ORIGINAL ARTICLE

The link between individualism–collectivism and life satisfaction among emerging adults from four countries

Alessandro Germani[1] | Elisa Delvecchio[1] | Jian-Bin Li[2] |
Adriana Lis[3] | Sofya K. Nartova-Bochaver[4] | Alexander T. Vazsonyi[5] |
Claudia Mazzeschi[1]

[1]Department of Philosophy, Social
Sciences and Education, University of
Perugia, Perugia, Italy

[2]Department of Early Childhood
Education, The Education University of
Hong Kong, New Territories, Hong Kong

[3]Department of Developmental Psychology
and Socialization, University of Padova,
Padova, Italy

[4]Department of Psychology, National
Research University Higher School of
Economics, Moscow, Russia

[5]Department of Family Sciences,
University of Kentucky, Lexington, KY,
USA

Correspondence
Alessandro Germani, Department of
Philosophy, Social Sciences and Education,
University of Perugia, Piazza Ermini 1,
Perugia 06123, Italy.
Email: alessandro.germani@unipg.it

Abstract

The current investigation tested life satisfaction (LS), a cognitive component of subjective well-being, among emerging adults, in the context of individualism (I) and collectivism (C), by distinguishing both cultural and individual levels of analysis, considering their horizontal (H) and vertical (V) dimensions, and controlling age and gender effects. Emerging adults ($N = 1760$ university students, aged 18–25, $M_{age} = 19.46$, $SD_{ag} = 1.50$) located across four countries, namely China, Italy, Russia, and the USA, known to differ in the individualism index value (IDV), completed measures on the Horizontal and Vertical Individualism and Collectivism and Life Satisfaction. At the cultural level, an ANCOVA showed a significant country effects on LS. The post hoc comparisons indicated that the higher the country IDV score, the higher the average LS score, in the following order: Americans, Italians, Russians, and Chinese. At the individual level, LS was unrelated to HI and VI. Instead, it was associated with HC and VC. The positive link between LS and VC suggested an important role of family connectedness on LS across different cultures during emerging adulthood. However, contrary to previous studies, LS was unrelated to HI and VI.

INTRODUCTION

The developmental period of emerging adulthood, aged 18–25 (Arnett, 2000), is characterized as being self-focused, as young adults have little in the way of social obligations, duties, or commitments to others, which in turn contributes to a great deal of autonomy in how they run their lives (Arnett, 2007). It is a critical period characterized by numerous life events that can significantly impact the subjective well-being (SWB) of emerging adults (Arnett, 2007). Studies have shown that among emerging adults, the psychological meaning of SWB is largely universal (Cheng et al., 2016); SWB can be defined as "a person's cognitive and affective evaluations of his or her life" (Diener et al., 2002, p. 63). SWB consists of three main components, namely life satisfaction (LS, cognitive component), the presence of positive affect, and the relative absence of negative affect (affective components) (Lucas et al., 1996). Life events affect both affective and cognitive well-being, but for most, the effects on cognitive well-being (i.e. LS) are stronger and more consistent across different cultural groups than the affective ones (positive and negative affects) (Luhmann et al., 2012). More specifically, LS is the individual's cognitive judgment on the compatibility of his or her own living conditions with the standards, a sense of contentment and feelings of congruency between wants or needs and accomplishments or resources (Diener et al., 1985; Keyes & Waterman, 2003). LS is the ultimate goal of human development; it is also very important for SWB and for adaptive psychosocial functioning (Suldo & Huebner, 2006). Hence, LS can be considered a most reliable measure of quality of life (Huebner, 2004; Park, 2004), which broadly encompasses how individuals perceive and evaluate the "goodness" of multiple aspects of their lives (Diener et al., 1999).

Individualism–collectivism

Cultural factors appear to play a key role in explaining differences in SWB, particularly for LS, across cultures (e.g. Cheng et al., 2016; Kitayama & Markus, 2000). Key cultural factors include both individualism (I) and collectivism (C) (Schimmack et al., 2005). In general terms, the core aspect of I is the assumption that individuals are independent from one another, whereas for C, it is groups bind and mutually obligate individuals. All the definitions conceptualize I as a worldview that centralizes the personal goals, uniqueness, and control, and peripheralizes the social, and C as a worldview that centralizes common fate, goals, and values (Oyserman et al., 2002). However, I and C can be scrutinized as the culture of a nation as a whole (cultural level) and as the belief that people have about their relation to others (individual level) (Triandis, 2001). I and C at the cultural level are either conceptually or operationally different from I and C at the individual level (Bond, 2002; Oyserman et al., 2002; Schimmack et al., 2005; Shavitt et al., 2006; Triandis, 2001). For example, although there are more people with a collectivistic than an individualistic orientation in collectivistic cultures, and vice versa, at the cultural level, I and C seem to be the ends of a singular dimension; when data are analyzed within a culture, namely at the individual level, then several factors reflecting I and C can be distinguished (Triandis, 2001). In other words, I and C may be conceptualized and measured as separate, not necessarily opposing, constructs at the individual level (Bond, 2002). Triandis (2001) notes that "we can link the cultural and individual levels of analysis by noting that *customs* are aspects

of culture and *habits* aspects of personality" (p. 910). Therefore, it is possible to categorize a country as an individualistic or a collectivistic country or culture (cultural level) (e.g. Hofstede et al., 2010), but within the same country, at the individual level, we can distinguish individuals as being more or less individualistic/collectivistic (individual level) (e.g. Triandis, 2001).

With regard to the cultural level, one of the first and most important models was proposed by Hofstede (1980), who defined I as a focus on rights above duties, a concern for oneself and immediate family, an emphasis on personal autonomy and self-fulfillment, and the basis of one's identity on one's personal accomplishments. According to Hofstede et al. (2010), in individualistic societies, everyone is expected to take care of him- or herself and of his or her family, whereas in collectivistic ones, people are connected into strong, cohesive in-groups, which protect them in exchange for unquestioning loyalty. Hofstede (2011) considered I and C as the opposite ends of a single cultural dimension, any indicator (measure) of I is presumed to be a measure of C. Hofstede devised an individualism index value (IDV). Initially, the index was proposed starting from an factor analysis study aimed at examining the results of a worldwide survey of IBM employee values (Hofstede, 2011). The survey questions were based on the level of importance that were placed on a set of fourteen work goals. These levels helped categorize them into different ends of the IDV (I vs. C) spectrum or different "poles" of this global cultural dimension. The dimension to be identified with either I or C was most closely associated with the individualist pole versus the collectivistic pole. A number of studies have subsequently been carried out covering 14–28 nations, with samples from a range of different populations. After validation research was performed, it helped to develop a clearer profile for the type of separation Hofstede was able to observe and what implications it may have cross-culturally. Other cross-national studies have been completed that helped to solidify the validity of the IDV dimension (Hofstede et al., 2010), confirming that the original IBM study still provided to be the best common denominator in practice (Hofstede et al., 2010). I-C in Hofstede's model allows scholars to distinguish between countries, but it does not distinguish between members of societies in individual cultural orientations.

