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Here, There, & Everywhere: Development and Validation of a Cross-Culturally Representative Measure of Subjective Career Success

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Here, There, & Everywhere: Development and Validation of a Cross-Culturally Representative Measure of Subjective Career Success

In some ways career success has become a "Holy Grail" to scholars in the careers field and beyond (Gunz & Heslin, 2005; Ng, Eby, Sorensen, & Feldman, 2005; Seibert, Kraimer, & Liden, 2001). Career success is a tantalizing construct because it can unlock people's true internal standards and aspirations and holds keys to motivation and satisfaction, performance, and commitment (Abele & Spurk, 2009; Dries, Pepermans, & Carlier, 2008; Heslin, 2003). It thus embodies a theoretical construct that allows us to assign meaning to, and measurement of our own and others' careers (Dries, 2011; Heslin, 2003).

Conceptually, the distinction between objective and subjective career success has received most attention, especially in terms of definition and measurement (e.g., Abele & Spurk, 2009; Arthur, Khapova, & Wilderom 2005; Gunz & Heslin, 2005). Whereas objective career success is defined as directly observable by others and measurable in a standardized way (i.e., position title, promotions, salary growth; Gunz & Heslin, 2005), subjective career success is a career actor's evaluation and experience of achieving personally meaningful career outcomes (Ng et al., 2005; Seibert, Kraimer, & Liden, 2001). In older research, career success was predominantly operationalized using objective measures (Gunz & Heslin, 2005). In recent years, however, there has been a shift of research interest such that subjective measures are now at least equally, if not more, used (Spurk, Hirschi, & Dries, 2019).

In empirical research, subjective career success has typically been measured as unidimensional career satisfaction (Greenhaus, Parasuraman, & Wormley, 1990; Seibert, Kraimer, Holtom, & Pierotti, 2013) or perceived career success (Heslin, 2003; Turban & Dougherty, 1994).[i] This type of 'objectivist' measures of subjective career success—in which

respondents rate their satisfaction with researcher-imposed, assumed to be universal criteria of success (Gunz & Heslin, 2005)—has remained the norm until recently. Over the past few years, however, there has been a shift towards developing more fine-grained measures that might accommodate more idiosyncratic definitions of subjective career success, and help to answer more nuanced research questions. In the U.S., Shockley, Ureksoy, Rodopman, Poteat & Dullaghan (2016) developed a multidimensional measure of subjective career success, including dimensions such as growth and development, personal life, and authenticity. A similar process of multidimensional scale development was reported by Zhou, Sun, Guan, Li, and Pan (2013) for China, including dimensions such as external compensation and intrinsic fulfillment.

We build on Shockley et al. (2016) and Zhou et al. (2013) by directly asking research participants by which criteria they evaluate their own career success, rather than predefining those criteria based on the literature (i.e., a 'subjectivist' approach to scale development; Gunz & Heslin, 2005). In a first step of the research project—which spanned multiple years and four phases—we interviewed respondents from all over the world asking them to define, in their own words, what career success meant to them (Anonymous 1; Anonymous 2). In a second step, we used these meanings as input to generate our item pool. In addition, we developed a dual-response format allowing respondents to rate both the perceived importance and achievement of each item. In doing so, we built on decades of research and theorizing from the life satisfaction and quality of life literature (Solberg, Diener, Wirtz, Lucas, & Oishi, 2002). Although rarely referenced in the careers literature, these research streams have a long and rich tradition examining the exact factors that make people feel more or less satisfied with their lives (Erdogan, Bauer, Truxillo, & Mansfield, 2012). The development and psychometric evaluation of dual-response format scales is also an important topic in this literature (Wu & Yao, 2006), as

is comparative research on country differences in life satisfaction (Saris, Veenhoven, Scherpenzeel, & Bunting, 1996)—all of which are highly relevant for the purposes set forward in the present paper.

The key gap that the present paper seeks to address is the single-country focus of most studies on career success to date (Mayrhofer, Smale, Briscoe, Dickmann, & Parry, 2020), including the studies that have advanced measurement of subjective career success (Greenhaus et al., 1990; Shockley et al., 2016; Turban & Dougherty, 1994; Zhou et al., 2013). Although the recently developed multidimensional measures of subjective career success have, without a doubt, moved the field forward (Shockley et al., 2016; Zhou et al., 2013), they were each developed within a single-country setting. It remains unclear to what extent a single country's meanings of career success can adequately capture other countries' meanings (Henrich, Heine, & Norenzayan, 2010). Beyond construct validity considerations, country-specific measures may also not perform universally across different cultural contexts, for instance in terms of measurement invariance (Asparouhov & Muthén, 2014).

From recent research, we know that the way people organize career success meanings in their mind—their career success schemas—differ across country contexts (Kaše et al., 2018). Therefore, using a scale developed in a single culture and replicating it to see if it is reliable in other cultures likely falls short of what is required for measuring phenomena that are inherently subjective and culturally sensitive (Henrich et al., 2010). In order to validly compare subjective career success across cultures, then, a robust culturally invariant measurement instrument is needed. In what follows, we theorize country differences in importance attached to different possible meanings of career success based on social representation theory (Moscovici, 1963). Country differences in satisfaction, in contrast, can be explained by (competing) theories

borrowed from comparative life satisfaction research, such as livability theory and folklore theory (Saris et al., 1996).

In what follows, we first review the literature on subjective career success measurement and validation, and then present a comprehensive multi-study scale validation process across a variety of cultures based on the Schwartz/GLOBE cultural clusters (House, Hanges, Javidan, Dorfman, & Gupta, 2004; Schwartz, 1994) that allowed us to develop a new, globally valid measure of subjective career success. In Phase 1, building on a qualitative study of career success, we construct and refine a list of discrete career success meanings sourced from interviews in 11 countries. In Phase 2, we examine career success schemas of participants from 13 countries to develop a hypothetical basis for the factor structure of our measure. In Phase 3, we optimize and validate the multidimensional structure of our scale in a sample of 16 countries, and establish its convergent and discriminant validity. Finally, in Phase 4, we replicate the validation process of the scale again on a new sample of 20 countries, adding analyses of measurement invariance, between-country differences, a test of criterion validity, and an exploration of the interaction effects between the importance and achievement scores for the different dimensions of our measure.

The resulting scale—i.e., the 'Dual Aspect Importance & Achievement Career Success Scale'—is not only a measurement instrument that addresses remaining issues in the measurement of subjective career success; it should also be seen as a vehicle for identifying and addressing new theoretical questions about subjective career success. We offer specific avenues for future research, made possible by our subjectivist and globally valid measure of subjective career success, in the Discussion.

Measuring Subjective Career Success

The most often-used measure of subjective career success (SCS), by far, is the Career Satisfaction Scale (CSS) developed by Greenhaus, Parasuraman, and Wormley (1990). In the CSS, respondent scores on five items—referring to general career satisfaction, progress towards career goals, level of income, advancement, and skill development, respectively—are averaged out into a single score. Although this measure has demonstrated adequate psychometric properties and is generally considered a good unidimensional measure of subjective career success, some see it as less suited for addressing more nuanced research questions concerned with the multiple, idiosyncratic ways in which people evaluate how successful they feel their careers have been (Dries et al., 2008).

The Emergence of Multidimensional SCS Measures

Over the past years, we have witnessed the development of more nuanced subjective career success measures that look at multiple dimensions (Shockley et al., 2016; Zhou, Sun, Guan, Li, & Pan, 2013; Pan & Zhou, 2015). For example, Shockley and colleagues (2016), based on samples from the United States, proposed and validated a scale that featured the following dimensions: recognition, quality work, meaningful work, influence, authenticity, personal life, growth & development, and general satisfaction. At roughly the same time Zhou and colleagues (2013; Pan & Zhou, 2015) identified three broad dimensions of subjective career success for China: intrinsic fulfillment, external compensation, and work-life balance. Within their respective cultures, these scales reportedly provide robust reflection of the local population's career success meanings. However, they feature several important differences, which make cross-cultural comparison and multi-site research (e.g., in case of an MNC operating in both countries) problematic. For example, Zhou et al. (2013) found a success meaning of taking care of family, which emerged from qualitative interviews in China, but the same meaning did not

emerge in the United States in the Shockley et al. (2016) study. Conversely, in the U.S. study, the qualitative data included reference to career 'calling', which was not present in the Chinese study. Therefore, to facilitate comparative careers research, we argue that a culturally invariant, multidimensional, subjectivist career success scale would be the next step forward.

Towards Subjectivist, Dual-Format SCS Measures

In addition, beyond looking at subjective career success in a multidimensional manner *across* cultures, we argue that measurement of subjective career success should be (explicitly) anchored in how important a certain meaning of career success is to a person (Gunz & Heslin, 2005). James' (1890) original text on psychology already referred to the reality of people defining their own standards and paths and assessing themselves according to these. Later, Lewin (1936) discussed success relative to aspiration levels, upon which others (Hall & Foster, 1977) would subsequently base their construct of 'psychological success', measured as progress towards personally meaningful career goals. In the last forty plus years momentum has been building for subjective career success, as protean (i.e., values-driven and self-directed; Hall, 1976; Hall, 2002) and 'boundaryless' (i.e., inter-organizational both in terms of physical mobility and psychological mindset; Arthur, 1994) career archetypes emerged that emphasized idiosyncratic success.

People can be driven by certain aspirations without feeling fulfillment in that area; alternatively, they may experience high achievement on a certain dimension without attaching relatively greater importance (Argyris, 1982; Katz & Kahn, 1978). Consider the example of a person who finds wealth very important but does not (yet) feel satisfied with their achievement level for this dimension of career success. A second person, in contrast, is perfectly happy with

their achieved level of wealth, but does not value it that much, calling into question how strongly this career success factor will drive the individual's behavior. In either of these cases, knowing the reality of the contrasting feelings of success for a particular career dimension ('importance' versus 'achievement') would give us more information as researchers than simply knowing if the person was satisfied with their career success, if they felt they had achieved a certain level of career success, or which dimension of career they found important. We thus believe that both aspects are important for understanding any given person's subjective career success.

However, achievement and importance of career success meanings have been addressed by separate streams of research. While career success as satisfaction or achievement is a well-established intellectual domain in careers research (e.g., Greenhaus et al., 1990; Turban & Dougherty, 1994; Seibert et al., 2001), the importance of various career success meanings is less frequently addressed. Schein's career anchors (1978) and related work in the work values domain (Schwartz, 2004; Judge & Bretz, 1992) represent the foundation for examining the importance aspect of subjective career success.

In the literature on life satisfaction and quality of life, an integrated perspective does in fact exist. The dominant theoretical framework for understanding the relationship between the importance attached to, and satisfaction experienced with different domains of life is multiple discrepancies theory (Michalos, 1985). Simply put, this theory states that global life satisfaction is a function of the match between subjective preferences and objective conditions across different domains of life. Studies in this area have found that 53% of the variance in life satisfaction scores can be attributed to "discrepancies between what one wants and what one has" (Solberg et al., 2002, p. 736). Another important theoretical assumption within this research area

has been the range-of-affect hypothesis (Locke, 1976), which states that people will report a wider range in satisfaction scores for life domains they find more important.

In addition to offering unique insights about measurement of differential domain satisfaction, the life satisfaction literature also has a tradition of country-comparative research (Erdogan et al., 2012). Interestingly, this stream of research offers suggestions for theorizing differences in satisfaction across countries (Saris et al., 1996), a perspective that is so far largely missing from the careers literature. Differences in importance of different dimensions of career success, in contrast, are currently already better understood in the careers literature (Briscoe, Hall, & Mayrhofer, 2011; Savickas & Porfeli, 2012; Lyness & Judiesch, 2008), as discussed below.

A Cross-Cultural Perspective on Subjective Career Success

Many current empirical tools in management and organizational research may be problematic when it comes to using them to compare phenomena across cultures, since most measures have been developed in single (typically Western) cultures. The problem lies in the overrepresentation of the *WEIRD* perspective; indeed, measurement development for the subjective career success construct, like much other social science research, has been done mostly in *W*estern, *e*ducated, *i*ndustrialized, *r*ich, and *d*emocratic countries (Henrich et al., 2010).

Variations in values at the level of countries and cultures (see Hofstede, 1984; Schwartz, 2006)—such as individualism versus collectivism and egalitarianism versus hierarchy—have been shown to relate to different goals and outcomes. For example, Confucian cultures place more emphasis upon work ethic and tradition (Hofstede & Bond, 1988). Protean and boundaryless careers, in contrast—while accepted career *gestalts*—are primarily representative of highly individualistic, agentic, and largely Western cultures (Inkson, 2006). Too often the

West is overly represented on theoretical and empirical constructs, which results in conceptualizing and measuring phenomena from a decidedly non-native point of view in other regions (Dries, 2011; Stead, 2004).

In order to tackle the research gaps of unidimensionality, cultural bias, and objectivism, scholars in careers (Briscoe et al., 2011; Savickas & Porfeli, 2012; Lyness & Judiesch, 2008) and other domains engaging in international and comparative research have turned to a 'decentered' (Leung, 2008) or 'N-Way' (Brett, Tinsley, Janssens, Barsness, & Lytle, 1997) approach, in which the perspectives of researchers from participating cultures are carefully sought and considered in identifying and defining the research questions, key variables, etc. This is contrasted with a 'one-way' approach in which an established hypothesis or theory would be applied in a similar fashion across country samples.

In the N-way approach, country teams take turns leading in a collaborative cross-cultural effort, based on a local model of the phenomenon under investigation. This approach emphasizes multicultural consultation at the earliest phases of the research so that cultural bias, that is more likely with a one-way approach, can be minimized. According to Leung's (2008) review of the literature on bias in cross-cultural research, this issue cannot be resolved by simply adapting the factor structure or characteristics of an existing scale when using it in another country. That is, a truly 'inclusive' perspective on scale development requires cross-cultural collaboration from the item pool generation stage onwards—it is very difficult to remedy cultural bias of a measurement scale when its item pool is already set in stone. Leung (2008) further cites research showing that adapted scales are less likely to capture local phenomena than indigenous scales (Farh, Cannella, & Lee, 2006).

Let us consider the notion of career calling as an example. Career calling as a possible meaning of career success makes an apt illustration of how using a meaning and resulting construct from one culture can prove problematic in another. As Dik and Duffy outline the meaning of career calling from an admittedly Western perspective (2009), they trace its origins to references of religion or diety. In the Shockley et al. (2016) US study, calling emerged as a facet of career success in the qualitative phase of their research; it did not, however, come up in Zhou et al.'s (2013) study in China. It did emerge in a qualitative study from Zhang et al. (2014)—also in China—who uncovered four dimensions of calling or 'guiding force' (i.e., duty, meaning and purpose, atltruism, and active behavior), none of which reflected theistic assumptions. This single example of calling demonstrates how different societies can have similar labels and constructs for career success meanings, yet not mean the same thing. Also, they can emphasize meanings of career success not necessarily shared in other countries.

Cultural Differences in Importance Attached to Career Success Dimensions

To account for these realities, we need to understand how individuals and societies make meaning differently (or at times similarly). In developing the items used in the GLOBE study Hanges and Dixon (2004) proposed that culturally and societally endorsed implicit leadership theories were convergent-emergent constructs (Kozlowski & Klein, 2000). As Hanges and Dixon explain:

> These constructs are convergent because the responses from people within organizations or societies are believed to center about a single value usually represented by scale means. They are called emergent because even though the origin of these constructs area function of the cognition, affect, and personality of the survey respondents, the properties of these constructs are actually manifested at the aggregate- or group- (e.g., organization or society) level of analysis (Hanges & Dixon, 2004: 124).

