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A configural approach to aspirations: The social breadth of aspiration profiles predicts well-being over and above the intrinsic and extrinsic aspirations that comprise the profiles

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Abstract

We conducted a person-centered analysis of the Aspiration Index to identify subgroups that differ in the levels of their specific (wealth, fame and image, personal growth, relationships, community giving, and health) and global intrinsic and extrinsic aspirations. In a Hungarian (N = 3,370; 77% female; age: M = 23.57), an Australian (N = 1,632; 51% female; age: M = 16.6), and an American sample (N = 6,063; 82.2% female; age: M = 21.86), we conducted separate bifactor exploratory structural equation models to disentangle the level of higher-order intrinsic and extrinsic aspirations from the shape of specific aspirations by using the resultant factor scores as indicators in latent profile analyses. The analyses yielded 3 replicable latent profiles: Disengaged from relationships and health (Profile 1); Aspiring for interpersonal relationships more than community relationships (Profile 2); and Aspiring for community relationships more than interpersonal relationships (Profile 3), with Profile 3 reliably experiencing the highest well-being. To demonstrate the incremental value of our approach to more traditional variable-centered methods, we used profile membership to predict well-being while controlling for the aspirations that comprise the profiles. Even in these conservative tests, profile membership explained additional variance in well-being. However, the real-life significance of the size of the incremental value appeared quite small. These studies make a unique contribution to the literature by identifying replicable latent profiles of aspiring, membership to which uniquely predicted well-being, over and above the constituent variables.

Keywords: aspirations, goals, well-being, latent profile analysis, person-centered analysis

The act of goal striving has been associated with high life satisfaction and positive psychological functioning in many studies (Brunstein, 1993; Holahan, 1988; Lowenthal, 1971; Ruehlman & Wolchik, 1988; Wheeler, Munz, & Jain, 1990). However, research also suggests that when it comes to the enhancement of well-being, not all goals are made equal (Ryan, Sheldon, Kasser, & Deci, 1996). For instance, Emmons (1986) proposed that well-being is associated with specific goal characteristics, such as level of goal commitment and perceived probability of success, but more recent evidence suggests that neither the tenacity nor efficacy of goal pursuit is central to fostering well-being. Rather, the *content* of goals is key (Deci & Ryan, 2000; Kasser & Ryan, 1993, 1996, 2001; Ryan et al., 1996).

Self-determination theory (SDT) posits that one's value orientation informs the content of life goals, or aspirations. Through variable-centered analyses, various kinds of aspirations have been found to relate differentially to optimal functioning (Kasser, 2002; Kasser & Ryan, 1993, 1996, 2001). The Aspiration Index (Kasser & Ryan, 1993, 1996, 2001), a widely used measure of aspirations, distinguishes the intrinsic aspirations of personal growth, close relationships, physical health and giving to the community from the extrinsic aspirations for wealth, fame, and physical attractive- ness. The pursuit of intrinsic aspirations is thought to satisfy the basic psychological needs for autonomy, competence, and relatedness, thus enhancing well-being (Deci & Ryan, 1985; Ryan & Deci, 2017). However, extrinsic aspirations are assumed to, at best, only indirectly satisfy basic needs, and often represent more con- trolled processes and/or psychological threat, which have been shown to thwart well-being (Sheldon & Kasser, 2008).

Cross-cultural research consistently indicates that, across different cultures, an emphasis on intrinsic aspirations relates positively to well-being related outcomes, such as life satisfaction and mean- ing in life (e.g., Martos & Kopp, 2012; Ryan et al., 1999; Zawadzka, Duda, Rymkiewicz, & Kondratowicz-Nowak, 2015), vitality (Kasser & Ryan, 1993, 1996, 2001; Martela, Bradshaw, & Ryan, 2019; Yamaguchi & Halberstadt, 2012), mindfulness (Brown & Kasser, 2005; Donald et al., 2019), empathy (Sheldon & Kasser, 1995), and healthy, proenvironment, and prosocial behav- iors (Bradshaw, Sahdra, Calvo, Mrvaljevich, & Ryan, 2018; Fu, Liu, Yang, Zhang, & Kou, 2015; Unanue, Vignoles, Dittmar, & Vansteenkiste, 2016). In contrast, a relative extrinsic aspirational focus has been found be associated with, and even to increase ill-being and distress symptoms in a variety of cultures (Kasser et al., 2014; Martos & Kopp, 2014; Ryan et al., 1999; Schmuck, Kasser, & Ryan, 2000; Sheldon & Krieger, 2014).

These insights about the links between aspirations and well- being-related outcomes are based on variable-centered analytic approaches such as linear regression and factor analysis, which have been the mainstay of empirical psychology. The discoveries made through such studies have advanced the field and allowed us to ask new questions about the configuration of aspirations, such as: Are extrinsic aspirations generally antithetical to optimal functioning, regardless of the levels of specific kinds of intrinsic aspirations one pursues? Is it possible for people to be extrinsically oriented in one or more ways (e.g., seeking wealth and fame), but still thrive, depending on their levels of one or more intrinsic aspirations (e.g., giving to the community, valuing personal relationships)? Interaction testing in a variable-centered approach could help us begin to answer such questions, but that would require, for instance, regression models with interaction effects of very high order (e.g., a seven-way interaction), which would make interpretations of the results extremely complicated at best and intractable at worst.

Recent advances in statistical modeling provide a more tenable, alternative analytic strategy of mixture modeling, also known as latent profile analysis (LPA) or person-centered analysis (McLachlan & Peel, 2004). Person-centered approaches overcome several assumptions upon which variable-centered methods de- pend. Specifically, mixture models do not assume sample homogeneity. Instead they account for each participant's individual response pattern (Isler, Liu, Sibley, & Fletcher, 2016), and explore potential sources of group heterogeneity that may emerge if there are qualitatively discrete subpopulations (Morin, Morizot, Boudrias, & Madore, 2010). Put differently, variable-centered analyses might be used to examine the interaction of two variables across scores on a third variable, on average, in a given sample, whereas person-centered methods address the question of whether the sample contains groups with distinct patterns of interactions (Dyer, Pleck, & McBride, 2012).

Person-centered approaches also make no assumptions about functional form, and thus interactions are not assumed to be linear (Bauer & Shanahan, 2007). Using simulated data, Bauer and Shanahan (2007) compared two- and three-way interactions (which are variable-centered) with the results of a (person- centered) LPA, demonstrating that the LPA captured interactions between variables while allowing them to be nonlinear. Theoretically indicated nonlinearity could be addressed in a variable- centered way via the inclusion of polynomial terms in a regression (Bauer & Shanahan, 2007). However, doing so would complicate the interpretability of the results and detract from the parsimonious aim of employing such methods. Indeed, complexity increases as more variables are added to a model. So, variable-centered approaches are *often* simpler, but only to a point.

With respect to the Aspiration Index in particular, it is not obvious how we might prespecify nonlinear effects, for instance, in a 7-dimensional "hypercube," (which is an extension of the more familiar 3-dimensional cube). As we alluded above, this cumulative complexity presents a conceptual challenge for variable-centered analyses of the Aspiration Index, because there is no existing basis upon which to hypothesize specific interactions from the myriad possibilities. Bauer and Shanahan's (2007) simulation study provides support for the use of person-centered methods to address these conceptual and pragmatic issues.

In addition to the advantages of mixture models outlined above, the correlations and heterogeneity reported in past analyses of the Aspiration Index, also point to the utility of mixture models in future studies (Kasser & Ryan, 1993, 1996; Kasser, Ryan, Zax, & Sameroff, 1995; Martos & Kopp, 2012; Sheldon, Gunz, Nichols, & Ferguson, 2010; Vansteenkiste, Duriez, Simons, & Soenens, 2006). Specifically, intrinsic and extrinsic aspirations are often positively correlated (Kasser & Ryan, 1993; Kasser et al., 1995; Sheldon et al., 2010), which means there might be subsamples that show varied configurations on the different specific intrinsic and extrinsic aspirations. Further, much of the evidence on the role of aspirations in well-being has unexplained heterogeneity (Vansteenkiste et al., 2006) even when controlling for demographic variables (Martos & Kopp, 2012). The source of such heterogeneity may be unobserved (Lubke & Muthén, 2005) and perhaps attributable to the existence of latent subsamples. Such possibilities can be tested by an LPA.

We thus suggest that a "configural," person-centered analysis can complement and further inform what is already known about the links between aspirations and well-being-related outcomes. Such strategies are gaining popularity in empirical psychology and have been successfully employed in person-centered analyses of several constructs, such as, achievement goal orientation (Pastor, Barron, Miller, & Davis, 2007; Tuominen-Soini, Salmela-Aro, & Niemivirta, 2008), work values (Guo, Eccles, Sortheix, & SalmelaAro, 2018), mindfulness (Bravo, Boothe, & Pearson, 2016; Pear- son, Lawless, Brown, & Bravo, 2015; Sahdra et al., 2017), self- concept (Marsh, Lüdtke, Trautwein, & Morin, 2009), and personality traits (Merz & Roesch, 2011).

However, there are few studies employing a person-centered analysis of aspirations. Rijavec, Brdar, and Miljkovic ́ (2011) provided initial evidence that subgroups of a population can be clustered based on their intrinsic and extrinsic aspirations. Rijavec et al. (2011, p. 698) conducted a K-means cluster analysis of aspiration importance scores, in which they "forced" a four-cluster solution based on Kasser and Ryan's (2001) evidence that sub- groups can be classified into four groups according to their dominating attainment scores on intrinsic (I) and extrinsic (E) aspira- tions. Rijavec et al.'s (2011) analysis supported the same four groups reported by Kasser and Ryan (2001): a Low I/High E cluster, a High I/Low E, a High I/High E cluster, and Low I/Low E cluster. Both high intrinsic clusters (High I/Low E and High I/High E) contained more females than males, and males were distributed evenly across the four clusters. Additionally, the individuals in the two high-intrinsic clusters reported the most well- being and basic psychological needs satisfaction. In contrast, members of the Low I/Low E cluster reported the least positive functioning. These results indicated that high aspirational engagement was beneficial for well-being in the cluster of people whose aspiration orientation favored intrinsic goals, but also for the group of people for whom both intrinsic and extrinsic goals were above average.

Rijavec et al.'s (2011) finding that more females comprise intrinsic clusters aligns with past evidence that women tend to rate the importance of intrinsic aspirations higher than do men (Kasser & Ryan, 1993, 1996; Kasser et al., 1995) and that men tend to rate the importance of extrinsic aspirations (especially wealth) higher than women (Kasser & Ryan, 1993, 1996). However, in contrast with the substantial existing literature (for a review see Kasser, 2002), Rijavec et al.'s (2011) study also implies that having above average levels in both aspirational domains may be as beneficial as having high intrinsic relative to extrinsic aspirations. While this result seems to be at odds with the notion that a focus on extrinsic aspirations may diminish well-being (Kasser & Ryan, 1993, 1996, 2001), it lends support to the possible existence of subgroups for which extrinsic pursuits are not inherently detrimental.

The mechanism underlying Rijavec et al.'s (2011) finding is somewhat difficult to elucidate without considering the wider spectrum of specific aspirations. In most studies of aspirations, specific aspirations (e.g., wealth, fame, relationships, giving to the community, etc.) are a priori divided into two theoretically meaningful higher-order categories of intrinsic and extrinsic aspirations, and statistical analyses are typically conducted on the average scores of the respective intrinsic and extrinsic aspirations items, often with a careful use of control variables to account for the overall importance of aspirations (Kasser & Ryan, 1996). But by using higher-order aspirations scale scores, as Rijavec et al. (2011) did, the level of specificity of individual aspirations is conflated in the higher-order indicators of the cluster analysis. Although all the information is used when researchers conduct analyses employing only the higher-order scores of intrinsic and extrinsic aspirations based on all available data, an important level of detail can remain hidden.

Perhaps, the devil is in the details. Feasibly, the combination of the higher-order intrinsic and extrinsic scores in the members of Rijavec et al.'s (2011) High I/High E was a function of a particular emphasis on fame aspirations (classified as extrinsically oriented) combined with high community engagement aspirations (intrinsically oriented), and that kind of a combination might have made the extrinsic aspiration of fame function more like an intrinsic aspiration. That is, perhaps aspiring to be known and respected by many people in a community can be in the service of giving to the community. People might also hold other combinations of specific extrinsic and intrinsic aspirations—some might value money and relationships, but not fame or giving to the community. And even among the wide variety of possible combinations of different aspirations, people might exhibit varying levels of the aspirations—for instance, among those who aspire for wealth, some might value money a moderate amount while others might value it a lot. These ideas are mere speculations until we examine profiles of specific aspirations rather than profiles derived from the higher- order categories alone.

A K-means cluster analysis of specific aspirations is one possible analytical strategy to explore the details of the wide range of aspirations. However, we have no a priori basis for extracting a specific number of clusters when a broader spectrum of aspirations is included. The criteria for selecting clusters in many analyses tend to be opaque due to a lack of reliable confirmatory statistics (Pastor et al., 2007), and thus results obtained from such studies can be prone to confirmation bias. On the basis of robust statistical criteria for classifying subpopulations, Pastor et al. (2007) recommend LPA as a rigorous person-centered approach, which is what we employed in our study of the seven specific aspirations measured by the Aspiration Index.

We used the factor scores from a bifactor exploratory structural equation modeling (B-ESEM; Morin, Arens, & Marsh, 2016) of the seven aspirations of the Aspiration Index as the indicator variables in an LPA. As we will explain in detail below, combining B-ESEM and LPA allowed us to disentangle the overall level of extrinsic and intrinsic aspirations from the different configurations of specific aspirations. We were then able to assess the additional explanatory power offered by our person-centered method by testing the extent to which profiles of aspirations differ on measures of well-being, while controlling for the comprising intrinsic and extrinsic aspirations. Our goal was to use the most sophisticated statistical tools at our disposal to create an analytical frame- work addressing the different questions about the links between aspirations and well-being that researchers have thus far been attempting to answer using different kinds of variable- and person- centered approaches, each with their own strengths and weak- nesses. With our method, we attempt to answer new questions about how insights gained from our person-centered approach add value to what can be learned from a more parsimonious, purely variable-centered approach of linking aspirations to well-being outcomes.

People differ in both the intrinsic and extrinsic orientations of their aspirations, as well in their overall level of aspiring (Sheldon et al., 2010; Williams, Hedberg, Cox, & Deci, 2000). The latter issue of overall aspiring has been addressed in past studies by controlling for the mean for overall aspiring (total aspirations) to examine relative valuations of higher-order intrinsic versus extrinsic aspiration scores (Kasser & Ryan, 1996). However, as we reasoned above, people can also differ in the extent that they value some of the specific aspirations relative to others despite their overall intrinsic to extrinsic aspirations level. Therefore, the cur- rent study sought to disentangle the higher-order orientation effects (the overall levels of extrinsic and intrinsic aspirations) from the pattern of second-order aspirations (the levels of seven specific aspirations) within profiles of aspirations. To achieve our aims, we used B-ESEMs in which each item loads onto two orthogonal factors: (a) a global factor that represents the relevant subscales within the intrinsic and extrinsic domains (e.g., an item of health aspiration is loaded onto a global intrinsic aspiration factor); and (b) a specific factor of the respective subscale (e.g., the same health item also loads on a specific factor of health). The resultant global and specific factor scores were then used as indicators in LPAs to examine the pattern of aspirations in heterogeneous subgroups within the broader samples.

The LPAs using factor scores derived from B-ESEM are procedures with utility for separating level and shape effects (Morin, Boudrias, Marsh, Madore, & Desrumaux, 2016; Morin & Marsh, 2015). The global factors from a B-ESEM indicate the "level" effects (low, medium, or high responses on all intrinsic or extrinsic items, or, in SDT terms, the "orientation" effects) in the profiles. The relative levels of the global factors indicate the orientation of the higher-order aspirations in the profiles. Equally importantly for our purposes, the level of the seven specific aspirations factor scores (patterns of low, medium, or high scores across these specific factors) indicate the "shape" of the profiles of aspirations. If group heterogeneity is plausible, then we would expect to find replicable profiles that differ substantively in terms of the specific aspirations, above and beyond the ratio of global intrinsic to global extrinsic aspirations that has been emphasized in past research. These ideas were tested in three large independent samples, one Hungarian sample (Study 1), one Australian sample (Study 2), and one sample from the United States (Study 3).

Overview

We sought to answer two primary research questions in three studies. **Research Question 1**: Will the combination of B-ESEM and LPA derive profiles of aspirations that are replicable across multiple independent samples? As detailed above, our analytic strategy involved conducting a B-ESEM of the Aspiration Index, which included two global factors of intrinsic and extrinsic aspirations and seven specific factors of individual aspirations. We then used those factor scores to extract latent profiles of aspirations using LPA. If the assumption of group homogeneity in variable- centered analyses of the Aspiration Index is questionable, we would expect to find distinct profiles of aspirations using our person-centered approach.

However, person-centered approaches such as LPA often derive “local solutions” (Hipp & Bauer, 2006, p. 38) that may not replicate in subsequent samples or be phenomenologically meaningful. To address the important question of profile replicability, in Study 1, we first used a Hungarian sample to derive profiles of global and specific aspirations. Then, in Studies 2 and 3, we tested the replicability of the profiles by using the same analytic strategy employing Australian and American samples, respectively. Based on the literature discussed above (Rijavec et al., 2011), we expected to find a profile that would be more intrinsic than extrinsic, and another vice versa. However, because ours is, to our knowledge, the first study to analyze the Aspiration Index using this strategy, we had no a priori hypotheses about the exact shapes of the configurations.