Of interest, at the individual level, besides the distinction between I and C, in some cultures and for some individuals in different cultures, hierarchy is very important, and in-group authorities determine most social behavior, while in other cultures, and for other individuals, social behavior is more egalitarian. Accordingly, Triandis (1995) theoretically and empirically supported that I and C could be defined theoretically and empirically as composed of two dimensions: the vertical (V) (emphasizing hierarchy) and the horizontal one (H) (emphasizing equality) (Singelis et al., 1995; Triandis & Gelfand, 1998). Later studies supported this multidimensional model in different countries (e.g. Chiou, 2001; Guo et al., 2008; Gouveia et al., 2003; Li & Aksoy, 2007; Robert et al., 2006; Soh & Leong, 2002) finding four patterns: (1) vertical individualism (VI), characterized by the will of becoming distinguished and to acquire status through individual competition with others; (2) horizontal individualism (HI), which consists of desiring to be unique, distinct from groups, and highly self-reliant; (3) vertical collectivism (VC), characterized by people who emphasize the integrity of the in-group and support competition with out-groups, even by submitting their will to the authorities of the in-group; and (4) horizontal collectivism (HC), which concerns the wish to see themselves as being similar to others and emphasizes common goals with others, interdependence, and sociability, without the need of submission to authority (Germani et al., 2020a; Li et al., 2018). Triandis (1996) also proposed a scale for measuring these four patterns at the individual level. Paquet and Kline (2009) found that Triandis's scale (1996) had the best factorial structure, construct validity, and reliability, compared with others. For the current study, Triandis's scale (1998) was used at the individual level, due to its capacity of measuring power as cultural factors. Power is a basic force in social relationships (Fiske, 1993). The importance of measuring power was re-emphasized for cross-cultural research (Shavitt et al., 2006). The Triandis scale (1998) permits to distinguish different types of power, because VI is

associated with a personalized power concept and power is for status and personal advancement, while HC is associated with a socialized power concept, because power is for benefiting and helping others (Torelli & Shavitt., 2010).

The role of individualism–collectivism on life satisfaction

As stated above, LS is the individual's cognitive judgment on the compatibility of his or her own living conditions with the standards (Diener et al., 1985). It is often evaluated through a self-report questionnaire, the Satisfaction With Life Scale (Diener et al., 1985). According to Ahuvia (2002), economic development leads to higher levels of national average SWB, not by increasing consumption but by creating more individualistic cultures that encourage their members to pursue personal happiness over honor and meeting social obligations. Furthermore, as Krys et al. (2019) noted, I is a feature of so-called open societies, which encourage others-benefitting attitudes, such as tolerance, trust, civic engagement, and minimization of materialistic pressure. All together, I and these attitudes may interact, which results in improved LS levels.

Consistent with this, meta-analytic (Klug & Maier, 2014; Oyserman et al., 2002) and other recent studies (e.g. Krys et al., 2019) showed that country I levels tend to be positively related to LS. These results provide evidence that individualistic societies afford an individual more freedom to choose his or her own life course and to attribute success to himself or herself. However, the evidence on the individual level is largely mixed. Both Kwan et al. (1997) based on college students from the United States of America (USA) and Hong Kong and Zalewska and Zawadzka (2016) based on Polish secondary school students found that both I and C were positively related to LS. On the other hand, Yetim (2003) in a Turkish sample and Zalewska (2018) among Polish university students found that I was positively correlated with LS, but C was negatively correlated with LS. It is important to specify that Kwan et al. (1997) focused on independent and interdependent self-identities using the scale by Singelis (1994), while Yetim (2003) administered the Individualism/Collectivism Scale developed by Hui (1998) and adapted to the Turkish culture by Goregenli (1995), while Zalewska and Zawadzka (2016) and Zalewska (2018) assessed V and H dimensions of I and C by using Triandis and Gelfand's scale (1998) and different components of SWB (including LS) in a superordinate construct. Specifically, Zalewska and Zawadzka (2016) found significant and positive links between SWB and HI, VC, and HC, with the latter having the strongest relationship. Zalewska (2018) showed that SWB was significantly and positively correlated with VI and HI, and significantly and negatively correlated with HC, but unrelated to VC. Therefore, the abovementioned studies found mixed results on the relationship between I-C and LS.

Few studies investigated the relationship between LS and cultural factors at both cultural and individual levels. Cheng et al. (2016) found no relation between IDV and LS, but found a significant positive relation between I at the individual level and LS and between C at the individual level and LS. However, other studies have shown a relationship between I at the cultural level and LS (see Diener et al., 1995; Hofstede, 2001; Klug & Maier, 2014, for a review; Krys et al., 2019; Oyserman et al., 2002).

Moreover, it is important to underline that the aforementioned studies on LS and cultural factors (Cheng et al., 2016; Klug & Maier, 2014; Oyserman et al., 2002) were conducted among emerging adults, who generally do not focus on social obligations, duties, and commitments to others. According to Arnett (2007), they enjoy this self-focused freedom and take satisfaction in their progress toward self-sufficiency and autonomy. Moreover, both theoretical and empirical studies emphasized the importance of both autonomy and intimacy or relatedness for emerging adults' SWB (Arnett, 2000;

Germani et al., 2020b; Lapsley & Woodbury, 2016). Both autonomy and relatedness, as well as I and C, have to do with hierarchical and egalitarian dimensions, which might have specific relationships with LS during emerging adulthood, and these relationships might be different across different cultures. In other words, distinguishing between V and H dimensions of I and C could provide novel information on the relationships between cultural factors and LS during this specific phase of life. Despite this, few studies have measured V and H dimensions of I-C at the individual level among emerging adults (Zalewska, 2018). Most of them, such as Cheng et al. (2016) and Kwan et al. (1997), focused on independent and interdependent self-identities using the scale by Singelis (1994).

The role of age and gender on LS and individual cultural factors

When considering LS and cultural factors, both age and gender require consideration as they might address some of the previously observed contradictory and mixed findings. Despite being modest in size, studies have provided evidence of gender differences in LS levels across countries (Meisenberg & Woodley, 2015). In some geographic areas and countries such as Protestant Europe, Muslim countries, East Asia, and Africa, females reported higher LS than males, but in others such as Catholic Europe, ex-communist countries, and Latin America, the trend was the opposite (Meisenberg & Woodley, 2015). Furthermore, SWB may increase developmentally with age (Blanchflower & Oswald, 2016; Lun & Bond, 2016), but the literature showed mixed results about the trend of LS during emerging adulthood and between different cultures, with the robust finding that LS declines toward the end of the life span (Baird et al., 2010).