In line with the above, we argue that individual meanings of subjective career success are a sociocultural construct and not just an individual construct. This implies that subjective career success meanings must be assessed in the cultural contexts in which they have emerged. If this can be achieved on a wide scale, across cultures, it would then be possible to carefully extrapolate through statistical means which meanings might be held in common, as first reflected from the cultures, and then validated and tested across several cultures.

We can further understand sociocultural meanings of subjective career success using social representation theory (Moscovici, 1963) in which a 'social representation' is the collective elaboration "of a social object by the community for the purpose of behaving and communicating" (Moscovici, 1963: 251). Social representations refer specifically to values, ideas and practices with a dual function; first, to establish an order which will enable individuals to orient themselves in their material and social world and to master it; and second to enable communication to take place among the members of a community by providing them with a code for social exchange and a code for naming and classifying unambiguously the various aspects of their world and their individual and group history (Moscovici, 1973). In the process of objectification, which is central to social representation theory, an abstract concept is turned into something more concrete, as the concept itself becomes part of the day-to-day context of societal members (Moscovici & Hewstone, 1983). Social representations, then, are constantly converted into social reality while continuously being re-interpreted, re-thought, and re-presented based on lived experience (Wagner & Hayes, 2005). Without understanding and documenting how career success dimensions are seen in individual countries and regions, we cannot be sure that when we are measuring meaning "x" in Country A, we are measuring the same thing that was found in Country B.

Cultural Differences in Satisfaction with Career Success Dimensions

While social representation theory explains why people from different cultures may find one meaning of career success more important than others, it does not help explain why people in some countries may be more *satisfied* with their careers than people in other countries. We turn to the life satisfaction literature for theories that could explain differences in satisfaction between countries (Saris et al., 1996).

Comparative studies of life satisfaction have typically worked with competing hypotheses to test and explain country differences. One of the most large-scale examples of this approach was the country-comparative study by Veenhoven (1996) that tested three competing perspectives. A first perspective was comparison theory, which assumes that life satisfaction is a function of mental calculus, in line with the multiple discrepancies theory explained earlier (Michalos, 1985). As comparison standards are subjective and ever-changing, this means that countries with higher standards may report lower satisfaction, even when objective living conditions are similar to (or even better than) those in countries with lower comparative standards for satisfaction. A second perspective was folklore theory, which holds that life satisfaction is determined by a country's outlook on life; a 'national character' of sorts that implies that some countries are simply 'happier' than others, largely independently from objective conditions (Helliwell, Huang, & Wang, 2019). A third perspective was livability theory, which assumes that subjective life satisfaction is predominantly driven by objective indicators of quality of life in a country. To the researchers' surprise, evidence from a ten-country European study found that objective standards of living had the strongest influence on life satisfaction, as proposed by livability theory (Veenhoven, 1996). It remains unclear to what extent such findings would apply to the careers domain, as well, as our study is among the first to

run a country-comparative test of both the importance and achievement aspects of subjective career success.

Methods and Results

In this section, we describe the development and validation process of the Dual Aspect Importance & Achievement Career Success Scale. The resulting scale, and the process used to develop it, represent our response to the current state of the art of the literature around the measurement of subjective career success.

Phase 1: Cross-Cultural Item Generation

The aim of Phase 1 was to develop a broad, cross-culturally inclusive list of subjective career success meanings representative of a broad range of views on the meaning of career success. A stratified, theory-based sampling approach was adopted. Data were gathered from respondents in 11 countries. These spanned Schwartz's (1994, 2006) cultural regions: Africa/Middle East, Confucian Asia, Eastern Europe, English Speaking, Latin America, South Asia, and Western Europe.[ii] The sampling strategy prescribed within-country balance between male and female interviewees, as well as early- (age 30 or below) and late-career (at or above age 50) stage interviewees; an explicit goal was to represent and contrast major occupational groups that exist in most countries around the world (i.e., nurses, blue-collar workers, and business graduates).

Intensive semi-structured interviews were conducted with a total of 226 people from 11 countries—18 to 28 interviews per country—which lasted on average 45 minutes. Interviews were recorded, transcribed, and content-analyzed (see Anonymous 1; Anonymous 2). As one part of the interview, which also examined career histories, a list of relevant career meanings for the scale development was derived from respondents' answers to the question: "Looking back at

your experience and your career thus far: what does 'career success' mean to you?". Respondents' explicit statements about subjective career success served as raw data for the items pool generation. This led to a list of 63 distinct meanings of subjective career success such as "Career success is…experiencing enjoyment and fun in my career". (See Supplement for more detailed information on Phase1 and how the 63 items were derived.)

Phase 2: Developing a Tentative, Cross-Culturally Valid Factor Structure for the Dual Response Format

In Phase 2, we built on the list of subjective career success meanings developed in Phase 1 to produce a cross-culturally robust factor structure for measuring subjective career success. At this stage of the project, we were primarily interested in how people organize career success meanings in their minds. So instead of directly asking our research participants about the extent to which they were satisfied with a specific career success meaning and how important they were to them, we asked them which of the 63 meanings were part of the same cluster (i.e., mental representation). Therefore, instead of the more commonly used combination of survey research and exploratory factor analysis (EFA) we opted for a combination of a card sorting task (see Block, 1978) and cultural domain analysis (Borgatti & Halgin, 2011) to establish the dimensionality of our scale. This methodological approach was instrumental for the development of the dual-response format, with respondents rating each dimension on importance and achievement simultaneously. Performing separate EFAs for both aspects of the scale early on in the scale development process was not an acceptable option, as such a process would likely result in disparate factor structures for the two response formats—whereas it was an explicit goal for our scale to measure both aspects jointly.

Therefore, we decided to develop a tentative factor structure based on mental representations of subjective career meanings across cultural clusters using cultural domain analysis. Cultural domain analysis captures respondents' (shared) views about which items are of the same type or category (Borgatti & Halgin, 2011). In our case, we explored which career success meanings respondents across cultures saw as representing shared identifiable career success dimensions. We knew that career success schemas differ across country contexts (see Kaše et al., 2018), and so—consistent with the principles of the N-way approach (Leung, 2008)—we were attentive to country-level schemas, and strived to establish an aggregate, shared representation of (dis)similarity of career success meanings across countries.

To extract individual mental representations of career success meanings we used an electronically mediated online card sorting procedure. Card sorting (see the Supplement for a more in-depth description of the method) is a qualitative technique, where selected respondents organize a set of cards featuring specific terms or items into groups of their choice and label them accordingly (see Block, 1978; Dries et al., 2008). We designed a special online tool and pretested it on a sample of 18 subject matter experts (i.e., international academics from careers, HR, OB, and related fields, who were all members of our project consortium). Using a computer interface, individual respondents were asked to visually arrange the 63 items into groups of career meanings that they felt belonged together, and label the emerging categories of meanings accordingly. There was no reference to participants' own careers during the task, the card sorting should thus be interpreted as embedded in respondents' (country-specific) cognitions. Allocations of items into categories were used to estimate the similarity among items, which served as a basis for determining the tentative factor structure.

Consistent with our aim of developing a cross-culturally robust factor structure, for Phase 2 we recruited participants from 13 countries covering all of Schwartz's (2006) cultural regions (i.e., Belgium, Brazil, China, France, Greece, India, Italy, Nigeria, Norway, South Korea, Slovenia, Turkey, and the USA). Our intention was to achieve as much heterogeneity as possible within each country sample, while safeguarding comparability across countries. Therefore, we adopted a stratified sampling strategy, where each country sample included data from 28 employed individuals with at least 5 years of work experience covering all 7 occupational types in the Campbell (1987) Interest typology (e.g., influencing, creating, analyzing,… occupations). The final sample included 364 individuals. 47% of respondents were women, on average they were around 40 years old, and had 16 years of work experience; more than 54 % were white-collar workers and on average they held a bachelor's degree or equivalent (See full details in the Supplement, Table 3).

Individuals' sortings of career success meanings were aggregated using a co-occurrence logic. Specifically, when two career success items were put together in the same category by a respondent they counted as one co-occurrence. The higher the number of respondents who sorted two items into the same category, the stronger the co-occurrence between the two items. Consistent with the inclusiveness of the N-way approach we analyzed both country-level and global representations of career success. All participating countries were given equal weight in the development of the global representation (See Supplement, Figures 2 & 3 for full sample representations).

We then performed a subgroup identification analysis (De Nooy, Mrvar, & Batagelj, 2011). Based on co-occurrence levels we identified tentative clusters of career success meanings and excluded 11 items due to their presence in multiple clusters or lack of connection to any

other item or cluster. The remaining 52 items were entered into a hierarchal clustering procedure, which based on our evaluation of the dendrogram returned 14 clusters of career success meanings (see Supplement, Figure 4 for dendrogram plot and Table 4 for full cluster-item structure). The labeling of the resulting clusters was done by the research team reflecting on the items and initial labeling from the participants' card sorts. The clusters and their corresponding items were then used as a tentative factor structure for both aspects of our scale in Phase 3.

Phase 3: Determining the Factor Structure and Initial Scale Validation

In Phase 3, our goals were to enhance parsimony of the scale (i.e., to reduce its number of items and dimensions), and to establish discriminant and convergent validity for both aspects of its dual-response format. Having developed a tentative factor structure, we were now able to change our emphasis from observing shared mental representations of subjective career meanings, to examining respondents' views about the importance and achievement of each career success item. We developed a questionnaire, piloted it and performed surveys in 16 countries, representing all major GLOBE (House et al., 2004) cultural clusters[iii]. As we already developed a tentative factor structure, we then used the data to run a series of confirmatory factor analyses (CFA) to optimize the dimensionality of our scale.

Data were gathered strategically with the intention to obtain heterogeneous within-country samples (cf. Cook & Campbell, 1979) regarding relevant respondents' demographic characteristics (i.e., cumulative work experience, occupation, gender). A minimum of 2 years of working experience was required for respondents to participate. The data collection process resulted in 4,438 valid responses from 16 country samples (Austria, Belgium, Brazil, China, France, Greece, India, Italy, Malaysia, Nigeria, Norway, Philippines, Slovenia, South Korea, Turkey, and the USA), which were relatively balanced across countries (ranging from 242

respondents for Norway to 373 for Belgium). Overall, 50.4 % of participants were female and 79.2% were employed full time. They were on average 39.2 years old and had 15.2 years of work experience. 28.9% of participants were managers, 41% professionals, 8 % service workers, 4.6% technicians, and 6.6 % clerical/support workers. Most of the participants (47.4 %) worked in organizations with fewer than 250 employees; the second-largest group were organizations with more than 1,000 employees (22%). Most respondents (57.7%) worked in the private sector, while 31.8 % were from the public sector. Finally, 11.6 % of participants lived in the rural areas, 44.3% in small towns or suburbs, and 43.7% in big cities.

Iterative confirmatory factor analyses

Based on the tentative factor structure of 52 items nested in 14 factors, we conducted iterative CFAs for both aspects of the scale (importance and achievement) separately. In the course of this process items with low standardized loadings were excluded, factors with a low number of items with low loadings were excluded, several highly correlated factors were merged (taking into account the higher-level clustering of items found in Phase 2). The labeling continued to build on the initial card sorting procedure from Phase 1, and the international research team's interpretations. The final factor labels were determined after a group discussion of the consortium. The resulting factor structure had 7 factors. Consistent with the dual-response format logic the dimensionality of the scale was kept equal for both the importance and the achievement aspect. The final factor structure featured the following factors: 1) Learning & Development (4 items), 2) Work-Life Balance (3 items), 3) Positive Impact (3 items), 4) Positive Work Relationships (4 items), 5) Financial Security (3 items), 6) Entrepreneurship (2 items), and 7) Financial Success (3 items).

Table 1 shows the suggested factor structure for both importance and achievement with standardized factor loadings and composite reliability (CR). The correlations between the factors are available in Table 2 (parts 1 and 2). The proposed factor structure fit the data well in both cases. Since our data are nested (i.e., individuals are nested in countries) we used a procedure with robust standard errors (*Complex* procedure in Mplus) to estimate the models (Muthén & Satorra, 1995). Further, as our data was skewed, and some data was missing we used a full information maximum likelihood (FIML) approach and the MLR estimator in MPlus 7.3. For the Importance aspect the 7-factor model solution fit the data significantly better (RMSEA=0.031; CFI=0.972; TLI=0.965; SRMR=0.033) than a single-factor solution (RMSEA=0.099; CFI=0.681; TLI=0.648; SRMR=0.104). Similarly, for the Achievement aspect the 7-factor model solution fit the data significantly better (RMSEA=0.028; CFI=0.976; TLI=0.971; SRMR=0.027) than the single-factor solution (RMSEA=0.105; CFI=0.644; TLI=0.607; SRMR=0.098).

INSERT TABLE 1 ABOUT HERE

INSERT TABLE 2 ABOUT HERE

Convergent and discriminant validity

In a first step, we examined discriminant validity between the different factors of the scale. We did not identify serious threats to validity (Fornell & Larcker, 1981). We calculated Average Variance Extracted (AVE), square root of AVE, Maximum Shared Variance (MSV), and Average Shared Variance (ASV) and compared them in a matrix of correlations among factors. A minor convergent validity concern was noted for Learning & Development and

Positive Work Relationships for the importance aspect, where AVEs were between 0.45 and 0.50.[iv] For the achievement aspect, we identified a minor discriminant validity concern between Positive Impact and Learning & Development, where the square root of the AVE of Positive Impact was less than the correlation between Positive Impact and Learning & Development. (see Supplement for full details, Tables 10 and 11). We addressed this issue by estimating an additional model with an alternative factor structure. Specifically, we tested the difference in fit between a 6-factor model (with Positive Impact and Learning & Development merged into one) and the 7-factor model. We established that even though the 6-factor model was also appropriate (RMSEA=0.038; CFI=0.956; TLI=0.947; SRMR=0.036), the 7-factor model still fit the data better (See Supplement, Table 7 for details). Based on these results we can claim that the factors in our multidimensional scale were statistically distinct for both aspects.

We then proceeded to test the factors for discriminant and convergent validity against relevant existing scales (see full details in the Supplement, Tables 12-14). Since both aspects of our scale (i.e., importance and achievement) relate to a different nomological network, we considered different concepts and their corresponding measures. For the importance aspect (Supplement, Table 12), we examined correlational patterns with Schein's (1978) career anchors (as measured by Igbaria & Baroudi, 1993) and Schwartz's work values (1994). Before performing the analyses, we hypothesized which dimensions of these well-established scales should correlate with our subjective career success factors (i.e., convergent validity) and which should not (i.e., discriminant validity). The correlations between the career anchor and work values factors, and our factors demonstrated patterns that were in line with our expectations: higher correlations to similar work values and career anchors and lower correlations to dissimilar ones (see Table 2 for details). For example, our Entrepreneurship dimension significantly

correlated with Schein's *Entrepreneurship* anchor (r=0.775; $p < 0.001$). Similarly, Positive impact dimension significantly correlated with Schein's *Service* anchor (r=0.608; $p < 0.001$) and Financial Success with Schwartz's *Achievement* value (r=0.467; $p < 0.001$). Alternatively, we also showed that in most cases factors that were not considered as conceptually related to our dimensions correlated considerably less strongly with them. For instance, the correlation of Schein's *Security-Geographic* career anchor with any of our factors was lower than 0.13 in absolute value.