Using the same analytical framework (combining B-ESEM and LPA), and the same instrument for measuring aspirations in three large samples from three different countries and cultures, served as a rigorous test of our first research goal of discovering replicable profiles of aspirations while disentangling level and shape effects using B-ESEM. Consistent with the need for large samples for mixture modeling of B-ESEM factor scores (Morin, Boudrias, et al., 2016; Morin & Marsh, 2015) we used large sample sizes in each study (*N*=3,370inStudy1; *N*=1,632inStudy2, *N*= 6,063 in Study 3).

The derivation of profiles of aspirations in our initial sample (Study 1) and replication of these profiles in subsequent samples (Study 2 and Study 3), allowed us to address our primary aim **Research Question 2:** Does profile membership predict variance in well-being over and above the influence of individual aspirations? This important question assessed the degree to which our person-centered approach added value to what we can learn about aspirations and well-being using traditional variable-centered methods. A broad literature using variable-centered approaches already suggests that aspirations meaningfully relate to well-being (Kasser & Ryan, 1993, 1996, 2001). Because we are proposing a new way of analyzing the Aspiration Index, the question is whether our approach adds value to what is already known from previous research on the Aspiration Index using variable-centered approaches, which are more parsimonious than our analytic frame- work combining B-ESEM and mixture modeling.

Addressing Research Question 2 required two successive and complementary analytic steps. First, we used hierarchical regression to test the additional explanatory power of profile member- ship. Specifically, we tested the ability of profile membership to predict outcomes even when controlling for the aspiration factors that comprise the profiles. We compared a model in which each of the outcome variables was regressed on the aspiration factors, to a model that additionally included the profile membership variable as a predictor (i.e., the second model tested the predictive utility of profile membership controlling for the aspirations). If a comparison of these two models indicates that the model including profile membership is a statistically significantly better fit for the data than the model using aspirations alone, this would be evidence that our person-centered approach provides incremental utility over a variable-centered approach. This is what we expected to find in Studies 2 and 3.

Second, and crucially, we aimed to shed light on the qualitative and phenomenological meaning of belonging to each profile. In other words, we sought to understand *how* membership to the different profiles would predict well-being, and if there were differences across profiles in the degree to which profile member- ship predicted well-being, controlling for the aspiration factors. If including profile membership as a predictor of outcomes ac- counted for additional variance (as we describe above), we would know that profile membership has predictive utility. However, a statistically significant change in R^2 would simply suggest *that* the profiles differ in the degree to which they predict outcome/s, it would not inform *how* the profiles differ, or what those differences tell us about the participants characterized by each of the profiles. Accordingly, we compared the regression coefficients, for each profile, in the prediction of several relevant well-being-related outcome variables, while controlling for the global and specific aspirations. Comparing the profiles in this way provides information about the possible real-life psychological benefits and/or consequences of being characterized by one pattern of aspiring or another, over and above the aspirations themselves.

Based on the evidence outlined above (Rijavec et al., 2011), we expected that individuals typified by the various profile shapes would differ in terms of well-being and other well-being-related variables. Past research and theory suggests that high intrinsic relative to extrinsic aspirations should relate to higher well-being (Kasser, 2002; Kasser & Ryan, 1993, 1996, 2001), life fulfilment (Martos & Kopp, 2012; Ryan et al., 1999), mindfulness (Brown & Kasser, 2005), and basic psychological needs satisfaction (Rijavec et al., 2011). Based on these studies, we expected members of profiles with a more overall intrinsic relative to extrinsic pattern to have higher well-being, life fulfilment, mindfulness, and basic psychological needs satisfaction compared to members of profiles with a more extrinsic orientation.

We also sought to understand the demographic predictors of membership to the different profiles. Based on existing evidence, gender, but not age, was expected to predict profile membership. Specifically, women should be more likely to belong to intrinsically oriented profiles, and men to more extrinsic profiles. Our gender hypothesis is based on existing evidence suggesting the sexes typically differ in their aspirational orientations—women are often more intrinsically oriented than men (Kasser & Ryan, 1996; Kasser et al., 1995; Rijavec et al., 2011), and men tend to be more extrinsically oriented than women (Kasser & Ryan, 1993; Martos & Kopp, 2012). All three studies allowed us to test our hypotheses regarding the psychological correlates and demographic predictors of profile membership.

Study 1

As described above, the aim of Study 1 was to use our proposed combination of B-ESEM and LPA to derive profiles of intrinsic and extrinsic aspirations. If the B-ESEM fit indices suggest good fit, and the profiles derived by the LPA appear meaningful, such results will provide a foundation for testing the replicability of the profiles derived, as well as establishing their incremental utility, in Studies 2 and 3. Study 1 also assessed the degree to which profile membership was associated with a theoretically relevant outcome variable (anxiety), gender, and age.

Method

Ethical approval. Each of our three studies received ethics approval prior to data collection. Study 1 was approved by the Medical Ethical Research Board of the Semmelweis University (SE TUKEB 13/2002). Study 2 and Study 3 obtained ethical approval from the University of Wollongong Human Research Ethics Committee (HE10/158) and the Australian Catholic University Human Research Ethics Committee (2014-342N) prior to data collection.

Participants and design. The total sample size for Study 1 was 3,370 ($n = 2,610$ female). All participants responded to all items on the relevant scales, as such no data were missing. Participant ages ranged from 18 to 59 years ($M = 23.57$, $SD = 5.17$). Participants were recruited by a former student of the Catholic University (Hungary), via online advertising on social media, for the purposes of a master's thesis that was not connected to the current study. Students of Hungarian higher education institutions were invited to participate in an online questionnaire about health and aspirations. All study materials were administered in Hungarian. The archival data set included the Aspiration Index, the trait scale of the State-Trait Anxiety Scale (STAI; Sipos, Sipos, & Spielberger, 1994; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), the Alcohol Use Disorders Identification Test (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998), and a short version of Rotter's (1966) internal-external locus of control scale. The authors of the current study did not request access to the Bush et al. (1998) or Rotter (1966) items, because these scales were not consistent with our aims. None of the authors of the current study have previously analyzed the variables in this data in conjunction with aspirations, nor have results derived from these data been published except in the master's student's thesis.

The primary aim of Study 1 was to derive our initial profiles of aspirations. We also examined the links between aspirations and anxiety, and we tested the incremental utility of profile member- ship in the prediction of anxiety, because, as an indicator of ill-being, anxiety was relevant to the aims of our studies. However, while well-being tends to correlate highly with aspirations, correlations between the aspirations and anxiety as measured by the STAI can be small and unreliable (Niemiec, Ryan, & Deci, 2009), so we did not expect anxiety to be associated with profile membership.

Measures.

Aspirations. The previously validated Hungarian version (Komlósi, Rózsa, Bérdi, Móricz, & Horváth, 2006) of the 35-item Aspiration Index (Kasser & Ryan, 2001) measures the importance of seven kinds of aspirations in participants' lives. The three extrinsic aspirations are wealth, fame, and image, and the four intrinsic aspirations are personal growth, relationships, physical health, and community giving. Participants were provided with the sentence stem, "How important is it to you to . . ." and then presented with five "life goals" for each subscale.

Example aspirations include: “to be rich” (wealth), “to be famous” (fame), “to have people comment often about how attractive I look” (image), “to grow and learn new things” (personal growth), “to have deep enduring relationships” (relationships), “to have a physically healthy life style” (physical health), and “to work to make the world a better place” (community giving). Each item was rated on a scale from 1 (*not at all important*) to 7 (*very important*). Cronbach’s alphas were .67 for personal growth, .75 for relation- ships, .81 for wealth, .84 for image and health, .86 for fame, and .89 for community.

Trait anxiety. Levels of anxiety were measured using the Hungarian version of the STAI (Sipos et al., 1994; Spielberger et al., 1983), which showed satisfactory internal consistency in our sample (*a* = .90). Example items include: “I feel pleasant” (re- verse scored) and “I feel that difficulties are piling up so that I cannot overcome them.” Participants answered all items on a 1 (*almost never*) to 4 (*almost always*) scale with regards to how they “generally feel,” thus measuring anxiety at the trait (as opposed to state) level.

Results

Intercorrelations of study variables. Table 1 presents the key descriptive statistics for Study 1. The seven subscales of aspirations were all positively related to each other, except for community giving and wealth, which were negatively correlated. The intrinsic aspirations were more strongly correlated with each other than they were with the extrinsic aspirations, and vice versa, supporting the intrinsic/extrinsic distinction commonly referenced in the literature. However, there were also weak positive links between the importance of aspirations for wealth and health, as well as image, growth, and relationships, suggesting that these variables, despite belonging to different higher-order categories of intrinsic and extrinsic aspirations, were not in opposition to each other. The pattern of correlations we observed in this study is consistent with previous research (Kasser & Ryan, 1993, 1996). Trait anxiety was weakly correlated with wealth, image, and relationships, and weakly negatively correlated with personal growth. The correlations between aspirations and anxiety were similar to those reported previously (Niemiec et al., 2009).

B-ESEM of the Aspiration Index. We conducted B-ESEM to derive indicators for use in the subsequent LPA (described below). The "exploratory" in exploratory structural equation modeling (ESEM), so-called by its developers Asparouhov and Muthén (2009), refers to the method's combination of some features from both confirmatory factor analysis (CFA) and exploratory factor analysis (EFA; Morin, Marsh, & Nagengast, 2013). CFA assumes that cross loadings between target items (items on a scale) and nontarget factors (the latent factors upon which items load) are zero (Morin, Arens, et al., 2016). Constraining cross-loadings to be exactly zero can be unreasonably restrictive, particularly when measures include conceptually related factors (Morin, Arens, et al., 2016), as is the case with the Aspiration Index (all the aspirations reflect aspiring and are thus related). By allowing cross-loadings to be freely estimated in a model, EFA is thought to provide a more realistic account of the data (Tóth-Király, Bõthe, Rigó, & Orosz, 2017). Accordingly, ESEM integrates the methodological advances of CFA while allowing small cross-loadings from target items to nontarget factors (e.g., from an image item to the intrinsic global factor). Regardless, ESEM methods, particularly when us- ing target rotation as we did here, are generally confirmatory in nature (Marsh, Morin, Parker, & Kaur, 2014).

Furthermore, the "bifactor" element of B-ESEM tests for the presence of a global construct that coexists with more specific elements (Morin, Arens, et al., 2016). In the case of the Aspiration Index, the global factors are the intrinsic and extrinsic global domains, each of which is comprised of multiple specific aspira- tions. The 35 items of the Aspiration Index measure both the global and specific factors, thus the B-ESEM approach was most

consistent with our underlying theoretical model and provided an excellent fit for the data. The B-ESEM was conducted in M*plus* Version 7.4 via the M*plus* Automation package (Hallquist & Wi- ley, 2018) in R (R Core Team, 2016), using orthogonal target rotation and MLR estimation to account for violations of non- normality (Muthén & Muthén, 2015). Orthogonal rotation maintains the interpretability of the bifactor model (according to its assumption that variance in the specific factors is not explained by the global factor/s) by constraining the correlations between both global factors, between the global and specific factors, and be- tween each of the specific factors to be as close to zero as possible (Morin, Arens, et al., 2016). All raw and manipulated data, as well as the R code and M*plus* syntax necessary to replicate our studies, and expand into your own, is available on the Open Science

Framework (https://osf.io/ub738/). We recommend a close inspection of the three-page "how to" guide to using the data and code, which is also available via the above link.

In the B-ESEM, each of the 35 Aspiration Index items loaded onto two orthogonal factors: a global factor and a specific factor. As mentioned, cross-loadings across items are allowed in a B-ESEM but are constrained to be as close to zero as possible. We specified two global factors, an extrinsic global factor (including the wealth, fame, and image items) and an intrinsic global factor (including the personal growth, relationships, health, and community giving items), as well as the seven specific factors. Our selection of a two-global factors model was guided by the existing theoretical distinction of intrinsic and extrinsic aspirations (Kasser, 2002; Ryan & Deci, 2017) and prior empirical research supporting the two-factor structure of aspirations (Kasser & Ryan, 1993, 1996). Also, because one of our goals was to disentangle the issue of the relative levels of extrinsic and intrinsic aspirations while examining the shapes of the specific aspirations, a two-global factors model was indispensable for that purpose.

Several goodness-of-fit indices and information criterion are used to confirm adequate model fit. The chi-square test of model fit is sensitive to sample size (Morin, Arens, et al., 2016), so we relied more heavily on the comparative fit index (CFI; Bentler, 1990), Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), the root mean square error of approximation (RMSEA; Steiger, 1990), and the standardized root mean square error residual (SRMR; Hu & Bentler, 1999). The fit indices of our two-global factors B-ESEM model were excellent, $x^2(316) = 1340.09$, $p < .001$, CFI = .97, TLI = .95, RMSEA = .031, SRMR = .01, as per the widely accepted fit criteria of CFI/TLI ≥ .90, RMSEA ≤ .06 and SRMR ≤ .08 (Bentler, 1990; Hu & Bentler, 1999). Factor scores derived from this B-ESEM separate variance that is due to all subscales within a higher-order domain of intrinsic or extrinsic aspiration, from the variance that is due to a specific factor. Accordingly, using these factor scores as indicators in an LPA (as detailed below) allowed us to account for the global extrinsic and intrinsic level effects while examining the shape of the specific aspirations.

In all three studies, the factor loadings generally support the factor structure of the two global and seven specific factors (item factor loadings for the nine factors are reported in Online Supplementary Materials S1). Omega coefficients for the two global and seven specific factors are also included in Online Supplementary Materials S2. Bifactor omega estimates the proportion of variance in total scores that can be attributed to a general factor, or in our case, *two* general factors. Subscale omegas reflect the reliability of specific factors controlling for the variance attributable to the general factor (Reise, 2012; Rodriguez, Reise, & Haviland, 2016). In all three studies, it was the case that the omega coefficients for the specific factors were smaller than those for the general factors, this is to be expected because the specific factors are residualized and loadings tend to be higher on the general factor/s than on the specific factors (Rodriguez et al., 2016).

LPA of the Aspiration Index. LPA were conducted in M*plus* 7.4 (Muthén & Muthén, 2015) using the M*plus*Automation package (Hallquist & Wiley, 2018) in R (R Core Team, 2016). To avoid local maxima, all LPA were conducted using 5,000 random start values, and 1,000 iterations, retaining the 200 best solutions for final stage optimization (Hipp & Bauer, 2006; McLachlan & Peel, 2004). In LPA, selection of the optimal profile solution is guided by several factors to ensure the profiles are substantively important, theoretically informed, and statistically adequate (Bauer & Curran, 2003; Marsh et al., 2009; Muthén, 2003). To the latter point, pertinent statistical indices include the following: the Akaïke information criterion (AIC), the consistent AIC (CAIC), the Bayesian information criterion (BIC), the sample-size adjusted BIC (ABIC), the adjusted Lo, Mendell, and Rubin's (2001) Likelihood Ratio Test (LMR), and the bootstrap likelihood ratio test (BLRT). Lower AIC, CAIC, BIC, and ABIC values suggest a better-fitting model. A significant p value for the LMR and BLRT supports a k - 1 profile solution (one fewer latent profiles). However, in larger sample sizes, these indices may interminably support the inclusion of additional profiles (Marsh et al., 2009). In such cases, entropy indexes the relative quality of profile classification. Ranging from 0 to 1, entropy is the aggregate posterior probability of class estimation. Scores closer to 1 suggest more precise placement of individuals into the profiles (Dyer et al., 2012). However, entropy alone should not be relied upon to determine the optimal number of profiles (Lubke & Muthén, 2007). Indeed, given the variety of fit indices in LPA—each developed based on a distinct rationale—it is important to focus on the profile solution for which these various indices converge, and to consider the theoretical contribution of each new profile. Model complexity increases with each additional profile, so it is vital that added complexity is commensurate with increased theoretical utility (Bauer & Shanahan, 2007).

We ran LPA up to a six-profile solution, the results of which can be found in Table 2. As expected, the AIC, CAIC, BIC, and ABIC consistently improved (e.g., became smaller) as the number of profiles increased. However, the aLMR and BLRT became non- significant at the five-profile solution (indicating that the five- profile solution is not better than the four-profile solution). Further, the entropy figure within the four-profile solution (.69) was lower than that of the three-profile solution (.74), suggesting that the precision of class probability estimation decreased in the four-profile solution. In addition, the novel profile derived in the four-profile solution was a relatively flat line close to zero (group average), indicating that average-scoring participants had been extracted from the prior three profiles, thus compromising the precision of profile estimation without clarifying the shape of specific aspirations over the three-profile solution. Taken together, all the results provided us with a strong rationale for selecting the three-profile solution.[1]

The observed pattern of aspiration means for each profile in the three-profile solution is shown in Figure 1 (left panel). The peaks and troughs in the profile shapes in Figure 1 depict the profile- specific scores on the aspiration factors relative to the population mean. For example, Profile 1's trough for the intrinsic global factor is approximately half a standard deviation below the aver- age, meaning Profile 1's intrinsic aspiring is half a standard deviation below the population mean. Thus, the shapes in Figure 1 can be used to describe the ways people typified by each profile differ. However, the aspiration means internal to each profile are un- knowable. More concretely, despite the profile shape in Figure 1, we do not know if Profile 1 members' intrinsic aspirations are actually lower than their extrinsic aspirations. All we know is that the intrinsic and extrinsic global scores are both below the population average. Yet, it is important that we be able to propose hypotheses about the difference between the profiles, based on which goals are rated more or less important within a profile. Therefore, to approximate profile-specific mean scores on the aspirations, we have calculated the nine (two global and seven specific) B-ESEM factor score means each weighted according to the participants' probabilities of belonging to each group. For instance, a participant with a 99% probability of belonging to Profile 1 would contribute more toward the calculation of the Profile 1 aspiration factor score means, than a participant with a 20% probability of belonging to Profile 1. Therefore, the resultant mean scores most strongly reflect the aspirations of participants with the greatest likelihood of belonging to each profile. The weighted profile means are reported in Online Supplementary Materials S4 (for all three studies) along with the R functions and basic code used to calculate them. In all cases the weighted means support the shapes shown in Figure 1. In other words, if an aspiration appears more (or less) important within a profile, most likely it is.