Regarding individual cultural factors, both age and gender likely affect HI, VI, HC, and VC (Germani et al., 2020a; Shavitt et al., 2006). Males have shown significantly higher levels of VI than females, whereas females have reported higher levels of HC than males. Therefore, in males I appears to highlight status, power, and achievement through competition (VI), while in females, C seems to emphasize benevolence, sociability, common goals, and cooperation (HC). Finally, HC seems to increase developmentally with age.

The present study

For all the abovementioned reasons, the current cross-cultural study sought to shed some light on the associations between cultural factors and LS among emerging adults, considering I and C both at cultural and individual levels, while considering the V and H distinction, but also controlling for potential age and gender effects, both at the cultural and individual levels. The main two study aims included are as follows: (1) to compare levels of LS among emerging adults across four countries known to have very different levels of IDV, net any effects by age or gender (cultural level of analysis). It was hypothesised that there would exist differences in LS levels across countries, based on IDV scores. More specifically, it was expected that the higher the IDV score, the higher the LS would be; and (2) to examine relations between I and C and LS among such culturally distant emerging adults considering their H and V dimensions (in sum, four dimensions: HI, VI, HC, and VC), controlling for the effect of age and gender (individual level of analysis). There exists a paucity of work (Zalewska, 2018; Zalewska & Zawadzka, 2016) on the association between the multidimensional model of I-C and LS, which found mixed results. More specifically, those studies found mixed results about the relationship between I-C and different components of SWB (including LS) in a superordinate construct. However, other studies (Cheng et al., 2016; Kwan et al., 1997) on emerging adults found significant and positive

associations between both independent self-construal (a dimension correlated with HI but not with VI; Paquet & Kline, 2009) and interdependent self-construal (a dimension correlated with HC; Paquet & Kline, 2009) and LS. For this reason, it was expected that both HI (related to autonomy and self-sufficiency) and HC (related to relatedness, interdependence) dimensions would be correlated with LS.

METHODS

Participants

This research was part of a collaboration between the University of Guangzhou (China), the Universities of Padova and Perugia (Italy), the University of Kentucky (USA), and the National Research University Higher School of Economics of Moscow (Russia). Convenience samples of 1760 emerging adults (18–25 years old, M_{age} = 19.46, SD_{age} = 1.50; male = 30.5%), from four different countries (i.e. China, Italy, Russia, and the USA), with known very different levels of IDV according to Hofstede's model (Hofstede et al., 2010; https://www.hofstede-insights.com/product/compare-countries) and the revision of this dimension made by Minkov et al. (2017), were recruited. Data collection occurred during the same academic year across the four countries. Participants were recruited from four public universities enrolled mostly in social and behavioral science courses in each country.

According to Hofstede's model and its revision, the USA (IDV = 91 and 33) and Italy (IDV = 76 and 5) are individualistic countries, whereas Russia (IDV = 39 and −21) and China (IDV = 20 and −31) are collectivistic countries. Demographics characteristics of the four samples are shown in Table 1. One-way ANOVAs showed that mean age was significantly different across countries ($F_{(3, 1756)}$ = 413.58, $p < .001$), consistent with the different school systems. The post hoc comparisons with a Bonferroni correction provided evidence that Italian participants were the oldest ones, followed by the Chinese, American, and Russian ones (at the same levels). Results from a chi-square test highlighted that the distribution by gender across countries was not equal ($\chi^2_{(3)}$ = 34.21, $p < .001$). The percentage of males was the highest among Chinese emerging adults, followed by Italian, Russian, and the American ones.

Procedure

Data collection was completed following the ethical standards and guidelines for conducting research outlined in the Ethical Principles of Psychologists and Code of Conduct (American Psychological

TABLE 1 Demographic characteristics of samples and individualism index value (IDV)

Nation	n	% Male	Age (SD)	IDV (Hofstede et al., 2010)	IDV (Minkov et al., 2017)
China	529	39.5	19.10 (0.95)	20	−31
Italy	466	30.5	21.05 (1.54)	76	5
Russia	327	25.1	18.80 (0.94)	39	−21
USA	438	23.7	18.71 (1.00)	91	33
Total	1760	30.5	19.46 (1.50)		

Association, 2010). Data collection procedures were reviewed and approved by local ethics committees or an Institutional Review Board. College students were recruited through face-to-face interactions, through study flyers and leaflets, or through electronic advertising. Participants provided their informed consent for participation, and participation in this anonymous study was completely voluntary. Graduate students hosted the administration of a paper-and-pencil survey during class time. A small number of participants completed questionnaires outside of class time and returned them directly to researchers.

Measures

Cultural-level variable

Individualism index value (IDV)

I (vs. C) of each country was established by the individualism index value (Hofstede et al., 2010) (IDV), and the revision of this dimension was made by Minkov et al. (2017). The index refers to the degree to which individuals expect members of their in-group to look after them in exchange for unquestioning loyalty (C) versus they are expected to take care of themselves and their relatives (I). This index ranges from 0 (most collectivistic) to 100 (most individualistic).

Individual-level variables

Horizontal and Vertical Individualism and Collectivism Scale (INDCOL)

The Horizontal and Vertical Individualism and Collectivism Scale (INDCOL) (Triandis & Gelfand, 1998), 16-item self-report version, was used for measuring HI, VI, HC, and VC at the individual level. It is based on a 9-point Likert scale, from "*I totally disagree*" (1) to "*I totally agree*" (9). Each dimension can range from 1 to 9 (mean total score). Previous studies among Chinese, Italian, Russian, and American samples have found acceptable internal consistency (Cronbach's alpha range: .65–.77; Germani et al., 2020a; Li et al., 2018; Soh & Leong, 2002; Wu et al., 2014). In the current study, standardised Cronbach's α(s) with confidence intervals (CI) were calculated to assess internal consistency. An alpha of .65–.80 is often considered "adequate" for a scale used in human dimensions research (Vaske et al., 2016). As shown in Table 2, Cronbach's alphas ranged from .53 (inadequate) to .75 (adequate) (Vaske et al., 2016). The lowest values were found in the Chinese sample (VI and VC).

TABLE 2 Internal consistency of main study variables by country

	LS α [95% CI]	HI α [CI]	VI α [CI]	HC α [CI]	VC α [CI]
China	.84 [0.82, 0.86]	.61 [0.55, 0.66]	.53 [0.46, 0.59]	.68 [0.63, 0.72]	.54 [0.47, 0.60]
Italy	.85 [0.82, 0.87]	.72 [0.68, 0.76]	.75 [0.71, 0.78]	.68 [0.63, 0.73]	.62 [0.56, 0.67]
Russia	.81 [0.78, 0.84]	.71 [0.66, 0.76]	.65 [0.58, 0.71]	.70 [0.64, 0.75]	.71 [0.66, 0.76]
USA	.86 [0.84, 0.88]	.75 [0.71, 0.79]	.72 [0.68, 0.76]	.65 [0.59, 0.70]	.71 [0.66, 0.75]

Abbreviations: HC, horizontal collectivism; HI, horizontal individualism; LS, life satisfaction; VC, vertical collectivism; VI, vertical individualism.