We also found expected correlational patterns for the achievement aspect (see Supplement for full details, Tables 13 & 14). Specifically, the correlations between our dimension of subjective career success and Greenhaus et al.'s (1990) career satisfaction scale averaged at 0.361, ranging from 0.187 for Entrepreneurship to 0.469 for Learning & Development (all $p < 0.001$). Similarly, the correlations between Turban & Dougherty's (1994) scale of Perceived Career Success and dimension of subjective career success averaged at 0.326, ranging from 0.114 for Work-Life Balance to 0.451 for Learning & Development (also all $p < 0.001$). Moreover, in line with our expectations the Greenhaus et al. and Turban & Dougherty scales did not correlate well with the importance aspect of our scale. Generally, these results provide solid evidence of convergent and discriminant validity.

Phase 4: Further Scale Validation, Cross-Cultural Measurement Invariance, and Criterion Validity

The purpose of Phase 4 of the scale validation process was to validate the factor structure established in the previous phase on a new sample, examine cross-cultural measurement invariance of the scale, test for country differences, and perform criterion validation[v]. Our sampling strategy, again, aimed for heterogeneity of respondents according to relevant

demographic characteristics (Cook & Campbell, 1979). Each country sample included at least 400 participants with at least 100 individuals in blue-collar, clerical, professional and managerial occupational categories respectively. The Phase 4 sample featured respondents from 20 countries (Argentina, Austria, Belgium, Finland, Germany, Greece, India, Italy, Japan, South Korea, Mexico, Nigeria, Norway, Pakistan, Portugal, Russia, Serbia, Slovenia, Switzerland, and the USA) representing all GLOBE cultural clusters except the Middle East. The data collection process resulted in 13,859 responses (see Supplement, Table 15 for details).

Overall, 50.2 % of participants were female and 86.0% were employed full time in this sample. They were on average 40.6 years old and had 16.2 years of work experience. As far as occupational groups were concerned, 24.9% of participants were managers, 35.7% professionals, 20.7 % clerical and service workers, and 15.4% were skilled laborers. The majority of respondents (52.5 %) worked in organizations with fewer than 250 employees and 30.6% in organizations with more than 1,000 employees. Similarly, most of them (63.2%) worked in the private sector, while 26.4 % were from the public sector. Finally, 23.3% of our respondents had experience of international assignments or frequent business traveling abroad.

Further scale validation

We performed another CFA of the proposed factor model, which acknowledged the dual response format of the scale.[vi] Again, we used the FIML approach and MLR estimator in MPlus 7.3 to estimate the model (Muthén & Muthén, 2015). The fit indicators remained at acceptable levels (RMSEA 0.037; SRMR 0.036; CFI 0.916; TLI 0.901) and were much better than the single factor alternative for the dual response format (RMSEA 0.078; SRMR 0.083; CFI 0.590; TLI 0.562). In Table 1 we report standardized loadings and composite reliabilities (CR) for all

dimensions and both aspects. These results reiterate our findings from Phase 3 about the validity of our scale.

Measurement invariance and cross-country differences

Next, we examined the measurement invariance of the proposed scale across countries. A cross-culturally robust scale should simultaneously allow for comparability between countries (i.e., similarity of the meanings of the construct itself) and measurement invariance. Large-scale cross-country projects such as Programme for International Student Assessment (PISA), the European Social Survey (ESS), and country-comparative projects in careers research (e.g., the Career Adapt-Abilities Scale project, see Savickas & Porfeli, 2012) are known for experiencing issues in establishing metric and scalar invariance using multi-group CFAs. To avoid these issues, we adopted the Alignment procedure in MPlus to examine approximate metric and scalar invariance across the participating countries, because this procedure has been shown to perform better (Asparouhov & Muthén, 2014).

Ensuring measurement invariance is key in allowing for comparisons (of variable means and variances) across countries (see full details in the Supplement, Table 16) in comparative research. We found relatively high levels of invariance across the participating countries with only negligible indications of non-invariance for some item-country combinations. The overall invariance for items ranged between 4.2% and 18.2%, which is well below the 25% threshold set by Muthén & Asparouhov (2014, p.3). This implies that the scale is capable of validly comparing and establishing differences in subjective career success across countries. Tables 3 and 4 illustrate this point in reporting significant differences between countries for the dimension Financial Security. The higher-ranked countries in the tables attach more importance to, or are more satisfied with their level of achievement in terms of Financial Security. The right column

lists all countries that have a significantly lower score than the top-ranked countries. Full tables for all dimensions are available in the Supplement (Tables 17-30). Although discussing all results would take us too far here, we can report that we found statistically significant differences between countries for all dimensions on both aspects of the Dual Aspect Importance & Achievement Career Success Scale.

INSERT TABLE 3 AND 4 ABOUT HERE

Criterion validity

We used life satisfaction as a criterion.[vii] Life satisfaction is commonly operationalized, both in review articles (Spurk et al., 2019) and empirical studies (Abele, Hagmaier, & Spurk, 2016) as a higher-order outcome of career success. That is, career success is not necessarily the 'ultimate' outcome variable in careers research, but also has important further outcomes of its own (Hall & Chandler, 2005). Especially considering the subjectivist, multidimensional, dual-format approach we adopted in developing our scale—which was itself inspired by the life satisfaction literature (Wu & Yao, 2006)—we can assume that subjective career success and life satisfaction should be closely related (Abele et al., 2016). That is, if we know what is important to a person across multiple dimensions of his or her career, as well as how happy that person is with the level he or she has achieved on each dimension, this should significantly affect their life satisfaction. As previous research has shown, people's careers are more often than not an important part of their identity, so satisfaction versus dissatisfaction in this domain is likely to affect overall life satisfaction (Erdogan et al., 2012).

We measured life satisfaction with the 5-item satisfaction with life scale (Diener, Emmons, Larsen, & Griffin, 1985). A sample item was "In most ways my life is close to my ideal". Participants used a 7-point Likert scale to rate this item. An examination of the measure's

quality in our dataset showed that the measure was reliable (CR = 0.891) and adequate for further analyses (CFA fit indicators: RMSEA = 0.052; CFI = 0.995; TLI = 0.099; SRMR = 0.021; AVE = 0.623).

Results from simple single-predictor structural equation models are reported in Table 6. As the table shows, achievement scores for all dimensions were significant positive predictors of life satisfaction (standardized regression coefficients ranged from .258 to .525). On average, they explained about 18% of variance in life satisfaction, offering support for the criterion validity of our scale.

INSERT TABLE 5 ABOUT HERE

Interaction patterns between Importance and Achievement

Finally, we used latent path and latent interactions modeling in Mplus 7.4 (see Sardeshmukh & Vandenberg, 2016) to examine the joint effects of the importance and achievement aspects of subjective career success in predicting life satisfaction. Since our scale integrates two aspects of subjective career success we first report correlations for all dimensions and both aspects (see Table 2: part III). The correlations within the same dimension on different aspects (e.g., between importance and achievement of Learning and Development) are reported on the diagonal. All correlations were positive, but varied substantially among pairs of different dimensions: from very weak for Financial Success (0.078) to very strong for Positive Impact (0.712), implying that the relationship between importance and achievement was dimension-specific. We see from Table 6 that inclusion of latent interaction terms improved the majority of the latent interaction models (see Akaike information criterion change in Table 7)—they fit the data better compared to models where only main effects of achievement were included. Overall,

this implies that including the importance aspect provided additional explanatory power to the models. In addition, the results in Table 6 show that the joint effects of importance and achievement were also dimension-specific.

INSERT TABLE 6 ABOUT HERE

Four distinct patterns of interaction between importance and achievement were observed for different dimensions of the scale (see Figure 1). In a first pattern, attaching more importance to a dimension decreased the magnitude of the relationship between achievement on that dimension and life satisfaction, especially at higher levels of achievement (i.e., a 'fan out' pattern). This pattern was found for Learning & Development, Positive Work Relationships, and Positive Impact. The second pattern was similar to the first—high importance makes it more difficult for achievement to translate into higher life satisfaction—but was the same across lower and higher levels of achievement (i.e., a 'parallel' pattern). This pattern was found for Financial Security and Financial Success. The third pattern (also parallel) was inverse to the second, with high importance leading to a stronger relationship between achievement and life satisfaction. This pattern was found for Work-Life Balance only. In a fourth pattern, lower importance of a dimension buffers the effects of lower achievement on life satisfaction. This pattern was found for Entrepreneurship. The identification of these different patterns showcases the capability of the Dual Aspect Importance & Achievement Career Success Scale to detect nuanced differences, and facilitate a better theoretical and empirical understanding of subjective career success as a construct.

INSERT FIGURE 1 ABOUT HERE

Checking for common method variance

As Phase 4 was a cross-sectional study, we performed the necessary steps to prevent and analyze the risk of common method variance (CMV). In particular, we created and included an original marker variable about an unrelated construct—use of computers at home (sample item: "If more people had computers at home it would be beneficial." We also analytically checked for potential CMV by adopting the common latent factor and marker variable approaches. The amount of CMV established in our data was between 2.3% and 5% for the importance aspect and between 20.8% and 22% for the achievement aspect, which is well below the 50% threshold (Hair, Black, Babin, Anderson, & Tatham, 1998). We conclude that although we cannot completely exclude that CMV was present in our data, it did not represent a serious threat to validity of our findings.

Discussion

The present study set out to develop and test a subjectivist, multidimensional measure of career success appropriate for use in cross-cultural and/or country-comparative research. The major gap identified in the literature was the dominance of career success studies and measures administered in single countries (Mayrhofer et al., 2020), of which it is not (yet) clear whether their underlying assumptions hold across cultural contexts (Henrich et al., 2010). Over a period of several years and spanning four research phases, we developed a new scale—the 'Dual Aspect Importance & Achievement Career Success Scale' (see Appendix 1)—to measure subjective career success, comprised of seven dimensions (i.e., Learning & Development, Work-Life Balance, Positive Impact, Entrepreneurship, Positive Work Relationships, Financial Security, and Financial Success), that are rated on two aspects (i.e., importance and achievement).

The scale development process aimed to tackle several limitations and concerns raised by prominent voices in the careers literature (Gunz & Heslin, 2005; Spurk et al., 2019), that were in

part also addressed by other research teams that have developed subjective career success measurement scales in recent years, of which the development process ran concurrently to that of the scale reported here (Shockley et al., 2016; Zhou et al., 2013; Pan & Zhou, 2015). Specifically, we set out to develop a scale that was, first of all, multidimensional (meaning that several 'meanings' of career success are captured, as opposed to unidimensional scales where items are averaged out into a single score; cf. Greenhaus et al., 1990; Turban & Dougherty, 1994). Second, we wanted our scale to be 'subjectivist', in two different ways—by developing items based on qualitative input from workers from all over the world (see Phase 1); and by developing a dual response format that allowed us to weigh satisfaction of a dimension by the idiosyncratic importance attached to it by each individual respondent. This was based on insights from the life satisfaction/quality of life literature, in which debates about what is the best way to measure satisfaction have been ongoing for decades (Wu & Yao, 2006), and characterized by painstaking detail to conceptual, theoretical, and psychometric issues (Wu, Chen, & Tsai, 2009).

As mentioned above, the recent scales developed by Shockley et al. (2016) and Zhou et al. (2013; Pan & Zhou, 2015) have also explicitly addressed these first two concerns. Both scales are multidimensional, and items were generated based on a preliminary interview study. In addition, both scales mention the issue of weighing factor satisfaction by importance. Shockley et al. (2016) did not measure importance directly, but conducted a relative weights analysis to examine the percentage of variance that each dimension accounted for in the total R^2 of their study outcomes. In their Discussion section, they explicitly state that an avenue for further research is to ask respondents to rate both their satisfaction and importance with each item and weigh both aspects accordingly. As far as we are aware, however, to date there has been no research that has picked up this suggestion. Pan and Zhou, in their 2015 paper, build on their

2013 scale development paper to add the dimension of what they called 'criteria' of success. The authors likened this facet to personal goals and values, and multiplied these scores with ratings of success on each dimension. They did not, however, analyze both facets separately or discuss applications and implications of using dual-format response scales.

It is, therefore, not the multidimensional or subjectivist nature of the Dual Aspect Importance & Achievement Career Success Scale *per se* in which its unique contribution lies, but rather, the scale development process behind the scale, and the new avenues it opens up for further research. That is, to the best of our knowledge there have been very few international research projects that have adopted a decentered approach such as the one described here. Although many scholars have lamented the problem of the WEIRD perspective in management and organizational research (Henrich et al., 2010), solutions have been less clearly spelled out. It is our aspiration for the research process outlined in this article—in particular in the detailed Supplementary Materials—to be a roadmap for other cross-cultural research efforts, both within and outside of the careers field. Specifically, we advise against research that is informed primarily by concepts, ideas, and assumptions from one or a few predominant regions and/or high status scholars. Rather, cross-cultural research should reflect the assumptions and mental models (Kaše et al., 2018) of each of its participating countries and members in equal measure, through a participatory 'N-way' approach (Brett et al., 1997; Leung, 2008).

In addition, our approach opens up a range of novel research questions—and our scale a valid methodological approach—for country-comparative careers research (Mayrhofer et al., 2020). In the theoretical framework of the present paper we have discussed several theoretical frameworks that have so far remained unexamined within the careers field: social representation theory (Moscovici, 1963), multiple discrepancies theory (Michalos, 1985), and three competing

theories for testing country-level differences in satisfaction—i.e., comparison theory, folklore theory, and livability theory (Veenhoven, 1996). Discussing and testing each of these theories separately based on the data we collected across the four research phases falls beyond the scope of the present paper. Rather, we propose, these theories and their underlying assumptions represent fertile ground for future country-comparative research on career success, using the Dual Aspect Importance & Achievement Career Success Scale.

Social representation theory, for instance, proposes that individually held meanings of career success are embedded within a given socio-cultural context (Moscovici, 1963). That is, members from different societies or communities hold different 'schemas' of career success (Kaše et al., 2018), that become reified through organizational and governmental career management practices (Dries, 2011; Moscovici & Hewstone, 1983), and are thus often taken for granted by the members of that society—until cross-cultural research uncovers its idiosyncrasies (Hanges & Dixon, 2004). Without going into too much detail, it is clear from our findings that social representations of career success did indeed vary between the 20 countries in our sample, as demonstrated by significant country differences in the importance attached to the different dimension (see Tables 24 through 30 in the Supplementary materials). To be clear, we are not claiming that the importance scores in our data are *representative* for each country. Rather, we propose that our scale—because of its cross-cultural validity—is the most appropriate measure for studying social representations of career success in future country-comparative studies.

The dual-response format, as well, allows researchers to address new research questions, such as the exact nature of the relationship between a person's relative standards and their feelings of satisfaction or dissatisfaction (Solberg et al., 2002). It has been suggested, for instance, that individuals might have a 'set point' of satisfaction throughout their career, that is

more informed by their dispositional affect than by their objective circumstances, even across career transitions (Judge & Larsen, 2001). If this is true, it has promising implications for the effects that career counseling and management interventions can be expected to have on (different types of) individuals. The Dual Aspect Importance & Achievement Career Success Scale allows, for the first time, to test this type of hypothesis, ideally by coupling data on dimension importance and achievement to measures of objective career success, longitudinally across career stages. Multiple discrepancies theory—which holds that (life) satisfaction is a function of personal standards just as much as objective living conditions—offers a particularly promising theoretical framework for this type of research (Michalos, 1985; Solberg et al., 2002).

The dual-response format also offers tremendous potential for a simultaneous assessment of the relationship between objective and subjective career success across countries and cultures. If livability theory is more true for a country or set of countries, we should find that subjective career success is mostly influenced by objective indicators of success, while dimension importance should play only a minor role (Veenhoven, 1996). Finding support for folklore theory, in contrast, would require finding higher mean achievement scores (and lower variance) for a country or set of countries, that are not predicted to a large extent by importance nor objective career success. A highly publicized example of this type of research is the World Happiness Report, which ranks countries on aggregate subjective happiness on an annual basis (Helliwell et al., 2019). Finally, if a meaningful interaction effect between importance and achievement is found in a country or set of countries—that is more predictive of a set outcome than either dimension, or objective career success separately—this would indicate support for comparison theory. This theory holds that it is not only the objective circumstances in a country

(e.g., its GDP or Gini coefficient), nor its national character that determines country-level satisfaction; but rather, that different countries have different standards.