Profile 1 characterized 36% (n = 1,212) of the total sample and consisted of average extrinsic aspirations but well below average intrinsic aspirations, especially for relationship and health aspirations. Based on the shape observed in Profile 1, we labeled this profile *Disengaged from relationships and health*. Profile 2 typified 28.6% (n = 963) of the total sample. The levels of the global extrinsic and intrinsic aspirations in this profile were comparable, although there was a slight tendency for higher extrinsic relative to intrinsic global aspirations. The levels of the specific factors for Profile 2 showed that relationships and health were relatively higher than the other specific factors, especially community giving. As such, Profile 2 was called *Aspiring for interpersonal relationships more than community relationships*. Profile 3 represented 35.5% (n = 1,195) of the sample. Of the three profiles, Profile 3 individuals reported the highest levels of both intrinsic and extrinsic global aspirations, though also had the biggest ratio of intrinsic relative to extrinsic aspirations. The shape of the specific aspirations in Profile 3 showed a peak for the specific factor of community giving among intrinsic aspirations and image among extrinsic aspirations. We therefore labeled this group *Aspiring for community relationships more than interpersonal relationships*. We hasten to add that the labels of the profiles were considered tentative until further tests in an independent sample (as detailed in Study 2).

Incremental validity of profile membership. Variable- centered analyses are more parsimonious than our person-centered approach, so it is important to test the extent to which profile membership tells us things we have not already learned about aspirations and well-being using traditional methods. Examining the incremental value of using profile membership as a predictor of well-being-related variables such as anxiety (Research Question 2) required hierarchical regression. In the first regression model (M1 in Table 3), anxiety was regressed on the two global and seven specific aspiration factors; not including profile membership. In the second regression model (M2 in in Table 3), we additionally included the profile membership variable (which is a three-level factor) as a predictor of anxiety. If the model comparison between M1 and M2 accounts for a statistically significant increase in variance, it would indicate that profile membership tells us some- thing we cannot learn from the aspiration variables alone.

However, the inclusion of profile membership as a predictor was complicated by the fact that profile membership estimation is probabilistic. Participants are not simply “allocated” to one of the profiles. Participants have a *probability* of belonging to *each* of the three profiles. For some, the probability of belonging to a single profile may be high, for others, the probabilities may be roughly equivalent across the three profiles. Put differently, profile membership estimation is uncertain. To “place” people into specific profiles, while accounting for the uncertainty associated with pro- file membership estimation, we conducted 25 pseudoclass based multiple imputations of profile membership (Wang, Hendricks Brown, & Bandeen-Roche, 2005). Pseudoclass based multiple imputation involves using the profile membership probability estimates from the M*plus* output as sampling probabilities to create multiple imputations of profile membership. Participants are placed into the various profiles multiple times—25 in our case— based on the distribution of their posterior probabilities. Meaning participants may be in different profiles across imputations. The hierarchical regression analysis is then conducted 25 times (once for each imputation) and the results are pooled across the imputations (Bray, Lanza, & Tan, 2015).

To compare M1 and M2 using multiple imputations, we used an ANOVA method specifically for multiply imputed data called the pooled sampling variance (D_1) method (employed by the mice; van Buuren & Groothuis-Oudshoorn, 2010) and mitml; Grund, Lüdtke, & Robitzsch, 2016 packages in R. When using complete data (i.e., data that are not multiply imputed), nested model com- parisons are relatively straightforward as only two models are involved. However, analysis of multiply imputed data derives two lists of nested model results, which need to be pooled and then compared. The pooling procedure introduces additional sources of variance to the model.

The additional sources of variance introduced by using the D_1 method include: (a) within-imputation variance, which is the sampling variance in each imputation had the data not been multiply imputed, averaged across imputations (Enders, 2010); (b) between-imputation variance, which is the variability of parameter estimates across imputations (Enders, 2010)—meaning, the error introduced to the model as values fluctuate from one data-set to the next; and (c) the average relative increase in variance due to multiple imputation, which estimates the degree to which the sampling variance has increased due to multiple imputation (Gr- und et al., 2016). Each of these three sources of variation is modeled in the pooled *F* test statistic—which is the critical test statistic to which the *p* value applies—and the denominator degrees of freedom. If the regression results across the multiple imputations are highly stable (if within- and between-imputation variance is low), *F* increases and *p* values become smaller (i.e., more statistically significant). As the variance attributable to multiple imputation increases, denominator degrees of freedom de- crease from the traditional N-*k* calculation. In other words, denominator degrees of freedom decrease to reflect the increased uncertainty introduced by the use of multiple imputations. Conceptually, as denominator degrees of freedom decrease, *p* values become less statistically significant. However, as we demonstrate in Online Supplementary Materials S5, once denominator degrees of freedom increase past 100 their impact on *p* values diminishes. In addition, because within- and between-imputation variance and RIV all weigh in to the calculation of pooled model comparison statistics, all of these indices need to be considered together when interpreting the results.

The formulas for the D_1 derived *F* statistics and degrees of freedom are described in detail by Grund et al. (2016), Meng and Rubin (1992), and Enders (2010). In addition, we provide a conceptual overview of pooled regression model comparisons using multiply imputed data in Online Supplementary Materials S5. Moreover, the code and data used to conduct the pooled model comparisons is available on the Open Science Framework (https:// osf.io/ub738/).

As shown in Table 3, M2 (regressing anxiety on profile membership in addition to aspirations) did not account for additional variance in anxiety. Therefore, membership to each of the three profiles would not differentially predict anxiety. This result is consistent with our hypotheses, which were based on evidence suggesting that ill-being variables, in particular anxiety, tend to have less consistent relationships with aspirations than do well- being indices (Niemiec et al., 2009).

Gender and profile membership. Table 4 shows the percent- age of females in each of the three profiles. To test the link between gender and profile membership, we again used 25 imputations to account for the uncertainty associated with profile membership estimation. Then, we regressed gender on the profile membership variable using logistic regression, pooling the results across imputations. In this context, the concept of prediction is purely statistical, and we do not claim that profile or aspirations cause, or precede, gender. Instead we wanted to clarify whether males or females were more likely to be members of various profiles. We used the mice (van Buuren & Groothuis-Oudshoorn, 2010) and miceadds (Robitzsch, Grund, & Henke, 2014) packages in R to conduct pooled logistic regressions.

As shown in Table 5, males were more likely than females to belong to Profile 1, the *Disengaged from relationships and health* group, and women were more likely than males to belong to Profiles 2 and 3, the *Aspiring for interpersonal relationships more than community relationships* and *Aspiring for community relationships more than interpersonal relationships* groups. However, as we reasoned above, it was also important for us to test if these differences in gender composition across the profiles could be accounted for by the well-documented link between gender and aspirations. Accordingly, we regressed gender on profile membership controlling for the aspiration indices. As shown in Table 5, the 95% confidence intervals for the probability of being female overlapped across all three profiles when controlling for aspirations. The result demonstrates that, once aspirations scores are accounted for, there was not a statistically significant difference in the gender composition of the profiles.

We also examined age as a predictor of profile membership. Age did not predict membership into any of the three profiles as shown in Online Supplementary Materials S6. Considering the null result for age and given that the samples in Studies 2 and 3 were youth/young adult samples, we did not examine age in the other studies.

Discussion

The results of Study 1 uniquely informed the existing aspirations literature by showing that subgroups of individuals differed above and beyond the ratio of intrinsic to extrinsic global aspirations, that is, both their levels *and* shapes were distinct. Each of the profiles was characterized by a unique configuration of specific aspirations, with increasing levels of other-oriented specific aspirations from Profiles 1 to 3. The level effects (the intrinsic and extrinsic global factors) observed in Study 1 were in line with past evidence that individuals within subgroups differ in the levels of their higher-order intrinsic and extrinsic aspirations (Rijavec et al., 2011). Two of the configurations Rijavec et al. (2011) described align with the level effects (the ratio of intrinsic to extrinsic orientation effects) observed in Profile 1 (*Disengaged from relationships and health*), and Profile 3 (*Aspiring for community relationships more than interpersonal relationships*). Rijavec et al.'s (2011) Low I/High E cluster was similar to our Profile 1, and their High I/Low E cluster was similar to our Profile 3, which had high intrinsic relative to extrinsic global aspirations. Notably, in our study, Profile 1 had below average levels on both global factors, Profile 2 showed close to average levels and Profile 3 had well above average levels of both global aspirations. Profile membership did not explain additional variance in anxiety.

Preliminary tests suggested that males were more likely to be in Profile 1 and females were more likely to be in Profiles 2 and 3. However, when controlling for aspirations, the probability of pro- file members being female (or male) was the same across profiles. This suggests that differences in the gender compositions of the profiles are largely a function of aspiration ratings, rather than gender differences in patterns of aspiring. These results demanded a confirmatory test of the replicability of the observed level and shape effects of the profiles, and further validation tests with respect to the links between the profiles and multiple theoretically relevant outcomes, as detailed below in Study 2.

Study 2

The first goal of Study 2 was to test whether we could replicate the profiles discovered in Study 1 in a sample from a different culture with a different language (Research Question 1). To this end, we employed an Australian sample in Study 2, to whom all measures were administered in English. Study 2 also allowed us to expand on the results of Study 1 by further testing the incremental value of using profile membership to predict a variety of outcome variables. Replicating the level and shape effects of the profiles would bolster our confidence that the profiles reliably differ in terms of the configurations of aspirations, but the differences between the profiles may ultimately be rendered meaningless if profile membership does not account for additional variance in theoretically relevant outcome measures (Research Question 2). A purely variable-centered approach is more parsimonious, so the profiles must prove their true mettle by showing incremental validity by explaining variance in the outcomes above and beyond what can be explained using only the aspiration variables. We will again use hierarchical regression to establish the variables for which profile membership provides additional explanatory power above and beyond the constituent variables. We will then shed light on the qualitative meaning of belonging to each profile by examining the differences in the degree to which profile memberships predict the variables for which profile is a statistically significant incremental predictor.

Based on prior theory and evidence (Kasser & Ryan, 1993, 1996, 2001; Rijavec et al., 2011), we hypothesized that those characterized by Profile 1—those expected to show a configuration of a relative extrinsic focus and below average aspirational engagement, if replicated—would show less emotional, psycho- logical, and social well-being, and more psychological ill-being, than would members of Profiles 2 and 3. Due to the relative intrinsic orientation and high overall level of aspiring in Profile 3 individuals, and the peak for the specific factor of community giving, we expected members of this profile, relative to the other two profiles, to show the highest levels of well-being and highest levels of other theoretically relevant variables, such as, engaged living and mindfulness (Brown, Kasser, Ryan, Linley, & Orzech, 2009; Kasser & Ryan, 1993, 1996, 2001; Rijavec et al., 2011).

In addition to well-being, based on the shapes of the three profiles, we made specific predictions about the links between profile membership and indices of other-orientation. People characterized by Profile 1 have below average relationship aspirations, whereas those in Profile 2 aspire for close personal relationships, but not necessarily community relationships which would presumably involve strangers, acquaintances, and less intimate friends and family. In contrast, people characterized by Profile 3 aspire for community giving, and show the highest extrinsic aspiration for positive image, which, we speculate, relates to interest in how positively the person is viewed in wider communities beyond intimate relationships. Based on these apparent differences in the breadth of social focus, from Profile 1 to Profile 3, we would expect members of Profiles 2 and 3 (individuals with high inter- personal and/or community orientation) to score higher on other- oriented variables such as nonattachment and empathy.

Empathy is clearly other-related, but nonattachment may need some explanation. Nonattachment reflects the tendency to let go of or not cling to inner experiences such as self-indulgent beliefs (e.g., “I am more special than you”). Such letting go is expected to facilitate care for and consideration of others (Sahdra, Ciarrochi, & Parker, 2016; Sahdra, Ciarrochi, Parker, Marshall, & Heaven, 2015). Consistent with this definition, evidence suggests that nonattachment relates positively with generosity and the positive relationships element of eudemonic well-being (Sahdra, Shaver, & Brown, 2010), and in- creases the likelihood of engaging in prosocial behavior as observed by peers (Sahdra et al., 2015). Nonattachment also relates positively with empathy (Sahdra et al., 2010), which is a quality reflected by someone “focused more on another person’s situation or emotion than on one’s own” (Albiero, Matricardi, Speltri, & Toso, 2009, p. 393) and has been associated with a high willingness to help someone in need (Jolliffe & Farrington, 2006). We contend that the breadth of social concern for others is increasing from Profile 1 to 3, so we expect that levels of nonattachment and empathy will also increase from Profile 1 to Profile 3. If membership to the profiles differentially predicts indices of other-orientedness, it may be evidence of a progressively broadening social focus.

Method

Participants and design.

The participants in Study 2 were part of the Australian Character Study (ACS). The ACS was a 5-year longitudinal study of Australian youth. The 1,632 (n = 793 males, n = 834 females, and n = 5 did not report gender) participants in the current study were from the Year 12 cohort of students, from 17 Catholic high schools in two dioceses from New South Wales (NSW) and Queensland (QLD), Australia. The schools were in urban, regional, and rural areas throughout the two dioceses, thus ensuring a broad and representative socioeconomic profile. Most of the participants (63.3%) classified themselves as “Caucasian Australian” or European (13.7%), followed by “other” (11.9%), Aboriginal (3.4%) and New Zealander (1.6%). The mean age of the sample was 16.6 years (*SD* □ 0.40).

Given the nested structure of these data (students nested within schools), preliminary models were run to assess the impact of school on profile membership. We used school as a clustering variable (using the command, TYPE = COMPLEX in M*plus*) in the B-ESEM and LPA models.

The results from this preliminary analysis did not lead to substantively different conclusions (about the level and shape of the profiles) from the results of simpler models in which school was not included as a clustering variable. We therefore report the most parsimonious models below (but have included a figure showing the results of the model using school as a clustering variable in Online Supplementary Materials S7).

Missing data. All 1,632 participants completed all items on the Aspiration Index in Study 2. Therefore, all participants were included in the B-ESEM and LPA that derived the profiles. How- ever, missingness varied across the outcome variables. Of the nine outcome variables of interest, seven had some nonplanned missing data. By nonplanned we mean we did not use a missing data design, nor was missingness systematically related to the variables in the dataset. Following profile derivation, we calculated the number of missing responses in each profile for each of the outcome variables. We compared the missingness expected versus missingness observed across the profiles using a chi-square. The chi-square was statistically nonsignificant for six of the seven outcome variables for which data were missing, suggesting that missingness did not systematically relate to profile membership. For psychological well-being, the chi-square test was statistically significant, and suggested that more participants were missing from Profile 1 than was otherwise expected. The missingness for psychological well-being was well under 5% for each of the profiles, and we used the esc_chisq function in the esc package (Lüdecke, 2018) in R to estimate the effect size of the chi-square result, finding a small effect (d = 0.16, 95% CI [0.06, 0.26]). Still we acknowledge this is a potential limitation in Study 2. In the hierarchical regressions and profile comparisons used to establish the incremental utility of profile membership (which we describe in the results below), we allowed missing participants to be excluded. A detailed summary of missing data and the chi-square results are included in Online Supplementary Materials S8 and S9.

Measures.

Aspirations. Aspirations were measured using the original English language version of the 35-item Aspiration Index (Kasser & Ryan, 2001) as described in Study 1. In this sample, Cronbach's alphas ranged from .81 for personal growth to .89 for physical health, indicating satisfactory internal consistency.

Subjective well-being. Three aspects of subjective well-being—emotional well-being, social well-being and psychological well-being—were measured using Keyes' (2006) widely validated 12-item Mental Health Continuum—Short Form (MHC-SF). Emotional well-being is measured via the extent to which participants reported having felt: (a) happy, (b) interested in life, and (c) satisfied, during the past month. Other example items include: "In the past month how often did you feel that the way our society works made sense to you?" (social well-being, five items) and "In the past month how often did you feel confident to think or express your own ideas and opinions?" (psychological well-being, four items). All items were responded to on a 1 (*never*) to 6 (*every day*) scale. This measure has shown good psychometric properties in an Australian sample before (McGaffin, Deane, Kelly, & Ciarrochi, 2015), and showed satisfactory internal consistency in the current study (χ = .90 for emotional well-being, χ = .84 for social well-being, and χ = .79 for psychological well-being).

Psychological ill-being. The General Health Questionnaire (GHQ; Goldberg et al., 1997) is a widely used and reliable measure of psychological ill-being, and screens for psychiatric illness. After being provided with the sentence stem "Have you recently . . ." participants responded to six positively worded items (example, "Felt capable of making decisions about things?") on a 1 (*more so than usual*) to 4 (*much less than usual*) scale, and six negatively worded items (example, "Been feeling unhappy and depressed?") on a 1 (*not at all*) to 4 (*much more than usual*). Therefore, high scores indicate psychological distress. In our sample, the GHQ showed good internal consistency (χ = .90).

Engaged living. The Engaged Living Scale (ELS; Trompetter et al., 2013) measures the extent to which one employs an engaged response style as conceptualized in acceptance and commitment therapy (Hayes, Strosahl, & Wilson, 1999). The 16-item scale captures engaged living, which is comprised of 10 items that measure "valued living," that is, a lifestyle that is congruent with one's values, and six items that measure "life fulfilment," that is, satisfaction with life.[2] Example items include: "I believe that how I behave fits in with my personal wants and desires" (valued living) and "I believe that I am living life to the full right now" (life fulfilment), all answered on a 1 (*completely disagree*) to 5 (*completely agree*) scale. In the original Dutch study, the ELS was found to be highly reliable (Trompetter et al., 2013), as it was in our sample (χ = .93).

