Published in final edited form as:

AIDS Educ Prev. 2016 February ; 28(1): 11–25. doi:10.1521/aeap.2016.28.1.11.

Assessing collectivism in Latino, Asian/Pacific Islander and African American men who have sex with men: A psychometric evaluation

John A. Saucedo, Ph.D., M.Sc.¹, Jay P. Paul, Ph.D.¹, Steven E. Gregorich, Ph.D.¹, and Kyung-Hee Choi, Ph.D., M.P.H.¹

¹Center for AIDS Prevention Studies, University of California, San Francisco, San Francisco, California

Abstract

The study of collectivism has implications for HIV prevention research, especially in studies that use a social networking or community mobilization approach. However, research on collectivism in race/ethnicity and sexual minority groups is limited. We psychometrically evaluated a brief version of the Individualism-Collectivism Interpersonal Assessment Inventory (ICIAI) in a chain-referral sample of 400 Latino, 393 Asian/Pacific Islander, and 403 African American men who have sex with men (MSM). Data were collected via a one-time survey on demographics, the ICIAI, acculturation, and ethnicity identity. We conducted a multiple groups confirmatory factor analysis to assess for measurement invariance across the three groups of MSM, as well as tested its reliability and validity. The ICIAI evidenced good psychometric properties and was invariant across all groups. We highlight implications for how this measure of collectivism can be applied toward the study of HIV prevention and in lesbian, gay, bisexual and transgender communities.

Keywords

Individualism-collectivism; race/ethnicity; African-American; Asian/Pacific Islander; Latinos; men who have sex with men

INTRODUCTION

HIV Prevention and Collectivism

The role of social networks and community mobilization in curbing new infections has garnered much attention in HIV prevention research (Amirkhanian, 2014; Johnson et al., 2010; Kaufman, Cornish, Zimmerman, Johnson, 2014; Young et al., 2014). Network-based and community-level studies look at the shared value system, identity, and/or behaviors among a group of people with common features (Trapence et al., 2012). Therefore, the cross-cultural variable of collectivism has implications for understanding the role of networks and communities in HIV prevention. Collectivism has a long history in cross-

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Corresponding Author: John A. Saucedo, Ph.D., M.Sc., Center for AIDS Prevention Studies, 550 16th Street, UCSF Mailcode 0886, 3rd Floor, San Francisco, California 94158, Phone: 415-476-6045, john.saucedo@ucsf.edu.

cultural research (Brewer, & Chen, 2007; Hui & Triandis, 1985; Shulruf et al., 2011; Triandis, 2001), but has not been prominent in research involving health in general, HIV, or the lesbian, gay, bisexual or transgender (LGBT) community (Mao et al., 2002; Mao et al., 2004, Lui et al., 2011).

The concept of collectivism is the prioritization of harmonious relationships with significant members of one's social world, and may be of importance to HIV prevention and LGBT communities, including men who have sex with men (MSM) (e.g., Mendès-Leite & de Zwart, 2000). The importance of being involved in the LGBT community has been recognized as significant both for sustaining/building the communities themselves and in their relationship to key health-related factors for individual LGBT persons (Kippax, 2012, Reed et al., 2013, Rhodes et al., 2014). Holding collectivist values is an important motivator of such community involvement and has implications on many levels (Batson et al., 2002).

Within the larger LGBT community, the assessment of collectivism could be used to inform stigma reduction strategies that empower community members to combat persistent LGBT-related stigma and discrimination (Heijnders & Van Der Meij, 2007; Zang et al., 2014). Collectivism could also help understand how social support processes promote the disclosure of a stigmatized identity such as living with HIV (Chaudoir & Fisher, 2010) or how an LGBT person of color forms bonds to the larger LGBT community (Schwartz et al., 2011). Alternatively, for LGBT people of color, collectivist values that prioritize one's ethnic heritage may feel at odds with a sense of allegiance to the LGBT community (Mao, McCormick & Van de Ven, 2002). Furthermore, the sense of a "gay community" and one's attachment to a larger LGBT-identified world may be changing to a more personal sense of community (Holt, 2011) given recent advancements in the civil rights of LGBT persons in the U.S. What remains critical is the defining of group values specific to a LGBT community that feels ethnically inclusive (George et al., 2012; Martinez et al., 2011). Despite the potential benefits and implications for HIV prevention, the measurement of collectivism in the LGBT community has yet to be studied.