In what follows, we list the limitations of the present study, along with suggestions for how future studies may remedy them. We conclude with implications for career counseling and organizational career management practice.

Limitations and Avenues for Future Research

As is the case for every research project, the present study was not without its limitations. First, although our sampling strategy was systematic and highly structured across countries, we cannot claim that the resultant country samples are representative. They were, however, heterogeneous and balanced in terms of respondent gender, age, and occupational type (cf. Cook & Campbell, 1979). We are thus confident that the level of variability in our data was sufficient to allow for appropriate cross-cultural validation. Furthermore, while we achieved highly balanced country samples (i.e., a similar number of observations) in Study 3, in Study 4 country-level observations were less balanced. Although this means that some countries were over-represented in the data (and others under-represented), in our measurement invariance analyses countries were treated as separate latent classes, such that the number of cases from a country did not affect the results.

Second, as discussed at the end of the Results section for Phase 4, the study was cross-sectional, meaning that common method variance (CMV) needed to be checked for. As we described, we did this through the inclusion of a marker variable that was conceptually unrelated to the study variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2012). We recommend that readers interested in using the Dual Aspect Importance & Achievement Career Success Scale

include the same marker variable (i.e., use of computers at home), such that they can directly assess the risk of CMV in their data compared to the coefficients reported in the present paper.

Third, there were many other variables we could have included as tests of criterion validity, beyond life satisfaction. The Shockley et al. (2016) study, for instance, included career withdrawal cognitions, career commitment, career self-efficacy, life satisfaction, and depression; the Pan and Zhou (2015) study used career commitment, global happiness, and affect (PANAS). Again, we believe that reporting relationships between seven dimensions rated on importance and achievement across 20 countries, to a large set of criterion variables would lead to a set of complex findings, and falls beyond the scope of the present paper.

Finally, the usage and reporting of the dual-response format in the present paper is limited—many more applications of this format are conceivable in further research, as outlined below. As we suggested earlier, the two aspects can both be studied separately—and can be expected to have different sets of antecedents and outcomes—as well as jointly. Studying the satisfaction aspect separately has been the default in the literature (cf. Greenhaus et al., 1990; Shockley et al., 2016), so we will not go into future research avenues on this end, as contributions here will likely be only incremental. That said, our scale does allow for a more nuanced study of the differential predictors and outcomes of each 'achievement' dimension separately (Spurk et al., 2019).

Although we strongly recommend that researchers using the Dual Aspect Importance & Achievement Career Success Scale always administer both response formats alongside one another—it hardly increases the cognitive load for respondents and, minimally, the importance aspect 'anchors' responses for achievement (Wu et al., 2009)—we can come up with a number of research questions that are related to the importance aspect only. A first research avenue is

studying differences between groups, cross-sectionally, such as differences between occupations, differences between people of different socio-demographic backgrounds, and differences between people embedded in different societies or communities (as discussed earlier in the section on social representation theory; Moscovici, 1963). A second avenue is studying differences over time. For instance, the importance attached to different meanings of career success might shift across career and life stages (potentially in a gendered way; see Mainiero & Gibson 2018). It may also shift after certain career transitions (studies could measure importance of different dimensions pre- and post-transition), geographical transitions (e.g. expatriation, migration), or career shocks such as getting fired, family tragedies, or going through a global health crisis such as COVID-19. It has been documented that all of these types of events influence people's life and work priorities (Akkermans, Seibert, & Mol, 2018), which would likely manifest in changes in importance scores for a given dimension. Another research question is whether the importance attached to certain career meanings might converge between countries when they are affected by a unifying experience, such as COVID-19, which has led to universally shared experiences such as job insecurity, anxiety and depression, but also a realization of wanting to spend more time at home or engaged in leisurely or relaxing activities (Kniffin et al., 2020). The forced shift of many organizations to a work-from-home culture supported by digital means may also have affected mental representations of career success. For instance, research has shown that telecommuting increases satisfaction of the need for autonomy but reduces satisfaction of relatedness with colleagues (Van Yperen, Rietzschel, & De Jonge, 2014).

We can also identify several avenues for future research integrating the achievement and importance aspects simultaneously. As reported in our findings, four different types of

interaction patterns emerged from our data (see Figure 1). The main question for further research, thus, is to examine exactly how achievement and importance relate to each other, and what are potential boundary conditions that determine in which pattern they fall. In the life satisfaction literature, different approaches have been described to modeling the relationship between importance and achievement across different life domains. Interaction effects (Wu & Yao, 2006), formative models using latent variables (Wu et al., 2009), and algorithmic formulas (Cummins, 1997) have all been tried and tested. Overall, these studies have concluded that dual-format scales offer potential for a more in-depth theoretical explanation of the exact predictors of life satisfaction, rather than a statistical improvement *per se* (Wu et al., 2009). This makes sense as achievement scores weighed by importance will always be highly correlated with the achievements scores alone (Wu & Yao, 2006). Hence, it is not the unique variance added by the importance aspect that builds the case for why to include it, but rather, the types of research questions it allows us to address. Concrete ideas for further research include, but are not limited to the following. First, it is possible that a given dimension of career success only relates to global satisfaction and/or drives future behavior when a threshold value of importance is met or surpassed; and different (types of) people may have different thresholds. Second, studies on innate psychological needs (Sheldon & Niemiec, 2006) have found that fulfilment of particular needs requires balance. Future research thus could look at what happens when achievement for one or several (deemed important) career success dimensions is low—under which conditions achievement of other dimensions could compensate for this in buffering effects on global satisfaction or behavior (Dysvik, Kuvaas, & Gagné, 2013). Third, some people might define career success based upon current achievement of a particular success meaning, whereas others may emphasize the ongoing quest to achieve such important standards. In addition, we expect

these dynamics to vary by career success dimension. It may be that the nature of some meanings of career success (e.g., learning and development) are less subject to being measured by a 'destination' whereas others (e.g., financial security) are very much outcome-driven. Satisfaction with a career success meaning is thus dependent upon the meaning's importance for the individual (Wu & Yao, 2006) as well as the achievement of the goal. Finally, in terms of country-comparative research, future research could further dig into country differences in 'standards' for career success, as spelled out in the life satisfaction literature (Solberg et al., 2002). After a certain threshold of objective welfare in a country is achieved, for instance (cf. livability theory; Veenhoven, 1996), perhaps it is no longer the objective life or career circumstances that matter. Comparing two or more countries with similar standards of living (and perhaps also similar career systems) that still have very different mental models of career success (Kaše et al., 2018), would be a highly promising avenue for studying the drivers of subjective career success across countries.

Implications for Practice

We believe that this research offers a new rigorous tool for practitioners in and out of organizations to potentially enhance the motivation and satisfaction, development, performance, commitment, and retention of employees both within and across national boundaries. Being able to simultaneously understand the individual but also to meaningfully compare them across cultural, institutional, and organizational contexts allows organizations to be responsive to the universalist/contextualist (Mayrhofer, Brewster, Morley & Ledolter, 2011) dilemma, and to try to be more flexible in choosing between standardization and individualization of organizational and human resource strategies and applications. Many organizations report a need for more customized internal career paths, but struggle coming up with more than two trajectories—i.e., a leadership track and a technical/expert track (Dries, 2011). Using the Dual Aspect Importance & Achievement Career

Success Scale to survey one's entire workforce might offer inspiration to develop a more diverse set of career paths inside and outside of the organization. It may also help organizations achieve clarity on the value proposition they want to put forward in their recruitment messages, as to what the organization stands for in terms of career management (Hall, 2002).

Consultants and career counselors might use the scale to better understand what individuals emphasize in the workplace. Career interventions that work well for one person may have a null or opposite effect on another person, depending on the importance they attach to different meanings of career success. After completing a career success questionnaire based upon our scale, individuals could be provided with a better understanding as to which are important factors for them in their careers. The scale could also serve a diagnostic purpose, in that individuals are stimulated to think about discrepancies between importance of career success dimensions and perceived levels of achievement. This naturally generates discussion as to the reasons for why the discrepancies may be occurring, and then efforts can be made to develop strategies to address them. Similarly, organizations can use the scale to understand groups of employees and use commonalities or differences on our measures to inform HRM practices. Beyond changing the organization, traditional tools like career development and newer tools such as job crafting (Tims, Bakker, & Derks, 2012; Wrzesniewski & Dutton, 2001) exist that can allow and even encourage the individual employee to better their person-organization fit on their own, equipped with better insight.

As for the cross-cultural component of the present study, beyond differences in unique regional settings career success constructs need to consider the fact that nowadays many individuals cross cultures by having global work experiences (Shaffer, Kraimer, Chen, & Bolino, 2012); or by being employed in multinational organizations that tend to apply national career structure norms largely unchanged abroad (Hartmann, Feisel, & Schober, 2010). As people

increasingly cross international boundaries, and companies manage human resources globally, it becomes necessary not to just understand that definitions of career success can vary from person to person, but also how these meanings vary, and how they can be compared across countries. This will help for example in determining if an individual contributor at a manufacturing plant in India has the same strivings as one in Belgium, and what are the implications. This flexibility allows talent management architecture and systems to look not only across cultures but also across career stages as they observe, develop and learn from agile high-potentials who may represent the unfolding future of the company's own strategic and operational agility. Given the emphasis on personal meaning inherent in the subjective career concept, career success meanings are likely particularly sensitive to cultural and institutional influences. At the same time we argue that multinational organizations' decisions for adopting a differentiated or a standardized approach to career management (Anonymous 1) needs to be based on valid-country comparative frameworks and data (Mayrhofer, Brewster, & Farndale, 2018).

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ENDOTES

[1] Unidimensional means that item scores are averaged out into a single scale score.
[1] Israel was also included, a country which Schwartz considered categorically different from the seven named cultural regions.
[1] We shifted to the GLOBE (Global Leadership and Organizational Behavior Effectiveness Research Project) cultural regions from the Schwartz model in this stage because while it was similar to Schwartz's model it offered more detail on regions (e.g., Western Europe divided into multiple regions). The GLOBE cultural clusters were developed based upon a comprehensive study of leadership beliefs and behaviors in countries around the world. It GLOBE framework was developed via a major research collaborative lead by Robert House and divides the countries of the world into 10 cultural regions based upon reactions to implicit leadership theories (ILT).
[1] Note that a threshold of 0.45 is considered acceptable for new scales (Netemeyer, Bearden, & Sharma, 2003).
[1] We added an extra item to the Entrepreneurship dimension ("Running my own business") because the dimension only featured 2 items, which would be problematic for future adoption of this dimension as a self-standing sub-scale. The two original items were based on the original meanings form the qualitative phase. We have already shown that scale featuring 2-item Entrepreneurship has adequate characteristics, in Phase 4 we show that the scale featuring three-item version of Entrepreneurship dimension also has adequate psychometric characteristics.
[1] The residuals of paired items addressing the same subjective career success meaning for both aspects (i.e., importance and achievement) were constrained to correlate.
[1] We also include other relevant outcomes that are predicted by dimensions from our SCS scale. Full details are available in the Supplement, Table 31.

Supplemental material to: Here, There & Everywhere: Development and Validation of a Cross-Culturally Representative Measure of Subjective Career Success

Introductory description

The present writing concerns the supplementary material to the paper entitled 'Here, There & Everywhere: Development and validation of a Cross-Culturally Representative Measure of Subjective Career Success'. This supplement provides additional results from auxiliary analyses to provide readers of the aforementioned paper with more in-depth insights about the phases of development of the scale. Specifically, the present writing includes additional analyses and explanations related to the four phases of the scale development process:

- Phase 1: Cross-cultural item generation
- Phase 2: Developing a tentative cross-culturally inclusive factor structure for a dual response scale
- Phase 3: Determining the factor structure and initial scale validation
- Phase 4: Further scale validation, cross-cultural measurement invariance test, differences testing, and criterion validity

Considering the contents of these parts, this supplemental material should not be read as a standalone paper, but rather in combination with the elaborations as provided in the aforementioned main manuscript.

Phase 1: Cross-cultural item generation

The first phase of the scale development concerns a qualitative study by the means of semi-structured interviews across 11 countries (see Anonymous 1). The main manuscript provides a summary of the main characteristics of the study. This section of the supplementary material provides more complete descriptions of the research steps and of the characteristics of the respondents. For our sampling strategy across countries we used cultural clusters based on Schwartz's theory of cultural values (1994, 2006). It was sought to involve at least one country from each cultural region in order to yield a more globally diverse sample. The final sample comprised 11 countries according to Schwartz's framework of designated regions: Austria and Spain (from Schwartz's Western European region), China and Japan (from Confucian Asia), Malaysia (from South Asia region), Costa Rica and Mexico (from Latin American region), Serbia (from the Eastern European region), South Africa (from the Africa region), the USA (from the English-speaking region) and Israel (which was not assigned to a specific cluster by Schwartz).

We gathered samples from three diverse occupational groups: business people, nurses, and manual workers (manual labor such as plumber, waiter, craftsman, carpenter, cook and factory assembler). These groups were chosen because the structure of their career mobility and the "scripts" for their career success presumably varied within and across cultures. We also made the choice to interview people in the first stage of their careers, but at least five years in (at or below age 30; average sample age 27.5 years) and late career (at or above age 50; average age 57). The logic was to see how feelings about career success and other topics (not covered in this article) would vary across the career.

In total, 226 individuals – a rough gender balance of 121 men and 105 women – were interviewed. Table 1 gives an overview of the samples for each country.

Table 1 – Overview of the country sample

Cluster	**Confucian Asia**		**English-Speaking**	**Eastern Europe**	**Israel**	**Latin America**		**South Asia**	**Sub-Sahara Africa/**	**Western Europe**	
Countries	***China***	***Japan***	***US***	***Serbia***	***Israel***	***Costa Rica***	***Mexico***	***Malaysia***	***South Africa***	***Austria***	***Spain***
Sample size (N=226)	28	20	20	21	19	19	18	18	24	18	21
Female/male	15/13	7/13	11/9	14/7	8/11	11/8	6/12	8/10	16/8	8/10	17/4
Older/younger age group	16/12	10/10	9/11	10/11	10/9	10/9	9/9	9/9	14/10	9/9	8/13
Business/ Nurses/ Blue-collar	8/6/14	8/6/6	8/6/6	7/8/6	6/6/7	6/6/7	5/6/7	6/6/6	9/7/8	6/6/6	6/6/9

Interviews were conducted in person (or by telephone in a few cases where introductions had been previously made in person). Semi-structured interviews were used to give us optimal flexibility while still focusing upon the questions of interest (Patton, 1987). After developing an interview guide using a cross-cultural team, the English version was translated where necessary by each national research team. We paid particular attention to the translation of important key

constructs (e.g. careers) so that they are not only equivalent to the English version but also relevant and meaningful in specific national contexts.

Data analysis proceeded in a multi-stage process. Each research team conducted semi-structured interviews, face-to-face in the respective national languages On average, interviews lasted 45 minutes, were tape-recorded (with the consent of the interviewee) and fully transcribed. The interviews involved creating and reviewing a career timeline, reviewing at least one transition in depth, and discussing participants' descriptions of how they defined career success: "Looking back at your experience and your career thus far: What does 'career success' mean to you?" Interviewees were approached through professional associations, alumni organizations and/or personal networks.

