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### Author

Lawrie, Smaranda Ioana

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Development of the Harmony and Convivial Collectivism Scale

A Thesis submitted in partial satisfaction of the  
requirements for the degree Master of Arts  
in Education

by

Smaranda Ioana Lawrie

Committee in charge:

Professor Karen Nylund-Gibson, Chair

Professor Rebeca Mireles-Rios

Professor Heejung S. Kim

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The thesis of Smaranda Ioana Lawrie is approved.

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Rebeca Mireles-Rios

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Heejung S. Kim

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Karen Nylund Gibson, Committee Chair

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## ABSTRACT

### Development of the Harmony and Convivial Collectivism Scale

by

Smaranda Ioana Lawrie

The characterization of cultures as independent-interdependent and individualistic-collectivistic has provided the foundation for a tremendous amount of research which has revealed the strong influence of culture on psychological processes. Recent years have witnessed an effort by researchers to develop finer-grained distinctions within these overarching cultural dimensions. In line with this work, and inspired by the theoretical model laid out by Campos and Kim (2017), which distinguished between *Harmony Collectivism*, more common among East Asian populations, and *Convivial Collectivism*, more common among Latin American populations, the present research was conducted to develop and validate the Harmony and Convivial Collectivism Scale (HCCS). A preliminary pilot study involved a survey in Mechanical Turk (N = 97) and several rounds of expert focus groups. Study 2 (N = 220) used exploratory factor analysis (EFA) with a large sample of undergraduates and found best fit for a three-factor, 13-item model (Harmony, Convivial-Recognition, Convivial-Display). Study 3 (N = 330) confirmed the 3-factor structure through confirmatory factor analysis (CFA) and demonstrated adequate validity and reliability. Additionally, Study 3 used the entire data set to examine cultural mean differences on the factors between Asian-Americans, Latino-Americans, and European-American

## Development of the Harmony and Convivial Collectivism Scale

*“Deny me bread, air, light, spring, but never your laughter for I would die.”* - Pablo Neruda, Chilean politician and Nobel Prize winning poet

*“Control your emotions or they will control you.”* - Chinese Proverb

In recent decades, culture has made its way into mainstream psychology as psychologists of all disciplines are increasingly recognizing the strong influence of culture on virtually all aspects of human existence - including thoughts, motivations, behaviors, and emotions. The characterization of cultures as independent-interdependent (Markus & Kitayama, 1991; Oyserman et. al, 2002) or individualistic-collectivistic (Hofstede et. al., 2010; Triandis, et. al., 1988) has been especially influential and hugely generative, providing the theoretical foundation for much culture research. Markus and Kitayama’s (1991) original theoretical paper distinguishing between the independent and interdependent self has over twenty thousand citations and has become one of the top-five cited articles in the history of scientific psychology (Ho & Hartley, 2015).

Broadly speaking, the cultural dimensions of individualism-collectivism, which are closely tied to concepts of the independent and interdependent self, are concerned with cultural differences in how individuals relate to others. Individualistic or independent cultures prioritize the needs of the individual above those of the group, whereas collectivistic or interdependent cultures prioritize group needs above individual needs (Hofstede et. al., 2010; Markus & Kitayama, 1991; Oyserman, 2002; Triandis, 1988). These theoretical concepts, as broad sources of cultural variation, have tremendously increased our understanding of the influence of culture on human thought and behavior and have contributed to knowledge of broad cultural tendencies and differences (Heine, 2020; Wang, 2016). However, in recent years, researchers have started to

shift away from relying on these broad bi-polar distinctions in favor of more nuanced representations within these overarching cultural dimensions (e.g., Vignoles et al., 2016; Moza et. al., *under review*).

The current research was inspired by theoretical work laid out by Campos and Kim (2017) which distinguishes between the unique blends of collectivism found in East Asian vs. Latin American cultures: *Harmony* vs. *Convivial* collectivism. Although both cultures prioritize the goals of the group over individual needs, these are two distinct *flavors* or *shades* of collectivism that emphasize different ways of creating and maintaining relationships. In the current set of studies, we develop and validate a new 13-item Harmony and Convivial Collectivism Scale (HCCS) to be used as a tool to measure these distinct forms of collectivism.

### **Individualism-Collectivism and Independence-Interdependence**

Individualism, which is closely tied to the idea of the independent self, prioritizes the needs of the individual above the needs of the group. Meaningful behaviors are predominantly influenced by internal motives rather than the expectations of others, and uniqueness, distinctiveness from others, and personal freedoms, including the ability to independently choose and self-actualize, are strongly valued. Individualistic cultures are more common in North America, Northern and Western Europe, Australia and New Zealand (Markus & Kitayama, 1991; Oyserman et al., 2002; Singelis, 1994; Triandis, 1993; Triandis & Gelfand,. Collectivism, which is closely tied to the idea of the interdependent self, on the other hand, prioritizes the needs and desires of in-group members. Meaningful behaviors are largely influenced by obligations, responsibility, and consideration for the thoughts and feelings of close others. There is also less of a desire to experience the self as distinct and separate from close others. Collectivistic cultures are found in East and South-East Asia, Africa, Eastern Europe,

Latin America, the Caribbean, and the smaller island nations of the Asia-Pacific (Markus & Kitayama, 1991; Oyserman et al., 2002; Singelis, 1994; Triandis, 1993; Triandis & Gelfand, 1998).

Over the past several decades, a number of scales have been developed to distinguish between individualism and collectivism or independence and interdependence, both across and within cultures. Some of these scales include: Hui's (1988) INDCOL Scale, Singelis' (1994) Self-Construal Scale, Triandis and Gelfand's (1998) Horizontal and Vertical Individualism and Collectivism Scale, and Oyserman's (1993) Individualism and Collectivism Scale. Theoretically, these scales were intended to measure individualism and collectivism (or independence and interdependence) orthogonally so that individualism (independence) and collectivism (interdependence) scores would provide two distinct pieces of information about a particular culture. In practice, however, researchers have often used the scales to distinguish between more collectivistic or interdependent cultures on the one hand, and more individualistic or independent cultures on the other hand in a dichotomous fashion (i.e. individualistic America vs. collectivistic Japan). Using this approach, experts have discovered cultural differences in a panoply of diverse psychological processes and outcomes including, but not limited to: the motivational (or demotivational) influence of successes vs. failures (Endo & Meijer, 2004); the length of typical relationships (Yuki & Schug, 2012); the desire to fit in or stick out (Kim & Markus, 1999); the importance of choice (Iyengar & Lepper, 1999); the importance of self-esteem vs. self-improvement (Heine et. al., 2001); the tendency to think more holistically or analytically (Masuda & Nisbett, 2001); the types of emotions people experience most often (Kitayama et al., 2006), and even the type of emotions individuals would like to experience most often (Tsai et. al., 2007).

## **Moving Beyond Binary Cultural Dimensions**

This approach has been extremely fruitful, and we now know appreciably more about the deep influence of culture on psychological processes and about the tremendous malleability of human mind and behavior (Wang, 2016). However, recent empirical findings suggest that in dividing cultures according to these binary cultural dimensions, some of complexity and diversity of cultures have been reduced to simple comparisons between individualistic and collectivistic, independent interdependent, East and West. Although tremendously important in laying the foundations of the field, cultural researchers are now moving towards more inclusive and diverse samples (including cultures that have previously received scant attention in empirical research) and finer grained distinctions between cultures. Campos and Kim (2017) describe the earlier cultural approach as one that has established differences between the primary colors of culture, whereas the current, more nuanced approach is focused on distinguishing between the shades of cultural colors underlying those dominant colors.

One of the earlier studies to systematically show that these cultural constructs are potentially more nuanced than previously believed was a metaanalysis conducted by Oyserman and colleagues (2002) which looked at levels of measured individualism and collectivism in a large number of countries around the world. Although they found some of the expected differences (i.e. the United States scored higher on individualism and Peru scored higher on collectivism), the differences were not nearly as clear and distinct as predicted by theory. Furthermore, the researchers found that countries had different combinations of individualism and collectivism such that a country could, for example, score high on both dimensions, and these different combinations could help explain some cross-cultural differences.