Mindfulness. We measured mindfulness using a 14-item version of the Mindful Attention and Awareness Scale (Brown & Ryan, 2003). The scale showed good internal consistency in our sample (□□ .90), as it has in other youth and adult samples (Brown, West, Loverich, & Biegel, 2011), and in several languages other than English (Hansen, Lundh, Homman, & Wångby- Lundh, 2009; Jermann et al., 2009; Soler et al., 2012). Example items include: "I find myself doing things without paying attention" and "It seems I am 'running on automatic,' without much awareness of what I'm doing," each answered on a 1 (*almost always*) to 6 (*almost never*) scale, with high scores indicating high mindfulness.

Nonattachment. The 7-item Nonattachment Scale (NAS-7; Elphin- stone, Sahdra, & Ciarrochi, 2015) has been shown to be highly reliable in samples of broad age ranges (Sahdra et al., 2016; Sahdra et al., 2017; Sahdra et al., 2015). It measures participants' ability to relinquish attachments to positive experiences and unrealistic expectations about life. Participants responded to items such as, "I do not get 'hung up' on wanting an 'ideal' or 'perfect' life" and "I can enjoy pleasant experiences without needing them to last for- ever" on a 1 (*disagree strongly*) to 6 (*agree strongly*) scale. The NAS-7 showed good internal consistency in our sample (χ = .81).

Empathy. We measured two aspects of empathy (affective empathy and cognitive empathy) using the 20-item Basic Empathy Scale (BES; Jolliffe & Farrington, 2006). Nine items measure cognitive empathy, such as "I can often understand how people are feeling even before they tell me" and 11 items measure affective empathy, for example "After being with a friend who is sad about something, I usually feel sad," all answered on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. In our sample, the two subscales showed satisfactory internal consistency (χ = .84 for cognitive empathy and χ = .83 for affective empathy).

Disclosures regarding prior use. Data from the ACS have previously been analyzed and published elsewhere. To date, 15 publications have made use of the ACS data. Of the published studies, 10 have at least one variable in common with the current study, though no research has tested our current research questions or hypotheses with the ACS data. Most importantly, no study has examined the full Aspiration Index using the ACS data. A study by Marshall, Ciarrochi, Parker, and Sahdra (2019) is most closely related to the current study, because Marshall et al. (2019) used the community giving subscale of the Aspiration Index as part of a composite index of prosociality, finding that empathy and com- passion predicted pro-social behavior. However, Marshall et al. (2019) only analyzed one of the seven life goals measured by the Aspiration Index. Accordingly, Marshall et al. (2019) could not use B-ESEM nor LPA, as we did in our study which aimed to derive profiles of aspiring and test their incremental utility in predicting optimal functioning.

The other nine studies employed some of the same outcome variables used in the current study but were otherwise unrelated to the aims of this study. As an indicator of psychological ill-being, the GHQ (Goldberg et al., 1997) is the most commonly used outcome variable in the ACS data. Marshall et al. (2015) and Ciarrochi et al. (2016) used the GHQ finding, respectively, that compulsive Internet use predicts poor mental health, and that self-compassion moderates the negative link between self-esteem and poor mental health. Sheppard, Deane, and Ciarrochi (2018) also used the GHQ, reporting that 9.3% of adolescents with poor mental health have unmet mental health needs. Maiuolo, Deane, and Ciarrochi (2019) found that positive parenting practices cor- related with adolescent help seeking, even controlling for psycho- logical ill-being measured with the GHQ. The GHQ was used in conjunction with the 12-item MHC-SF (Keyes, 2006) well-being measure by Ciarrochi, Sahdra, Hawley, and Devine (2019) and Parker et al. (2015). Ciarrochi et al. (2019) found that adolescents characterized by a combination of high empathy and low aggression had more well-being measured on the 12-item MHC-SF. Parker et al. (2015) reported that networks of friends have similar levels of MHC-SF-measured well-being. Finally, empathy was analyzed by Ciarrochi et al. (2017), their study finding that empathy predicted cross-sex friendship nominations for boys, but not girls, and empathy and nonattachment were analyzed by Sahdra et al. (2015), who reported that empathy and nonattachment independently predicted peer-reported prosociality. The remaining five studies made use of the ACS data, but did not have any variables in common with the current study. A full list of ACS publications can be found here https://mfr.osf.io/render?url=https://osf.io/u59mr/?action=download%26mode=render.

Results

Intercorrelations of study variables. See Table 6 for inter- correlations, means, and standard deviations of the scale scores of the Study 2 variables. As in Study 1, the Aspiration Index sub- scales were positively correlated with each other, and within higher-order category correlations were stronger than the correlations between the extrinsic and intrinsic categories. The aspiration variables were also meaningfully related to the other study variables. Congruent with existing theory (Kasser & Ryan, 1996, 2001), the four intrinsic aspirations, relative to the extrinsic ones, demonstrated consistently higher positive correlations with the well-being related variables and stronger negative associations with mental ill-being.

B-ESEM and LPA of the Aspiration Index. To replicate the profile structure obtained in Study 1 (Research Question 1) we employed the same B-ESEM and LPA analyses described in Study 1. As in Study 1, a B-ESEM including two global and seven specific factors indicated excellent fit in this sample, □^{2}(316) □ 1097.36, *p* □ .001, CFI □ .97, TLI □ .94, RMSEA □ .04, SRMR □ .02. Item factor loadings for the nine factors are reported in Online Supplementary Materials S11. Omega coefficients for the two global and seven specific factors are also included in Online Supplementary Materials S2.

We then ran LPAs up to a six-profile solution. The results of these analyses can also be found in Table 2. We took a more confirmatory approach to profile selection given the known three- profile solution from Study 1. Still, we checked whether the three-profile solution was statistically sound. As in Study 1, the AIC, CAIC, BIC and ABIC consistently improved as the number of profiles increased. The LMR became (and remained) nonsignificant after the three-profile solution. The entropy estimate was higher in the three-profile solution than in the surrounding two-profile and four-profile solutions, indicating more precision in classification of individuals into the different profiles in the three- profile solution. Taken together and considering the pattern of results observed in Study 1, the three-profile solution was the most informative and statistically sound.

As illustrated in Figure 1 (middle panel), the patterns of aspiration means in each profile in Study 2 were similar to the configurations of the profiles in Study 1 (Figure 1, left panel).

Profile 1 (32.4% of the sample, *n* = 528) was *Disengaged from relationships and health* and again typified by average extrinsic aspirations and well below average intrinsic aspirations, with nadirs for relationships and health. Profile 2 (50.8%, *n* = 830), the *Aspiring for interpersonal relationships more than community relationships* group differed marginally from the respective profile in Study 1 in that the level effects slightly favored intrinsic over extrinsic aspirations (the levels were reversed in Study 1), though the overall shape was comparable with that of Profile 2 in Study 1, with peaks at the specific factors of relationships and health (though the peaks were lower in Study 2). Profile 3 (16.8%, *n* = 274) also depicted the *Aspiring for community relationships more than interpersonal relationships* group. Once more, Profile 3 had the highest level of the global aspirational domains, with the intrinsic global factor showing a relatively higher level than the extrinsic one. Importantly, as in Study 1, this profile also showed a distinctive peak for the specific factor of community giving among intrinsic aspirations and image among extrinsic aspirations.

Incremental validity of profile membership. To establish the incremental value of using profile membership as a predictor of well-being and well-being-related variables (Research Question 2), we used the same hierarchical regression approach described above in Study 1. In the first regression model (M1 in Tables 7a and 7b), the outcomes were regressed on the two global and seven specific aspiration factors; not including profile membership. In the second regression model (M2 in Tables 7a and 7b), we included the profile membership variable as an additional predictor of the outcome variables (i.e., controlling for aspirations). Again, as per Study 1, we used the pseudoclass based multiple imputation method to create 25 imputations of profile membership and pooled the regression results across the imputations using the D_1 method. As shown in Tables 7a and 7b, M2 (including profile membership as well as aspirations) was a statistically significantly better fit for the data (compared to M1) for five of the nine variables including: emotional, psychological, and social well-being; engaged living; and nonattachment. Profile membership did not predict additional variance for psychological ill-being, mindfulness, or cognitive and affective empathy.

To further estimate the incremental value of our configural approach, we calculated profile-specific predicted values on the outcome variables using the M1 (aspirations only) regression model, and the M2 (aspirations plus profile membership) regression, and calculated the differences in those values. Using psycho- logical well-being as an example, based on the aspiration factors alone (M1), the average predicted value was 4.05 for Profile 1 members, 4.44 for Profile 2 members, and 4.68 for Profile 3 members. As a reference, in a general population (Perugini, de la Iglesia, Solano, & Keyes, 2017), about 20% of the people score higher than 4.5, and about 20% of the people score lower than 2.5 on the MHC-SF. In contrast, using the full model that takes profile information into account in addition to the aspiration factors (M2), the average predicted psychological well-being for was 4.02 for Profile 1 members, 4.42 for Profile 2 members, and 4.82 for Profile 3 members. Thus, participants who were in Profile 1 were predicted to have 0.03 lower psychological well-being (on a scale of 1–6), those in Profile 2 were predicted to be 0.02 lower on psychological well-being, and those in Profile 3 were predicted to be 0.15 higher on psychological well-being, than predicted by their scores on the aspiration factors alone. A summary of the predicted values for all the outcome variables appears in Table 8.

Taken together, when including profile membership in addition to the aspiration factors (i.e., M2) Profile 1 members were predicted to be an average of 0.04 lower on the well-being outcomes, participants in Profile 2 were predicted to be an average 0.03 lower on the well-being outcomes, and Profile 3 members were predicted to be 0.15 higher on the well-being variables, than predicted by their scores on the aspiration factors alone. The differences in predicted values suggest that the statistically significant increase in predictive accuracy due to the profile information supports the theoretical value of the person-centered approach in addition to the variable-centered approach, while the real-life significance of the size of the incremental accuracy appeared quite small. How- ever, while the difference in predicted values from M1 to M2 was small *within* each profile, the pattern of profile-specific predicted values suggests that there may be meaningful differences *between* profiles in the degree to which membership to each profile predicts well-being. We tested this possibility by comparing the profile- specific regression estimates in the prediction of outcomes, while controlling for the aspiration factors, and report our results below.

Profile differences. Using regression combined with the delta method, we explored the degree to which membership to Profile 1, 2, or 3 predicted the various well-being outcomes. We examined differences between the profile-specific standardized regression estimates, to see how the profile members differed in their predicted well-being. To examine the differences between the pro- files' regression estimates, three comparisons were required: Pro- file 1 compared with Profile 2, Profile 1 compared with Profile 3, and Profile 2 compared with Profile 3. One approach to comparing profile-specific estimates could involve running two regressions. The first regression would set Profile 1 as the reference group, deriving the estimates for Profile 2 (relative to Profile 1) and Profile 3 (relative to Profile 1). Then, in a second regression, Profile 2 could be fixed as the reference group to get the estimate for Profile 3 (relative to Profile 2). Alternatively, the coefficients for each of the three profiles can be estimated from a single regression by combining the regression results with the popular delta method (Fox & Weisberg, 2010). Regressions cannot include all levels of a categorical variable as well as the intercept, so the delta method takes the coefficients and covariance matrix from the regression to estimate the coefficients, standard errors, and confidence intervals for each level of the categorical variable (i.e., for each individual profile, see Online Supplementary Materials S12b for R code to do this). The result is equivalent to removing the intercept from the model, and enables the estimates for each of the three profiles to be compared simultaneously, instead of to a reference group. Gold, Olin, and Wang (2018) provide an accessible mathematical introduction to the delta method. In addition, Sahdra et al. (2017) demonstrate the combination of regression and the delta method for comparing latent profiles.

Following our derivation of the profile-specific regression estimates, we referenced the 95% confidence intervals of each estimate to establish if there were statistically significant differences between the three profiles' predicted well-being outcomes. If the 95% confidence intervals of the estimates for each pair of profiles overlapped on a given variable, the difference between the pro- files' estimates was not statistically significant. A pair of profile- specific estimates differed in their predicted well-being if the confidence intervals did not overlap.

To ensure that the predictive utility of profile membership was not a function of the aspirations held by profile members, we controlled for the aspiration factors when we compared the degree to which the profiles predicted outcomes (i.e., we used M2 de- scribed above). As a result, any observed difference between pairs of profile-specific regression estimates can be considered attributable to profile membership, and not to the aspirations. As illustrated in Figure 2 (and outlined in more detail in Online Supplementary Materials S12), the standardized regression estimates attributable to Profile 3 membership consistently predicted well- being outcomes above the standardized grand means, whereas the estimates for Profile 1 and 2 membership either did not relate to well-being, or predicted well-being scores below the grand means. Moreover, there were differences in these estimates between pro- files. Even when controlling for the aspiration factor scores, Pro- file 3 membership predicted more social well-being than did membership to Profiles 1 and 2, and more emotional and psycho- logical well-being than Profile 1 membership only. For emotional and psychological well-being, there was no difference in the estimates for Profiles 1 and 2 or Profiles 2 and 3. For engaged living, Profile 3 membership predicted more engaged living that did membership to Profiles 1 and 2, between which there was no difference. Profile 3 membership also predicted more nonattachment than membership to Profiles 1 and 2.

The most substantial differences in the profile-specific standardized regression estimates were between the members of the relatively lower well-being Profile 1, and participants typified by the relatively higher well-being Profile 3. Across the five outcome variables, the average difference between the standardized estimates for Profile 1 and Profile 3 was a Cohen's *d* of .33. According to Funder and Ozer (2019), an effect size greater than .30 indicates an effect that is "potentially powerful in both the short and the long run" (p. 156). Even when we account for the global and specific aspirations—which have their own links with well-being—it seems that belonging to Profile 3 is associated with meaningful gains in well-being, while belonging to Profile 1, and in some cases Profile 2, is associated with decrements in well-being.

Gender and profile membership. Table 4 shows the percent- age of females in each of the three profiles. Once again, we used pseudoclass based multiple imputation to generate 25 imputations of profile membership. We then regressed gender on profile membership, pooling across 25 imputations. As in Study 1, Profile 1 members were more likely to be male, and members of Profiles 2 and 3 were more likely to be female. However, as in Study 1, when we regressed gender on profile membership controlling for aspirations, the gender probability estimates overlapped across all three profiles (see Table 5). Therefore, the probability of being female (or male) did not differ across profiles.

Additionally, we tested if the links between profile membership and well-being indices differed by gender. We included the inter- action between gender and profile membership as an added predictor in the regressions predicting well-being (controlling for aspirations). None of the interactions were significant. We have included the table of interactions in Online Supplementary Mate- rials S13. The pattern of nonstatistically significant interactions between gender and profile membership (in the prediction of well-being) suggests that the effects of profile membership on well-being are common across genders.

Discussion

Study 2 achieved three important aims. First, the results supported the cross-cultural replicability of the three aspiration profiles derived in Study 1 (Research Question 1). Second, the study demonstrated that profile membership provided additional explanatory power beyond the nine aspiration factors derived using B-ESEM, and third, Study 2 shed light on the psychological correlates of belonging to each of the profiles (Research Question 2). Put simply, one's pattern of aspirations matters for well-being.

Apart from some minor configural nuances, the three profiles were similar across the two studies, providing support for our tentative profile labels. In both samples, Profile 1—*Disengaged from relationships and health*—members were well below average on global intrinsic aspiring, with a disinterest in health and relationships. Similarly, Profile 3—*Aspiring for community relationships more than interpersonal relationships*—members were above average for both global aspirations and especially for community aspiring. Profile 2—*Aspiring for interpersonal relationships more than community relationships*—members were notably different across the two studies in that the ratio of global extrinsic to intrinsic aspiring was reversed in Study 2 (e.g., in Study 1 the profile was more globally extrinsic than intrinsic, this pattern was reversed in Study 2), though these peaks were less than a quarter of a standard deviation, so there may be no phenomenological impact and could be considered equivalent. Further, peaks for relationships were key features in Profile 2 in both studies, fitting with this profile's label.

In addition to replicating the profiles, Study 2's key contribution was the establishment of the incremental value of the profiles, over and above the aspiration factors used to derive them.

Models including profile membership probabilities as a predictor were a significantly better fit for the data (compared with aspirations alone) for five of the nine variables measured including social, emotional, and psychological well-being; engaged living; and, consistent with our "broadening social focus" hypothesis, one index of other-orientation: nonattachment. However, when we compared the predicted values on the out- comes with and without profile membership, within-profiles, the added value of including profile membership was small. Thus, while the statistical utility of profile membership was supported, its real-life significance appeared small within- profiles. Instead, the primary value of profile membership was apparent when we examined the predictive ability of group membership *between* profiles (still controlling for aspirations), rather than *within* profiles across models. Specifically, in models that controlled for the aspiration factors, membership to Profile 3 predicted more social well-being, engaged living, and nonattachment than membership to Profiles 1 and 2, with meaningful effect sizes. Profile 3 membership predicted more emotional and psychological well-being compared with Profile 1 only, also with considerable effects. In sum, comparison of the predictive ability of the three profiles indicated that member- ship, especially to Profile 3, relates meaningfully to increased well-being. Differences in the standardized regression estimates across profiles (when controlling for aspirations) suggest that novel information is gained about participants' well-being by knowing the profile to which they (probably) belong. Such information cannot be ascertained using their aspirations scores alone. Taken together, these results suggest our approach has complementary utility to traditional variable-centered methods.