Data were coded using content analysis to inductively generate conceptual categories (Mayring, 2003). In the first round, all national research teams inductively coded their interview data separately in order to generate culture-specific conceptual categories and main themes. Before the coding started, the definition of a coding unit was discussed and agreed upon at the research meeting. Consequently, each country team generated a set of country-specific categories in their own language before translating them into English for and writing a report for subsequent discussion during cross-team cross-cultural research meetings. Face-to-face team discussion was held to solve coding discrepancy and achieve coherent interpretation across independent coders.

Six members (from 5 countries) of the research collaboration, each trained in career theory, met to create a 'Global Coding Book' (GCB) that integrated the various countries' findings in English language. All the country teams recoded the interview data following the GCB.

For the current study we started with the 76 original items from the GCB but eliminated some that were very vague or still found to be redundant. We did this in consultation of the original country teams.

In summary, we used a specific variant of content analysis to identify themes and inductively generate basic categories from the interview texts. We compared these emerging themes based on their occurrence across the 11 countries. We edited the original list by eliminating redundancies and in some cases interpreting vague statements with representatives of the original country research teams. The result was a list of 63 distinct meanings of subjective career success (see Table 2).

Table 2 – The meanings of subjective career success

1	Feeling satisfied with one's job.
2	Being happy as a result of one's career.
3	Experiencing enjoyment and fun in one's career.
4	Getting higher positions.
5	Getting better work assignments.
6	Achieving a higher social status as a result of one's career.
7	Owning things that show one's achievements.
8	Achieving wealth.
9	Accomplishing one's personal goals.
10	Performing one's job well.
11	Producing work output that is of high quality according to widely accepted standards.

12	Outdoing or outperforming others.
13	Receiving incentives, perks or bonuses.
14	Meeting the role requirements of one's job.
15	Steadily making more money.
16	Being self-employed.
17	Owning one's own company.
18	Achieving financial independence.
19	Being able to influence others.
20	Continuously learning throughout one's career.
21	Doing work that provides one with opportunities to solve problems.
22	Acquiring job-related skills through formal education and training.
23	Doing work that gives one the opportunity to learn.
24	Having the opportunity to be innovative in one's work activities.
25	Experiencing challenges in one's work.
26	Acquiring job-related skills through informal learning.
27	Having a richer life experience as a result of one's career.
28	Having a job that allows one to travel.
29	Expressing one's true self throughout one's career.
30	Becoming a better person as a result of one's career.
31	Fulfilling a "mission" or "calling" through one's career.
32	Having a positive impact on society.
33	Leaving people and places better as a result of one's career.
34	Having a secure job.
35	Having a job that offers variety in the tasks one performs.
36	Having freedom and choice in how one performs one's work.
37	Having responsibility in one's work.
38	Doing work that does not cause stress or anxiety.
39	Having a manageable work load.
40	Seeing the results of one's work.
41	Being able to work one's whole life at one company.
42	Helping one's organization be more successful.
43	Feeling a sense of belonging with one's company.
44	Working in a positive environment.
45	Experiencing positive relationships with peers and colleagues.
46	Experiencing positive relationships with superiors.
47	Having the chance to work with others.
48	Experiencing positive relationships with customers.
49	Expanding one's network of work relationships.
50	Receiving formal recognition.
51	Getting positive feedback from supervisors.
52	Getting positive feedback from colleagues.
53	Getting positive feedback from customers.
54	Achieving a satisfying balance between work and family life.

55	Having time for non-work interests.
56	Achieving balance between work and non-work activities.
57	Contributing to the development of others.
58	Helping others.
59	Having a career that has meaning and purpose.
60	Being able to provide the basic necessities.
61	Being able to provide for one's family financially.
62	Having financial security.
63	Being able to afford things one wants.

Phase 2: Developing a tentative cross-culturally inclusive factor structure for a dual response scale

During the second phase we aimed to develop a factor structure from the 63 meanings of subjective career success identified in the previous phase. The main manuscript provides a description of the theoretical rationale and the methodological choices we adopted in this phase. This section of the supplementary material provides a more detailed description of the subjects involved in the card sorting procedure, further explanation of the card sorting procedure and co-occurrence logic, graphical representations of country and global levels of subjective career success meanings clusters, and details about hierarchical clustering and cluster-item structure.

During the piloting phase of the electronically mediated (online) card sorting procedure we involved 18 subject matter experts (i.e., individuals who, because of their professional or educational background (or practice), have expert knowledge, vocabulary and insight concerning careers, their antecedents and outcomes.

After the piloting phase, we recruited participants from 13 countries (i.e., Belgium, Brazil, China, France, Greece, India, Italy, Nigeria, Norway, South Korea, Slovenia, Turkey, and the USA) covering all Schwartz's (2006) cultural regions. Each country sample included data by 28 employed individuals with at least 5 years of work experience covering all 7 occupational types in the Campbell (1987) Interest typology (e.g., Advertising Account Executive], organizing [Accountant], helping [Nurse], creating [Writer], analyzing [Engineer], producing [Electrician], and adventuring [Police Officer]; each stratum is illustrated by a sample occupation). Within each occupational stratum, four representative occupations were sampled per country. For example, for Slovenia the adventuring stratum was represented by a criminal investigator, a fitness instructor, an expedition leader, and a firefighter. Participants were recruited by local representatives of the global research project. The final sample included 364 individuals in total. Table 3 illustrates the demographics of the participants per participating country.

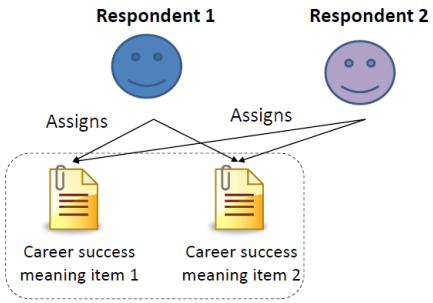
Table 3: Demographics of the card sort respondents by participating countries

Country	Working years	Male (%)	Private sector(%)	White collar (%)	Managers (%)	Education Level
Belgium	11.6	57%	43%	71%	30%	3.5
Brazil	17.9	64%	79%	21%	71%	4.2
China	14.4	43%	50%	54%	36%	4.3
France	15.8	48%	69%	50%	46%	4.4
Greece	10.3	54%	75%	71%	46%	4.6
India	14.0	50%	54%	57%	68%	4.8
Italy	17.1	46%	57%	32%	54%	4.8
Nigeria	12.4	61%	64%	61%	75%	4.5
Norway	19.4	39%	64%	79%	46%	4.7
S.Korea	19.4	68%	54%	56%	67%	5.0
Slovenia	14.8	61%	54%	43%	39%	3.9
Turkey	19.3	54%	71%	43%	48%	4.3
USA	19.7	43%	50%	64%	64%	4.6

Note. Education levels: 1) Primary education, 2) Secondary education, 3) Vocational school, 4) Bachelor, 5) Master, 6) Doctorate.

The participants were asked to complete a card sorting activity. Card sorting is a qualitative technique where respondents are asked to logically organize a set of cards; in our case, each card featured a career success meaning (Daniels, De Chernatony, & Johnson, 1995; Dries, Pepermans, & Carlier, 2008). Our respondents were asked to group 63 career success meanings into clusters personally meaningful to them by using a drag-and-drop principle and name them accordingly. This activity resulted in similarity scores following the logic of co-ocurrence. When a respondent placed two career success meaning into the same group, it counted as one co-ocurrence (see Figure 1). The more respondents placed the two items into the same group, the stonger the co-occurence (Figure 1 shows of two co-ocurrences between career success meaning 1 and 2 as indicated by respondents 1 & 2).

Figure 1: The co-occurrence logic



The number of co-occurrences among career success meanings can be established for countries or overall and can be represented by a matrix or a cognitive map. Individual sortings of respondents within a country were aggregated into a country-level and (shared) global career success maps, technically represented as a 63*63 matrix. Below (see Figures 2 and 3) we show an example of a country-level map and the overall (shared) representation of career success meanings.

Figure 2. SCS clusters map for Belgium.

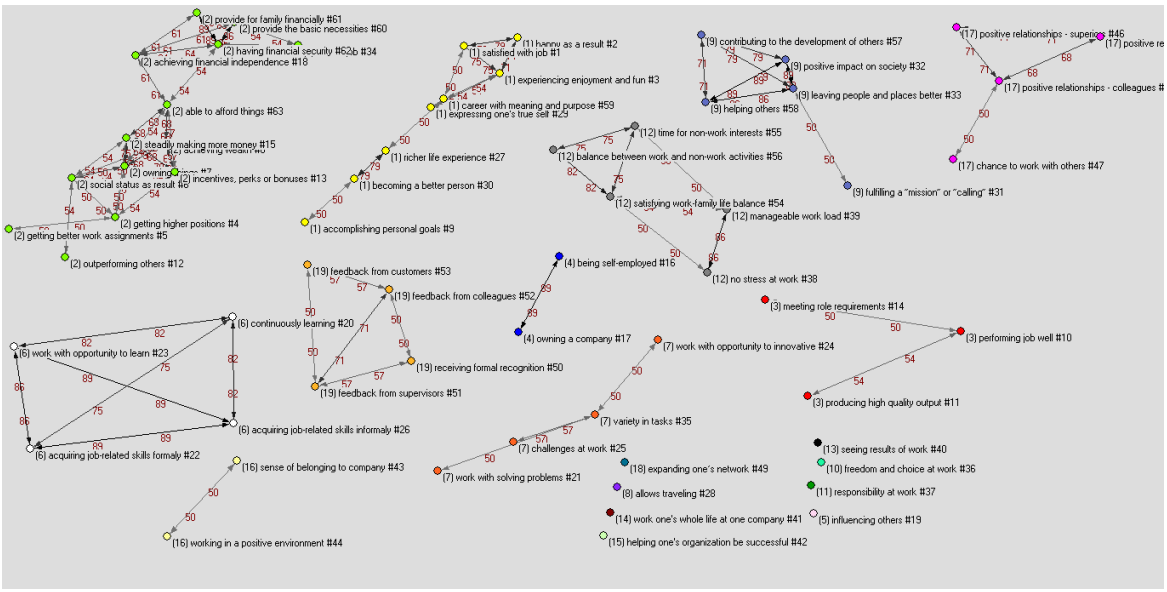
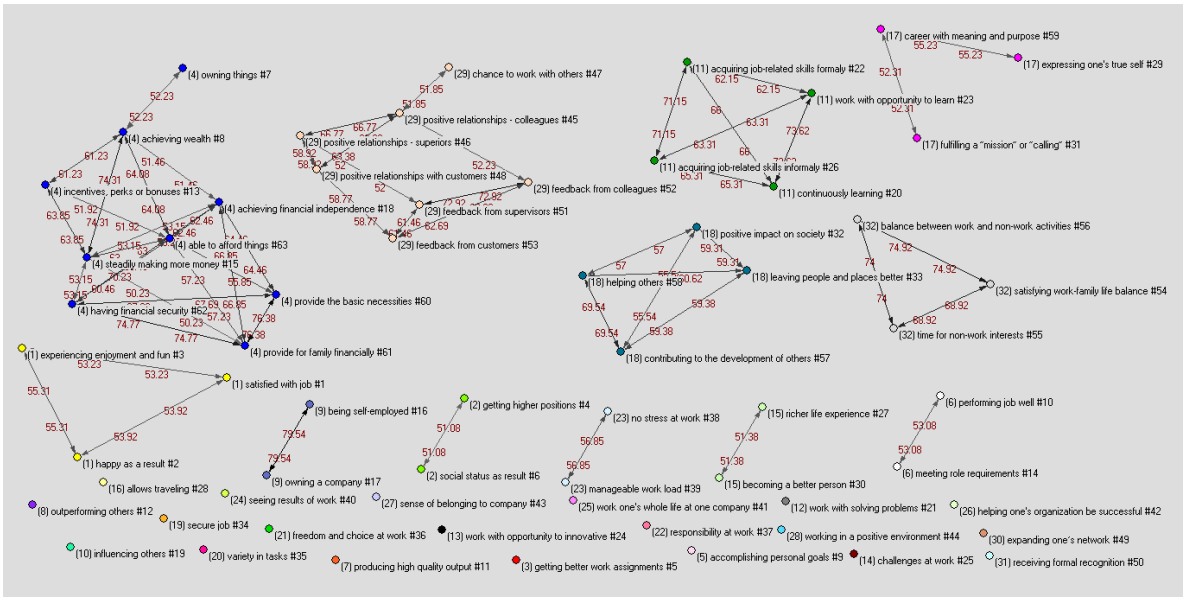


Figure 3: A global consensus SCS cluster map



Notes: each node represents a specific subjective career success meaning, ties between the nodes are dyadic co-occurrences at 50% and above; ties with co-occurrences about 50% are labeled with the exact level; clusters of two or more career success meanings linked by co-occurrences above 50% are assigned the same color and depicted as a group/cluster.

In the above maps (see De Nooy, Mrvar and Batagelj, 2011; Borgatti and Halgin, 2011) the nodes represent career success meanings and the ties among them represent shared views about which pairs of career success belong to the same cluster. The value on the tie indicates how strong the consensus was. For example, number 75 means that 75% of respondents sorted the two career success meaning that are linked by the tie in the same career success meaning cluster. Taking the principle of majority, only ties that are about 50 % consensus are shown. Some career success meanings are isolates (i.e., they are not linked to any other node) because the majority of

country respondents did not see them as belonging to the same group with any other career success meanings. Colors of the nodes classify a set of career success meanings into a distinctive cluster.

The global matrix provided the (dis)similarity matrix data, which served as a basis for hierarchical clustering. It should be noted that although the global (shared) representations was used in the hierarchical clustering procedure, we cross-checked for clusters in country maps. Eleven items (success meaning) were excluded before hierarchical clustering after research team considered and discussed their positioning in the cognitive maps (isolates, items spanning several clusters etc.) at various co-occurrence levels.

The remaining 52 items were entered into a hierarchal clustering procedure, which, considering judgement of the research team about the dendrogram cut-off, returned 14 clusters of career success meanings (see Figure 4 and Table 4). The starting 14 clusters were set as the tentative factor structure. When decisions about merging factors were done the higher-level clustering indication observable from Figure 4 was considered. We can observe that the clusters are imbalanced in terms of number of items, which after removal of some items in Stage 3 resulted in a consolidation of the factor structure.