In line with the idea that the cultural dimensions of individualism-collectivism and independence-interdependence are more nuanced than previously believed, a large group of researchers led by Vignoles (2016) recently developed a theoretical model, and associated scale, that outlines seven different dimensions of functioning (i.e., making decisions, looking after oneself, communicating with others). On each of the seven domains of functioning, there is an independent pole which refers to a “independent” way of doing things and an interdependent pole, which refers to a more “interdependent” way of doing things. Initial application of the survey in more than thirty countries found diversity in profiles of independence and interdependence across countries. Countries might score on the independent side for certain domains of functioning but on the interdependent side for other domains of functioning. In other words, different ways of being independent and interdependent are highlighted and emphasized in different cultures of the world. Building on this work, a recent study by Moza and colleagues (*under review*) looked at different ways of being independent in different countries and found that different forms of independence are valued in different cultures, and furthermore that being independent in culturally “appropriate ways” is associated with positive outcomes such as self-esteem and life satisfaction whereas being independent in a less culturally appropriate way is not associated with these positive outcomes.

In line with this more nuanced approach to cultural comparisons, a recent theoretical paper by Campos and Kim (2017) distinguished between two distinct subtypes or flavors of collectivism: *Harmony Collectivism*, more common among East Asians, and *Convivial Collectivism*, more common among Latin-American cultures. Moving beyond a simple individualism-collectivism (or independence-interdependence) conceptualization, Campos and Kim (2017) acknowledge the influence of these primary psychological constructs but also take

into account the importance of additional psychological constructs that have been shown to vary across cultures (e.g., variation of emotional experiences, power distance, and relational mobility) and how these interact with individualism-collectivism to produce unique blends of culture. This conceptualization of cultures as a blend of multiple primary psychological constructs explains the findings that overarching orientations (i.e., individualism-collectivism) can manifest in different ways in different cultures. The current set of studies and resulting scale are motivated by this theoretical work.

### **Convivial and Harmony Collectivism**

In both East Asian and Latin-American cultures, group needs are placed above individual needs and individuals experience their identity as interdependent with close others. At the same time, East Asian and Latino cultures branch out from collectivism in distinct ways, especially when it comes to the specific ways that relationships are created and nourished, and how care is expressed within these relationships.

In East Asian cultures, *Harmony Collectivism* tends to prevail. *Harmony Collectivism* highlights the practice of precaution within relationships and pressures individuals from mismanaging these relationships by reminding them of the potential cost of doing so. *Harmony Collectivism* is characterized by guarded caution in interpersonal relationships, and great energy is expended to avoid relationship conflicts and group dissonance (Campos & Kim, 2012; Hashimoto et. al., 2012). To this end, both personal opinions and emotional expression (negative or positive) are discouraged so as not to rattle existing relationships with close others. Additionally, *Harmony Collectivism* tends to value practicality and instrumental social support and aid (Chen et al., 2012). Love and care for close others is shown and expressed through beneficial advice, verbal understanding, and practical help rather than through the display of

emotions and physical touch. *Harmony Collectivism* is the classic or prototypical view of collectivism - the flavor or shade of collectivism that has been most often studied to date. Moreover, current scales of individualism-collectivism and independence-interdependence were, for the most part, created and validated within this cultural context (e.g., Triandis & Gelfand, 1998).

In Latin-American cultures, *Convivial Collectivism* tends to prevail. Like *Harmony Collectivism*, *Convivial Collectivism* prioritizes relationship health and the avoidance of conflict in relationships. However, unlike *Harmony Collectivism*, *Convivial Collectivism* places great emphasis on open and frequent positive emotional expressivity and physical warmth (i.e., hugs, kisses) (Kreitler & Dyson, 2016). This comes from a cultural script of *simpatia* which promotes positive emotions, generosity, affection, charisma, and the sharing of feelings in social interactions (Schwartz et. al., 2016; Triandis, Marin, Lisansky, & Betancourt, 1984; Triandis, Marin, Hui, Lisansky & Ottai, 1984). Although, considerably less empirical research has included Latin-American forms of collectivism in the “typical” individualism-collectivism/ independence-interdependence cross-cultural comparisons, there is a rich history of work on Latin-American cultural values such as *simpatia* (Holloway et al., 2009; Ramírez-Esparza, 2008); *familismo* (e.g., Campos et. al., 2008; Campos et. al., 2014), and *machismo* (e.g., Mayo, 1997).

To make a simple analogy to sports, *Convivial Collectivism* encourages individuals to take on a more offensive player role in their relationships with close others, whereas *Harmony Collectivism* encourages individuals to take on a more defensive player role in their close relationships. In *Convivial Collectivism*, relationships are created and maintained through

frequent positive emotional interactions, whereas *Harmony Collectivism* encourages emotional restraint and caution in order to avoid rattling relationships.

## **Current Research Overview**

The present research was conducted to develop and validate a scale to measure *Harmony* and *Convivial Collectivism*, the Harmony and Convivial Collectivism Scale (HCCS). The research took place in several broad phases. In Study 1, the authors collected existing scales of individualism-collectivism and independence-interdependence as well as scales measuring relevant related cultural values (i.e., *simpatia*). Scale items for the current project were created by adapting items from pre-existing scales and creating new items based on the theoretical model and a review of the associated literature. Additionally, multiple rounds of extensive expert focus groups and a Mturk survey was conducted in order to refine and cull scale items. In Study 2, exploratory factor analysis (EFA) was used to establish a factor structure and further reduce scale items. Study 3 confirmed the factor structure through confirmatory factor analysis (CFA), and demonstrated adequate validity and reliability of the new scale. Cultural mean differences were also examined in Study 3 in an ANOVA framework.

### **Study 1: Initial Item Development and Pilot Study**

#### **Initial Item development**

The authors produced an initial pool of 75 items for the preliminary Harmony and Convivial Collectivism Scale (HCCS). Items were focused on four theoretically distinct constructs: *Harmony Collectivism*, *Convivial Collectivism*, *General Collectivism*, and *Individualism*. The initial set of items was composed of: (1) novel items created by the authors based on previous theorizing about *Harmony* and *Convivial Collectivism* and the associated literature (Campos & Kim, 2017), (2) items adapted from established Individualism-

Collectivism/Independence-Interdependence scales (Hui, 1988; Singelis, 1994; Triandis & Gelfand, 1998; Oyserman, 1993), and (3) items culled from previous instruments related to aspects of either *Harmony* or *Convivial Collectivism* (Acevedo et. al., 2020; Griffith et. al., 1998; Hashimoto, 2005; Morling & Fiske, 1999; Steidel & Contreras, 2003).

### **Initial Expert Focus Groups**

The authors extensively discussed the initial pool of items with a group of experts in Cultural Psychology who are well acquainted with both cultural theorizing and existing Individualism-Collectivism and Independence-Interdependence scales (i.e., Ouiment et. al., 2004). Based on several rounds of intense deliberations, 18 items that were unclear or conceptually redundant were removed. This process resulted in a shortened 57-item scale.

### **Pilot Study**

The reduced set of 57 items was administered to a sample of 97 Mechanical Turk (MTurk) workers as part of an initial Pilot study. MTurk is a survey recruitment website where anonymous participants complete tasks for a small incentive (Buhrmester, Kwang, & Gosling, 2011). The entire survey took 10-15 minutes, and participants were compensated \$1.00 for their efforts. Items were randomly ordered, and participants answered all survey questions on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Unfortunately, due to a glitch in programming, all participant demographic data was lost.

As a first step in determining item effectiveness, we tested assumptions of univariate normality through visual inspections of histograms, *q-q* plots, box plots, and bivariate scatterplots. No items showed bimodal distributions or severe non-normality. Skewness and kurtosis values for all variables were also within the normal, acceptable range (skewness < 2, kurtosis < 7; Fabrigar et al., 1999).

Next, we analyzed descriptive statistics for each item, and scale items that had a mean greater than 4.0 (on a 5-point Likert scale) or lower than 2.0 were eliminated since it was decided they did not provide enough inter-individual variability. An additional 17 items were eliminated in this way resulting in a sample of 40 items.