Finally, we considered the potential limitation of nonplanned missing data on the results. However, readers should note that Study 2 had a very small amount of missing data on the outcome variables (not more than 6%). We could not be sure the degree to which such missingness affected the pattern of results, which emphasized the importance of testing these results in another sample.

Study 3

In Study 3, we sought to replicate our Study 2 results with regards to the predictive utility of profile membership, and to examine other theoretically relevant outcome variables. Specifically, we sought to accomplish three things with Study 3. First, using an independent sample of Americans, we aimed to replicate the profiles for a second time in a yet another culture. Second, we attempted to replicate the differences between the predictive abilities of the profiles in relation to well-being. Third, given that intrinsic aspirations are thought to enhance basic psychological needs, and extrinsic aspirations, at best, only indirectly satisfy these needs (Deci & Ryan, 1985; Ryan & Deci, 2017), we included basic psychological needs satisfaction and frustration as outcome variables and assessed the extent to which these variables, central to self-determination theory, relate to profile membership. We hypothesized that Profiles 2 and 3 would more strongly predict basic psychological need satisfaction than membership to Profile 1, and that Profile 1 would predict more psychological needs frustration than membership to Profiles 2 and 3. We again expected that the profiles would meaningfully differ in the prediction of outcomes, even when controlling for the aspiration factor scores.

Method

Participants and design. Participants from Study 3 were recruited by Qualtrics. The sample was comprised of 6,063 participants (n = 1,032 males, n = 4,984 females, and n = 47 did not report gender) aged between 18 and 25 (M = 21.86, SD = 2.29). We also collected demographic information regarding ethnicity, income, marital status, and education. Participants were 10.2% African American, 13.9% Hispanic, 7.7% European, 37.7% Euro- pean American, 4.8% Asian American, 4.5% Native American, 0.8% South Indian/Indian subcontinent, 5.9% Mixed multiracial, and 14.5% Other. The median income category was USD$30,000 – $40,000. Participants reported being single (49.1%), dating a number of people (1.1%), dating one person (20.8%), married (15.5%), divorced (0.4%), widowed (0.1%), cohabiting (11.6%), or engaged (4.4%). Regarding education level, participants reported: some high school or less (4.9%), high school diploma or equivalent (26.3%), some college (39.9%), college diploma (21.3%), some grad school (3.9%), and graduate degree (3.7%). All materials were administered in English. These data have not been analyzed or published anywhere except in the current study.

Measures.

Aspirations. Aspirations were measured using the English version of the 35-item Aspiration Index (Kasser & Ryan, 2001) as described above. In this sample, Cronbach's alphas ranged from .83 for personal growth to .88 for physical health, indicating satisfactory internal consistency.

Subjective well-being. Keyes' (2006) 12-item Mental Health Continuum—Short Form (MHC-SF), described above in Study 2, showed satisfactory internal consistency in Study 3 (□□ .86 for emotional well-being, χ = .85 for social well-being, and χ = .76 for psychological well-being).

Engaged living. Also described above in Study 2, The Engaged Living Scale (ELS; Trompetter et al., 2013) was found to be highly internally consistent in Study 3 (χ = .93).

Nonattachment. The NAS-7 (Elphinstone et al., 2015) showed good internal consistency in Study 3 (χ = .87), as it did in Study 2 described above.

Basic psychological needs. To assess satisfaction or frustration of the basic psychological needs for autonomy, competence, and relatedness, we used the cross-culturally validated Basic Psychological Need Satisfaction and Frustration Scale (Chen et al., 2015). The measure consists of six subscales: autonomy satisfaction and frustration, competence satisfaction and frustration, and relatedness satisfaction and frustration, each represented by four items responded to on a 1 (*completely disagree*) to 5 (*completely agree*) scale. Example items include: "I feel that my decisions reflect what I really want" (autonomy satisfaction, χ = .78), "My daily activities feel like a chain of obligations" (autonomy frustration, χ = .79), "I feel capable at what I do" (competence satisfaction, χ = .83), "I feel insecure about my abilities" (competence frustration, χ = .86), "I feel connected with people who care for me, and for whom I care" (relatedness satisfaction, χ = .82), and "I feel the relationships I have are just superficial" (relatedness frustration, χ = .84).

Multiple imputation. Study 3 used a planned missing data design. To reduce participant burden, planned missing data designs involve presenting participants with a random subset from a battery of items (Silvia, Kwapil, Walsh, & Myin-Germeys, 2014). Such strategies guarantee that the missing data mechanism meets the stringent criteria of missing completely at random (MCAR; Enders, 2010). In Rubin's (1976) theory of missing data, every data point has some probability of being absent. If the probability of being missing is the same for all of the data points, the data are MCAR (van Buuren, 2018). In other words, when data are MCAR the missing data mechanism is not related to any of the observed or missing values in the data set. Our planned missing design meant that we could collect more data from the participants than would be possible if we asked participants to respond to all questions. Further, because data were MCAR the parameter estimates would not be biased as a result of the missing data (Enders, 2010). Evidence suggests that multiple imputation strategies can be employed to MCAR data to boost statistical power without introducing bias (Little, Jorgensen, Lang, & Moore, 2013). Demo- graphic information was recorded for all respondents and then participants were randomly presented with approximately 116 items from a pool of 217. The sampling strategy meant that each item was completed approximately 54% of the time for an adequate variance-covariance matrix coverage of approximately 29%.

To account for the missingness, we used Amelia II (Honaker, King, & Blackwell, 2011) to create 25 imputations of the data in R (R Core Team, 2016), each of which contained no missing data. Amelia II implements expectation-maximization (EM) algorithm with bootstrapping (Honaker et al., 2011). The package employs multiple bootstrapped samples of the original data to draw an EM-based predictive distribution of missing data and uses those parameters to automatically fill in the missing values while leaving the observed values intact across the imputations. The uncertainty associated with missing data modeling is captured across multiple imputations, which show minor variations in the imputed values. All 25 of the imputed data sets are used in analyses which employ these data. The same statistical analysis is conducted for each of the imputed data sets, and then the results are pooled across imputations to account for the uncertainty associated with multiply imputed data (Enders, 2010). In our study, the EM convergence was normal and EM chain lengths of the imputed data sets were reasonably short and consistent in length indicating the imputation procedure was effective.

Results

Intercorrelations of study variables.

See Table 9 for inter- correlations, means, and standard deviations of the scale scores of the Study 3 variables. As in Study 1 and Study 2, the intrinsic aspirations correlated more highly with each other than with the extrinsic aspirations (and vice versa). Interestingly, both intrinsic and extrinsic aspirations correlated positively with several well- being indices. For the most part, the well-being variables correlated highest with the intrinsic aspirations, though social well-being correlated similarly with all aspirations. Autonomy and competence satisfaction correlated positively with both intrinsic and extrinsic aspirations (though more so for the intrinsic sub-scales), and basic psychological needs frustration consistently related positively with extrinsic aspirations, and negatively (or not at all) with the intrinsic aspirations.

B-ESEM and LPA of the Aspiration Index. To replicate the profile structure obtained in Study 1 and Study 2 (Research Question 1), we employed the same B-ESEM and LPA strategy de- scribed in those studies. As in the preceding studies, the B-ESEM (including two global and seven specific factors) indicated excel- lent fit in this sample, $\chi^2(316) = 4037.94$, $p < .001$, CFI = .97, TLI = .94, RMSEA = .04, SRMR = .01. We ran LPA up toa six-profile solution. The results of these analyses can also be found in Table 2 and support our use of a three-profile solution. Item factor loadings for the nine factors are reported in Online Supplementary Materials S14. Omega coefficients for the two global and seven specific factors are also included in Online Supplementary Materials S2.

The right panel of Figure 1 shows profile configurations akin to those observed in Study 1 (left panel) and Study 2 (middle panel). Profile 1 (28.7% of the sample, n = 1,742) again depicted the *Disengaged from relationships and health* group, characterizing those with average extrinsic aspirations, below average intrinsic aspirations and a particular disinterest in relationships. Members of Profile 2 (45.9%, n = 2,785), the *Aspiring for interpersonal relationships more than community relationships* group, were slightly more intrinsic than extrinsic (as in Study 2, but not in Study 1) with an emphasis on relationships. Those in the *Aspiring for community relationships more than interpersonal relationships* group again had the highest global intrinsic and extrinsic aspirations, with an intrinsic emphasis. As in Study 1 and Study 2, Profile 3 also had a peak for community giving in Study 3.

Incremental validity of profile membership. Again, we used pseudoclass based multiple imputation to estimate profile membership 25 times, combining the multiply imputed profile membership estimations with the 25 multiply imputed data sets to conduct the hierarchical regressions, pooling the results across imputations using the D_1 method. As in Study 1 and Study 2, in M1 (in Tables 10a and 10b) the outcome variables were first regressed on the two global and seven specific factors (not including profile membership), and then M2 (in Tables 10a and 10b) additionally included the profile membership variable as a predictor. We then compared M1 and M2 using the D_1 method. As shown in Tables 10a and 10b, M2 (including profile membership as a predictor) was a significantly better fit for all the variables measured. These results bolster those from Study 2, again providing evidence for the added value of profile membership in predicting indices of optimal functioning.

Readers may note that the additional variance accounted for in the outcome variables in Study 3 is markedly smaller than that reported in Study 2. Of the statistically significant model comparisons in Study 2, the average increase in variance accounted for by the inclusion of profile membership was 1%. In Study 3, the average increase in variance captured by profile membership was .2%. This suggests that the differences between the profiles are less substantial in Study 3 than in Study 2. Readers may also notice that some of the model comparisons in Study 3 are more statistically significant (have smaller *p* values), and have smaller denominator degrees of freedom, than models in Study 2, despite the Study 3 models accounting for a relatively smaller change in R^2. As we describe in considerable detail in Online Supplementary Materials S5, these results are not implausible given our necessary use of multiple imputations to account for the probabilistic nature of profile membership (and missing data in Study 3). Briefly however, R^2 change should not be thought of as the meaningful effect size in these model comparisons because the additional sources of variance introduced in a pooled model comparison are not captured in R^2. Instead, the F statistic is the critical test statistic upon which the *p* values for the model comparisons are based, because within- and between-imputation variance, and the variance attributable to multiple imputation are modeled in the F value. A relatively larger F statistic will be accompanied by a relatively smaller (i.e., more statistically significant) *p* value. The variance attributable to multiple imputation is also reflected in the denominator degrees of freedom; as the sampling variance increases as a result of multiple imputation, denominator degrees of freedom decrease. We have included information about the relative increase in variance attributable to multiple imputation (RIV) in Tables 10a and 10b to aid interpretation of the results. All of the additional sources of variance (within- and between-imputation and RIV) interplay in the production of the pooled model results, and we invite readers to replicate our results using our data and code which are available on the Open Science Framework (https:// osf.io/ub738/), and read more about the D_1 method in Grund et al. (2016), Meng and Rubin (1992), and Enders (2010).

As we did in Study 2, we calculated profile-specific predicted values on the outcome variables using the M1 (aspirations only) regression model, and the M2 (aspirations plus profile member- ship) regression, and calculated the differences in the predicted values within profiles. A summary of the predicted values appears in Table 11. In short, we observed a pattern of differences in the predicted values akin to those reported in Study 1. When including the profile membership variable in addition to the aspiration fac- tors, Profile 1 members were predicted to be an average of 0.01 lower on the well-being outcomes, and 0.03 higher on the ill-being outcomes. When profile was included in the model, participants in Profile 2 were predicted to be an average 0.05 lower on the well-being outcomes, and 0.01 higher on the ill-being outcomes, and Profile 3 members were predicted to be 0.07 higher on the well-being variables and 0.05 lower on the ill-being variables. As we saw in Study 2, the differences in the predicted values suggested that the real-life impact of profile-related information may be small. However, the predicted values between profiles again suggested that the crucial information regarding the utility of profile membership is apparent when we compare the profiles in their ability to predict well-being, while controlling for aspirations, which is what we did next.

Profile differences. Again, we used regression combined with the delta method to compare the profile-specific regression estimates and confidence intervals in the prediction of outcomes (still using the 25 imputations of profile membership), controlling for the aspiration factors. Figure 3 illustrates the standardized estimates for each of the profiles on the various outcomes (see Online Supplementary Materials S20 for more specific detail). As in Study 2, Profile 3 membership showed a clear pattern of predicting well-being outcomes above the standardized grand means, and predicting basic psychological need frustrations below the grand means. In contrast, estimates for Profile 1 and 2 membership either did not predict well-being or predicted below average well-being and, in some cases, predicted above average basic psychological need frustration. In many cases, the profile-specific regression estimates also differed between profiles. Profile 3 membership predicted more social well-being, engaged living, and autonomy and relatedness satisfaction than did membership to Profiles 1 and 2. Profile 3 also predicted more emotional and psychological well-being, nonattachment, and competence satisfaction than Pro- file 2 membership only, and Profile 1 membership predicted more basic psychological needs frustration than Profile 3 membership only.

In contrast to Study 2, in this study, the comparisons between the Profile 2 and 3 regression estimates showed larger effects than the comparisons between Profile 1 and Profile 3 estimates (in Study 2 the largest effects were between Profile 1 and Profile 3). The average difference between the Profile 2 and Profile 3 regression estimates was a Cohen's *d* of .16, favoring Profile 3 members' well-being. The average difference between the Profile 1 and Profile 3 estimates was .14, also favoring the well-being of Profile 3 members. These are smaller effects than in Study 2. However, while effect sizes above .10 may be small at the study level, they have the potential to ultimately be consequential (Funder & Ozer, 2019). There were no differences observed between the estimates for Profile 1 and 2 membership, suggesting, again, that knowing whether or not participants belong to Profile 3 may provide meaningful information about participants' well-being, not accessible when using aspirations alone.

Sensitivity analyses. To ensure that the ability of profile membership to predict indices of optimal functioning was not specific to the sample in Study 2, we also ran the Study 3 LPAs by fixing the model command final estimates to match those from the M*plus* output for Study 2. Fixing the values in Study 3 meant that the model command final estimates for the profiles in this third study become exactly the same as in Study 2. Using the fixed LPA procedure, the Study 3 profile shapes became more similar to those in Study 2 (see Online Supplementary Materials S15), and the Study 3 participants are given class membership probabilities based on the Study 2 output. We then tested the ability of profile membership to continue to predict additional variance in well- being using a constrained LPA in Study 3. As shown in Online Supplementary Materials S16 and S17, the hierarchical regression and profile-specific delta method-transformed regression coefficient comparisons using the profile membership probabilities from the constrained LPA, found that profile membership still had additional explanatory power for six of the 11 variables. The ability of profile membership to explain additional variance in the outcome variables in Study 3 using fixed model estimates from Study 2 serves a rigorous test of the utility of profile membership and the reliability of its incremental value. Indeed, to our knowledge, ours is the only mixture modeling study that passes the critical tests outlined by Parker and Brockman (2019).

Deriving similar profile shapes using independent samples serves as the most stringent test of the profile shapes' replicability. In addition, the fit indices were better for the independent models compared to the models using the fixed model estimates (see Online Supplementary Materials S18). On these bases, we have aligned our results with the most statistically sound model, thus focusing on novel profiles that were derived independently from each sample but remain similar across studies. Example M*plus* input syntax is included in Online Supplementary Materials S19, to demonstrate how to fix the model estimates in an LPA.

Gender and profile membership. Table 4 shows the percent- age of females in each of the three profiles. Here again, we used pseudoclass based multiple imputation (Wang et al., 2005) to generate 25 imputations of profile membership. We then regressed gender on profile membership in a logistic regression. As in Study 1 and Study 2, Profile 1 members were more likely to be male, and members of Profiles 2 and 3 were more likely to be female. Also, as in Study 1 and Study 2, when we regressed gender on profile membership controlling for aspirations, the probability of being female (or male) did not differ across profiles (see Table 5).

As we did in Study 2, we also tested the interaction between gender and profile membership in the prediction of well-being and well-being-related outcomes in Study 3. The interaction between gender and profile membership was not statistically significant for any of the 11 variables. Replication of the pattern of null results suggests that the benefits and consequences of belonging to the various profiles apply equally to males and females. The table of interactions is included in Online Supplementary Materials S21.

General Discussion

In three large studies using samples from different countries, we combined bifactor exploratory structural equation modeling (B- ESEM) and latent profile analysis (LPA) to examine intrinsic and extrinsic aspirations through a person-centered lens. We found support for our hypothesis that subgroups differ in the configuration of their aspirations and replicated those configurations in three independent samples. The replicable profiles derived in all three samples are easily interpretable, have heuristic value, and suggest that the Aspiration Index reliably measures meaningful aspiration configurations common across at least three different countries. Crucially, we demonstrated that a B-ESEM and LPA analytic framework added value to more traditional variable-centered approaches. Specifically, we found that the three profiles differed meaningfully in the direction and degree to which they predicted positive psychological functioning, even in conservative tests that control for the global and specific aspiration B-ESEM factor scores used to derive the profiles.

Profile membership predicted above average well-being particularly for the *Aspiring for community relationships more than interpersonal relationships* group (Profile 3), whose members reported significantly more positive functioning than did those in Profile 1 (*Disengaged from relationships and health*) and, in some cases, Profile 2 (*Aspiring for interpersonal relationships more than community relationships*). This is a key outcome of our study because, while Profile 3 characterized individuals with a relative intrinsic orientation, of the three groups, Profile 3 members also reported the highest extrinsic aspirations. This result provides unique evidence that, for some groups, above average extrinsic aspiring may not be detrimental if such aspiring is done in a highly intrinsic context, especially in combination with aspiring for community engagement and giving (Kasser & Ryan, 2001). It also converges with evidence on the need satisfying impact of civic engagement (Wray-Lake, DeHaan, Shubert, & Ryan, 2017). Moreover, because we con- trolled for the aspiration factor scores when we compared the profiles' abilities to predict outcomes, we learned that knowing participants' aspiration profile uniquely informs well-being, in ways that cannot be known using a variable-centered analysis of aspirations alone.