Satisfaction with Life Scale (SWLS)

LS was assessed by the Satisfaction With Life Scale (Diener et al., 1985; Pavot & Diener, 1993). It assesses the cognitive component of SWB, that is the one's overall life satisfaction. It is a 5-item self-report questionnaire based on a 7-point Likert scale, from "*I completely disagree*" (1) to "*I completely agree*" (7). A sample item reads: "In most ways, my life is close to my ideal." The average score across the five items forms the LS total score, which may range from 1 to 7. The higher the score, the higher the LS. This measure has been extensively validated and utilized around the world (Cheng et al., 2016; Kuppens et al., 2008). It showed good internal consistency (Cronbach's alpha) ranging from .80 to .89 and a test–retest reliability ranging from 0.84 (one month) to 0.54 (4 years) (Pavot & Diener, 1993). A recent cross-cultural study (Cheng et al., 2016) found Cronbach's alpha ranging from .64 (China) to .86 (the USA). Cronbach's alphas with confidence intervals (CI) for the present study are reported in Table 2. They were adequate (Vaske et al., 2016) ranging from .81 to .86.

Data analysis

In order to control for age and gender, country differences on LS levels were tested with an ANCOVA, where age and gender were added as covariates. Effect size was measured using partial eta-squared, in which small, medium, and large effects were 0.0099, 0.0588, and 0.1379, respectively (Cohen, 1988). Therefore, significant main effects or interactions as to *p*-value with partial eta-squared lower than 0.0099 were not considered, due to being trivial. Subsequently, the post hoc pairwise tests with a Bonferroni correction were completed, and therefore, each comparison between pairs of two countries was considered significant if the *p*-value was <.008 (.008 = .05/6 comparisons).

Finally, partial correlations were computed to examine the relationships among HI, VI, HC, VC, and LS across countries, controlling for age and gender. Due to multiple correlations ($k = 4$) in each group and due to the risk of capitalizing on chance along, the *p* level was adjusted to reflect this. More specifically, we applied a correction (.05/4) such that results would be considered significant if *p* was <.0125 (.0125 = .05/4 correlations; Cupples et al., 1984; Curtin & Schulz, 1998; Meinert, 1986; Morrison, 1976). Correlation sizes were interpreted following recommendations by Cohen (1992), with correlation coefficients of .10, .30, and .50 representing low, medium, and high effect sizes, respectively. Therefore, significant correlations based on *p*-values with Pearson's *r* lower than |.10| were not considered, because they are negligible in size.

RESULTS

With regard to the aim and hypothesis 1, at the cultural level, the ANCOVA showed a significant country effect on LS ($F_{(3)} = 46.97$, $p < .001$, $\eta_p^2 = .074$). The effect of gender on LS was not significant ($F_{(1)} = 1.28$, $p = .257$, $\eta_p^2 = .001$), and its interaction with country was negligible ($F_{(3)} = 3.08$, $p = .027$, $\eta_p^2 = .005$). Also, the effect of age on LS was negligible ($F_{(1)} = 4.84$, $p = .028$, $\eta_p^2 = .003$). The post hoc comparisons using the Bonferroni test indicated that the mean score for American emerging adults (M = 4.91, SD = 1.25) was significantly different ($p < .008$) than that for Italian ones (M = 4.39, SD = 1.18); in turn, they were significantly different ($p < .008$) from the Russian (M = 4.08, SD = 1.31) and Chinese (M = 3.87, SD = 1.23) ones. However, the Russian score did not significantly differ from the Chinese one. Results of the post hoc tests are shown in Figure 1. These results provide evidence that the higher the IDV country score, the higher the average LS score, net
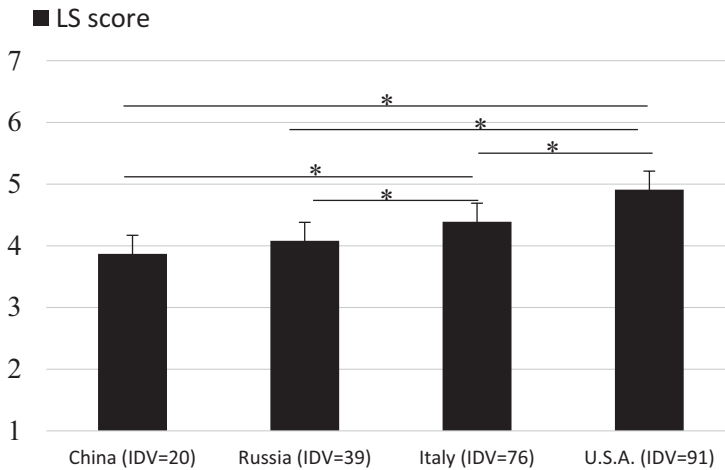
Note. each error bars depict the standard deviation of the mean score; * *p* < .008.

FIGURE 1 Country-related differences on life satisfaction levels: post hoc comparisons
Note. Each error bars depict the standard deviation of the mean score; * *p* < .008

TABLE 3 Partial correlations between variables at the individual level in all groups, controlling for age and gender

	HI	VI	HC	VC
LS of Chinese	−.01	−.07	.13[*]	.10
LS of Italian	.09	−.03	.29[*]	.29[*]
LS of Russian	.06	−.07	.19[*]	.23[*]
LS of American	−.03	−.11	.21[*]	.17[*]

Abbreviations: HC, horizontal collectivism; HI, horizontal individualism; LS, life satisfaction; VC, vertical collectivism; VI, vertical individualism.

*p < .0125.

any effects by age and gender, in the following order: American, Italian, Russian, and Chinese emerging adults.

Shifting to the aim and hypothesis 2, at the individual level, partial correlations between selected variables are shown in Table 3. Overall, LS was significantly and positively correlated with HC and VC (two collectivistic dimensions), whereas it was unrelated to HI and VI (two individualistic dimensions). More specifically, with regard to the collectivistic dimensions, across all groups, LS was associated with HC. The observed effect with VC was medium for the Italian emerging adults, low for Russian and American ones, and unrelated for Chinese emerging adults.

DISCUSSION

The cognitive component of well-being, namely LS, seems to be affected by both the phase of life or developmental period (Luhmann et al., 2012) and cultural factors (Cheng et al., 2016). The latter can be differentiated at both cultural and individual levels. Research has shown that in order to better understand the role of cultural factors in LS, it is crucial to take both levels into account. However, very

few studies have done so. Furthermore, in general emerging adults do not care about social obligations and hierarchical relationships; the role of power and power distance as cultural factors on SWB were emphasized; therefore, it is important to test the relationships between LS and those individual cultural factors that allow an assessment of these specific aspects (i.e. V and H dimensions of I and C). Also, in a cross-cultural comparison, it is important to control for the role of both age and gender on LS. A paucity of studies has focused on the core developmental period of emerging adulthood (ages 18–25). And, last but not least, most studies that have measured I and C at the individual level through a questionnaire did not show a coherent factor structure for independent self-construal (seen as I).