### **Follow-up Expert Focus Groups**

The results of the Pilot Study were presented in several additional rounds of expert group discussions, which included both original and new cultural and methodological experts. An additional 27 items were initially added to the scale for a total of 67 items. However, after more rounds of deliberation, the authors decided that a scale intended to measure four constructs (harmony, convivial, and general collectivism, as well as individualism) was too conceptually confusing and complicated. As a result, the decision was made to not include any items pertaining to individualism or general collectivism in the scale (however, individualism items were retained in the survey for validity purposes, see Study 3). This round of eliminations resulted in a total of 31 items intended to measure *Harmony* and *Convivial Collectivism*. These 31 items (see Table 1) made up the preliminary Harmony and Convivial Collectivism Scale (HCCS) and were included in the exploratory factor analysis (EFA) in Study 2.

### **Study 2: Exploratory Factor Analysis**

Study 2 used exploratory techniques (exploratory factor analysis/EFA) to evaluate the factor structure of the newly developed Harmony and Convivial Collectivism Scale (from Study 1) among a large and diverse group of college students.

### **Methodology**

#### ***Participants***

Participants were recruited in one of two ways: (1) through the participant pools of the Psychology Department, Communication Department, and School of Educations, at a large, diverse, and prestigious public university in South-Central California, and (2) through study advertisements placed on social media sites of the same public university (e.g., furniture sale sites, roommate sites, etc.). Five hundred and fifty students took part in the study (77.5% female, 18.9% male,  $M_{age} = 20.44$ ) for course credit (subject pool participants) or for the potential to win a \$25 Amazon gift-card (social media recruited participants). Out of the 550 initial participants, 533 completed the entire study. One respondent abandoned shortly after completing the HCCS. The other 16 failed to complete at least one scale. However, all missing data from the respondents was not item-related, but rather scale-related (i.e. respondents completed all items from a scale, and then abandoned) so all 550 participants were included in subsequent data analysis. Detailed demographic descriptions of the sample are provided in Table 1 of Supplemental Material.

The entire study was administered online and took roughly 25-30 minutes to complete. All materials and procedures were approved by the sponsoring university's Institutional Review Board (i.e., IRB).

Based on recommendations by Fabrigar, Wegner, MacCalum, and Strahan (1999), the entire sample was randomly split into two groups. Group 1 consisted of 40% of the original sample ( $N = 220$ ) for inclusion in exploratory factor analysis (EFA, Study 2), and group 2 consisted of 60% of the original sample ( $N = 330$ ) for inclusion in confirmatory factor analysis (CFA, Study 3). A 40-60% split was chosen to allow for a larger sample size to confirm the factor structure in the confirmatory factor analysis in Study 3 (Dowdy et al., 2011).

### ***Measures***

**Harmony and Convivial Collectivism Scale.** The HCCS initially consisted of 31 items (See Table 2 in Supplemental Material for the initial 31 items used in Study 2). Although the Pilot study utilized a 5-point Likert-scale 1 (*strongly disagree*) to 5 (*strongly agree*), we decided to switch to a 7-point Likert-scale 1 (*strongly disagree*) to 7 (*strongly agree*) to capture a greater range of experience in participant answers.

**Demographics.** Participants self-reported their age, ethnicity, gender, annual family income, and subjective socioeconomic status.

## **Results**

***Preliminary Analysis.*** As a first step, SPSS (Macintosh, Version 27.0) software was used to obtain descriptive statistics for the measured items, including means, standard deviations, correlations, skewness and kurtosis. To test assumptions of univariate normality, visual inspection of histograms, *q-q* plots, box plots, and bivariate scatterplots were also conducted. No items demonstrated bimodal distributions or severe non-normality. Skewness and kurtosis values were also within the normal range (skewness < 2, kurtosis < 7; Fabrigar et al., 1999). To account for minor non-normality among variables, maximum likelihood estimation with robust standard errors (MLR) was used in subsequent analyses (EFA in Study 2 and CFA in Study 3). The MLR method is robust to violations of normality.

***Exploratory Factor Analysis.*** SPSS (Macintosh, Version 27.0) software was used and maximum likelihood estimation with robust standard errors (MLR) was used for the EFA in this study, while IBM AMOS was used for the model fit of the EFA in Study 2 and the CFA in Study 3. At all steps, multiple model solutions were examined to ensure the best fit was adopted, statistically and theoretically. To increase interpretability, solutions were rotated using a promax oblique rotation. The oblique rotation is recommended when factors are likely to be correlated, which is



often the case with psychological constructs (Fabriger et al. ,1999; Worthington & Whittaker, 2006).

A constellation of fit criteria was used to determine model fit and the most appropriate number of factors. These included: Bartlett's test of sphericity (Bartlett, 1950; Dziuban & Shirkey, 1974), Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy (Dziuban & Shirkey, 1974; Kaiser, 1970), Kaiser eigenvalues, Catell's scree plot, parallel analysis, the chi-square test of model fit, the root mean square of approximation (RMSEA), the comparative fit index (CFI), the standardized root-mean square residual (SRMR), and factor loadings. RMSEA (Stiger, 1990) is a measure of difference between the population and model-implied covariance matrices per degree of freedom. SRMR is a measure of the average of standardized fitted residuals (Hu & Bentler, 1998). The CFI compares a more restricted model with a null model in which all variables are assumed to be uncorrelated.

Bartlett's test of sphericity is one of the first indicators that a researcher should look at. It tests whether the observed correlation matrix is an identity matrix (Tobias & Carlson, 1969). If the results are significant, it indicates to the researchers that the data are not an identity matrix and therefore not appropriate for conducting the EFA. The KMO Measure of Sampling Adequacy shows whether latent factors may be present and EFA may be performed (Dziuban & Shirkey, 1974; Kaiser, 1970). Several papers (e.g., Dziuban & Shirkey, 1974; Howard, 2016; Kaiser, 1970) suggest a minimum KMO value of .60 should be obtained before performing the EFA.

According to Fabrigar, Wegner, MacCallum, & Strahuan (1999), RMSEA values of .05 or under indicate good model fit and RMSEA values of .05 - .08 indicate acceptable model fit. According to Hu and Bentler (1999), CFI values over .95 imply good model fit, whereas CFI

values in the .90 - .95 range imply acceptable fit. SRMR values under .05 imply good model fit, values between .05 - .08 imply acceptable fit, and values between .08 - .10 imply marginal fit (Browne & Chuddek, 1993). The chi-square test was given relatively less attention because this test tends to be susceptible to distortion with large sample sizes and retaining models with significant chi-square values is acceptable and common practice (Fabrigar et al., 1999; West, Finch, & Curran, 1995).

To determine the number of factors, eigenvalues of 1.0 or greater were sought out. In the visual representation of this, values above the elbow (representing eigenvalues greater than 1.0) were sought out in scree plots. In parallel analysis, the point at which the plot of eigenvalues and the scree plot intersect was identified to determine the best number of factors.

Firstly, the data was analyzed to determine if any violations of statistical assumptions had occurred. Bartlett's test of sphericity was significant ( $\chi^2(465) = 3299.65, p < .001$ ), while the KMO Measure of Sampling Adequacy was .882, which is generally considered as "meritorious" or "good" (Howard, 2016). Both results suggest that an EFA could be conducted on the initial 31 item scale.

Based on 1,000 random data sets, parallel analysis indicated an initial 3-factor solution with an eigenvalue of 1.56, which is above the eigenvalue of 1.31 for the fourth factor, but below the eigenvalue of 2.08 for the 3<sup>rd</sup> factor. Analysis of the scree plot showed that after the 4<sup>th</sup> factor, eigenvalues tend to taper off less noticeably. The Kaiser criterion indicated 7 factors with eigenvalues greater than 1.0. However, the Kaiser criterion is widely criticized (Costello & Osborne, 2005; Howard, 2016; Kline, 2011) and known for yielding inaccurate results, as it tends to overestimate the number of factors. We therefore investigated the 4-factor solution first. The fourth factor contained 3 items, all of which cross-loaded for less than .10 with one other

factor. After removing these 3 items, the parallel analysis still showed a 3-factor model. As the sample size is less than 250 respondents, but higher than 200, we followed Stevens' (2002) recommendation and only took into account factor loadings of .35 or larger to indicate that an item loads on a particular factor. We also looked at cross-loadings. Any cross-loadings with less than a .10 difference between loadings were eliminated. Fifteen items were removed due to these criteria, improper conceptual alignment, and in order to obtain a good model-fit. This resulted in a 13-item EFA with a three-factor solution. The following fit indices for the 3-factor, 13-item solution were obtained:  $\chi^2(60, N = 220) = 101.54, p < .001, RMSEA = .05 [.03; .07], CFI = .97,$  and SRMR = .06, indicating an acceptable model fit. Factor loadings for each factor are presented in Table 3 in Supplemental Materials. The 3-factor solution accounted for 66.45% of the total variance in the items before rotation.