Replicable Profile Configurations

Ours is the first study to disentangle intrinsic and extrinsic orientation effects from the shapes of the specific aspirations using innovative B-ESEM methodology. In doing so, we achieved two important outcomes. First, we provided partial support for prior evidence that people can be grouped according to the levels of their higher-order intrinsic and extrinsic aspiration importance and attainment ratings (Kasser & Ryan, 2001; Rijavec et al., 2011). Specifically, Rijavec et al. (2011) reported four clusters from their K-means cluster analysis. Of the four clusters described, our results support Rijavec et al.'s (2011) High E/Low I and Low E/High I clusters, in that members of Profile 1 were more extrinsic than intrinsic, and Profile 3 individuals had a more intrinsic than extrinsic focus. Importantly, we also demonstrated that, in addition to their relative extrinsic emphasis, Profile 1 members aspired below average in general, while Profile 2 individuals aspired to an average extent, and members of Profile 3—while relatively intrinsic—aspired above average in both the intrinsic and extrinsic domains. Second, we expanded past work by including specific aspirations in our analysis. Our person-centered analytic strategy revealed specific aspiration patterns of expanding social breadth. Each profile tended to increase in the breadth of aspirations for social connection, from profiles characterized by low aspiration for social connection (Profile 1), higher aspiration for interpersonal connection than community connection (Profile 2), and then higher aspiration for community connection than interpersonal connection (Profile 3). Moreover, the shapes of the profiles were replicated across multiple, independent samples, demonstrating their cross-cultural reliability (Research Question 1).

Profile Membership and Optimal Functioning

Our second research aim involved a comprehensive assessment of the additional utility of considering profiles of aspirations over and above what is known about well-being based on the aspiration variables alone. When we compared the predicted values from models using aspirations only, with models that additionally included profile membership, the added value of profile membership *within* profiles was small. The predicted outcome values improved statistically significantly, but only slightly across the two models, pointing to the possible statistical utility of the models though calling into question the real-life implications of profile member- ship. However, the predicted outcome values differed meaning- fully *between* profiles. Indeed, when we compared the ability of membership to the different profiles to predict well-being between profiles (controlling for aspirations) we found moderate effect sizes in Study 2, and small but meaningful effect sizes (Funder & Ozer, 2019) in Study 3.

Based on the shapes of the profiles, we expected that Profile 3 members' relative intrinsic orientation and high aspirational engagement would result in membership to Profile 3 predicting higher optimal functioning than would membership to Profiles 1 and 2. This hypothesis was largely supported. We compared the ability of membership to the three profiles to predict outcomes while controlling for the aspiration variables, which served as a rigorous test of the added value of our B-ESEM and LPA frame- work. The profiles did not show incremental value in predicting anxiety in Study 1 or mental ill-health in Study 2, though the profiles did differ in the direction and degree to which they predicted several well-being indices. Profile 3 membership predicted more emotional, psychological, and social well-being than membership to Profile 1 in Study 2 and less basic psycho- logical needs frustration than membership Profile 1 in Study 3. In both Studies 2 and 3, Profile 3 membership also predicted more social well-being and engaged living than membership to Profiles 1 and 2.

These tests demonstrated that Profile 3 membership was linked with its members' relatively higher positivity and belongingness (social well-being), life satisfaction (engaged living), and basic psychological needs satisfaction. In addition, Profile 1 member- ship was often linked with below average emotional and psycho- logical well-being, even when accounting for the spectrum of aspirations which has already been meaningfully connected to optimal functioning (Kasser, 2002). In other words, even when the specific aspirations were accounted for, those characterized by Profile 3 still had the most optimal functioning and those characterized by Profile 1 had the least.

For Profile 1, these results are perhaps intuitive. In general, high goal engagement has been linked to well-being (Emmons, 1986), especially if said goals are intrinsic (Kasser, 2002), and Profile 1 members are below average on intrinsic aspirations, and aspiring in general. However, what may be surprising for some is Profile 3's relatively higher degree of optimal functioning despite their above average scores of global extrinsic aspirations. Extrinsic aspirations are commonly framed as "materialistic" (Vansteenkiste et al., 2006, p. 2892), and are more likely than intrinsic aspirations to be psychologically detrimental (Deci & Ryan, 2000). However, important evidence has found that attainment of extrinsic goals can negatively or *neutrally* relate to optimal functioning if in the context of high attainment of intrinsic goals (e.g., Kasser & Ryan, 2001). Our person-centered approach may illuminate the mechanics of these results better than variable-centered analyses of aspirations, in which, those characterized by different extrinsic and intrinsic aspiration profiles are treated as homogenous and analyzed together. More concretely, those for whom extrinsic aspirations may be detrimental are combined with those for whom they may be neutral (or perhaps even positive) in models that assume a homogenous population.

Profile 3 members' above average degree of positive functioning indicates that there is a subgroup of people for whom above average extrinsic aspirations may not be inherently negative. Perhaps it is the case that Profile 3 members' extrinsic endeavors do not distract from their high level of intrinsic aspiring. Or perhaps the functions of extrinsic aspirations are different when they are in the context of high (Profile 3) versus low (Profile 1) intrinsic aspiring. For example, people who aspire for community values may see wealth as a way to contribute to others. In contrast, someone characterized by the disengaged profile (Profile 1) may see wealth only in terms of personal goals and status. These speculations need to be tested in future research.

Profile Membership and Integrative Span

We interpret the differences in the shapes of the profiles in terms of people's integrative span, or their breadth of aspirations for social care and connection. We propose the term integrative span as a theoretical foundation for describing the qualitative differences between the profiles. Specifically, the profiles appear to differ in the extent to which others, both close and distal, are emphasized in the pattern of aspirations. We see this idea of integrative span as potentially related to successful development, as people move increasingly beyond self-focused concerns (Profile 1) to more concern with their relationships (Profile 2) and the larger community (Profile 3). Intrinsic aspirations could be thought to reflect more expansive integrative span given that these pursuits often involve other people (e.g., aspirations for close relationships and community giving). In contrast, extrinsic aspiring could reflect narrower integrative span because aspirations of this type are thought to be more self-focused, often due to need thwarting and need frustration in one's social context (Nishimura, Bradshaw, Deci, & Ryan, in press). For example, Kasser et al. (1995) showed that more need depriving (cold and controlling) parenting led to youth developing more materialistic leanings and fewer prosocial interests.

Integrative span also reflects broader inclusion of others. The narrowest span would focus only on one's own needs. The span could then be broadened to include significant others, such as a partner, and then even further to include one's community. As social integrative span increases, people are expected to become more oriented toward satisfying the needs of others. In addition, they are expected to encounter more people who can help them satisfy their own needs.

Integrative span may ultimately link to several existing con- structs, as well as speculative ideas in the literature. For instance, differences in integrative span may reflect varying degrees of self-actualization (Maslow, 1967), which is manifest in people who are driven by causes "outside themselves" (p. 94). Frankl's (1966) self-transcendence thesis emphasizes human interactions as a source of meaning, which is thought to be the ultimate human goal, as do Adler's (1954/1927) seminal writings concerning *gemeinshaftsgefuhl* (community feeling). Broadening integrative span as discussed herein may also connect with the literature of eudaimonia, insofar as eudemonic living emphasizes the pursuit of virtue and one's best potentialities (Huta & Waterman, 2014; Ryan, Huta, & Deci, 2008), and has thus been speculated to relate to a broader scope of concern (Huta, 2016), which is the propensity to consider the well-being others, as well as to think abstractly and see a bigger picture. Perhaps most directly, integrative span connects with McFarland, Webb, and Brown's (2012) construct of identification with all humanity (IWAH), which expands upon work by Adler (1954/1927) and Maslow (1967), among others. Like McFarland et al.'s (2012) work, our Profile 1's self-orientation reflects a relatively narrow span of identifications, Profile 2 is one level wider by including close others, and Profile 3's emphasis on the community represents the broadest span of identification. Put differently, there seem to be levels or spheres of consideration beyond the self, and wellness may be enhanced the more levels are transcended.

The shapes of the specific aspirations provide support for the idea of expanding integrative span. Profile 1 members have below average relationship and community aspirations (both arguably other-oriented aspirations), while Profile 2 emphasizes relationship aspirations (which refer to more intimate, proximal others). Finally, Profile 3's configuration is centered on giving to the com- munity (which focusses on the broader, more distal community and the world in general). The aspirational focus on increasingly distal others in the configurations is consistent with the idea of a broadening integrative span. Importantly, increasingly integrative span appeared to be linked with optimal functioning. Future re- search might further examine the notion of integrative span, specifically the existence of potential additional spheres of integrative span, perhaps reflecting consideration for nonhuman animals, the environment, and future generations.

Profile Membership, Nonattachment, and Empathy

Concordant with our conceptualization of integrative span, we hypothesized that levels of the other-oriented variables of nonattachment and empathy would increase in line with our theory of increasingly integrative span. Preliminary tests partly supported our integrative span hypotheses. In Study 2, profile membership did not explain additional variance in empathy beyond the aspiration factors. However, we found that Profile 3 membership predicted significantly more nonattachment than membership to Pro- file 1 and 2 in Study 2 and Profile 2 in Study 3. These results may indicate that Profile 3 members are better able to let go of self-indulgent beliefs (nonattachment), but aspiration profile does not seem to make a difference in the extent to which profile members see themselves as particularly gifted when connecting with others (empathy), even though Profile 3 members aspire to contribute to the lives of others nonetheless. Of course, we have no evidence that members of Profile 3 were actually serving the community (only aspiring to), although Schwartz (2010) reported that individuals are more likely to respond to those in need if doing so supports their “high priority values” (p. 222). Future research is needed to examine the extent to which members of the three profiles are enacting behaviors congruent with their patterns of aspirations.

Profile Membership and Gender

Preliminary tests of the profiles’ gender compositions indicated that gender was associated with profile membership in all three samples. However, when we controlled for the continuous aspiration indices, there was no difference in the probability of males or females belonging to each of the three profiles. While this result was counter to our expectations, it merely suggests that differences in the gender compositions across profiles reflect the commonly reported association between gender and aspirations. Males and females differ in the degree to which they subscribe to different aspirations, and those differences account for their belonging to the different profiles of aspirations.

Limitations and Conclusions

One potential limitation of these studies is that responses on the self-report aspiration scales may have been influenced by common method variance, such as social desirability or extreme responding. However, a key aspect of our incremental analyses minimized this risk. In examining differences between the profiles, we control for the individual aspiration factors, a procedure that reduces or eliminates shared method variance (Lindell & Whitney, 2001). Nevertheless, it might be interesting for future research to find non-self- report ways to measure aspirations, perhaps finding ways to assess implicit motivation (Schultheiss, Liening, & Schad, 2008).

Indeed, these results provide considerable grist for future investigations. Our study firmly distinguished the predictive utility of belonging to Profile 3 from belonging to Profiles 1 and 2, but the correlates of the two latter profiles could be further understood. For example, Profile 1 members' extrinsic emphasis may be demonstrative of insecurities, financial strain, or merely material- ism—these ideas can be tested by measuring these constructs in future studies. Profile 2 individuals' focus on close relationships may signify their interest in a romantic partner or perhaps represent more collectivistic values. Longitudinal analyses could also inform factors that predict aspiration profile membership (such as parenting style or cultural factors), and other outcomes associated with profile membership.

The results of our studies support our claim that subgroups differ in their aspiration profiles and these differences relate to well-being, even when individual aspirations are controlled for. The derivation of these profiles using B-ESEM and LPA has also demonstrated a novel way of examining aspirations, and the results revealed a subgroup of community aspirers, for whom giving to the community is important in combination with their high level of general aspiring. Membership to this profile predicted more social well-being, engaged living, nonattachment, and basic psychological needs satisfaction than belonging to a profile with an aspirational pattern marked by low intrinsic aspirations, and a profile oriented toward their close relationships and health, even accounting for the aspirations that comprise the profiles. In sum, our research provides evidence that the *configuration* of specific intrinsic and extrinsic aspirations meaningfully and incrementally informs the links between aspirations and optimal functioning.

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Table 1
Intercorrelations, Means, and Standard Deviations of the Variables in Study 1 (the Hungarian Sample)

Variable	1	2	3	4	5	6	7	8
1. Wealth	1							
2. Fame	0.48***	1						
3. Image	0.58***	0.48***	1					
4. Growth	0.16***	0.14***	0.21***	1				
5. Relationships	0.09***	0.09***	0.21***	0.47***	1			
6. Health	−0.05**	0.16***	0.15***	0.44***	0.36***	1		
7. Community	0.22***	0.07***	0.32***	0.47***	0.41***	0.33***	1	
8. Trait anxiety	0.04*	−0.01	0.07***	−0.05**	0.04*	0.03	−0.03	1
M	4.56	3.05	4.22	6.32	6.44	5.25	6.40	2.20
SD	1.07	1.23	1.28	0.62	0.65	1.21	0.72	0.52

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

Table 2

Results From the Latent Profile Analyses of the Factor Scores of the B-ESEM of the Aspiration Index in Study 1 (the Hungarian Sample), Study 2 (the Australian Sample), and Study 3 (the American Sample)

Study	Model	LL	#fp	Scaling	AIC	CAIC	BIC	ABIC	Entropy	aLMR	BLRT	sm. n
Study 1	1 Profile	−39760.29	18	1.5011	79556.58	79556.79	79666.79	79609.60	—	—	—	3370
Study 1	2 Profiles	−37837.30	37	1.3190	75748.60	75749.44	75975.14	75857.57	0.688	≤.001	≤.001	1429
Study 1	3 Profiles	−37243.22	56	1.2528	74598.44	74600.37	74941.31	74763.37	0.736	≤.001	≤.001	963
Study 1	4 Profiles	−36882.90	75	1.2634	73915.80	73919.26	74375.00	74136.69	0.688	≤.001	≤.001	545
Study 1	5 Profiles	−36617.00	94	1.3344	73422.00	73427.46	73997.53	73698.85	0.719	≥.05	≤.001	445
Study 1	6 Profiles	−36347.38	113	1.3724	72920.75	72928.67	73612.62	73253.56	0.739	≥.05	≤.001	310
Study 2	1 Profile	−18613.42	18	1.7350	37262.84	37263.27	37360.00	37302.82	—	—	—	1632
Study 2	2 Profiles	−17425.51	37	1.4024	34925.02	34926.78	35124.73	35007.18	0.760	≤.001	≤.001	810
Study 2	3 Profiles	−16928.24	56	1.4815	33968.48	33972.53	34270.74	34092.84	0.775	≤.01	≤.001	274
Study 2	4 Profiles	−16629.38	75	1.6164	33408.75	33416.08	33813.57	33575.31	0.758	≥.05	≤.001	228
Study 2	5 Profiles	−16499.09	94	1.8125	33186.18	33197.80	33693.55	33394.93	0.800	≥.05	≤.001	106
Study 2	6 Profiles	−16361.67	113	1.3062	32949.34	32966.32	33559.27	33200.29	0.786	≥.05	≤.001	69
Study 3	1 Profile	−58474.88	18	1.3480	116985.75	116985.92	117106.53	117049.33	—	—	—	6063
Study 3	2 Profiles	−54492.59	37	1.3635	109059.18	109059.63	109307.49	109189.87	0.804	≤.001	≤.001	2275
Study 3	3 Profiles	−53101.32	56	1.3632	106314.65	106315.71	106690.41	106512.45	0.736	≤.001	≤.001	1536
Study 3	4 Profiles	−52069.36	75	1.4294	104288.73	104289.19	104791.97	104553.64	0.790	≤.001	≤.001	521
Study 3	5 Profiles	−51268.16	94	1.2786	102724.33	102724.79	103355.0	103056.36	0.791	≤.001	≤.001	188
Study 3	6 Profiles	−50596.29	113	1.3128	101418.57	101419.03	102176.80	101817.71	0.777	≤.001	≤.001	185

Note. B-ESEM = bifactor exploratory structural equation model; LL = model loglikelihood; #fp = number of free parameters; Scaling = scaling factor associated with MLR loglikelihood estimates; AIC = Akaïke information criteria; CAIC = constant AIC; BIC = Bayesian information criteria; ABIC = sample-size adjusted BIC; aLMR = adjusted Lo-Mendell-Rubin likelihood ratio test; BLRT = bootstrapped likelihood ratio test; sm. n = the sample size of the smallest profile. The model highlighted in gray was selected as the optimal profile solution.