Figure 4: Dendrogram resulting from hierarchical clustering (same order of items as in Table 4)

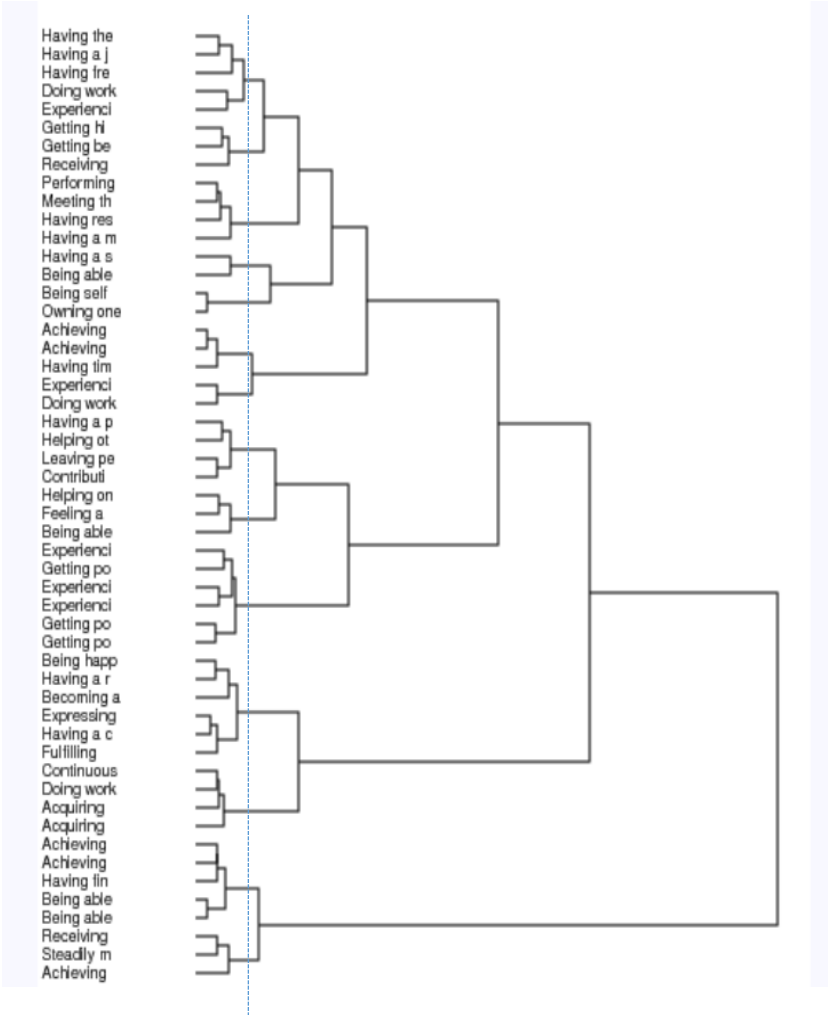


Table 4: Tentative factors after Phase 2

Challenge	Having the opportunity to be innovative in one's work activities. #24 Having a job that offers variety in the tasks one performs. #35 Having freedom and choice in how one performs one's work. #36 Doing work that provides one with opportunities to solve problems. #21 Experiencing challenges in one's work. #25
Advancement	Getting higher positions. #4 Getting better work assignments. #5 Receiving formal recognition. #50
Job performance	Performing one's job well. #10 Meeting the role requirements of one's job. #14 Having responsibility in one's work. #37 Having a manageable work load. #39
Job security & loyalty	Having a secure job. #34 Being able to work one's whole life at one company. #41
Entrepreneurship	Being self-employed. #16 Owning one's own company. #17
Balance	Achieving a satisfying balance between work and family life. #54 Achieving balance between work and non-work activities. #56 Having time for non-work interests. #55
Fun	Experiencing enjoyment and fun in one's career. #3 Doing work that does not cause stress or anxiety. #38
Prosocial	Having a positive impact on society. #32 Helping others. #58 Leaving people and places better as a result of one's career. #33 Contributing to the development of others. #57
Helping Organization	Helping one's organization be more successful. #42 Feeling a sense of belonging with one's company. #43 Being able to influence others. #19
Work relationships	Experiencing positive relationships with customers. #48 Getting positive feedback from customers. #53 Experiencing positive relationships with peers and colleagues. #45 Experiencing positive relationships with superiors. #46 Getting positive feedback from supervisors. #51 Getting positive feedback from colleagues. #52
Personal development	Being happy as a result of one's career. #2 Having a richer life experience as a result of one's career. #27 Becoming a better person as a result of one's career. #30 Expressing one's true self throughout one's career. #29 Having a career that has meaning and purpose. #59 Fulfilling a "mission" or "calling" through one's career. #31
Learning	Continuously learning throughout one's career. #20 Doing work that gives one the opportunity to learn. #23 Acquiring job-related skills through informal learning. #26 Acquiring job-related skills through formal education and training. #22
Basic	Achieving wealth. #8 Achieving financial independence. #18 Having financial security. #62

	50 - Being able to provide the basic necessities. #60
	51 - Being able to provide for one's family financially #61
Financial achievement	8 - Receiving incentives, perks or bonuses. #13
	10 - Steadily making more money. #15
	5 - Achieving a higher social status as a result of one's career. #6

Note. Item numbers allow for correspondence with Table 2.

Phase 3: Determining the factor structure and initial scale validation

During the third phase we aimed for reducing the number of items and for establishing discriminant and convergent validity for both aspects of our scale. This section of the supplementary material provides a description of the subjects involved in this phase and full details about the discriminant and convergent validity analyses.

We distributed a survey to a sample of 4438 individuals from 16 countries (Table 5), the number of participants per country is relatively balanced, between 250 and 350. Further information about the characteristics of the respondents are illustrated in the manuscript.

Table 5 – Participating countries and number of respondents per country

Country	**N.**	**%**
Austria (1)	256	5.8
Belgium (2)	373	8.4
Brazil (3)	256	5.8
China (4)	244	5.5
France (5)	299	6.7
Greece (6)	275	6.2
India (7)	276	6.2
Italy (8)	294	6.6
Malaysia (9)	315	7.1
Nigeria (10)	244	5.5
Norway (11)	242	5.5
Philippines (12)	248	5.6
Slovenia (13)	310	7.0
South Korea (14)	258	5.8
Turkey (15)	254	5.7
USA (16)	294	6.6
Total	**4438**	**100.0**

The factorial structure was examined with confirmatory factor analysis (CFA). In the following tables (Table 6 and Table 7) we report model fit first for importance and then for the achievement part of the scale. Both factorial structures fit the data very well. Since potential threat for discriminant validity in the Achievement scale between *Positive Impact* and *Learning & Development* was identified, an additional model (Table 7, Model 3) was estimated. In addition, we estimated an additional model due to the high correlation between Financial Security and Financial Success (see Model 4). Our 7-factors solution remain superior to both of these alternatives.

Table 6 - Alternative Models Fit for Importance

	Model 1: 7 factors, with constraints	**Model 2: 7 factors without constraints**	**Model 3: Single factor, without constraints**
Scaling correction factor	1.8683	1.8947	1.8009
Chi-Square; df; p	678.403*; df=183; chi/df=3.7; p =0.000	995.108*; df =188; chi/df=5.29; p =0.000	9269.137*; df=209; chi/df=44.3; p =0.000
RMSEA	0.025	0.031	0.099
RMSEA (90 % CI)	0.023 – 0.027	0.029-0.033	0.097-0.101
CFI	0.983	0.972	0.681
TLI	0.978	0.965	0.648
SRMR	0.029	0.033	0.104

Notes: MLR estimation was used due to skewed data distribution. Constraints were used within factors: i46 WITH i45; i38 WITH i37; i41 WITH i37; i42 WITH i38; i42 WITH i41.

Table 7 - Alternative Models Fit for Achievement

	Model 1: 7 factors, no constraints	**Model 2: Single factor, no constraints**	**Model 3: 6 factors, (Prosoc & Learn)**	**Model 4: 6 factors, (Fin Success & Security)**
Scaling correction factor	1.6409	1.7558	1.6788	1.6096
Chi-Square; df; p	862.514*; df=188; chi/df=4.6; p =0.000	10410.274*, df=209; chi/df=49; p =0.000	1463.231*; df=194; chi/df =7.5; p =0.000	2107.761*; df=194 chi/df=10.9; p=0.000
RMSEA	0.028	0.105	0.038	0.047
RMSEA (90 % CI)	0.027 – 0.030	0.103 – 0.107	0.037 - 0.040	0.045 – 0.049
CFI	0.976	0.644	0.956	0.933
TLI	0.971	0.607	0.947	0.921
SRMR	0.027	0.098	0.036	0.044

Notes: MLR estimation was used due to skewed data distribution. Using MLR chi square difference testing we show that 7 factor solution is a significantly better than 6 factor solution: Cd= (194*1.6788 – 188*1.6409) /(194-188) = 2,86; TRd= (1463.231*1.6788-862.514*1.6409)/cd= 363,2438). Test was made because of the potential threat we observed in discriminant validity checking shown below.

The correlations among factors (Table 8 and Table 9) are within expected range with the highest correlation between *Positive Impact* and *Learning & Development* at 0.683 in the case of Importance and at 0.694 in the case of Achievement, closely followed by correlation between *Financial Success* and *Financial Security* at 0.647.

Table 8 - Correlations among Factors for the Importance Aspect

	[2]	[3]	[4]	[5]	[6]	[7]
[1] Learning & Development	0.215***	0.439***	0.683***	0.538***	0.386***	0.223***
[2] Entrepreneurship		0.043	0.191***	0.023	0.057^{+}	0.430***
[3] Work-Life Balance			0.490***	0.545***	0.592***	0.247***
[4] Positive Impact				0.566***	0.362***	0.133*
[5] Positive Work Relationships					0.549***	0.369***
[6] Financial Security						0.384***
[7] Financial Success						1

Note: Net of measurement error. Correlations are statistically significant at *** $p < 0.001$; * $p < 0.05$; + $p < 0.1$

Table 9 - Correlations among Factors for the Achievement Aspect

	[2]	[3]	[4]	[5]	[6]	[7]

[1] Learning & Development	0.341***	0.303***	0.694***	0.590***	0.447***	0.493***
[2] Entrepreneurship		0.197***	0.348***	0.153***	0.239***	0.497***
[3] Work-Life Balance			0.435***	0.451***	0.426***	0.334***
[4] Positive Impact				0.592***	0.475***	0.447***
[5] Positive Work Relationships					0.450***	0.415***
[6] Financial Security						0.647***
[7] Financial Success						1

Note: Net of measurement error. All correlations are statistically significant at *** $p < 0.001$.

The next step was checking for reliability along with discriminant and convergent validity. We started with evaluations among the dimensions of our scale (see Tables 10 and 11). To do this we calculated composite reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), and Average Shared Variance (ASV). To be reliable the CR had to be higher than 0.7. This was not an issue for either Importance or Achievement part of the scale. Therefore, we can consider our dimension subscales highly reliable. To establish convergent validity AVE has to be higher than 0.5. In several cases (i.e., *Learning & Development* and *Positive Work Relationships* for Importance and *Positive Impact* and *Positive Work Relationships* for Achievement) this was borderline, but still acceptable as 0.45 is considered as an acceptable threshold for new scales (Netemeyer et al., 2003). Finally, discriminant validity is established when Maximum Shared Variance (MSV) is lower than Average Variance Extracted (AVE), Average Shared Variance (ASV) is lower than Average Variance Extracted (AVE), and square root of AVE is larger than inter-construct correlations. There are no discriminant validity issues for Importance dimensions. However, a potential discriminant validity issue (although borderline) exists for *Positive Impact* and *Learning & Development* for Achievement. Therefore, we examined model fit for an additional model (see Table 7, Model 3) and showed that the 7-factors model is significantly better model than the model where *Positive Impact* and *Learning & Development* are merged into one factor.

Table 10 - Discriminant and Convergent Validity Check for Importance

	CR	AVE	MSV	ASV	[1]	[2]	[3]	[4]	[5]	[6]	[7]
[1] Financial Achievement	0,754	0,507	0,185	0,100	0,712						
[2] Learning & Development	0,778	0,469	0,466	0,199	0,223	0,685					
[3] Entrepreneurship	0,856	0,748	0,185	0,046	0,430	0,215	0,865				
[4] Work-Life Balance	0,790	0,557	0,350	0,191	0,247	0,439	0,043	0,747			
[5] Positive Impact	0,750	0,504	0,466	0,202	0,134	0,683	0,191	0,490	0,710		
[6] Positive Work Relationships	0,769	0,455	0,320	0,224	0,369	0,538	0,023	0,545	0,566	0,674	
[7] Financial Security	0,789	0,554	0,350	0,180	0,384	0,386	0,057	0,592	0,362	0,549	0,744

Notes: Sqrt of AVE is shown on the diagonal. Potential validity concerns: the AVE for *Learning & Development* and *Positive Work Relationships* are less than 0.50 (convergent validity).

Table 11 - Discriminant and Convergent Validity Check for Achievement

	CR	AVE	MSV	ASV	[1]	[2]	[3]	[4]	[5]	[6]	[7]
[1] Financial Achievement	0,765	0,521	0,419	0,232	0,722						
[2] Learning & Development	0,806	0,510	0,482	0,247	0,493	0,714					
[3] Entrepreneurship	0,858	0,752	0,247	0,101	0,497	0,341	0,867				
[4] Work-Life Balance	0,868	0,687	0,203	0,136	0,334	0,303	0,197	0,829			

[5] Positive Impact	0,725	0,470	0,482	0,261	0,447	0,694	0,348	0,435	0,685		
[6] Positive Work Relationships	0,766	0,451	0,350	0,217	0,415	0,590	0,153	0,451	0,592	0,672	
[7] Financial Security	0,842	0,642	0,419	0,214	0,647	0,447	0,239	0,426	0,475	0,450	0,801

Notes: Sqrt of AVE is shown on the diagonal. Potential validity concerns: the AVE for PROSOC and RELATIO are less than 0.50 (convergent validity); the AVE for *Positive Impact* is less than the MSV & the sqrt of the AVE for *Positive Impact* is less than the absolute value of the correlation with *Learning & Development* (discriminant validity).

In tables 12-14 we further report the full details of the discriminant and convergent validity analysis involving other (existing) measures. We should note that in Tables 13 and 14, SCS dimensions adhering to achievement aspect are expected to have a stronger fit to the established career success (outcome) measures.

Table 12: Correlations between dimensions of the importance aspect of our scale and conceptually relevant existing measures

	Learning & Development	**Entrepreneurship**	**Work-Life Balance**	**Positive Impact**	**Positive Work Relationships**	**Financial Security**	**Financial Success**
Schein's Career Anchors							
Entrepreneurship	0.153**	**0.775 *****	n.s.	0.162**	n.s.	n.s.	0.305***
Service	0.444 ***	0.212***	0.282 ***	**0.608*****	0.314 ***	0.170***	n.s.
Security Geographic	-0.125**	n.s.	0.104*	n.s.	n.s.	0,056^{+}	n.s.
Security Job Tenure	n.s.	n.s.	0,263***	n.s.	**0,345*****	**0,317*****	0,310***
Lifestyle	0,153**	0,076^{+}	**0,350*****	0,119^{+}	0,131**	0,190***	n.s.
Managerial	0,311***	**0,423*****	n.s.	0,238***	0,202***	0,138**	**0,450*****
Technical	n.s.	0,124*	n.s.	0,099^{+}	0,101*	n.s.	0,116^{+}
Autonomy	0,183***	**0,367*****	0,120**	0,0156***	n.s.	n.s.	0,119*
Pure challenge	**0,453*****	**0,363*****	n.s.	0,312***	0,093*	n.s.	0,191***
Schwartz's Work Values							
Universalism	0,464***	0,140**	0,383***	0,554***	0,360***	0,251***	n.s.
Security	n.s.	0,138^{+}	0,228***	0,137^{+}	**0,328*****	0,301***	0,410***

Power	n.s.	**0,297*** **	n.s.	n.s.	0,142***	0,145***	**0,655*** **
Achievement	0,193***	0,206***	0,101*	0,143***	0,274***	0,203***	**0,467*** **
Stimulation	**0,459*** **	**0,427*** **	0,143**	0,422***	0,269***	0,142*	0,395***

Notes: standardized correlation coefficients; *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, $^{+}$ $p < 0.1$; *ex ante* expected stronger correlation in bold; for Work Values factors Self-Direction, Benevolence, Tradition, Conformity, and Hedonism average standardized factor loadings were below 0.5, thus correlation coefficients were not calculated.