The authors named the three factors: a) Convivial-Recognition, b) Convivial-Display and c) Harmony. The Harmony factor measures *Harmony Collectivism*, whereas Convivial-Recognition and Convivial-Display empirically emerged as two distinct components or subscales of *Convivial Collectivism*. Convivial-Recognition is more inward or intrinsically focused and has to do with the way individuals want to appear to others. In other words, being seen as friendly, likeable, and someone others like to be around. Convivial-Display is more outwardly oriented and has to do with making sure that others feel one's warmth and affection. The fact that there are two Convivial-related scales and only one Harmony-related scale was not anticipated from a theoretical perspective, but rather emerged empirically. This is not uncommon in the practice of scale development. For example, the heavily used and popular Behavioral Inhibition and Behavioral Activation Scale (BIS/BAS) (Carver & White, 1994) was theoretically expected to be a two-factor scale (1. BIS, 2. BAS), however, a four-factor scale emerged empirically. Whereas

BIS is a single factor, BAS is made of three distinct factors or subscales: BAS Drive, BAS Fun Seeking, and BAS Reward Responsiveness.

Factor correlations indicated significant positive relationships between Convivial-Recognition and Convivial-Display ( $r = .23, p < .01$ ), and between Convivial-Recognition and Harmony ( $r = .28, p < .001$ ), but a negative relationship between Harmony and Convivial-Display ( $r = -.24, p < .001$ ).

**Reliability.** Internal consistency was within adequate range, with Cronbach's alpha at .89 for Convivial-Recognition, .77 for Harmony, and .745 for Convivial-Display. Cronbach's alpha for the overall 13 items was .78. Recently several methodologists (Hayes & Coutts, 2020) have called into question the use of Cronbach's Alpha for reliability purposes. We therefore also calculated *McDonald's*  $\omega$  using Hayes and Coutts macro for SPSS (Hayes & Coutts, 2020). *McDonald's*  $\omega$  was .90 for Convivial-Recognition, .76 for Convivial-Display, and .79 for Harmony. *McDonald's*  $\omega$  for the entire scale was .78. All these figures further support an acceptable level of reliability.

## Study 2 Discussion

Study 2 used an exploratory technique (exploratory factor analysis/EFA) on the 31- items that were created for the HCCS scale in Study 1. Eighteen items were removed, and a final 13-item 3-factor solution was chosen. One factor (Harmony) measures *Harmony Collectivism*, and two factors (Convivial-Recognition and Convivial-Display) emerged as empirically differentiated aspects of *Convivial Collectivism* in the current data set. Convivial-Recognition is more inward or intrinsically focused and has to do with the way individuals want to appear to others (i.e., being seen as friendly, likeable, and someone others like to be around) and Convivial-Display is more outwardly oriented and has to do with making sure that others feel

one's warmth and affection. Although two factors or subscales of *Convivial Collectivism* were not theoretically motivated, these factors emerged empirically, a not uncommon occurrence in scale-development studies (e.g., BISBAS Scale, Carver & White, 1994).

### **Study 3: Confirmatory Factor Analysis, Reliability, & Validity**

Study 3 used confirmatory techniques (confirmatory factor analysis/CFA) to confirm the factor structure of the newly developed Harmony and Convivial Collectivism Scales from Studies 1 and 2 (i.e., the 13-item, 3-factor solution).

#### **Methodology**

##### ***Participants***

Participants were the same as described in Study 2. The total sample (N = 550) was randomly split into two groups (40/60% split) for Studies 1 and 2. As recommended by Dowdy and colleagues (2011), the larger portion of the sample (i.e., 60%) was used for the current CFA analysis. The sample size for Study 3 was N = 330. Since participants were randomly selected for inclusion in Study 2 and Study 3, sample demographics are comparable across Studies 2 and 3 (See Table 2, in Supplementary Material).

##### ***Measures***

The measures that were included in Study 2 were also included in Study 3. Participants answered an array of demographic questions and the newly developed Harmony and Convivial Collectivism Scale items. To test convergent and discriminant validity, participants also filled out several scales not discussed in the previous study. These included the following:

**Berkeley Expressivity Questionnaire (BEQ)** (Gross & John, 1997). The 16-item Emotional Expressivity Questionnaire was used to measure participant's emotional expressivity. The scale consists of three separate subscales: the Positive Emotionality Facet (e.g., "Whenever I

feel positive emotions, people can easily see exactly what I am feeling” and “I laugh out loud when someone tells me a joke that I think is funny”), the Negative Emotionality Facet (e.g., “It is difficult for me to hide my fear” and “Whenever I feel negative emotions, people can easily see exactly what I am feeling”) and the Impulse Strength Facet (e.g., I sometimes cry during sad movies” and “My body reacts very strongly to emotional situations”). Participants reported their level of agreement with different statements regarding their emotional expression on a 7-point Likert scale ranging from 1, *strongly disagree* to 7, *strongly agree*.

Emotional expressivity, and especially positive emotional expressivity, is characteristic of *Convivial Collectivism*. Moreover, the BEQ has been used to validate past scales relevant to *Convivial Collectivism* (i.e. The Simpatia Scale, Acevedo, 2020). Therefore, we predicted that *Convivial Collectivism* would be correlated with the BEQ subscales and specifically the BEQ Positive Emotionality Facet. Conversely, *Harmony Collectivism* is characterized by more reservedness in relationships and less emotional expression, thus we expected negative correlations with the BEQ. We did not have specific predictions distinguishing between the Convivial-display and Convivial-Recognition factors because these emerged empirically and were not initially predicted from our theoretical model.

**Emotional Regulation Questionnaire (ERQ)** (Gross & John, 2003). The 10-item Emotional Regulations Questionnaire was used to measure participant’s emotion regulation tendencies. The scale consists of two subscales: The Cognitive Reappraisal Facet (e.g., “When I want to feel more positive emotion (such as joy or amusement), I change what I’m thinking about” and “(When I want to feel less negative emotion (such as sadness or anger), I change what I’m thinking about”) and the Expressive Suppression Facet (e.g., “When I am feeling positive emotions, I am careful not to express them” and “I control my emotions by not

expressing them”). Participants reported their level of agreement with different statements regarding their emotional regulation style on a 7-point Likert scale ranging from 1, *strongly disagree* to 7, *strongly agree*.

Our predictions for the Expressive Suppression facet of the Emotional Regulation Questionnaire were similar to our predictions for the BEQ scale. Since emotional expression is characteristic of *Convivial Collectivism* and emotional suppression is characteristic of *Harmony Collectivism*, we predicted that *Harmony Collectivism* would be positively correlated to the suppression facet of the ERQ and that the *Convivial Collectivism* would be negatively correlated with suppression. We had less strong predictions about the Cognitive Reappraisal facet of the ERQ, but suspected that since positive emotions are more important in Convivial cultures, we would see a stronger correlation between cognitive reappraisal and *Convivial Collectivism*. Harmony cultures, on the other hand, are more comfortable with the experience of negative emotions or a simultaneous combination of positive and negative emotions (e.g., Williams & Aaker, 2002) so we predicted that there would be a smaller or non-significant correlation Harmony Collectivism and the Cognitive Reappraisal facet of the ERQ. We did not have specific predictions distinguishing between the Convivial-display and Convivial-Recognition factors because these emerged empirically and were not initially predicted from our theoretical model.

**Big Five Inventory-10 (BFI-10)** (Rammstedt & John 2007). The short 10-item version of the Big Five Personality Inventory was used to measure personality. Five personality types were measured with two questions each: Extraversion (e.g., “is reserved,” reverse coded), Agreeableness (e.g., “is generally trusting”), Conscientiousness (e.g., “does a thorough job”), Neuroticism (e.g., “is relaxed, handles stress well” reverse coded), and Openness to Experience (e.g., “has an active imagination”).