A Brief Background on Collectivism Research

Collectivism is described as prioritizing harmonious relationships with significant members of one's social world, where actions or decisions are constrained or determined by a sense of obligation/duty to others, and where one's view of self is embedded within social relationships (Oyserman et al., 2002; Matsumoto et al., 1997). Historically, collectivism and individualism were viewed as polar opposites of one dimension, and particular ethnic groups (e.g., Asian/Pacific Islanders) were viewed as prioritizing collectivistic values over individualistic values (Brewer & Chen, 2007). It is now recognized that individualism and collectivism are two distinct and fluid dimensions that fluctuate depending on the social context (Oyserman, 2006). Over the years, numerous self-report measures of collectivism have been developed and used in a variety of settings (Hui, 1988; Shulruf et al., 2011), and overtime critiques of these scales' performance and ability to explain cultural differences have been featured in seminar papers (Brewer, & Chen, 2007; Oyserman, Coon, & Kimmelmeier, 2002; Voronov & Singer, 2002). Thus, assessment of collectivism remains a key area research.

Assessment of Collectivism

Assessing the values, beliefs or behaviors of a network or community of individuals requires sound measurement. A seminal review and meta-analysis (Oyserman, Coon, & Kemmelmeier, 2002) examining studies of collectivism (and individualism) since 1980 found: no one gold standard approach to the assessment of collectivism, a lack of replication studies using the same scale, poor reliability, and/or lack of rigorous psychometric evaluations of many scales. Some scales fail to distinguish between a “plausible consequence” of collectivism, such as “relying on others for guidance” (pg. 42, Oyserman et al., 2002) and “values” of collectivism that change under different circumstances (e.g., friends vs. family). Collectivism scales should make clear whether they capture a person’s orientation to a group (a *relational* view collectivism) or a shared featured of a group individuals (i.e., gay identified African American men; *group* collectivism). Also, such scales should assess collectivism separately, versus collectivism as the polar opposite of individualism. There is limited data on such measures within communities of color and the LBGT community.

In this study, the Individualism-Collectivism Interpersonal Assessment Inventory items were adapted to make a brief version (ICIAI-BV). The ICIAI-BV is defined as a relational, value-based collectivist scale. We document for the first time collectivism in a large and diverse sample of Latino, Asian/Pacific Islander and African American MSM. We used the measurement recommendations from Oyserman et al. (2002) and Brewer et al. (2007) and assessed measurement invariance using a multiple group confirmatory factor analysis (CFA) and the reliability and validity of the ICIAI-BV.

METHODS

Data for this study were collected as part of the Ethnic Minority Men’s Health Study, which investigated predictors of sexual risk for HIV in Latino, Asian/Pacific Islander (API), and African American men who have sex with men (MSM) in Los Angeles County, California (see Choi et al., 2013). Participants were recruited from May 2008 through October 2009 via a chain-referral sampling methodology. Eligibility criteria were: 1) self-identification as African-American, API, or Latino, 2) age 18 years or more, 3) residing in Los Angeles County, 4) reporting sex with at least one man in the prior six months, 5) no prior participation in the formative phases of the study, and 6) being able to complete the survey in English. The Committee for Human Research of the University of California, San Francisco and the institutional review board of AIDS Project Los Angeles approved the study. After completing the informed consent process, participants completed a one-time, one-hour audio computer-assisted self-interview (ACASI) survey.

MEASURES

Certain items were modified to ensure all measures were culturally relevant for our target populations. The modification were informed by six focus groups ($n = 50$), 35 individual interviews, and evaluated internally. Following this formative qualitative work, a draft of all items was pretested using interviewer-administered cognitive interviews in 16 MSM (five African Americans, six Latinos, and five APIs); a validated method for pretesting items

(Cannell, Oksenberg, Kalton, Bischooping, & Fowler, 1989). Feedback from this group informed new adaptations to the scale items. Finally, the full set of items was tested via on 150 participants. Afterward, initial psychometric properties were evaluated and final revisions were made.

Demographics and Proxy Measures of Acculturation—Data were collected on age, sexual orientation, education, and HIV serostatus. Proxy measures of acculturation for Latinos and APIs included ratings of their ability to speak and understand the language of one's country of ancestry, and the nativity of both the participant and their parents. Language speaking and comprehension proxy variables were each assessed by a single item (response options: 1 = “not at all”, 2 = “a little”, 3 = “pretty well”, and 4= “extremely well”). Nativity of parents was coded as either 0- both parents having been born in the U.S. or 1- at least one parent having been born in another country. Only eight African Americans were born outside the U.S. Thus, their data was not used in analysis of acculturation measures.

Development of the ICIAI-BV—The original ICIAI was built upon the work of Triandis and colleagues (Hui, & Triandis, 1985; Triandis, 1989), but was unique in its ability to assess *relational* collectivism in social context (i.e., how a person values collectivism in four distinct groups; Matsumoto, 1996). The original ICIAI (Matsumoto, Weissman, Preston, Brown, & Kupperbusch, 1997) asked participants to rate the importance (e.g., very important) of collectivism *values* (e.g., adjusting my own plans or wishes to fit in with theirs [i.e., family members]), and then asked how frequently they actually engaged in specific collectivist *behavior* (e.g., all the time). Each value and behavior section corresponded to four social groups: family members, close friends, colleagues and strangers. The original ICIAI had four subscales: 1) Social Harmony, 2) Social Identification, 3) Self-Control, and 4) Social Sharing of Recognition.