Table 13: Correlations between dimensions of the importance aspect of our scale and relevant career success (outcome) measures

Imp	SCS1	SCS2	Job satisfaction	PERCS Time	Rel. hierarchical position	# of promotions	Greenhouse SCS
L&D			0.083*		0.524***		0.109**
ENT					0.332***		
BAL	-0.110***	-0.123***	-0.128***	-0.123***	-0.513***		-0.106**
POSI	0.195***	0.215***	0.109**	0.096*	0.355*		0.179***
PWR					-0.651***	-0.094**	
FSEC			0.084*		0.691***	0.076*	
FACH	-0.081**	-0.100**	-0.141***		-0.533***	-0.153*	-0.153**

Note. Only statistically significant coefficients are shown; *** p < 0.001, ** p < 0.01, * p < 0.05. SC1 = SCSUC1 (1 item, 1-10): All things considered, how would you personally rate your career?; SCSUC2 (1 item, 1-10): All in all, indicate your satisfaction with your career so far.″ PERCS Time = Where is you carrer surrently compared to the plan (behind…ahaed)

Table 14: Correlations between dimensions of the achievement aspect of our scale and relevant career success (outcome) measures

Ach	SCSUC1	SCSUC2	Job satisfaction	PERCS Time	Rel. hierarchical position	# of promotions	Greenhouse SCS
L&D	0.211***	0.233***	0.316***	0.114**	0.174***	0.077**	0.250***
ENT				-0.058*	0.200***	0.093*	-0.063**
BAL	-0.070**			-0.071**	-0.097***	-0.059^{+}	-0.073***
POSI	0.136**					0.088*	
PWR		0.078**	0.312***	0.088**	-0.067*	-0.139**	
FSEC	0.203***	0.216***	0.215***	0.066*	0.208***	0.157**	0.215***
FACH	0.161***	0.138***	0.088*	0.211***			0.206***

Note. Only statistically significant coefficients are shown; *** p < 0.001, ** p < 0.01, * p < 0.05.

Phase 4: Further scale validation, cross-cultural measurement invariance test, differences testing, and criterion validity

During the fourth phase we aim for final validation of the factor structure for our dual response scale, examine cross-cultural measurement invariance, examine difference scores between countries, and perform criterion validation. This section of the supplementary material provides a description of the subjects involved in this phase and full details about measurement invariance, difference scores between countries and criterion validity analyses including additional (alternative) outcomes.

The final sample included 13,859 individuals from 20 countries (Table 15), the number of participants per country is relatively imbalanced (between 435 and 1102). Further information about the characteristics of the respondents are illustrated in the manuscript.

Table 15 – Participating countries and number of respondents per country

Country	**N.**	**%**
Austria	1102	8.0
Argentina	506	3.7
Belgium	880	6.3
Finland	1080	7.8
Germany	1100	7.9
Greece	501	3.6
India	521	3.8
Italy	823	5.9
Japan	511	3.7
S. Korea	435	3.1
Mexico	567	4.1
Nigeria	503	3.6
Norway	964	7.0
Pakistan	500	3.6
Portugal	523	3.8
Russia	461	3.3
Serbia	855	6.2
Slovenia	684	4.9
Switzerland	776	5.6
USA	567	4.1
Total	**13,859**	**100.0**

In table 16 we report details about invariance testing for all 7 SCS dimensions and both aspects. Cumulative threshold for measurement invariance per dimension/aspect is 25% of item/country instances.

Table 16: Cross-country invariance of intercepts and loadings for dimensions of the proposed scale

	% of non-invariant intercepts	% of non-invariant loadings	Overall % of non-invariance
Achievement Aspect			
Learning & Development	11.25	0.00	5.62
Work-Life Balance	10.00	20.00	15.00
Positive Impact	13.30	6.67	10.00
Entrepreneurshal	16.67	10.00	13.33
Positive Work Relationships	22.50	5.00	13.75
Financial Security	20.00	6.67	13.33
Financial Success	33.30	3.30	18.17
Importance Aspect			
Learning & Development	23.75	8.75	16.25
Work-Life Balance	13.33	3.33	8.33
Positive Impact	16.67	6.67	11.67
Entrepreneurshal	10.00	21.67	15.83
Positive Work Relationships	11.25	11.25	11.25
Financial Security	8.33	0.00	4.17
Financial Success	31.67	0.00	15.83

In tables 17-30 we show that our scale is capable of identifying differnce in scores among countries for all dimensions and both aspects. The factor mean is based on the latent factor depicting the respective dimensiona and is calculated relative to the anchoring country.

Table 17: Country ranking on mean levels of Financial Success as a career success meaning for the achievement aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	India	0.222	Pakistan Mexico Nigeria Italy USA Slovenia Austria Switzerland Germany Argentina Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
2	Pakistan	0.000	USA Slovenia Austria Switzerland Germany Argentina Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
3	Mexico	-0.037	USA Slovenia Austria Switzerland Germany Argentina Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
4	Nigeria	-0.046	Slovenia Austria Switzerland Germany Argentina Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
5	Italy	-0.153	Austria Switzerland Germany Argentina Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
6	USA	-0.236	Switzerland Germany Argentina Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
7	Slovenia	-0.319	Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
8	Austria	-0.369	Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
9	Switzerland	-0.405	Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
10	Germany	-0.450	Serbia Finland Russia Norway Belgium S.Korea Greece Japan Portugal
11	Argentina	-0.507	Belgium S.Korea Greece Japan Portugal
12	Serbia	-0.609	S.Korea Greece Japan Portugal
13	Finland	-0.652	S.Korea Greece Japan Portugal
14	Russia	-0.666	S.Korea Greece Japan Portugal
15	Norway	-0.703	S.Korea Greece Japan Portugal
16	Belgium	-0.750	Greece Japan Portugal
17	S.Korea	-1.002	
18	Greece	-1.017	
19	Japan	-1.025	
20	Portugal	-1.103	

Note: benchmark country in alignment analyses: Pakistan; results for Argentina should be interpreted with caution due to non-convergence.

Table 18: Country ranking on mean levels of Entrepreneurial as a career success meaning for the achievement aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Germany	0.000	Austria India Finland Switzerland Mexico Nigeria Italy Argentina USA Slovenia Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
2	Austria	-0.102	Italy Argentina USA Slovenia Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
3	India	-0.142	Italy Argentina USA Slovenia Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
4	Finland	-0.147	Argentina USA Slovenia Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
5	Switzerland	-0.151	USA Slovenia Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
6	Mexico	-0.168	USA Slovenia Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
7	Nigeria	-0.207	USA Slovenia Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
8	Italy	-0.240	Slovenia Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
9	Argentina	-0.267	Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
10	USA	-0.322	Belgium Norway Portugal Serbia Russia Pakistan S.Korea Japan Greece
11	Slovenia	-0.384	Portugal Serbia Russia Pakistan S.Korea Japan Greece
12	Belgium	-0.435	Serbia Russia Pakistan S.Korea Japan Greece
13	Norway	-0.470	Serbia Russia Pakistan S.Korea Japan Greece
14	Portugal	-0.516	Russia S.Korea Japan Greece
15	Serbia	-0.645	Japan Greece
16	Russia	-0.663	Japan Greece
17	Pakistan	-0.672	Japan Greece
18	S.Korea	-0.731	Japan Greece
19	Japan	-1.044	Greece
20	Greece	-1.205	

Note: benchmark country in alignment analyses: Germany.

Table 19: Country ranking on mean levels of Financial Security as a career success meaning for the achievement aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Finland	0	Pakistan Mexico Germany Norway Italy Argentina India Belgium USA Nigeria Serbia Greece Portugal Russia S.Korea Japan
2	Austria	-0.028	Pakistan Mexico Germany Norway Italy Argentina India Belgium USA Nigeria Serbia Greece Portugal Russia S.Korea Japan
3	Switzerland	-0.03	Mexico Germany Norway Italy India Belgium USA Nigeria Serbia Greece Portugal Russia S.Korea Japan
4	Slovenia	-0.084	Germany Norway Italy India Belgium USA Nigeria Serbia Greece Portugal Russia S.Korea Japan
5	Pakistan	-0.183	Nigeria Serbia Greece Portugal Russia S.Korea Japan
6	Mexico	-0.208	Nigeria Serbia Greece Portugal Russia S.Korea Japan
7	Germany	-0.223	Nigeria Serbia Greece Portugal Russia S.Korea Japan
8	Norway	-0.229	Nigeria Serbia Greece Portugal Russia S.Korea Japan
9	Italy	-0.247	Nigeria Serbia Greece Portugal Russia S.Korea Japan
10	Argentina	-0.249	Serbia Greece Portugal Russia S.Korea Japan
11	India	-0.26	Serbia Greece Portugal Russia S.Korea Japan
12	Belgium	-0.265	Nigeria Serbia Greece Portugal Russia S.Korea Japan
13	USA	-0.321	Serbia Greece Portugal Russia S.Korea Japan
14	Nigeria	-0.41	Portugal Russia S.Korea Japan
15	Serbia	-0.504	Portugal Russia S.Korea Japan
16	Greece	-0.58	Portugal Russia S.Korea Japan
17	Portugal	-0.784	Japan
18	Russia	-0.877	Japan
19	S.Korea	-0.953	Japan
20	Japan	-1.22	

Note: benchmark country in alignment analyses: Finland.

Table 20: Country ranking on mean levels of Learning & Development as a career success meaning for the achievement aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Mexico	0.665	Switzerland Pakistan India Austria Italy Norway USA Finland Slovenia Portugal Serbia Germany Greece Russia Argentina Belgium S.Korea Japan
2	Nigeria	0.559	Austria Italy Norway USA Finland Slovenia Portugal Serbia Germany Greece Russia Argentina Belgium S.Korea Japan
3	Switzerland	0.474	Austria Italy Norway USA Finland Slovenia Portugal Serbia Germany Greece Russia Argentina Belgium S.Korea Japan
4	Pakistan	0.4	Finland Slovenia Portugal Serbia Germany Greece Russia Argentina Belgium S.Korea Japan
5	India	0.38	Slovenia Portugal Serbia Germany Greece Russia Argentina Belgium S.Korea Japan
6	Austria	0.312	Finland Slovenia Portugal Serbia Germany Greece Russia Argentina Belgium S.Korea Japan
7	Italy	0.294	Serbia Germany Greece Russia Argentina Belgium S.Korea Japan
8	Norway	0.261	Germany Greece Russia Argentina Belgium S.Korea Japan
9	USA	0.254	Germany Greece Russia Argentina Belgium S.Korea Japan
10	Finland	0.218	Germany Greece Russia Argentina Belgium S.Korea Japan
11	Slovenia	0.174	Greece Russia Argentina Belgium S.Korea Japan
12	Portugal	0.165	Russia Argentina Belgium S.Korea Japan
13	Serbia	0.139	Russia Argentina Belgium S.Korea Japan
14	Germany	0.126	Russia Argentina Belgium S.Korea Japan
15	Greece	0	Argentina Belgium S.Korea Japan
16	Russia	-0.027	Argentina Belgium S.Korea Japan
17	Argentina	-0.192	S.Korea Japan
18	Belgium	-0.217	S.Korea Japan
19	S.Korea	-0.584	Japan
20	Japan	-0.889	

Note: benchmark country in alignment analyses: Greece.

Table 21: Country ranking on mean levels of Positive Impact a career success meaning for the achievement aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Nigeria	0.609	Mexico USA Portugal Switzerland Serbia Norway Slovenia India Austria Italy Germany Belgium Russia Greece Finland Argentina S.Korea Japan
2	Pakistan	0.502	Mexico USA Portugal Switzerland Serbia Norway Slovenia India Austria Italy Germany Belgium Russia Greece Finland Argentina S.Korea Japan
3	Mexico	0.17	India Austria Italy Germany Belgium Russia Greece Finland Argentina S.Korea Japan
4	USA	0.062	Italy Germany Belgium Russia Greece Finland Argentina S.Korea Japan
5	Portugal	0.027	Germany Belgium Russia Greece Finland Argentina S.Korea Japan
6	Switzerland	0.025	Germany Belgium Russia Greece Finland Argentina S.Korea Japan
7	Serbia	0.015	Germany Belgium Russia Greece Finland Argentina S.Korea Japan
8	Norway	0.006	Germany Belgium Russia Greece Finland Argentina S.Korea Japan
9	Slovenia	0	Germany Belgium Russia Greece Finland Argentina S.Korea Japan
10	India	-0.036	Germany Belgium Russia Greece Finland Argentina S.Korea Japan
11	Austria	-0.063	Germany Belgium Russia Greece Finland Argentina S.Korea Japan
12	Italy	-0.095	Germany Belgium Russia Greece Finland Argentina S.Korea Japan
13	Germany	-0.269	Finland Argentina S.Korea Japan
14	Belgium	-0.351	Argentina S.Korea Japan
15	Russia	-0.376	Argentina S.Korea Japan
16	Greece	-0.391	Argentina S.Korea Japan
17	Finland	-0.414	Argentina S.Korea Japan
18	Argentina	-0.787	S.Korea Japan
19	S.Korea	-1.119	
20	Japan	-1.268	

Note: benchmark country in alignment analyses: Slovenia; results for Argentina should be interpreted with caution due to non-convergence.

Table 22: Country ranking on mean levels of Positive Work Relationships a career success meaning for the achievement aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Nigeria	0.279	Austria Switzerland Portugal Mexico USA Germany Russia Italy Pakistan Finland Belgium S.Korea Japan
2	Greece	0.262	Austria Switzerland Portugal Mexico USA Germany Russia Italy Pakistan Finland Belgium S.Korea Japan
3	Slovenia	0.221	USA Germany Russia Italy Pakistan Finland Belgium S.Korea Japan
4	Serbia	0.197	USA Germany Russia Italy Pakistan Finland Belgium S.Korea Japan
5	Norway	0.151	USA Germany Russia Italy Pakistan Finland Belgium S.Korea Japan
6	India	0.128	Germany Italy Pakistan Finland Belgium S.Korea Japan
7	Austria	0.095	Germany Russia Italy Pakistan Finland Belgium S.Korea Japan
8	Switzerland	0.086	Germany Italy Pakistan Finland Belgium S.Korea Japan
9	Portugal	0.079	Italy Pakistan Finland Belgium S.Korea Japan
10	Mexico	0.078	Italy Pakistan Finland Belgium S.Korea Japan
11	USA	0	Finland Belgium S.Korea Japan
12	Germany	-0.035	Finland Belgium S.Korea Japan
13	Russia	-0.039	Finland Belgium S.Korea Japan
14	Italy	-0.129	Finland Belgium S.Korea Japan
15	Pakistan	-0.162	Belgium S.Korea Japan
16	Argentina	-0.312	Japan
17	Finland	-0.348	S.Korea Japan
18	Belgium	-0.402	S.Korea Japan
19	S.Korea	-0.68	Japan
20	Japan	-1.468	

Note: benchmark country in alignment analyses: USA; results for Italy should be interpreted with caution due to non-convergence.

Table 23: Country ranking on mean levels of Work-Life Balance a career success meaning for the achievement aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Mexico	0.388	Serbia Finland Pakistan USA Italy Belgium Switzerland Portugal Germany Russia Greece Japan S.Korea
2	India	0.309	Finland Pakistan USA Italy Belgium Switzerland Portugal Germany Russia Greece Japan S.Korea
3	Slovenia	0.261	Finland USA Italy Belgium Switzerland Portugal Germany Russia Greece Japan S.Korea
4	Austria	0.246	Finland USA Italy Belgium Switzerland Portugal Germany Russia Greece Japan S.Korea
5	Argentina	0.244	Italy Belgium Switzerland Portugal Germany Russia Greece Japan S.Korea
6	Norway	0.24	USA Italy Belgium Switzerland Portugal Germany Russia Greece Japan S.Korea
7	Nigeria	0.22	Belgium Switzerland Portugal Germany Russia Greece Japan S.Korea
8	Serbia	0.216	Belgium Switzerland Portugal Germany Russia Greece Japan S.Korea
9	Finland	0.145	Switzerland Portugal Germany Russia Greece Japan S.Korea
10	Pakistan	0.134	Germany Russia Greece Japan S.Korea
11	USA	0.115	Germany Russia Greece Japan S.Korea
12	Italy	0.1	Germany Russia Greece Japan S.Korea
13	Belgium	0.066	Germany Russia Greece Japan S.Korea
14	Switzerland	0.04	Germany Russia Greece Japan S.Korea
15	Portugal	0	Japan S.Korea
16	Germany	-0.085	Japan S.Korea
17	Russia	-0.098	Japan S.Korea
18	Greece	-0.142	Japan S.Korea
19	Japan	-0.282	S.Korea
20	S.Korea	-0.543	

Note: benchmark country in alignment analyses: Portugal; results for country Pakistan should be interpreted with caution due to non-convergence.