We predicted that Convivial Collectivism would be correlated to both extraversion and agreeableness. We did not expect neuroticism, conscientiousness, or openness to experience to be related to either blend of collectivism.

**Individualism.** We used 12 items adapted from past scales to measure individualism. Sample items included “It is important for me to be able to say ‘no’ directly, rather than risk being misunderstood” and “It is important for me to often do my own things.” Participants reported their level of agreement with different statements on a 7-point Likert scale ranging from 1, *strongly disagree* to 7, *strongly agree*. Because the individualism items were compiled from different scales and wording was slightly adapted to the current research, all items are presented in Table 4 in Supplemental Materials.

We predicted that the *Harmony Collectivism* would be negatively correlated with the individualism items but suspected that there might be a positive correlation between *Convivial Collectivism* and individualism because both types of cultures prioritize emotional expression, and especially positive emotional expression, in the creation and maintenance of relationships.

## **Results**

### ***Preliminary Analysis***

The same procedures outlined in Study 3 were used to test for normality and outliers in Study 3. There was no evidence of large deviations from normality or outliers.

### ***Confirmatory Factor Analysis***

We used the IBM AMOS (v20, 2011) software to perform the CFA in order to confirm the 13 item, 3 factor structure of the Convivial and Harmony Collectivism Scale identified by EFA in the previous studies. To determine the model fit, we used AMOS’s default estimation procedure - Maximum Likelihood Estimation. In addition to the chi-square test of model fit,



RMSEA, CFI, and SRMR, we also looked at other absolute fit index: Jöreskog–Sörbom Goodness of Fit Index (GFI; Jöreskog & Sörbom, 1982) that “estimates the proportion of covariances in the sample data matrix explained by the model” (Kline,2011). GFI is less than or equal to 1. A value of 1 indicates a perfect fit, while a value of  $>.9$  indicates a good fit (Kline, 2011). We also looked at the Bentler-Bonett (Bentler & Bonett, 1980) Normed Fit Index ( NFI), a relative fit index that looks at the difference between the baseline (or null) model and the hypothesized model. A value of less than  $.9$  indicates a poor model fit, with values exceeding  $.95$  showing a good model fit.

Before running the solution in CFA, we fixed the highest loading variable to a factor loading of 1 for each latent factor, as it would be the closest conceptual relationship to the latent variable of interest.

The fit indices for the 3-factor solution and were as follows:  $\chi^2(60, N = 330) = 114.48, p < .001$ , RMSEA =  $.05$  [ $.03; .06$ ], CFI =  $.97$ , GF1 =  $.951$ , NFI =  $.95$ , and SRMR =  $.05$ , demonstrating an overall good model fit. Figure 1 presents the CFA model. The standardized factor loadings were all greater than  $.48$ . The software doesn’t display whether the loadings are significant in the main output, as it only displays factor loadings. However, all loadings were statistically significant.

**Reliability.** As with the previous study, internal consistency reliability was evaluated using Cronbach’s alphas. For Convivial-Recognition, the internal consistency was excellent ( $\alpha = .91$ ). Good reliability was found for the Harmony factor ( $\alpha = .82$ ), while for Convivial-Display, the internal consistency was adequate ( $\alpha = .72$ ). The overall internal consistency reliability was good ( $\alpha = .80$ ). This would be explained by the inter-item correlations, as they ranged from  $-.18$  to  $.70$ . Strong correlations between individual items and the overall scale were found, as item-

total correlations ranged from .27 to .72. *McDonald's*  $\omega$  was calculated using Hayes and Coutts macro for SPSS (Hayes & Coutts, 2020). *McDonald's*  $\omega$  was .91 for Convivial-Recognition, .75 for Convivial-Display, and .82 for Harmony. *McDonald's*  $\omega$  for the entire scale was .79. All these figures further support an acceptable level of reliability. Item mean scores varied from 2.92 to 5.45 ( $SD = 1.17 - 1.69$ ), while the overall item mean was 4.32 ( $SD = 0.74$ ).

## **Validity**

***Face Validity.*** When considering the validity of the new HCCS, we first considered the face validity of the subscales and consulted once again with cultural experts. Face validity for the Harmony factor was high; items focus on the characteristics that define the construct theoretically. For example, the item “*It is better for me to be reserved with close others so as not to potentially upset the relationship*” assesses the practice of guarded precaution in interpersonal relationships which is central to the theoretical conception of *Harmony Collectivism*. Although we did not theoretically predict the two subscales for *Convivial Collectivism*, both the Convivial-Recognition and Convivial-Display factors pose questions that are in line with different aspects of our theoretical conception of *Convivial Collectivism*. For example, the items “*It is important for me to be seen as likable by people close to me*” (Convivial-Recognition) and “*It is important for me to show affection towards close others*” (Convivial-Display) relate to the cultural scripts of creating and maintaining relationships through warmth and sociability which is practiced in *Convivial Collectivism*.

***Convergent and Divergent Validity.*** To determine convergent and divergent validity we used the subscales of the Berkeley Expressivity Questionnaire (i.e., BEQ\_Negative, BEQ\_Positive, and BEQ\_Impulse) and the subscales of the Emotional Regulation Questionnaire (i.e., ERQ\_Rappraisal and ERQ\_Suppress) as well as the Big Five Inventory subscales (i.e.,

Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness). Results are presented in Table 5.

Convivial-Display was significantly and positively associated with the Negative Emotionality Facet from the Berkeley Expressivity Questionnaire (BEQ) ( $r = .26, p < .01$ ), while Harmony was significantly and negatively correlated with the same scale ( $r = -.24, p < .01$ ). Convivial-Recognition was not associated with the Negative Emotionality Facet in a significant way ( $p = .10$ ). We did find significant correlations between all three factors and the Positive Emotionality Facet from the BEQ. Harmony was negatively correlated ( $r = -.21, p < .01$ ), while both Convivial-Recognition ( $r = .32, p < .01$ ), and Convivial-Display ( $r = .11, p < .05$ ) showed a positive correlation with the Positive Emotionality Facet (albeit weak for Convivial-Display). The Impulse Strength Facet from the BEQ was only significantly associated with Convivial-Display ( $r = .34, p < .01$ ).

The Reappraisal facet from the Emotional Regulation Questionnaire (ERQ) was weakly significantly associated with Convivial Recognition ( $r = .17, p < .01$ ), and Convivial Display ( $r = .12, p < .05$ ), but was not significantly associated with Harmony ( $p = .63$ ). However, the Emotional Suppression facet was significantly and positively associated with Harmony ( $r = .48, p < .01$ ), negatively with Convivial-Display ( $r = -.25, p < .01$ ), and was not significantly associated with Convivial-Recognition ( $p = .46$ ).

In terms of the Big Five personality factors, Extraversion was negatively significantly associated with Harmony ( $r = -.25, p < .01$ ), but not Convivial-Recognition ( $p = .99$ ) or Convivial- Display ( $p = .35$ ). Agreeableness was positively associated with Convivial-Display ( $r = .15, p < .05$ ), but was not significantly associated with Harmony ( $p = .39$ ) or Convivial-

Recognition ( $p = .08$ ). Conscientiousness was only associated with Convivial- Recognition ( $r = .22, p < .01$ ), but not with Convivial-Display ( $p = .76$ ) or Harmony ( $p = .74$ ).

For discriminant validity, we saw that neither Neuroticism, nor Openness to Experience were significantly associated with any of the three factors. All of these findings were in line with our predictions based on theoretical distinctions between *Convivial* and *Harmony Collectivism*.