The findings of the present study confirmed a positive relation between I and LS at the cultural level, as hypothesised with regard to the first aim. In other words, the higher the I is, the higher the LS will be. Concerning the second aim and hypothesis, at the individual level, the higher the collectivistic orientation is, the higher the LS will be (Cheng et al., 2016). However, no significant association was found between LS and individualistic orientation. Looking more deeply at the differences on LS levels by culture and consistent with previous studies (Diener et al., 1995; Hofstede, 2001; Klug & Maier, 2014; Krys et al., 2019; Kuppens et al., 2008; Oyserman et al., 2002), but not with Cheng et al. (2016), it seems that IDV of a culture has a consistent relationship with LS. It is noteworthy that this result is meaningful even if we consider the revision of Hofstede's IDV dimension made by Minkov et al. (2017). The new national IDV dimension provided evidence that the USA and Italy are more individualistic countries, whereas Russia and China are more collectivistic ones, the same order found by Hofstede. Therefore, in the present study, not only American and Italian emerging adults who live in individualistic countries—where personal achievement and individual rights are celebrated and emphasized—but also individuals who stand up for themselves and their immediate family and choose their own affiliations reported more LS than their counterparts who live in collectivistic countries (i.e. Russia and China). In addition, American emerging adults reported greater LS than Italian ones, based on the highest IDV country score. The dissimilar results as compared to Cheng et al. (2016) could be explained by considering that their study used unbalanced groups for gender and age, a combination of two indices for measuring I of nations and controlled for gross national income per capita (GNI).

Since IDV is related to mobility between social classes and on national wealth (Hofstede, 1980), it seems plausible that these aspects could impact LS. Referring to mobility between social classes, it has to do with another cultural dimension, namely power distance. This dimension deals with the fact that all individuals in societies are not equal, and it is defined as the extent to which the less powerful members of institutions and organisations within a country expect that power is distributed unequally. Both Chinese and Russian power distance scores are much higher than Italian and American ones (Hofstede et al., 2010). Therefore, the differences on LS across nations may be explained in a more comprehensive way when considering both IDV and the power distance dimensions. Russian and Chinese emerging adults, who are culturally accustomed to plan their future, may be less satisfied because of perceiving more social inequality and therefore less possibilities or opportunities. Referring to national wealth, in 2018, the gross domestic product (GDP, current USA$) of study countries followed this order: 20.5 B (USA); 13.6 B (China); 2.1 B (Italy); and 1.6 B (Russia) (The World Bank Group, 2019). Therefore, in the present study, IDV levels were not related to GDP, which in turn was not related to LS. However, in 2018, the GNI (current USA$) in the study countries followed this order: 62.9 T (the USA); 33.5 T (Italy); 10.2 T (Russia); and 9.5 T (China) (The World Bank Group, 2019). Thus, GNI might have affected LS levels (Oyserman et al., 2002).

Shifting to the individual level of analysis, across study countries, I (both HI and VI) was unrelated to LS. Other studies (e.g. Cheng et al., 2016; Kwan et al., 1997; Zalewska, 2018) had found associations between them; the present study also hypothesised a positive correlation between HI and LS (Cheng et al., 2016; Kwan et al., 1997) and considered the importance of autonomy and independence

as resource of LS for emerging adults. With regard to the inconsistent results vis-à-vis the literature (e.g. Cheng et al., 2016; Zalewska, 2018), some possible explanations might be the consideration of a different developmental period (i.e. 18–25 in the current paper, 18–30 in some of the previous ones), the effects of age and gender on LS that were not addressed in previous studies, and/or the different questionnaires used, which measure similar (but not the same) constructs with different psychometric properties (Paquet & Kline, 2009). More specifically, although Zalewska (2018) used Triandis and Gelfand's scale (1998) to assess individual cultural orientation of emerging adults, their associations with different components of SWB (including LS) in a superordinate construct were tested. Moreover, the majority of the abovementioned studies referred to the Self-Construal Scale (Singelis, 1994) for measuring independent and interdependent self-construal. In the cross-cultural literature, independent and interdependent self-construal is often used interchangeably with I and C, respectively (Heine et al., 2002). However, referring to independent self-construal, it is important to note that some items such as "I value being in good health above everything," "Being able to take care of myself is a primary concern for me," "Having a lively imagination is important to me," and "I am the same person at home that I am at school" appear to be far from those central for the individualist traits. At the same time, they seem to have something to do with attention in well-being and a good self-confidence. These aspects could be some facets more related to LS. In addition, independent self-construal showed acceptable internal consistency only in very few countries (Cheng et al., 2016). Also, it showed lower internal consistency than VI and HI in a study (Paquet & Kline, 2009) that compared these scales. In the same study, none of the 12 independence items from the Self-Construal Scale (Singelis, 1994) tested for statistical significance loaded on its respective factor. With regard to construct validity, independent self-construal showed significant and positive correlation with medium effect size with HI and individualism dimension of Oyserman's scale (Oyserman et al., 2002) and no significant correlation with VI. Instead, both HI and VI were positively related to individualism dimension of Oyserman's scale with medium to large effect sizes. Based on all of this evidence, it seems that researchers need to consider using independent self-construal for measuring I at the individual level. In any case, the present findings did not support the hypothesis that at the individual level, individualism and independence are positively associated with LS in emerging adulthood (e.g. Cheng et al., 2016; Kwan et al., 1997; Yetim, 2003; Zalewska, 2018). However, as argued by Kagitcibasi (2005), it is important to distinguish autonomy from individualistic traits of personality. Further studies should assess autonomy, in addition to HI and VC.

Shifting to collectivistic traits, consistent with the literature (Cheng et al., 2016; Kwan et al., 1997; Oyserman et al., 2002), they were positively associated with LS. It is important to consider that other studies (Yetim, 2003; Zalewska, 2018) based on Turkish and Polish university students, respectively, found that collectivism was negatively associated with LS. However, Yetim (2003) used the same questionnaires, but without considering V and H dimensions. Maybe, as discussed by Yetim, 2003, those findings might be related to the specific cultural context. Nevertheless, the current study results suggest that LS seems to be associated with interdependence and sociability, regardless of the cultural context in which an individual resides. Instead, LS seems to be linked to successful execution of social roles and obligations in Russian and particularly Italian boys and girls. This could be related to how these four societies deal with uncertainty and an unknown future, which characterize emerging adulthood (Arnett, 2004). Both Italy and Russia have rigid codes of belief and behaviors, are intolerant of unorthodox behavior and ideas, and tend to be risk-avoidant (Hofstede et al., 2010). Therefore, emerging adults who live in these societies which emphasize the integrity of the in-group, may achieve good life satisfaction by submitting their will to the authorities of the in-group. Moreover, in the Italian context, young people's transition to adulthood is strongly intertwined with family relationships (Crocetti & Meeus, 2014). At the same time, LS is not related to VC among

Chinese. Since family allocentrism is strictly related to VC (Germani et al., 2020a; Sato, 2007), VC may be positively related to LS among Chinese. However, the VC subscale in the Chinese sample had very low internal consistency, thus might be a measurement artifact. With regard to the USA, it is important to note that Kwan et al. (1997) found no relation between interdependent self and LS in an American sample, while in the current study, significant and positive associations between LS and the two C dimensions were found. Overall, it is remarkable and unexpected that VC, namely family connectedness and the duty to take care of own family even by sacrificing one's own needs, seems to be a positive asset for LS during emerging adulthood in different cultures. This seems consistent with recent research, which found that family and social relationships are widely acknowledged as basic happiness components, across countries, and with very little variation by age and gender (Delle Fave et al., 2016).