Table 3

Hierarchical Regression Results Comparing a Model Regressing Anxiety on the Two Global and Seven Specific Aspiration Factor Scores From a B-ESEM of the Aspiration Index (M1), to a Model That Also Includes Profile Membership Probabilities From an LPA of the Factor Scores as a Predictor (M2), Pooled Across 25 Imputations Study 1 (the Hungarian Sample)

Predictor variable	Anxiety	
	M1	M2
Aspirations		
Extrinsic G	0.02	0.02
Intrinsic G	0.04*	0.03
Wealth S	0.02	0.02
Fame S	−0.09***	−0.09***
Image S	0.09***	0.09***
Growth S	−0.11***	−0.11***
Relationships S	0.04	0.04
Community S	−0.01	−0.01
Health S	−0.09***	−0.10***
Profile membership (relative to Profile 1)		
Profile 2		0.02
Profile 3		0.02
Pooled sig. test M1 vs. M2	$F(2, 399) = .11$, $p = .90$, RIV = .44	
Pooled R^2	0.03	0.03
Pooled R^2 Δ		0.00

Note. M1 = Model 1 (regressing anxiety on the two global and seven specific aspiration factor scores); M2 = Model 2 (regressing anxiety on the aspiration variables, plus the profile membership variable); G = global factor; S = specific factor; WB = well-being. The profile membership estimates included here for Profile 2 (*Aspiring for interpersonal relationships more than community relationships*) and Profile 3 (*Aspiring for community relationships more than interpersonal relationships*) are relative to Profile 1 (*Disengaged from relationships and health*). *F* statistics, *p* values, and the denominator degrees of freedom are calculated using the D_1 function from the mice (van Buuren, & Groothuis Oudshoorn, 2010) and mitml (Grund, Lüdtke, & Robitzsch, 2016) packages in R. The *F* statistic is the critical value upon which the *p* values are based in these models, and accounts for the within- and between-imputation variance metrics. As these sources of variance increase, *F* values decrease and *p* values become less statistically significant. R^2 does not account for the additional sources of variance. The denominator degrees of freedom are derived using the formulas recommended by Grund et al. (2016) and Meng and Rubin (1992) for use when pooling results across multiple imputations. As the average relative increase in variance attributable to the multiply imputed nature of the data (RIV in the table) increases, denominator degrees of freedom decrease. For brevity, the denominator degrees of freedom have been rounded to the nearest whole number.

* $p < .05$. *** $p < .001$.

Table 4

The Percentage of Females in Each of the Three Profiles in Study 1 (the Hungarian Sample), Study 2 (the Australian Sample), and Study 3 (the American Sample)

Profile	% females
Study 1 (77% females overall)	
Profile 1	68%
Profile 2	78%
Profile 3	88%
Study 2 (51% females overall)	
Profile 1	45%
Profile 2	53%
Profile 3	58%
Study 3 (83% females overall)	
Profile 1	75%
Profile 2	86%
Profile 3	87%

Note. Profile 1: *Disengaged from relationships and health*; Profile 2: *Aspiring for interpersonal relationships more than community relationships*; Profile 3: *Aspiring for community relationships more than interpersonal relationships*.

Table 5

Logistic Regression Results Demonstrating the Probability of Members From the Three Profiles Being Female Controlling (Right) and Not Controlling (Left) for the Aspirations in Study 1 (the Hungarian Study), Study 2 (the Australian Study), and Study 3 (the American Study)

	Not controlling for aspirations			Controlling for aspirations		
Profile	Estimate	*SE*	Pr. [95% CI]	Estimate	*SE*	Pr. [95% CI]
			Study 1			
Profile 1	0.80	0.07	0.69 [0.66, 0.72]	1.47	0.10	0.81 [0.78, 0.84]
Profile 2	1.22	0.09	0.77 [0.74, 0.80]	1.36	0.11	0.80 [0.76, 0.83]
Profile 3	1.90	0.10	0.87 [0.85, 0.89]	1.62	0.12	0.84 [0.80, 0.86]
			Study 2			
Profile 1	−0.21	0.09	0.45 [0.40, 0.49]	0.16	0.14	0.54 [0.47, 0.61]
Profile 2	0.16	0.08	0.54 [0.50, 0.58]	0.05	0.09	0.51 [0.47,0.56]
Profile 3	0.27	0.13	0.57 [0.50, 0.63]	−0.15	0.18	0.46 [0.38, 0.55]
			Study 3			
Profile 1	1.21	0.06	0.75 [0.73, 0.77]	1.72	0.10	0.85 [0.82, 0.87]
Profile 2	1.84	0.06	0.86 [0.85, 0.88]	1.84	0.07	0.86 [0.85, 0.88]
Profile 3	1.88	0.08	0.87 [0.85, 0.88]	1.82	0.10	0.86 [0.83, 0.88]

Note. Estimate = log-odds; Pr. = probability of being female, for ease of interpretation estimates and 95% CIs were transformed from log-odds to probabilities. Profile 1: *Disengaged from relationships and health*; Profile 2: *Aspiring for interpersonal relationships more than community relationships*; Profile 3: *Aspiring for community relationships more than interpersonal relationships*.

Table 6

Intercorrelations, Means, and Standard Deviations of the Variables in Study 2 (the Australian Sample)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Wealth	1															
2. Fame	.64**	1														
3. Image	.71**	.71**	1													
4. Growth	.20**	.20**	.17**	1												
5. Relationships	.15**	.14**	.18**	.66**	1											
6. Health	.28**	.19**	.29**	.68**	.61**	1										
7. Community	.07**	.21**	.17**	.66**	.51**	.52**	1									
8. Emotional well-being	.02	.03	.02	.25**	.19**	.24**	.15**	1								
9. Social well-being	.06*	.15**	.10**	.18**	.15**	.18**	.19**	.57**	1							
10. Psych well-being	.05	.07**	.04	.30**	.24**	.30**	.24**	.66**	.71**	1						
11. Mental ill-health	.00	.00	.06*	−.11**	−.04	−.09**	−.01	−.61**	−.45**	−.51**	1					
12. Engaged living	.09**	.14**	.09**	.40**	.29**	.35**	.35**	.47**	.46**	.54**	−.38**	1				
13. Mindfulness	−.07*	−.06*	−.08**	.12**	.13**	.15**	.09**	.32**	.35**	.34**	−.32**	.29**	1			
14. Nonattachment	−.14**	−.11**	−.12**	.28**	.18**	.23**	.25**	.39**	.37**	.43**	−.34**	.52**	.32**	1		
15. Affective empathy	−.12**	−.05*	.02	.15**	.25**	.13**	.22**	−.01	−.02	−.01	.22**	−.05	−.08**	−.10**	1	
16. Cognitive empathy	−.11**	−.09**	−.10**	.32**	.36**	.25**	.26**	.16**	.09**	.24**	−.04	.18**	.14**	.20**	.37***	1
M	4.76	4.12	4.25	6.07	6.29	6.14	5.68	4.74	3.65	4.35	2.12	3.69	3.74	4.20	3.46	4.05
SD	1.41	1.46	1.51	0.89	0.96	0.98	1.09	1.09	1.19	1.01	0.57	0.72	0.91	0.85	0.71	0.58

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

Table 7a

Hierarchical Regression Results Comparing Models Using the Factor Scores From a B-ESEM of the Aspiration Index as Predictors (M1), to Models That Also Include Profile Membership Probabilities From an LPA of the Factor Scores as a Predictor (M2), Pooled Across 25 Imputations in Study 2 (the Australian Sample)

	Emotional WB		Psych WB		Social WB		Nonattachment		Engaged living	
Predictor variable	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Aspirations										
Extrinsic G	0.00	−0.02	0.03	0.01	0.13***	0.11***	−0.17***	−0.19***	0.09***	0.08**
Intrinsic G	0.27***	0.21***	0.34***	0.28***	0.19***	0.10**	0.31***	0.25***	0.42***	0.38***
Wealth S	−0.03	−0.03	−0.03	−0.03	−0.10***	−0.10***	−0.08**	−0.08**	−0.04	−0.04
Fame S	0.04	0.04	0.02	0.03	0.00	0.01	−0.07*	−0.07*	0.03	0.04
Image S	−0.03	−0.04	−0.04	−0.05	−0.05	−0.06	−0.05	−0.05*	−0.07*	−0.07*
Growth S	−0.08**	−0.07*	−0.06	−0.05	−0.04	−0.02	−0.09**	−0.08*	−0.12***	−0.12***
Relationships S	−0.02	−0.04	−0.03	−0.04	−0.00	−0.01	−0.08**	−0.08**	−0.04	−0.03
Community S	−0.06*	−0.08*	−0.00	−0.03	0.06*	0.03	0.07*	0.04	0.10***	0.07*
Health S	0.07**	0.05	0.08**	0.07*	0.06*	0.04	0.07*	0.06*	0.09**	0.09**
Profile membership (relative to Profile 1)										
Profile 2		0.16		0.08		0.14		0.06		−0.04
Profile 3		0.29*		0.30*		0.43***		0.35**		0.26*
Pooled sig. test M1 vs. M2	$F(2, 364) = 3.03$, $p = .04$, RIV = .43		$F(2, 522) = 4.10$, $p = .01$, RIV = .30		$F(2, 409) = 6.87$, $p = .001$, RIV = .38		$F(2, 498) = 6.15$, $p = .002$, RIV = .31		$F(2, 598) = 6.75$, $p = .001$, RIV = .26	
Pooled R^2	0.07	0.08	0.11	0.12	0.06	0.07	0.14	0.15	0.19	0.20
Pooled R^2 Δ	0.01		0.01		0.01		0.01		0.01	

Note. M1 = Model 1 (aspiration factor scores only); M2 = Model 2 (aspirations plus profile membership); G = global factor; S = specific factor; WB = well-being. The profile membership estimates included here for Profile 2 (*Aspiring for interpersonal relationships more than community relationships*) and Profile 3 (*Aspiring for community relationships more than interpersonal relationships*) are relative to Profile 1 (*Disengaged from relationships and health*). Gray highlighting for the pooled significance tests indicates variables for which Model 2 was a significantly better fit than Model 1. F statistics, p values, and the denominator degrees of freedom are calculated using the D_1 function from the mice (van Buuren & Groothuis-Oudshoorn, 2010) and mitml (Grund et al., 2016) packages in R. The F statistic is the critical value upon which the p values are based in these models, and accounts for the within- and between-imputation variance metrics. As these sources of variance increase, F values decrease and p values become less statistically significant. R^2 does not account for the additional sources of variance. The denominator degrees of freedom are derived using the formulas recommended by Grund et al. (2016) and Meng and Rubin (1992). As the average relative increase in variance attributable to the multiply imputed nature of the data (RIV in the table) increases, denominator degrees of freedom decrease. For brevity, the denominator degrees of freedom have been rounded to the nearest whole number.
$^{*} p < .05$. $^{**} p < .01$. $^{***} p < .001$.

Table 7b

Hierarchical Regression Results Comparing Models Using the Factor Scores From a B-ESEM of the Aspiration Index as Predictors (M1), to Models That Also Include Profile Membership Probabilities From an LPA of the Factor Scores as a Predictor (M2), Pooled Across 25 Imputations in Study 2 (the Australian Sample)

Predictor variable	GHQ/Ill-being M1	GHQ/Ill-being M2	Mindfulness M1	Mindfulness M2	Cognitive empathy M1	Cognitive empathy M2	Affective empathy M1	Affective empathy M2
Aspirations								
Extrinsic G	0.01	0.03	−0.08**	−0.09***	−0.16***	−0.17***	−0.10***	−0.10***
Intrinsic G	−0.11***	−0.05	0.16***	0.11**	0.40***	0.40***	0.21***	0.20***
Wealth S	0.01	0.01	−0.04	−0.04	−0.07**	−0.07**	−0.13***	−0.13***
Fame S	−0.02	−0.02	−0.06	−0.06	0.11***	0.11***	0.06*	0.05*
Image S	0.11***	0.11***	−0.08*	−0.08*	−0.01	−0.01	0.13***	0.12***
Growth S	0.04	0.03	−0.03	−0.03	−0.11***	−0.11***	0.01	0.01
Relationships S	0.08**	0.10**	0.04	0.02	0.10***	0.10***	0.17***	0.17***
Community S	0.11***	0.13***	−0.01	−0.02	−0.02	−0.03	0.13***	0.14***
Health S	−0.04	−0.02	0.09**	0.07*	−0.05*	−0.05*	−0.03	−0.04
Profile membership (relative to Profile 1)								
Profile 2		−0.15		0.11		−0.03		0.06
Profile 3		−0.28*		0.22		0.08		0.02
Pooled sig. test M1 vs. M2	*F*(2, 714) = 3.07, *p* = .05, RIV = .22		*F*(2, 499) = 1.76, *p* = .17, RIV = .31		*F*(2, 515) = 1.01, *p* = .37, RIV = .31		*F*(2, 617) = .33, *p* = .72, RIV = .25	
Pooled R^2	0.03	0.03	0.04	0.04	0.20	0.20	0.11	0.11
Pooled R^2 Δ	0.00		0.00		0.00		0.00	

Note. M1 = Model 1 (aspiration factor scores only); M2 = Model 2 (aspirations plus profile membership); G = global factor; S = specific factor; WB = well-being. The profile membership estimates included here for Profile 2 (*Aspiring for interpersonal relationships more than community relationships*) and Profile 3 (*Aspiring for community relationships more than interpersonal relationships*) are relative to Profile 1 (*Disengaged from relationships and health*). Gray highlighting for the pooled significance tests indicates variables for which Model 2 was a significantly better fit than Model 1. *F* statistics, *p* values, and the denominator degrees of freedom are calculated using the D_1 function from the mice (van Buuren & Groothuis-Oudshoorn, 2010) and mitml (Grund et al., 2016) packages in R. The *F* statistic is the critical value upon which the *p* values are based in these models, and accounts for the within- and between-imputation variance metrics. As these sources of variance increase, *F* values decrease and *p* values become less statistically significant. R^2 does not account for the additional sources of variance. The denominator degrees of freedom are derived using the formulas recommended by Grund et al. (2016) and Meng and Rubin (1992). As the average relative increase in variance attributable to the multiply imputed nature of the data (RIV in the table) increases, denominator degrees of freedom decrease. For brevity, the denominator degrees of freedom have been rounded to the nearest whole number.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 8

Profile-Specific Predicted Values on the Outcome Variables Based on a Regression Using Only the Aspiration Factors as Predictors (Model 1) and a Regression That Additionally Includes Profile Membership as a Predictor (Model 2), and the Difference Between the Model 1 and Model 2 Predicted Values in Study 2 (the Australian Sample)

Profile	Model 1	Model 2	Difference	Variable
Profile 1	4.48	4.42	−0.06	Emotional well-being
Profile 2	4.83	4.85	0.02	Emotional well-being
Profile 3	4.99	5.08	0.09	Emotional well-being
Profile 1	4.05	4.02	−0.03	Psychological well-being
Profile 2	4.44	4.42	−0.02	Psychological well-being
Profile 3	4.68	4.82	0.14	Psychological well-being
Profile 1	3.42	3.35	−0.07	Social well-being
Profile 2	3.71	3.68	−0.03	Social well-being
Profile 3	3.96	4.18	0.22	Social well-being
Profile 1	3.41	3.42	0.01	Engaged living
Profile 2	3.76	3.71	−0.05	Engaged living
Profile 3	4.03	4.16	0.13	Engaged living
Profile 1	4.00	3.98	−0.02	Nonattachment
Profile 2	4.26	4.22	−0.04	Nonattachment
Profile 3	4.43	4.58	0.15	Nonattachment

Table 9

Intercorrelations, Means, and Standard Deviations of the Variables in Study 3 (the American Sample)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Wealth	1																
2. Fame	.63**	1															
3. Image	.67**	.71**	1														
4. Growth	.27**	.13**	.25**	1													
5. Relationships	.20**	.08**	.22**	.70**	1												
6. Health	.36**	.18**	.35**	.69**	.60**	1											
7. Community	.19**	.19**	.24**	.72**	.60**	.61**	1										
8. Emotional well-being	.09**	.07**	.11**	.28**	.28**	.29**	.29**	1									
9. Social well-being	.20**	.34**	.29**	.13**	.09**	.18**	.25**	.61**	1								
10. Psych well-being	.13**	.14**	.16**	.33**	.29**	.32**	.36**	.72**	.68**	1							
11. Engaged living	.14**	.16**	.18**	.33**	.28**	.34**	.38**	.61**	.51**	.62**	1						
12. Nonattachment	.09**	.04**	.08**	.40**	.31**	.37**	.39**	.49**	.37**	.51**	.52**	1					
13. Autonomy Sat.	.14**	.17**	.15**	.28**	.23**	.29**	.30**	.48**	.43**	.48**	.62**	.42**	1				
14. Autonomy Frust.	.23**	.24**	.22**	.04**	−.01	.02	.01	−.17**	.02	−.09**	−.10**	−.08**	−.06**	1			
15. Relatedness Sat.	.05**	.02	.06**	.36**	.40**	.31**	.35**	.49**	.30**	.44**	.53**	.41**	.60**	−.09**	1		
16. Relatedness Frust.	.23**	.26**	.26**	−.10**	−.14**	−.05**	−.06**	−.19**	.07**	−.11**	−.11**	−.12**	−.07**	.62**	−.14**	1	
17. Competence Sat.	.15**	.13**	.13**	.32**	.29**	.34**	.31**	.49**	.35**	.50**	.60**	.46**	.63**	−.09**	.68**	−.14**	1
18. Competence Frust.	.15**	.18**	.18**	.03	−.05**	−.04	−.02	−.28**	−.08**	−.22**	−.24**	−.17**	−.17**	.64**	.15**	.68**	−.32**
M	4.47	3.40	4.09	5.93	6.05	5.75	5.63	4.38	4.18	3.31	3.71	4.45	3.63	3.11	3.97	2.65	3.81
SD	1.35	1.56	1.42	1.03	1.13	1.11	1.18	1.17	1.13	1.26	0.80	0.97	0.87	1.02	0.87	1.14	0.88

Note. Sat = satisfaction; Frust = frustration.