### **Cultural Analysis**

The HCCS scale was designed to distinguish between two shades of collectivism more common in East Asian vs. Latin-American cultures: *Harmony Collectivism* vs. *Convivial Collectivism*. Although the current study did not employ participants from different countries (i.e., an East Asian and Latin American country), we did use a diverse sample of American undergraduates which included Asian-American, Latino-American, and European-American students. In order to examine mean cultural differences across factors, we used the *entire data set* for the cultural analyses portion of Study 3 but only included Asian-American, Latino-American, and European-American participants in subsequent analyses ( $N = 460$ ). Other cultural groups were both too small to analyze, and we didn't have solid theoretical predictions since the scale was initially developed to distinguish between the type of collectivisms present in East Asian vs. Latin American cultures. Based on the theoretical conceptualization of the scale, we predicted that Asian-Americans would score higher than Latino-Americans on *Harmony Collectivism* and Latino-Americans would score higher than Asian-Americans on *Convivial Collectivism* (Convivial-Recognition and Convivial-Display subscales). Although not central to the current study, we predicted that European-Americans would score the lowest on Harmony items but that they would score higher on Convivial compared to Harmony, and maybe similarly to Latino participants on these items, because Individualistic cultures (such as the culture of white,

educated, and largely middle-class Americans) also places emphasis on emotional expression, warmth, and the showing of affection in relationships.

Analysis of Variance (ANOVA) was used to look at the effects of culture/ethnicity on the three-factors of the newly developed HCCS scale. Somewhat contrary to our predictions, cultural/ethnic differences were less pronounced than anticipated. There was a main effect of ethnicity on the Harmony factor ( $F(2,454) = 6.48, p < .01$ ). As predicted, Asian-Americans scored significantly ( $p < .01$ ) higher ( $M = 3.34, SD = .09$ ) than both Latino ( $M = 2.91, SD = .11$ ) and white participants ( $M = 2.85, SD = .14$ ) on the Harmony factor. No significant differences in means were found between Latino and white participants ( $p = .99$ ). There was also a main effect of ethnicity on the Convivial-Recognition factor ( $F(2,454) = 6.10, p < .01$ ), but not in the predicted direction. Asian-American participants had a significantly higher mean ( $M = 4.79, SD = .07, p < .01$ ) than Latino participants ( $M = 4.51, SD = .10$ ), but not white participants ( $M = 4.52, SD = .12, p = .15$ ), and there were no significant differences between white participants and Latino participants ( $p = .99$ ). Finally, there were no main effects of ethnicity on the Convivial-Display factor ( $F(2,454) = 1.26, p = .29$ ). See Table 6 in Supplemental Material.

Given that our sample consisted of all university students who were living and going to school in the United States, and individuals acculturate to the culture they are living in, even emotionally (e.g., De Leersnyder et. al., 2011), we decided to also include place of birth (i.e., US-born vs. Non US-born) into our analyses to see if being born in the United States vs. in another country would change the patterns of responding on the scales (See Table 7 in Supplemental Material). For the Harmony factor, there was no significant main effect of place of birth ( $F(1, 454) = .12, p = .90$ ), and no significant interaction between place of birth and ethnicity ( $F(2,454, p = .84)$ ). For the Convivial-Recognition factor, there was a significant main

effect of place of birth ( $F(1,454) = 13.42, p < .001$ ) such that those born in the US had significantly ( $p < .001$ ) higher means ( $M = 4.77, SD = .06$ ) than those not born in the US ( $M = 4.36, SD = .10$ ). There was also a significant interaction between place of birth and ethnicity ( $F(2,454) = 7.86, p < .001$ ). Asian-Americans born in the United States ( $M = 5.12, SD = .11$ ) scored significantly higher ( $p < .001$ ) on the Convivial-Recognition factor than Asian-Americans not born in the United States ( $M = 4.47, SD = .11$ ). Similarly, whites born in the United States ( $M = 4.92, SD = .08$ ) scored higher than whites born elsewhere ( $M = 4.11, SD = .22$ ). Interestingly, albeit not significant, the trend for Latino was in the opposite direction; Latinos born outside of the United States scored higher on Convivial-Recognition than Latinos born within the states. For the Convivial-Display factor, place of birth ( $F(1,454) = 2.2, p = .14$ ) and the interaction between place of birth and ethnicity were both non-significant ( $F(2,454) = 1.00, p = .37$ ). It is possible that fewer significant differences emerged for the Convivial-Display factor because of the reduced number of items comprising this subscale (i.e., 3).

### **Study 3 Discussion**

Study 3 used confirmatory techniques (confirmatory factor analysis/CFA) to confirm the 13-item 3-factor solution from Study 2 for the new Convivial and Harmony Collectivism Scale (HCCS). The internal reliability both across the entire scale and for each of the three factors (Harmony, Convivial-Recognition, and Convivial-Display) were also examined and found to be good. Face validity was considered both by the authors, and in conjunction with other culture experts, and also deemed to be good. Convergent validity and divergent validity of the HCCS was examined using four additional scales: the Berkeley Expressivity Questionnaire, the Emotional Regulation Questionnaire, the Brief Version of the Big Five Personality Inventory, and a 12-item Individualism scale. All results were in line with ex-ante predictions.

Cultural analyses were also conducted to determine mean cultural differences on the three scale factors between the three ethnic/cultural groups most relevant to current theorizing: Latino-Americans, Asian-Americans and European-Americans. Overall, cultural/ethnic differences were as expected for the Harmony factor such that our Asian-American participants scored higher than both the Latino and white participants. Results were a bit more muddled with our Convivial factors. Although we expected that Latinos would score highest on the Convivial factors, they actually scored the lowest on Convivial-Recognition and middle of the road on Convivial-Display. There are several possibilities for these findings. Firstly, our sample consisted entirely of participants living in the United States, so they were more or less acculturated to American culture (we did not collect data to determine how long participants had been living in this country). Furthermore, all participants were college students attending a prestigious university, and previous research has found that university contexts, and especially highly selective schools like the one in the current study, place emphasis on values that tend to contradict more traditionally collectivistic values (i.e., Stephens et. al., 2012). It is also possible that this is an example, often problematic in cross-cultural research, of participants using different comparisons when deciding on their answers (i.e., the Reference Group Effect) (Heine et. al., 2002). In other words, Latino participants may be scoring lower on Collectivism items because they are comparing themselves to other Latinos and the “gold standards” of *Convivial Collectivism*. This is an effect that has been found in previous empirical work. Latino participants, for example, have been found to score lower on measures of agreeableness than North American participants, even though the “Big Five” personality trait of agreeableness can be conceptualized as the motivation to maintain positive relations with others which is central to *Convivial Collectivism* (e.g., McCrae, 2001; Schmitt et al., 2007). Another possibility is that because this study was

carried out at an American University, Latino participants were trying to report answers that are more in line with American cultural scripts, or even that they felt more “American” in this context as a result of cultural frame-switching (e.g., Hong et. al., 1997; Ramírez-Esparz et. al., 2006). This pattern has been found in past research also; for example, in a set of studies aptly titled: “*Paradox Lost, Unraveling the Puzzle of Simpatia,*” Ramírez-Esparza and colleagues (2008) found that Latinos show more agreeable, or simpatia-related, behaviors in social interactions when they are speaking in Spanish compared to when they are speaking in English. Finally, a large portion of the sampling for these studies was conducted during the COVID-19 global pandemic and a flurry of research is showing that these extreme conditions are affecting individual psychological processes on many levels not yet fully understood. It is imperative that future research validates the HCCS using larger data sets and samples from *Convivial* and *Harmony* countries (i.e., Japan and Mexico) and potentially makes comparison targets clearer in the instructions to participants. It would also be helpful if future studies collect data from non-student populations as university contexts have been shown to contradict more traditionally collectivistic values (i.e., Stephens et. al., 2012).

## **General Discussion**

Much previous culture research has used broad cultural dimensions, and specifically the distinction between individualism-collectivism or independence-interdependence, to compare the cultures of different countries. While this approach has been extremely fruitful and has shed light on many important cultural differences, researchers are currently moving towards discovering more nuanced distinctions between cultures. For example, Campos and Kim (2007) have suggested that in order to capture finer grained distinctions of culture, researchers need to simultaneously examine the effects of individualism-collectivism or independence-



interdependence alongside other primary psychological constructs which have been shown to vary across cultures (e.g., emotional processes, power distance, relational mobility). When multiple primary psychological constructs are concurrently taken into account, different unique blends of cultures are better explained. Using this approach, Campos and Kim (2017) distinguished between *Harmony Collectivism*, more common in East-Asian cultures, and *Convivial Collectivism*, more common in Latin-American cultures. While both of these cultures are collectivistic and characterized by an emphasis on the group over the individual, they branch out in terms of the specific ways that relationships are created and maintained, especially when it comes to the preferred ways of expressing emotions and affection. Based on this theoretical framework, the current set of studies created the three subscale (i.e., Harmony, Convivial-Recognition, and Convivial-Display) and 13-item Harmony and Convivial Collectivism Scale to be used in measurement of these two theoretically distinct flavors of collectivism. Previous research has, to a large extent, studied the cultures of Latin America and East Asia independently of each other, but our hope is that the HCCS will provide a necessary tool allowing for greater integration of these disparate lines of research.