It is important to clarify that effect sizes of the abovementioned correlations are small to medium according to Cohen (1992). However, they referred to partial correlations, net the effects by age or gender. Moreover, effect sizes in the present study should be considered typical according to a recent study based on 708 meta-analytically derived correlations, which found that less than 3% of correlations in the literature were large as $r = .50$ and accordingly recommended to consider correlations of .10, .20, and .30 as relatively small, typical, and relatively large (Gignac & Szodorai, 2016).

The current findings should be interpreted with some caution. First, this study exclusively relied on self-reports and thus suffers from mono-method bias. Future research should adopt multiple methods to delve into these issues. For instance, future research might use experimental methods to examine whether priming participants to be in a mental state of individualistic/collectivistic orientation (Oyserman & Lee, 2008) tested whether this would affect their momentary life satisfaction.

Second, this study recruited convenience samples of college students, which limits the generalizability of study findings. Future studies might employ random sampling, which would ensure greater generalizability. Third, findings can not be interpreted as implying causality, as the data were exclusively cross-sectional. Future work that collects longitudinal data will be better able to address and test issues of causality. Fourth, some of the scales had for China a low Cronbach's alpha. It would be important to test the psychometric properties of the INDCOL among this population. And last, it is important to clarify that as a recent study found, using collectivism-themed measures of well-being such as family-interdependent happiness, no significant association with IDV was observed. In other words, LS as measured in most cross-cultural studies like the present one may be considered as an individualism-themed type of well-being (Krys et al., 2019). More generally, in well-being research, the term happiness is often used as synonymous with life satisfaction; however, lay people's understanding of happiness includes other components (Delle Fave et al., 2016). Also, with regard to measurement of I-C at the individual level, in addition to the aforementioned measures, recently, a revision of the conceptualization and measurement of independent and interdependent self-construal with a new seven-dimensional model was proposed, which showed good psychometric properties (Vignoles et al., 2016). Therefore, further cross-cultural studies will have to take into account and further test other conceptualizations, models, measures of cultural factors and quality of life, happiness, and well-being.

Notwithstanding, the present study provides support for the significant link at the individual level between allocentrism, interdependence, sociability, the wish of having common goals with others and LS, and independent of nation, during emerging adulthood. It informs researchers to consider other cultural dimensions for assessment and comparison of LS in emerging adults from different cultures, such as power distance. It also provides new knowledge differentiating between the V and H dimensions of individual cultural factors, consistent with findings by Shavitt et al. (2006) who had re-emphasized the importance of power and power distance as cultural factors, and proposing the use

of Triandis' (1995) multidimensional model. The present findings indicate a positive link for emerging adults between the emphasis on the integrity of the in-group—in particular related to one's own family—even by submitting their will to the authorities of the in-group and LS, independent of nation. Overall, the result indicates that among emerging adults, whether the social environment appears stable (duties, obligations) and the self appears in flux or changeable (ready to fit into the environment) is positively associated with LS.

Finally, as suggested by the evidence from other studies (e.g. Cheng et al., 2016; Li et al., 2015), the present work makes researchers examine in greater depth the link between components of SWB and I, measured by different tools, as well as at different levels (cultural and individual), and distinguishing I from autonomy (Kagitcibasi, 2005), in order to make it clearer.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

ETHICS APPROVAL

Each data collection was reviewed and approved by local ethics committees or an Institutional Review Board.

CONSENT TO PARTICIPATE

Participants provided their informed consent.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author [AG] upon request.

ORCID

Alessandro Germani https://orcid.org/0000-0002-7690-8934
Elisa Delvecchio https://orcid.org/0000-0003-3519-5445
Sofya K. Nartova-Bochaver https://orcid.org/0000-0002-8061-4154

REFERENCES

Ahuvia, A. C. (2002). Individualism/collectivism and cultures of happiness: A theoretical conjecture on the relationship between consumption, culture and subjective well-being at the national level. *Journal of Happiness Studies*, *3*(1), 23–36. https://doi.org/10.1023/A:1015682121103

American Psychological Association (2010). *Publication manual of the American Psychological Association* (6th ed.). American Psychological Association.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*, 469–480. https://doi.org/10.1037/0003-066X.55.5.469

Arnett, J. J. (2004). *Emerging adulthood: The winding road from the late teens through the twenties*. Oxford University Press.

Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for? *Society for Research in Child Development*, *1*, 68–73. https://doi.org/10.1111/j.1750-8606.2007.00016.x

Baird, B. M., Lucas, R. E., & Donnellan, M. B. (2010). Life satisfaction across the lifespan: Findings from two nationally representative panel studies. *Social Indicators Research*, *99*(2), 183–203. https://doi.org/10.1007/s11205-010-9584-9

Bond, M. H. (2002). Reclaiming the individual from Hofstede's ecological analysis—A 20-year odyssey: Comment on Oyserman et al (2002). *Psychological Bulletin*, *128*(1), 73–77.

Blanchflower, D. G., & Oswald, A. J. (2008). Is well-being U-shaped over the life cycle? *Social Science & Medicine*, *66*(8), 1733–1749. https://doi.org/10.1016/j.socscimed.2008.01.030

Cheng, C., Cheung, M.-W.-L., Montasem, A., & 44 Members of the International Network of Well-Being Studies (2016). Explaining differences in subjective well-being across 33 nations using multilevel models: Universal personality, cultural relativity, and national income. *Journal of Personality*, *84*, 1. https://doi.org/10.1111/jopy.12136

Chiou, J. S. (2001). Horizontal and vertical individualism and collectivism among college students in the United States, Taiwan, and Argentina. *The Journal of Social Psychology*, *141*, 667–678. https://doi.org/10.1080/00224540109600580

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Erlbaum.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155–159. https://doi.org/10.1037/0033-2909.112.1.155

Crocetti, E., & Meeus, W. (2014). "Family comes first!" Relationships with family and friends in Italian emerging adults. *Journal of Adolescence*, *37*(8), 1463–1473. https://doi.org/10.1016/j.adolescence.2014.02.012

Cupples, L. A., Heeren, T., Schatzkin, A., & Colton, T. (1984). Multiple testing of hypotheses in comparing two groups. *Annals of Internal Medicine*, *100*(1), 122–129. https://doi.org/10.7326/0003-4819-100-1-122

Curtin, F., & Schulz, P. (1998). Multiple correlations and Bonferroni's correction. *Biological Psychiatry*, *44*(8), 775–777. https://doi.org/10.1016/s0006-3223(98)00043-2

Delle Fave, A., Brdar, I., Wissing, M. P., Araujo, U., Castro Solano, A., Freire, T., Del Rocío, M., Hernández-Pozo, P. J., Martos, T., Nafstad, H. E., Nakamura, J., Singh, K. & Nakamura, J. (2016). Lay definitions of happiness across nations: The primacy of inner harmony and relational connectedness. *Frontiers in Psychology*, *7*, 30.

Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology*, *69*, 851–864. https://doi.org/10.1037/0022-3514.69.5.851

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*, 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Diener, E., Lucas, R. E., & Oishi, S. (2002). Subjective well-being: The science of happiness and life satisfaction. *Handbook of Positive Psychology*, *2*, 63–73.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*(2), 276. https://doi.org/10.1037/0033-2909.125.2.276

Fiske, S. T. (1993). Controlling other people: The impact of power on stereotyping. *American Psychologist*, *48*(6), 621–628. https://doi.org/10.1037/0003-066X.48.6.621

Germani, A., Delvecchio, E., Li, J. B., & Mazzeschi, C. (2020a). The horizontal and vertical individualism and collectivism scale: Early evidence on validity in an Italian sample. *Journal of Child and Family Studies*, *29*, 904–911. https://doi.org/10.1007/s10826-019-01571-w

Germani, A., Delvecchio, E., Li, J. B., & Mazzeschi, C. (2020b). Protective factors for depressive symptoms in emerging adulthood. *Scandinavian Journal of Psychology*, *61*(2), 237–242. https://doi.org/10.1111/sjop.12616

Gignac, G. E., & Szodorai, E. T. (2016). Effect size guidelines for individual differences researchers. *Personality and Individual Differences*, *102*, 74–78. https://doi.org/10.1016/j.paid.2016.06.069

Goregenli, M. (1995). Individualism collectivism orientations in the Turkish culture: A preliminary study. *Turk Psikoloji Dergisi*, *10*(35), 1–14.

Gouveia, V. V., Clemente, M., & Espinosa, P. (2003). The horizontal and vertical attributes of individualism and collectivism in a Spanish population. *Journal of Social Psychology*, *143*, 43–63. https://doi.org/10.1080/00224540309598430

Guo, X., Schwartz, S. J., & McCabe, B. E. (2008). Aging, gender, and self: Dimensionality and measurement invariance analysis on self-construal. *Self and Identity*, *7*, 1–24. https://doi.org/10.1080/15298860600926873

Heine, S. J., Lehman, D. R., Peng, K., & Greenholtz, J. (2002). What's wrong with cross-cultural comparisons of subjective Likert scales?: The reference-group effect. *Journal of Personality and Social Psychology*, *82*, 903–918. https://doi.org/10.1037/0022-3514.82.6.903

Hofstede, G. (1980). *Culture's consequences*. Sage.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Sage.

Hofstede, G. (2011). Dimensionalizing cultures: The hofstede model in context. *Online Readings in Psychology and Culture*, *2*(1), 2307–0919. https://doi.org/10.9707/2307-0919.1014

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind* (3rd ed.). McGraw-Hill.

Huebner, E. S. (2004). Research on assessment of life satisfaction of children and adolescents. *Social Indicators Research*, *66*(1–2), 3–33.

Hui, C. H. (1988). Measurement of individualism-collectivism. *Journal of Research in Personality*, *22*(1), 17–36. https://doi.org/10.1016/0092-6566(88)90022-0

Kagitcibasi, C. (2005). Autonomy and relatedness in cultural context. Implications for self and family. *Journal of Cross-Cultural Psychology*, *36*, 403–422. https://doi.org/10.1177/0022022105275959

Keyes, C. L. M., & Waterman, M. B. (2003). Dimensions of well-being and mental health in adulthood. In M. Bornstein, L. Davidson, C. L. M. Keyes & K. Moore (Eds.), *Well-being: Positive development through-out the life course* (pp. 477–497). Erlbaum.

Kitayama, S., & Markus, H. R. (2000). The pursuit of happiness and the realization of sympathy: Cultural patterns of self, social relations, and well-being. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 113–161). MIT Press.

Klug, H. J. P., & Maier, G. W. (2014). Linking goal progress and subjective well-being: A Meta-analysis. *Journal of Happiness Studies*, *16*, 37–65. https://doi.org/10.1007/s10902-013-9493-0

Krys, K., Zelenski, J. M., Capaldi, C. A., Park, J., Tilburg, W., Osch, Y., Haas, B. W., Bond, M. H., Dominguez-Espinoza, A., Xing, C., Igbokwe, D. O., Kwiatkowska, A., Luzniak-Piecha, M., Nader, M., Rizwan, M., Zhu, Z., & Uchida, Y. (2019). Putting the "we" into well-being: Using collectivism-themed measures of well-being attenuates well-being's association with individualism. *Asian Journal of Social Psychology*, *22*(3), 256–267. https://doi.org/10.1111/ajsp.12364

Kuppens, P., Realo, A., & Diener, E. (2008). The role of positive and negative emotions in life satisfaction judgment across nations. *Journal of Personality and Social Psychology*, *95*, 66–75. https://doi.org/10.1037/0022-3514.95.1.66

Kwan, V. S. Y., Bond, M. H., & Singelis, T. M. (1997). Pancultural explanations for life satisfaction: Adding relationship harmony to self-esteem. *Journal of Personality and Social Psychology*, *73*, 1038–1051. https://doi.org/10.1037/0022-3514.73.5.1038

Lapsley, D., & Woodbury, R. D. (2016). Social cognitive development in emerging adulthood. In J. J. Arnett (Ed.), *The Oxford handbook of emerging adulthood* (pp. 142–159). Oxford University Press.

Li, F., & Aksoy, L. (2007). Dimensionality of individualism-collectivism and measurement of Triandis and al Gelfand's Scale. *Journal of Business and Psychology*, *21*, 313–329.