Table 24: Country ranking on mean levels of Learning & Development as a career success meaning for the importance aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Nigeria	0.221	Portugal Mexico USA Italy Finland Greece Pakistan India Belgium Norway Switzerland Slovenia Russia Serbia Germany Austria S.Korea Argentina Japan
2	Portugal	0	Mexico USA Italy Finland Greece Pakistan India Belgium Norway Switzerland Slovenia Russia Serbia Germany Austria S.Korea Argentina Japan
3	Mexico	-0.234	Finland Greece Pakistan India Belgium Norway Switzerland Slovenia Russia Serbia Germany Austria S.Korea Argentina Japan
4	USA	-0.243	Finland Greece Pakistan India Belgium Norway Switzerland Slovenia Russia Serbia Germany Austria S.Korea Argentina Japan
5	Italy	-0.362	Belgium Norway Switzerland Slovenia Russia Serbia Germany Austria S.Korea Argentina Japan
6	Finland	-0.5	Switzerland Slovenia Serbia Germany Austria S.Korea Argentina Japan
7	Greece	-0.51	Serbia Germany Austria S.Korea Argentina Japan
8	Pakistan	-0.51	Serbia Germany Austria S.Korea Argentina Japan
9	India	-0.521	Serbia Germany Austria S.Korea Argentina Japan
10	Belgium	-0.552	Serbia Germany Austria S.Korea Argentina Japan
11	Norway	-0.64	Serbia Germany Austria S.Korea Argentina Japan
12	Switzerland	-0.659	Serbia Germany Austria S.Korea Argentina Japan
13	Slovenia	-0.676	Serbia Germany Austria S.Korea Argentina Japan
14	Russia	-0.712	Germany Austria S.Korea Argentina Japan
15	Serbia	-0.884	Germany Austria S.Korea Argentina Japan
16	Germany	-1.076	S.Korea Argentina Japan
17	Austria	-1.139	S.Korea Argentina Japan
18	S.Korea	-1.525	Japan
19	Argentina	-1.877	Japan
20	Japan	-2.528	

Note: benchmark country in alignment analyses: Portugal; results for Pakistan should be interpreted with caution due to non-convergence.

Table 25: Country ranking on mean levels of Entrepenreneurial as a career success meaning for the importance aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Nigeria	0	Mexico India Pakistan Serbia Italy S.Korea Slovenia Argentina Russia Portugal USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
2	Mexico	-1.218	India Pakistan Serbia Italy S.Korea Slovenia Argentina Russia Portugal USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
3	India	-1.736	Serbia Italy S.Korea Slovenia Argentina Russia Portugal USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
4	Pakistan	-2.104	Slovenia Argentina Russia Portugal USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
5	Serbia	-2.332	Slovenia Russia Portugal USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
6	Italy	-2.332	Slovenia Argentina Russia Portugal USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
7	S.Korea	-2.478	Slovenia Russia Portugal USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
8	Slovenia	-2.792	USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
9	Argentina	-2.812	USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
10	Russia	-2.854	USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
11	Portugal	-2.94	USA Greece Switzerland Germany Japan Belgium Austria Finland Norway
12	USA	-3.343	Switzerland Germany Japan Belgium Austria Finland Norway
13	Greece	-3.443	Switzerland Germany Japan Belgium Austria Finland Norway
14	Switzerland	-4.251	Finland Norway
15	Germany	-4.288	Finland Norway
16	Japan	-4.309	Norway
17	Belgium	-4.339	Norway
18	Austria	-4.446	Norway
19	Finland	-4.534	Norway
20	Norway	-5.007	

Note: benchmark country in alignment analyses: Nigeria.

Table 26: Country ranking on mean levels of Financial Success as a career success meaning for the importance aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Nigeria	0	India Italy USA Slovenia Mexico Serbia Russia Pakistan Greece Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
2	India	-0.806	Slovenia Mexico Serbia Russia Greece Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
3	Italy	-0.91	Mexico Serbia Russia Pakistan Greece Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
4	USA	-1.146	Greece Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
5	Slovenia	-1.254	Greece Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
6	Mexico	-1.321	Greece Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
7	Serbia	-1.338	Greece Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
8	Russia	-1.378	Greece Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
9	Pakistan	-1.573	Portugal S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
10	Greece	-1.863	S.Korea Japan Belgium Finland Germany Austria Argentina Switzerland Norway
11	Portugal	-2.315	Germany Austria Argentina Switzerland Norway
12	S.Korea	-2.561	Switzerland Norway
13	Japan	-2.591	Switzerland Norway
14	Belgium	-2.711	Switzerland Norway
15	Finland	-2.809	Switzerland Norway
16	Germany	-2.837	Switzerland Norway
17	Austria	-2.898	Switzerland Norway
18	Argentina	-2.928	Switzerland Norway
19	Switzerland	-3.842	Norway
20	Norway	-4.662	

Note: benchmark country in alignment analyses: Nigeria; results for Argentina and Nigeria should be interpreted with caution due to non-convergence.

Table 27: Country ranking on mean levels of Financial Security as a career success meaning for the importance aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Slovenia	1.01	Belgium Portugal Greece Italy Serbia Finland Austria India Russia Norway Pakistan Germany Mexico Switzerland S.Korea Japan
2	USA	0.928	Belgium Portugal Greece Italy Serbia Finland Austria India Russia Norway Pakistan Germany Mexico Switzerland S.Korea Japan
3	Nigeria	0.681	Italy Serbia Finland Austria India Russia Norway Pakistan Germany Mexico Switzerland S.Korea Japan
4	Belgium	0.221	Italy Serbia Finland Austria India Russia Norway Pakistan Germany Mexico Switzerland S.Korea Japan
5	Portugal	0	Finland Austria India Russia Norway Pakistan Germany Mexico Switzerland S.Korea Japan
6	Greece	-0.128	Austria Russia Norway Pakistan Germany Mexico Switzerland S.Korea Japan
7	Italy	-0.216	Finland Austria Russia Norway Germany Mexico Switzerland S.Korea Japan
8	Serbia	-0.276	Austria Norway Germany Mexico Switzerland Japan
9	Finland	-0.646	Switzerland Japan
10	Austria	-0.667	Switzerland Japan
11	India	-0.686	Switzerland Japan
12	Russia	-0.694	Switzerland Japan
13	Norway	-0.773	Switzerland Japan
14	Pakistan	-0.787	Switzerland Japan
15	Germany	-0.894	Switzerland Japan
16	Mexico	-1.082	Japan
17	Switzerland	-1.594	Japan
18	S.Korea	-2.05	
19	Japan	-3.049	
20	Argentina	-3.069	

Note: benchmark country in alignment analyses: Portugal.

Table 28: Country ranking on mean levels of Positive Impact as a career success meaning for the importance aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Nigeria	1.361	Pakistan USA Portugal India Mexico Slovenia Greece Italy Norway Belgium Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
2	Pakistan	0.626	India Mexico Slovenia Greece Italy Norway Belgium Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
3	USA	0.38	India Mexico Slovenia Greece Italy Norway Belgium Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
4	Portugal	0.374	India Mexico Slovenia Greece Italy Norway Belgium Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
5	India	0	Italy Norway Belgium Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
6	Mexico	-0.074	Italy Norway Belgium Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
7	Slovenia	-0.124	Italy Norway Belgium Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
8	Greece	-0.138	Belgium Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
9	Italy	-0.336	Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
10	Norway	-0.344	Serbia Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
11	Belgium	-0.427	Switzerland Austria Russia Germany S.Korea Finland Argentina Japan
12	Serbia	-0.603	Austria Russia Germany S.Korea Finland Argentina Japan
13	Switzerland	-0.868	Finland Argentina Japan
14	Austria	-1.018	Finland Argentina Japan
15	Russia	-1.071	Japan
16	Germany	-1.132	Japan
17	S.Korea	-1.218	Japan
18	Finland	-1.242	Japan
19	Argentina	-1.604	
20	Japan	-1.68	

Note: benchmark country in alignment analyses: India; results for Pakistan should be interpreted with caution due to non-convergence.

Table 29: Country ranking on mean levels of Positive Work Relationships as a career success meaning for the importance aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	Nigeria	0.208	Pakistan Portugal USA India Belgium Greece Norway Italy Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
2	Slovenia	0	Portugal USA India Belgium Greece Norway Italy Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
3	Pakistan	-0.184	India Belgium Greece Norway Italy Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
4	Portugal	-0.349	Belgium Greece Norway Italy Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
5	USA	-0.41	Norway Italy Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
6	India	-0.516	Italy Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
7	Belgium	-0.561	Italy Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
8	Greece	-0.593	Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
9	Norway	-0.673	Serbia Mexico Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
10	Italy	-0.794	Serbia Switzerland Finland Austria Germany Russia S.Korea Argentina Japan
11	Serbia	-1.018	Austria Germany Russia S.Korea Argentina Japan
12	Mexico	-1.065	Argentina Japan
13	Switzerland	-1.119	Russia Argentina Japan
14	Finland	-1.133	Russia Argentina Japan
15	Austria	-1.241	Argentina Japan
16	Germany	-1.247	Argentina Japan
17	Russia	-1.32	Argentina Japan
18	S.Korea	-1.413	Argentina Japan
19	Argentina	-2.506	
20	Japan	-2.679	

Note: benchmark country in alignment analyses: Slovenia.

Table 30: Country ranking on mean levels of Work-Life Balance as a career success meaning for the importance aspect

Ranking	Country	Factor Mean	Countries With Significantly Smaller Factor Mean
1	USA	1.161	Portugal Belgium Greece Austria Italy Finland Switzerland Nigeria Germany Russia India Norway Serbia Pakistan Mexico Japan S.Korea Argentina
2	Slovenia	1.022	Austria Italy Finland Switzerland Nigeria Germany Russia India Norway Serbia Pakistan Mexico Japan S.Korea Argentina
3	Portugal	0.906	Austria Italy Finland Switzerland Nigeria Germany Russia India Norway Serbia Pakistan Mexico Japan S.Korea Argentina
4	Belgium	0.858	Austria Italy Finland Switzerland Nigeria Germany Russia India Norway Serbia Pakistan Mexico Japan S.Korea Argentina
5	Greece	0.777	Austria Italy Finland Switzerland Nigeria Germany Russia India Norway Serbia Pakistan Mexico Japan S.Korea Argentina
6	Austria	0.57	Germany Russia India Norway Serbia Mexico Japan S.Korea Argentina
7	Italy	0.506	Norway Serbia Mexico Japan S.Korea Argentina
8	Finland	0.49	Norway Serbia Mexico Japan S.Korea Argentina
9	Switzerland	0.484	Norway Serbia Mexico Japan S.Korea Argentina
10	Nigeria	0.427	Mexico Japan S.Korea Argentina
11	Germany	0.405	Serbia Mexico Japan S.Korea Argentina
12	Russia	0.335	Mexico Japan S.Korea Argentina
13	India	0.303	Mexico Japan S.Korea Argentina
14	Norway	0.219	Mexico Japan S.Korea Argentina
15	Serbia	0.19	Mexico Japan S.Korea Argentina
16	Pakistan	0.138	Japan S.Korea Argentina
17	Mexico	0	Japan S.Korea Argentina
18	Japan	-0.607	Argentina
19	S.Korea	-0.877	Argentina
20	Argentina	-1.41	

Note: benchmark country in alignment analyses: Mexico; results for Argentina should be interpreted with caution due to non-convergence

In Table 31 we report the results of a series of structural equation models where our SCS dimensions (the achievement aspect, specifically) were modeled as predictors of alterative criterion measures for subjective career success frequently used in the careers, OB and HR literature: overall subjective career success (single item adapted from Turban & Dougherty, 1994), employability (Janssens, Sels, & Van den Brande, 2003), work engagement (Schaufeli & Baker, 2004), perceived health (Hays, Spritzer, Thompson, & Cella, 2015), affective organizational commitment (Meyer & Allen, 1984), and turnover intentions (Cammann, Fichman, Jenkins, & Klesh, 1979.

In the table, we see, for instance, that there is no significant relationship between the achievement of subjective career success across the different dimensions and perceived health. The relationships to employability and turnover intentions, as well, only show small effect sizes. Career success, work engagement, and organizational commitment show larger effect sizes, depending on the dimension at hand. For instance, satisfaction with the level achieved for Positive Work Relationships has the strongest relationship to overall subjective career success; and Learning & Development to work engagement and to organizational commitment; Work-life balance and Entrepreneurship, on the other hand, have relatively small relationships to all outcome variables.

Table 31: SCS Achievement dimensions predicting alternative criterion measures

	Subjective Career success (1-item)		Employability		Work engagement		Perceived Health		Org. Comm
	Coeff.	R^2	Coeff.	R^2	Coeff.	R^2	Coeff.	R^2	Coeff.
LND	0.481	0.232	0.261	0.068	0.617	0.381	0.115	*0.013*	0.474
WLB	0.186	0.035	0.075	*0.006*	0.314	0.098	0.138	*0.019*	0.240
PIM	0.408	0.167	0.207	0.043	0.561	0.315	0.084	*0.007*	0.423
ENT	0.190	0.036	0.080	*0.006*	0.235	0.055	0.074	*0.005*	0.228
REL	0.377	0.377	0.236	0.056	0.492	0.242	0.146	*0.021*	0.419
FSEC	0.445	0.198	0.152	0.023	0.362	0.131	0.140	*0.020*	0.313
FACH	0.406	0.165	0.210	0.044	0.399	0.159	0.074	*0.006*	0.374

Note. N = 12935-13055; Standardized coefficients; all significant at $p < .001$; R^2 in italics are not significant.

ENDOTES

[i] Unidimensional means that item scores are averaged out into a single scale score.
[ii] Israel was also included, a country which Schwartz considered categorically different from the seven named cultural regions.
[iii] We shifted to the GLOBE (Global Leadership and Organizational Behavior Effectiveness Research Project) cultural regions from the Schwartz model in this stage because while it was similar to Schwartz's model it offered more detail on regions (e.g., Western Europe divided into multiple regions). The GLOBE cultural clusters were developed based upon a comprehensive study of leadership beliefs and behaviors in countries around the world. It GLOBE framework was developed via a major research collaborative lead by Robert House and divides the countries of the world into 10 cultural regions based upon reactions to implicit leadership theories (ILT).
[iv] Note that a threshold of 0.45 is considered acceptable for new scales (Netemeyer, Bearden, & Sharma, 2003).
[v] We added an extra item to the Entrepreneurship dimension ("Running my own business") because the dimension only featured 2 items, which would be problematic for future adoption of this dimension as a self-standing sub-scale. The two original items were based on the original meanings form the qualitative phase. We have already shown that scale featuring 2-item Entrepreneurship has adequate characteristics, in Phase 4 we show that the scale featuring three-item version of Entrepreneurship dimension also has adequate psychometric characteristics.
[vi] The residuals of paired items addressing the same subjective career success meaning for both aspects (i.e., importance and achievement) were constrained to correlate.
[vii] We also include other relevant outcomes that are predicted by dimensions from our SCS scale. Full details are available in the Supplement, Table 31.