EFA and CFA model fit, reliability, and validity indices for the HCCS scales were all good. However, cultural mean differences for the Convivial subscales (Convivial-Recognition and Convivial-Display) were not entirely in line with theorizing. A possibility for these findings is the participants samples used in the current set of studies. We used an entirely American sample and compared culture/ethnic mean differences across Latino-Americans, Asian-Americans, and European-Americans, so it is imperative that future research validate the new scale on international samples from different countries and during more normal (post-pandemic) times. It would also be advisable that future studies collect data from non-university samples

since college settings have been shown to change cultural values, shifting individuals from collectivistic toward more individualistic values (i.e., Stephens et al., 2012.) We sampled only a select and elite group of the population so our sample may not necessarily be representative of other LatinX and Asian groups. The gender distribution was also somewhat problematic in our studies as a majority of participants identified as “female” (i.e., 80.2% in Study 1 and 79.2% in Study 2). Although, these percentages were similar across racial/ethnic groups (see Table 8 in Supplemental Material), it would be advisable for future data collection to include more participants identifying as “male” since self-identified gender has been shown to influence the implications of seeing oneself as independent-interdependent (i.e., Moscovitch, 2005).

Using larger and more international datasets would also allow for multiple-group analyses to ensure factor structure across cultures. Measurement invariance is an important aspect that needs to be considered in future research since the current paper could not conduct a multigroup analysis as even the three most popular ethnic groups did not exceed the recommended minimum sample size of 200 respondents per group (Koh & Zumbo, 2008; Meade & Lautenschlager, 2004). Generally, samples of 100 respondents per group do not provide enough robustness in the results to justify conducting the measurement invariance analysis (Koh & Zumbo, 2008).

Finally, future research should explore predictive validity of the newly developed scale. Recent research has found that culture-person fit (i.e. being interdependent or independent in culturally prescribed and preferred ways) is associated with positive well-being outcomes (Moza et. al., *under review*). Thus, it would be interesting for future studies to see if Latino individuals who have a closer fit to *Convivial Collectivism* and East Asian participants who have a closer fit to *Harmony Collectivism* would experience better outcomes.

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**Supplemental Material**

**Table 1.** Participant Demographics Across Studies 2 and 3

Variable	Study 2 (n = 220)	Study 3 (n = 330)
Age		
Range	17-55	17-60
Mean	20.65	20.30
Standard Deviation	3.62	3.11
Gender identity		
Female	80.2%	79.2%
Male	19.4%	19.5%
Other	0.5%	1.3%
Race and ethnicity		
Asian, Asian American	30.3%	29.1%
Black or African American	4.6%	3.4%
Hispanic or Latinx-American	26.6%	24.4%
Native American	0.5%	0%
Native Pacific Islander	0.9%	0.3%
White or Caucasian-American	28.9%	31.9%
Indian	1.8%	3.1%
Other	6%	7.2%
Annual family income		
Below \$15,000	6.1%	3.9%
\$15,001 - \$25,000	9.9%	10%
\$25,001 - \$35,000	12.7%	11.9%
\$35,001 - \$50,000	9.4%	10.9%
\$50,001 - \$75,000	15.5%	13.8%
\$75,001 - \$100,000	11.7%	16.4%
Over \$100,000	34.7%	33.1%
Socioeconomic status		
Lower class	13.8%	18.4%
Lower middle class	20.3%	20.3%
Solidly middle class	33.2%	32.1%
Upper middle class	27.2%	26.7%
Upper class	5.5%	2.5%



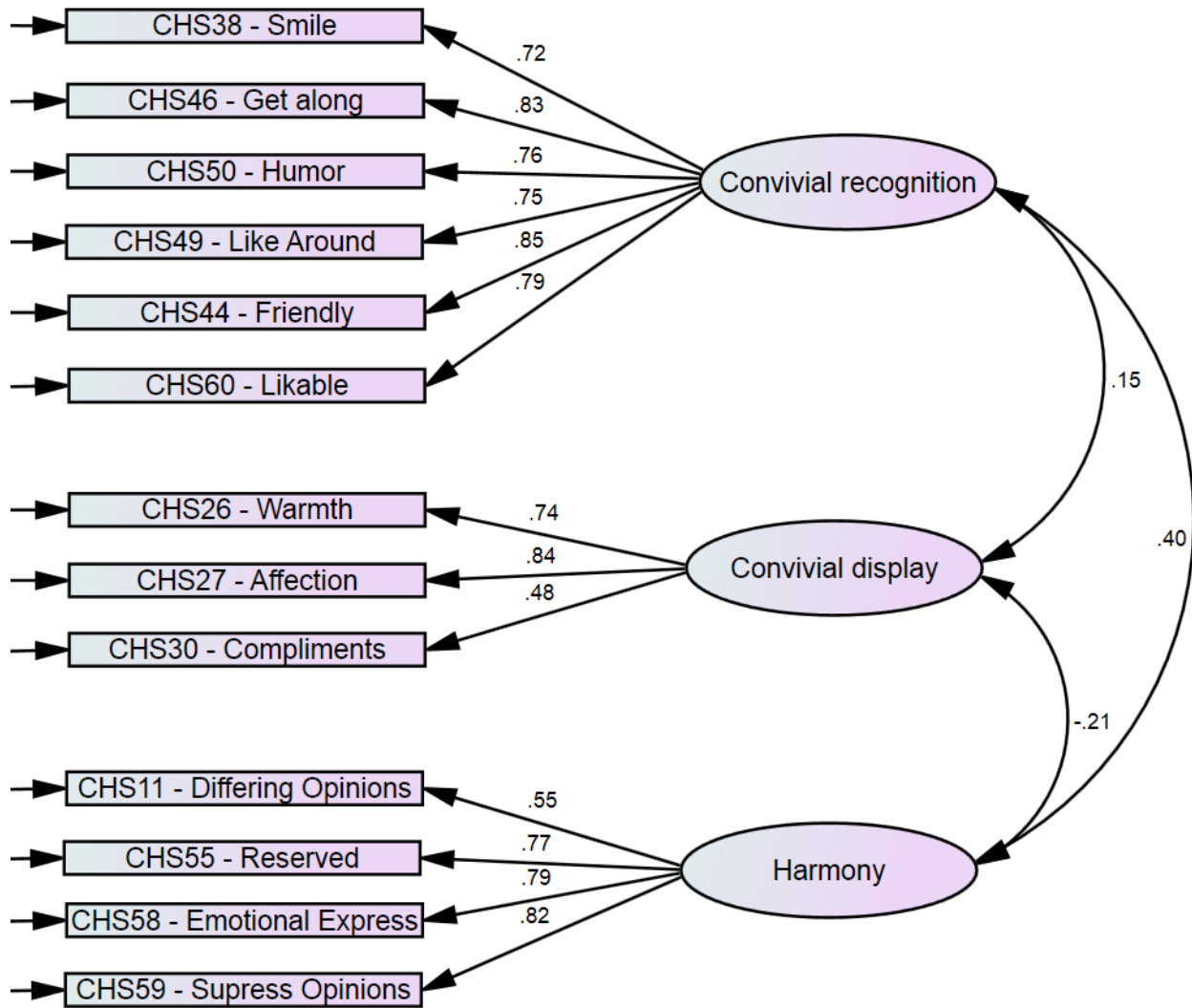
**Table 2.** 31 Scale Items Included in the EFA in Study 2

