, sports, and others.
12. _____ I experience a full range of emotions via first-hand experiences such as travel and attending concerts.
13. _____ I have a lot of personal life stories to tell others.
14. _____ On my deathbed, I am likely to say “I had an interesting life.”
15. _____ On my deathbed, I am likely to say “I have seen and learned a lot.”
16. _____ My life would make a good novel or movie.
17. _____ I like serendipity (unexpectedly finding valuable things or experiences).
18. _____ I would rather do something interesting than something just fun.
19. _____ Many of my best memories in life come from unexpected events.
20. _____ My life has been monotonous.
21. _____ I often feel bored with my life.
22. _____ My life has been uneventful.
23. _____ My life has been stable.
24. _____ I lead a predictable life.
25. _____ My life is full of routines.
26. _____ Everyday is pretty much the same.
27. _____ My life has been very typical of anyone with a similar background.
28. _____ I have not had much adversity in my life.
29. _____ My life has been easy.
30. _____ My life has been simple.
31. _____ I seek out mental stimulation.
32. _____ I seek out adventures, either first-hand or vicariously.
33. _____ I pay attention to the details.
34. _____ My life has been dominated by a singular emotion.
35. _____ I can’t remember the last time I’ve done or experienced something new.
36. _____ I’ve learned more from my own experiences and from the experiences of others than I have through academics.