** $p < .01$.

Table 10a

Hierarchical Regression Results Comparing Models Using the Factor Scores From a B-ESEM of the Aspiration Index as Predictors (M1), to Models That Also Include Profile Membership Probabilities From an LPA of the Factor Scores as a Predictor (M2), Pooled Across 25 Imputations in Study 3 (the American Sample)

	Emotional WB		Psych WB		Social WB		Nonattachment		Engaged living	
Predictor variable	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Aspirations										
Extrinsic G	0.04***	0.04***	0.09***	0.09***	0.24***	0.24***	−0.01	−0.01	0.10***	0.09***
Intrinsic G	0.21***	0.20***	0.21***	0.20***	0.10***	0.08***	0.32***	0.31***	0.23***	0.22***
Wealth S	−0.03	−0.03	−0.04*	−0.04*	−0.14***	−0.14***	0.02	0.02	−0.05**	−0.05**
Fame S	−0.02	−0.01	−0.02	−0.01	−0.03	−0.02	−0.19***	−0.18***	−0.12***	−0.11**
Image S	−0.00	−0.01	−0.02	−0.03	−0.00	−0.01	−0.00	−0.00	−0.01	−0.02
Growth S	0.07	0.07	0.19***	0.19***	−0.26***	−0.25***	0.21***	0.21***	0.21***	0.22***
Relationships S	0.12***	0.13***	0.12***	0.12***	−0.06*	−0.06*	0.02	0.03	0.08***	0.09***
Community S	0.14***	0.13***	0.24***	0.22***	0.17***	0.16***	0.18***	0.17***	0.25***	0.23***
Health S	0.14***	0.13***	0.16***	0.15***	0.06***	0.05**	0.13***	0.12***	0.17***	0.16***
Profile membership (relative to Profile 1)										
Profile 2		−0.03		−0.04		0.01		−0.08		−0.09
Profile 3		0.07		0.11		0.12*		0.05		0.12*
Pooled sig. test M1 vs. M2	*F*(2, 823) = 3.53, *p* = .03, RIV = .26		*F*(2, 312) = 6.38, *p* = .001 RIV = .56		*F*(2, 443) = 4.10, *p* = .01, RIV = .42		*F*(2, 396) = 6.17, *p* = .002, RIV = .46		*F*(2, 443) = 14.10, *p* < .001, RIV = .42	
Pooled R^2	0.120	0.121	0.166	0.168	0.185	0.186	0.205	0.207	0.186	0.191
Pooled R^2 Δ	0.001		0.002		0.001		0.002		0.005	

Note. M1 = Model 1 (specific aspirations only); M2 = Model 2 (aspiration plus profile membership). G = global factor, S = specific factor, WB = well-being. The profile membership estimates included here for Profile 2 (*Aspiring for interpersonal relationships more than community relationships*) and Profile 3 (*Aspiring for community relationships more than interpersonal relationships*) are relative to Profile 1 (*Disengaged from relationships and health*). Gray highlighting for the pooled significance tests indicates variables for which Model 2 was a significantly better fit than Model 1. *F* statistics, p values, and the denominator degrees of freedom are calculated using the D_1 function from the mice (van Buuren & Groothuis-Oudshoorn, 2010) and mitml (Grund et al., 2016) packages in R. The *F* statistic is the critical value upon which the *p* values are based in these models, and accounts for the within- and between-imputation variance metrics. As these sources of variance increase, F values decrease and p values become less statistically significant. R^2 does not account for the additional sources of variance. The denominator degrees of freedom are derived using the formulas recommended by Grund et al. (2016) and Meng and Rubin (1992). As the average relative increase in variance attributable to the multiply imputed nature of the data (RIV in the table) increases, denominator degrees of freedom decrease. For brevity, the denominator degrees of freedom have been rounded to the nearest whole number.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 10b

Hierarchical Regression Results Comparing Models Using the Factor Scores From a B-ESEM of the Aspiration Index as Predictors (M1), to Models That Also Include Profile Membership Probabilities From an LPA of the Factor Scores as a Predictor (M2), Pooled Across 25 Imputations in Study 3 (the American Sample)

	AutSat		AutFrust		CompSat		CompFrust		RelSat		RelFrust	
Predictor variable	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Aspirations												
Extrinsic G	0.11***	0.10***	0.16***	−0.17***	0.07***	0.06***	0.13***	0.13***	−0.01	−0.01	0.22***	0.22***
Intrinsic G	0.25***	0.23***	0.03	0.05*	0.23***	0.22***	−0.01	0.02	0.31***	0.29***	−0.13***	−0.10***
Wealth S	−0.06**	−0.05**	0.05*	0.05*	0.03	0.04*	−0.01	−0.00	−0.02	−0.02	−0.02	−0.02
Fame S	−0.10*	−0.08*	−0.16***	−0.16***	0.04	0.05	−0.11*	−0.11*	−0.08*	−0.07	−0.25***	−0.24***
Image S	−0.07*	−0.08**	0.07*	0.08**	−0.09**	−0.10**	0.12***	0.13***	−0.03	−0.04	0.10***	0.11***
Growth S	−0.06	−0.05	−0.09	−0.09	0.14*	0.15**	−0.18**	−0.18**	0.08	0.09	0.03	0.03
Relationships S	−0.00	0	−0.07**	−0.06*	0.10***	0.11***	−0.09***	−0.07**	0.20***	0.21***	−0.06*	−0.04
Community S	0.08**	0.06**	−0.07**	−0.06*	0.13***	0.11***	−0.08**	−0.06*	0.11***	0.10***	0.03	0.04
Health S	0.08***	0.07**	−0.12***	−0.11***	0.18***	0.17***	−0.13***	−0.12***	0.05*	0.04*	−0.01	0
Profile membership (relative to Profile 1)												
Profile 2		−0.08		−0.05		−0.06		−0.08		−0.04		−0.09*
Profile 3		0.12*		−0.15*		0.13*		−0.17**		0.12		−0.16**
Pooled sig. test M1 vs. M2	$F(2, 312) = 10.24$, $p < .001$, RIV = .56		$F(2, 424) = 3.55$, $p = .03$, RIV = .44		$F(2, 252) = 9.36$, $p < .001$, RIV = .67		$F(2, 374) = 4.27$, $p = .01$, RIV = .48		$F(2, 313) = 7.11$, $p < .001$, RIV = .56		$F(2, 459) = 4.19$, $p = .01$, RIV = .41	
Pooled R^2	0.126	0.130	0.082	0.083	0.148	0.152	0.061	0.063	0.192	0.195	0.157	0.158
Pooled R^2 Δ	0.004		0.001		0.004		0.002		0.003		0.001	

Note. M1 = Model 1 (specific aspirations only); M2 = Model 2 (aspiration plus profile membership). G = global factor, S = specific factor, WB = well-being. The profile membership estimates included here for Profile 2 (*Aspiring for interpersonal relationships more than community relationships*) and Profile 3 (*Aspiring for community relationships more than interpersonal relationships*) are relative to Profile 1 (*Disengaged from relationships and health*). Gray highlighting for the pooled significance tests indicates variables for which Model 2 was a significantly better fit than Model 1. *F* statistics, p values, and the denominator degrees of freedom are calculated using the D_1 function from the mice (van Buuren & Groothuis-Oudshoorn, 2010) and mitml (Grund et al., 2016) packages in R. The *F* statistic is the critical value upon which the *p* values are based in these models, and accounts for the within- and between-imputation variance metrics. As these sources of variance increase, *F* values decrease and *p* values become less statistically significant. R^2 does not account for the additional sources of variance. The denominator degrees of freedom are derived using the formulas recommended by Grund et al. (2016) and Meng and Rubin (1992). As the average relative increase in variance attributable to the multiply imputed nature of the data (RIV in the table) increases, denominator degrees of freedom decrease. For brevity, the denominator degrees of freedom have been rounded to the nearest whole number.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 11

Profile-Specific Predicted Values on the Outcome Variables Based on a Regression Using Only the Aspiration Factors as Predictors (Model 1) and a Regression That Additionally Includes Profile Membership as a Predictor (Model 2), and the Difference Between the Model 1 and Model 2 Predicted Values in Study 3 (the American Sample)

Profile	Model 1	Model 2	Difference	Variable
Profile 1	4.00	4.01	−0.01	Emotional well-being
Profile 2	4.43	4.39	−0.04	Emotional well-being
Profile 3	4.78	4.84	0.06	Emotional well-being
Profile 1	3.79	3.80	−0.01	Psychological well-being
Profile 2	4.21	4.16	−0.05	Psychological well-being
Profile 3	4.63	4.72	0.08	Psychological well-being
Profile 1	3.15	3.14	−0.01	Social well-being
Profile 2	3.24	3.20	−0.04	Social well-being
Profile 3	3.65	3.72	0.07	Social well-being
Profile 1	3.44	3.45	−0.01	Engaged living
Profile 2	3.72	3.66	−0.06	Engaged living
Profile 3	4.05	4.12	0.07	Engaged living
Profile 1	4.08	4.10	0.02	Nonattachment
Profile 2	4.48	4.43	−0.05	Nonattachment
Profile 3	4.86	4.92	0.06	Nonattachment
Profile 1	3.39	3.40	0.01	Autonomy satisfaction
Profile 2	3.64	3.59	−0.05	Autonomy satisfaction
Profile 3	3.93	4.01	0.08	Autonomy satisfaction
Profile 1	3.50	3.51	0.01	Competence satisfaction
Profile 2	3.85	3.80	−0.05	Competence satisfaction
Profile 3	4.14	4.21	0.07	Competence satisfaction
Profile 1	3.60	3.59	−0.01	Relatedness satisfaction
Profile 2	4.04	4.00	−0.04	Relatedness satisfaction
Profile 3	4.30	4.37	0.07	Relatedness satisfaction
Profile 1	3.11	3.14	0.03	Autonomy frustration
Profile 2	3.10	3.11	0.01	Autonomy frustration
Profile 3	3.14	3.08	−0.06	Autonomy frustration
Profile 1	3.06	3.09	0.03	Competence frustration
Profile 2	2.98	2.99	0.01	Competence frustration
Profile 3	2.98	2.92	−0.06	Competence frustration
Profile 1	2.81	2.85	0.04	Relatedness frustration
Profile 2	2.56	2.56	0.00	Relatedness frustration
Profile 3	2.59	2.55	−0.04	Relatedness frustration

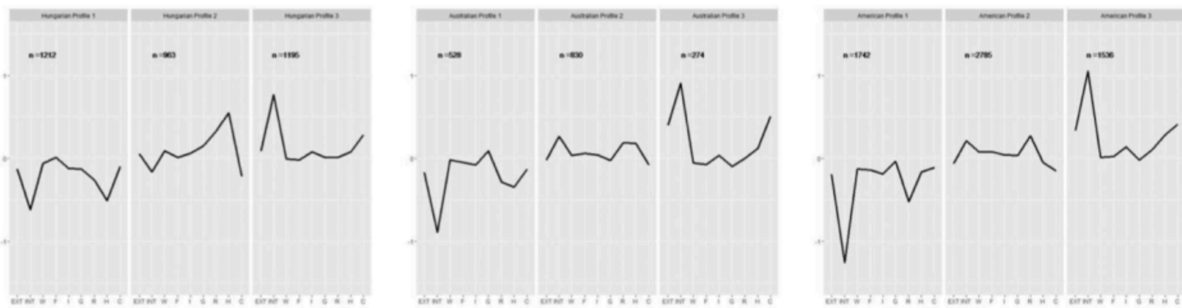

Figure 1. The pattern of mean levels of the two global and seven specific factors of aspirations from a latent profile analysis of the factor scores from a bifactor exploratory structural equation model of the Aspiration Index in Study 1 (the Hungarian sample, left panel), Study 2 (the Australian sample, middle panel), and Study 3 (the American sample, right panel). EXT = global extrinsic factor; INT = global intrinsic factor; W = wealth specific factor; F = fame specific factor; I = image specific factor; G = personal growth specific factor; R = relationships specific factor; H = physical health specific factor; C = community giving specific factor; Profile 1 = *Disengaged from relationships and health*; Profile 2 = *Aspiring for interpersonal relationships more than community relationships*; Profile 3 = *Aspiring for community relationships more than interpersonal relationships*.

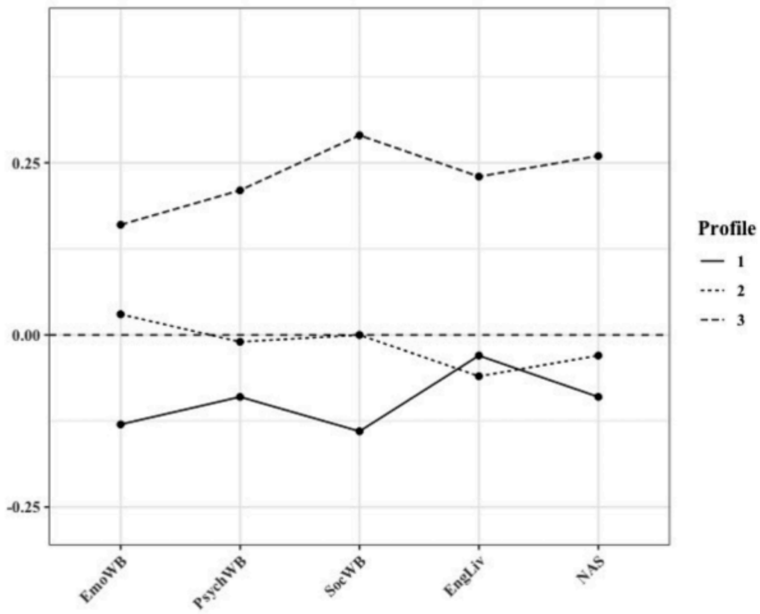

Figure 2. The pattern of standardized regression estimates, for each of the three profiles, in the prediction of the outcome variables while controlling for the two global and seven specific aspiration factor scores, in Study 2 (the Australian sample). See Model 2 in Online Supplementary Materials S12 for the specific values plotted here. The models regressed the outcome variables on the three-level profile membership variable while controlling for the two global and seven specific aspiration factor scores from a B-ESEM of the Aspiration Index, pooled across 25 imputations of profile membership. Regressions cannot include all levels of a categorical variable as well as the intercept, therefore we transformed the regression coefficients using the delta method to obtain profile-specific estimates so the estimates could be compared simultaneously, see Online Supplementary Materials S12b for R code and output using this method. EmoWB = emotional well-being; PsychWB = psychological well-being; SocWB = social well-being; EngLiv = engaged living; NAS = Nonattachment; Profile 1 = *Disengaged from relationships and health*; Profile 2 = *Aspiring for interpersonal relationships more than community relationships*; Profile 3 = *Aspiring for community relationships more than interpersonal relationships*.

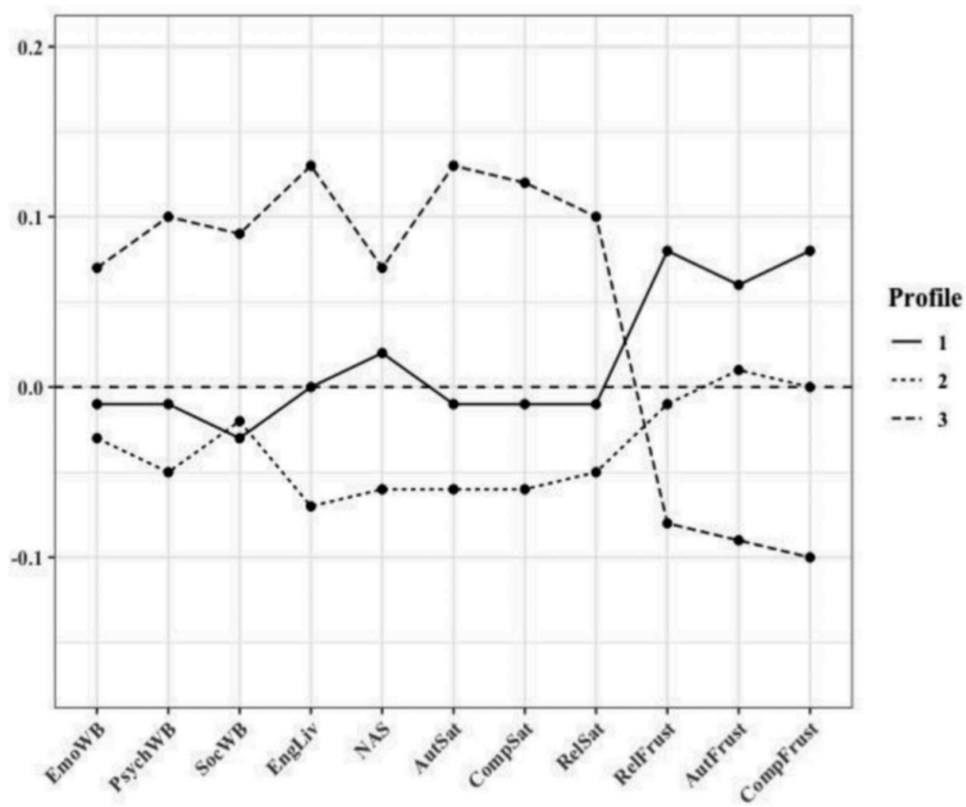

Figure 3. The pattern of standardized regression estimates, for each of the three profiles, in the prediction of the outcome variables while controlling for the two global and seven specific aspiration factor scores, in Study 3 (the American sample). See Model 2 in Online Supplementary Materials S20 for the specific values plotted here. The models regressed the outcome variables on the three-level profile membership variable while controlling for the two global and seven specific aspiration factor scores from a B-ESEM of the Aspiration Index, pooled across 25 imputations of profile membership. Regressions cannot include all levels of a categorical variable as well as the intercept, therefore we transformed the regression coefficients using the delta method to obtain profile-specific estimates so the estimates could be compared simultaneously, see Online Supplementary Materials S12b for R code and output using this method. EmoWB = emotional well-being; PsychWB = psychological well-being; SocWB = social well-being; EngLiv = engaged living; NAS = nonattachment; AutSat = autonomy satisfaction; CompSat = competence satisfaction; RelSat = relatedness satisfaction; AutFrust = autonomy frustration; CompFrust = competence frustration; RelFrust = relatedness frustration; Profile 1 = *Disengaged from relationships and health*; Profile 2 = *Aspiring for interpersonal relationships more than community relationships*; Profile 3 = *Aspiring for community relationships more than interpersonal relationships*.