<b>Item number</b>	<b>Item text</b>
CHS4	It is important for me to bring positivity (positive disposition, good mood, etc.) to social situations with close others
CHS6	It is important for me to be seen as a generous and giving person by people close to me
CHS9	It is important for me to stay with close others if they need me, even when I am not happy with them
CHS10	It is important for me to avoid an argument, even when I strongly disagree with close others
CHS11	Differing opinions can be divisive to a group so it is better to keep them to myself
CHS16	I worry about making mistakes and upsetting close others
CHS17	Active participation in routine family celebrations (birthdays, baptisms, etc.) is important for relationships
CHS26	It is important for me to convey warmth through physical contact (hand holding, hugging, etc.) in interactions with close others
CHS27	It is important for me to show affection towards close others
CHS28	It is important for me to show gratitude towards close others
CHS29	It is important for me to show warmth towards close others
CHS30	It is important for me to give compliments to people I am close with
CHS32	It is important for me to be seen as calm by people I am close with
CHS35	Frequent social gatherings are important for maintaining relationships
CHS36	It is important for me to be cautious in my close relationships
CHS38	It is important for me to smile when interacting with close others
CHS43	I don't like to rattle my group's way of doing things
CHS44	It is important for me to be seen as friendly by close others
CHS45	I respect people who are modest about themselves
CHS49	It is important to me to be someone people like to be around
CHS50	When spending time with close others, laughter and humor are important so everyone has a good time
CHS51	I am careful not to offend others through the candid expression of my opinions
CHS52	Usually I try to keep emotions to myself
CHS54	I feel the need to be very careful and vigilant with close others
CHS55	It is better for me to be reserved with close others so as not to potentially upset the relationship
CHS57	It is important for me to tolerate problems I might have with close others, even if these problems bother me
CHS58	I try not to express personal emotions in my relationships so as not to offend close others
CHS59	It is important for me to suppress personal opinions in order to not damage my relationships with close others
CHS60	It is important for me to be seen as likable by people close to me
CHS61	It is important for me to be seen as easy going by people close to me
CHS46	It is important for me to get along well with close others

**Table 3.** Pattern Matrix of Promax Rotation 3-Factor Solution

<b>Item</b>	<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>M</b>	<b>SD</b>	<b><i>h</i><sup>2</sup></b>
CHS38 - It is important for me to smile when interacting with close others	<b>.56</b>	.14	.17	4.31	1.33	0.44
CHS46 - It is important for me to get along well with close others	<b>.80</b>	.01	.03	4.83	1.08	0.62
CHS50 - When spending time with close others, laughter and humor are important so everyone has a good time	<b>.68</b>	.02	.04	4.88	1.13	0.46
CHS49 - It is important to me to be someone people like to be around	<b>.82</b>	-.04	-.05	4.61	1.34	0.63
CHS44 - It is important for me to be seen as friendly by close others	<b>.94</b>	-.11	-.07	4.65	1.27	0.69
CHS60 - It is important for me to be seen as likable by people close to me	<b>.84</b>	-.02	-.04	4.53	1.29	0.64
CHS11 - Differing opinions can be divisive to a group so it is better to keep them to myself	-.13	<b>.47</b>	-.03	3.31	1.57	0.23
CHS55 - It is better for me to be reserved with close others so as not to potentially upset the relationship	.00	<b>.80</b>	-.01	2.82	1.32	0.54
CHS58 - I try not to express personal emotions in my relationships so as not to offend close others	.04	<b>.78</b>	-.10	2.91	1.46	0.58
CHS59 - It is important for me to suppress personal opinions in order to not damage my relationships with close others	.06	<b>.73</b>	.09	2.90	1.44	0.47
CHS26 - It is important for me to convey warmth through physical contact (hand holding, hugging, etc.) in interactions with close others	-.04	-.08	<b>.68</b>	4.82	1.76	0.43
CHS27 - It is important for me to show affection towards close others	.00	-.10	<b>.78</b>	5.55	1.39	0.49
CHS30 - It is important for me to give compliments to people I am close with	.06	.12	<b>.68</b>	5.35	1.33	.37

Pattern coefficient factor loadings > .35 are in bold type. F = factor; F1 = Convivial recognition; F2 = Harmony; F3 = Convivial display; *h*<sup>2</sup> = communality estimate.



**Figure 1.** Standardized estimates demonstrating the 3-factor solution for the *Harmony and Convivial Collectivism Scale (HCCS)*. All factor correlations are significant at  $p = .05$ .

**Table 4.** Individualism Items in Study 3 (Validity Analysis)

<b>Item number</b>	<b>Item text</b>
CHS13	It is important for me to be able to say 'no' directly, rather than risk being misunderstood
CHS14	It is important for me to often do my own things
CHS18	My personal identity, independent of close others, is very important to me
CHS19	I am comfortable being signaled out in a group for praise or rewards
CHS20	It is important for me to be seen as unique and different from other people, including close others
CHS21	It is important for me to develop my own personal style
CHS22	It is important for me to follow my own ideas rather than to follow those suggested by close others
CHS23	If I make my own choices I will be happier than If I listen to those suggested by close others
CHS24	I do not trust close others to make important decisions for me
CHS31	It is important for me to express my honest opinions to close others
CHS37	It is important for me to be true to myself in close relationships
CHS39	If I feel someone who is close to me is not treating me right, it is important for me to confront them and let them know

**Table 5. Correlations for Validity Analyses**

	Convivial Recognition	Convivial Display	Harmony
BEQ_Negative	-.09	.27**	-.24**
BEQ_Positive	.11*	.32**	-.21**
BEQ_Impulse	.10	.34**	-.02
ERQ_Reappraisal	.17**	.12*	.03
ERQ_Suppress	.04	-.25**	.48**
Extraversion	-.01	.08	-.23**
Agreeableness	.13	.15*	-.06
Conscientious	.22**	.02	-.03
Neuroticism	.08	-.03	.05
Openness	.06	.05	-.14
Individualism	.24**	.23**	-.19**

\*\*  $p < .01$ ; \*  $p < .05$

**Table 6.** Factor Means by Ethnicity

Ethnicity	Convivial Recognition		Harmony		Convivial Display	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<b>Asian</b>	<b>4.81</b>	<b>1.11</b>	<b>3.34</b>	<b>1.19</b>	<b>5.08</b>	<b>1.23</b>
Black	4.60	.85	3.20	1.09	5.22	1.55
<b>Hispanic</b>	<b>4.33</b>	<b>.91</b>	<b>2.88</b>	<b>1.13</b>	<b>5.17</b>	<b>1.20</b>
Native American	5.33		2.75		6.67	
Pacific Islander	4.28	1.64	3.17	1.63	5.00	1.45
<b>White</b>	<b>4.83</b>	<b>.96</b>	<b>2.86</b>	<b>1.11</b>	<b>5.31</b>	<b>1.06</b>
Indian	5.02	1.12	2.46	1.12	5.10	1.18
Other	4.71	1.12	2.69	1.10	5.69	.81

**Table 7.** Factor Means by US-Born vs. Non-US-Born

	Convivial Recognition		Harmony		Convivial Display	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Not born in the US	4.38	.95	3.13	1.10	5.28	1.04
Born in the US	4.83	1.04	2.96	1.18	5.20	1.22

**Table 8.** Ethnicity by gender for Studies 2 and 3

Ethnicity	N	Gender		
		Male	Female	Other
<b>Asian</b>	<b>159</b>	<b>19.5%</b>	<b>79.2%</b>	<b>1.3%</b>
Black	21	28.6%	66.7%	4.8%
<b>Hispanic</b>	<b>136</b>	<b>19.1%</b>	<b>80.1%</b>	<b>0.7%</b>
Native American	1	0%	100%	0%
Native Pacific Islander	3	33.3%	66.7%	0%
<b>White</b>	<b>165</b>	<b>18.8%</b>	<b>80.6%</b>	<b>0.6%</b>
Indian	14	28.6%	71.4%	0%
Other (please specify)	36	13.9%	86.1%	0%

**Table 9.** Factor Means by Ethnicity and US-Born vs. Non US-Born

Factors	Not born in the US			Born in the US		
	Asian; Asian- American	Hispanic; Latinx- American	White; Caucasian- American	Asian; Asian- American	Hispanic; Latinx- American	White; Caucasian- American
<b>N</b>	75	35	19	84	101	146
<b>Convivial Recognition</b>	4.47	4.48	4.11	5.12	4.27	4.92
<b>Convivial Display</b>	5.17	5.51	5.28	5.00	5.05	5.31
<b>Harmony</b>	3.32	2.97	2.84	3.37	2.85	2.86