Li, J. B., Delvecchio, E., Di Riso, D., Salcuni, S., & Mazzeschi, C. (2015). Self-esteem and its association with depression among Chinese, Italian, and Costa Rican adolescents: A cross-cultural study. *Personality and Individual Differences*, *82*, 20–25. https://doi.org/10.1016/j.paid.2015.02.036

Li, J. B., Vazsonyi, A. T., & Dou, K. (2018). Is individualism-collectivism associated with self-control? Evidence from Chinese and U.S. samples. *PLoS One*, *13*(12), e0208541. https://doi.org/10.1371/journal.pone.0208541

Lucas, R. E., Diener, E., & Suh, E. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology*, *71*(3), 616. https://doi.org/10.1037/0022-3514.71.3.616

Luhmann, M., Hofmann, W., Eid, M., & Lucas, R. E. (2012). Subjective well-being and adaptation to life events: A meta-analysis. *Journal of Personality and Social Psychology*, *102*, 592–615. https://doi.org/10.1037/a0025948

Lun, V.- M.-C., & Bond, M. H. (2016). Achieving subjective well-being around the world: The moderating influence of gender, age and national goals for socializing children. *Journal of Happiness Studies*, *17*, 587–608. https://doi.org/10.1007/s10902-015-9614-z

Meinert, C. L. (1986). *Clinical trials. Design, conduct and analysis*. Oxford University Press.

Meisenberg, G., & Woodley, M. A. (2015). Gender differences in subjective well-being and their relationships with gender equality. *Journal of Happiness Studies*, *16*, 1539–1555. https://doi.org/10.1007/s10902-014-9577-5

Minkov, M., Dutt, P., Schachner, M., Morales, O., Sanchez, C., Jandosova, J., Khassenbekov, Y., & Mudd, B. (2017). A revision of Hofstede's individualism-collectivism dimension. *Cross Cultural & Strategic Management*, *24*(3), 386–404. https://doi.org/10.1108/CCSM-11-2016-0197

Morrison, D. F. (1976). *Multivariate statistical methods* (2nd ed.). McGraw-Hill.

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analysis. *Psychological Bulletin*, *128*, 3–72.

Oyserman, D., & Lee, S. W. (2008). Does culture influence what and how we think? Effects of priming individualism and collectivism. *Psychological Bulletin*, *134*(2), 311. https://doi.org/10.1037/0033-2909.134.2.311

Paquet, S. L., & Kline, T. J. B. (2009). Uncovering the psychometric properties of scales measuring individualist and collectivist orientations. *International Journal of Testing*, *9*, 260–270. https://doi.org/10.1080/15305050903106859

Park, N. (2004). Character strengths and positive youth development. *The Annals of the American Academy of Political and Social Science*, *591*(1), 40–54. https://doi.org/10.1177/0002716203260079

Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, *5*, 164–172. https://doi.org/10.1037/1040-3590.5.2.164

Robert, C., Lee, W., & Chan, K. (2006). An empirical analysis of measurement equivalence with the INDCOL measure of individualism and collectivism: Implications for valid cross-cultural inference. *Personnel Psychology*, *59*, 65–99. https://doi.org/10.1111/j.1744-6570.2006.00804.x

Sato, T. (2007). The family allocentrism-idiocentrism scale: Convergent validity and construct exploration. *Individual Differences Research*, *5*, 194–200.

Schimmack, U., Oishi, S., & Diener, E. (2005). Individualism: A valid and important dimension of cultural differences between nations. *Personality and Social Psychology Review*, *9*(1), 17–31. https://doi.org/10.1207/s15327957pspr0901_2

Shavitt, S., Lalwani, A. K., Zhang, J., & Torelli, C. J. (2006). The horizontal/vertical distinction in cross-cultural consumer research. *Journal of Consumer Research*, *16*(4), 325–342. https://doi.org/10.1207/s15327663jcp1604_3

Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin*, *20*, 580–591. https://doi.org/10.1177/0146167294205014

Singelis, T. M., Triandis, H. C., Bhawuk, D. P. S., & Gelfand, M. J. (1995). Horizontal and vertical dimensions of individualism and collectivism: A theoretical and measurement refinement. *Cross-Cultural Research*, *29*, 240–275. https://doi.org/10.1177/106939719502900302

Soh, S., & Leong, F. T. L. (2002). Validity of vertical and horizontal individualism and collectivism in Singapore, relationships with values and interests. *Journal of Cross-Cultural Psychology*, *33*, 3–15. https://doi.org/10.1177/0022022102033001001

Suldo, S. M., & Huebner, E. S. (2006). Is extremely high life satisfaction during adolescence advantageous? *Social Indicators Research*, *78*(2), 179–203. https://doi.org/10.1007/s11205-005-8208-2

The World Bank Group (2019). *World development indicators*. Retrieved from http://datatopics.worldbank.org/world-development-indicators/themes/economy.html

Torelli, C. J., & Shavitt, S. (2010). Culture and concepts of power. *Journal of Personality and Social Psychology*, *99*(4), 703. https://doi.org/10.1037/a0019973

Triandis, H. C. (1995). *Individualism and collectivism*. Westview Press.

Triandis, H. C. (1996). The psychological measurement of cultural syndromes. *American Psychologists*, *51*, 407–415. https://doi.org/10.1037/0003-066X.51.4.407

Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, *69*, 907–924. https://doi.org/10.1111/1467-6494.696169

Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology*, *74*, 118–128. https://doi.org/10.1037/0022-3514.74.1.118

Vaske, J. J., Beaman, J., & Sponarski, C. C. (2016). Rethinking internal consistency in Cronbach's alpha. *Leisure Sciences*, *39*(2), 163–173. https://doi.org/10.1080/01490400.2015.1127189

Vignoles, V. L., Owe, E., Becker, M., Smith, P. B., Easterbrook, M. J., Brown, R., González, R., Didier, N., Carrasco, D., Cadena, M. P., Lay, S., Schwartz, S. J., Des Rosiers, S. E., Villamar, J. A., Gavreliuc, A., Zinkeng, M., Kreuzbauer, R., Baguma, P., Martin, M., … Bond, M. H. (2016). Beyond the 'east–west' dichotomy: Global variation in cultural models of selfhood. *Journal of Experimental Psychology: General*, *145*(8), 966. https://doi.org/10.1037/xge0000175

Wu, M. S., Schmitt, M., Zhou, C., Nartova-Bochaver, S., Astanina, N., Khachatryan, N., & Han, B. (2014). Examining self-advantage in the suffering of others: Cross-cultural differences in beneficiary and observer justice sensitivity among Chinese, Germans, and Russians. *Social Justice Research*, *27*(2), 231–242. https://doi.org/10.1007/s11211-014-0212-8

Yetim, U. (2003). The impacts of individualism/collectivism, self-esteem, and feeling of mastery on life satisfaction among the Turkish university students and academicians. *Social Indicators Research*, *61*, 297–317. https://doi.org/10.1023/A:1021911504113

Zalewska, A. M. (2018). Big-five and subjective well-being: The mediating role of individualism or collectivism beliefs and the moderating role of life periods. *Polish Psychological Bulletin*, *49*(2), 166–183. https://doi.org/10.24425/119484

Zalewska, A. M., & Zawadzka, A. (2016). Subjective well-being and citizenship dimensions according to individualism and collectivism beliefs among Polish adolescents. *Current Issues in Personality Psychology*, *4*(3), 155–166. https://doi.org/10.5114/cipp.2016.61520