Adaptation of the ICIAI-BV—In our brief version, the total number of items was reduced from 25 to 19; similar reductions have been performed by others (e.g., Mao, Van de Ven & McCormick, 2004). Participants only rated the values section, and only for two of the four social groups (Family Members and Close Friends) as they were most appropriate to the study aims. To reduce response burden for participants, a uniform response option set was utilized throughout the survey (1 = “Not very important,” 2 = “Somewhat important,” 3 = “Moderately important,” and 4 = “Very important”). Summing up responses and dividing by the number of corresponding items created total scale and subscale scores. Items from the original subscale “Social Sharing of Recognition” were not included as they referred to a sense of sharing in another's achievements, successes and failures. Items that appeared less specific than other items (e.g., “Maintain a stable environment with them”) or appeared to be less meaningful to our audience (e.g., “Accept awards, benefits, or recognition based only on age or position rather than merit from them”) were cut. In this end, the pool of items was set at 10 for Family Members and 10 for Close Friends.

Based upon initial cognitive interviewing, some items were reworded. For example, “Compromise your wishes to act in unison with them” became “Adjusting my own plans or wishes to fit in with theirs.” See Table 2 for a list of altered wordings. The final brief version assessed six hypothesized collectivism constructs, three in the context of Family Members

and three in the context of Close Friends. Within each context, the subscales were named 1) maintaining *social harmony through action* (five items), 2) *respecting group norms* (three items) and 3) and *self-sacrifice for the group* (two items). The ICIAI-BV assesses collectivism at the individual level. High scores on the ICIAI do not indicate lower levels of individualism and provides no insight on the degree of individualism.

Ethnic Identity—To measure ethnic identity, the sense of belonging and importance of one's ethnic group, four items were selected from the 20-item Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992). Four non-behavioral aspects of ethnic identity were selected because we expected that being a gay or bisexual man might impact the level of social involvement with one's ethnic community, despite a strong internal ethnic identity. The items were "I have a sense of belonging to my own ethnic group"; "I have a lot of pride in my ethnic group and its accomplishments"; "I feel a strong attachment towards my own ethnic group" and "I have spent time trying to find out more about my own ethnic group, such as its history, traditions and customs." The wording of two items was modified following the formative work described above. All items used the same response option set: 1 = "strongly disagree"; 2 = "somewhat disagree"; 3 = "somewhat agree"; 4 = "strongly agree." Internal consistency reliability for the four items was good ($\alpha = .85$), as were all inter-item correlations (r s range from .53 to .73). Summing all items responses and dividing by the number of scaled items created total scores.

STATISTICAL ANALYSIS

We fit a multiple-group CFA of the ICIAI-BV to test the hypothesized measurement model, as well as to assess measurement invariance across three groups: Latino, API and African American MSM. Specific hypotheses related to measurement invariance included whether the ICIAI-BV measures constructs have the same meaning across groups (metric invariance) and whether observed ICIAI-BV scores can be directly and meaningfully compared across groups (scalar invariance). We further assessed ICIAI-BV known-groups validity through its association to proxy acculturation measures (e.g., participants born outside the U.S. would have higher ICIAI-BV than U.S.-born participants). All analyses were conducted with Mplus Version 6.12 software (Muthén & Muthén, 2011) and SPSS 21 statistical software (IBM Corp., 2012).

Confirmatory Factor Analysis—We performed a multiple group CFA to test measurement invariance hypotheses (Gregorich, 2006), using robust maximum likelihood (Curran, West, & Finch, 1996; Satorra, 1990). The model included 20 ICIAI-VB items identifying 6 latent constructs (or factors; Figure 1). The six factors were maintaining *social harmony through action* for Family Members (#1) and Close Friends (#2); *respecting group norms* for Family Members(3#) and Close Friends (#4); and *self-sacrifice* for Family Members (#5) and Close Friends (#6; see Figure 1). In addition, the model included one latent and two observed covariates: the latent variable covariate was the measure of ethnic identity and the two observed-level covariates were the proxies of acculturation items. Measurement invariance hypotheses were tested across the three racial/ethnic groups of MSM. We estimated the fit of three models using the Muthén & Muthén (2011) multiple groups CFA framework: 1) configural invariance (i.e., least restrictive, equivalent item

clustering within factors across groups); 2) metric invariance (i.e., equivalence of corresponding item factor loadings across groups); 3) and scalar invariance (i.e., equivalence of corresponding factor loadings and item intercepts across groups).

The six factors were regressed on the ethnic identity variable and observed-level proxy measures of acculturation. Adequacy of model fit was based on a combination strategy of absolute and incremental fit indices suggested by Hu and Bentler (1999) and Kline (2011), which included: adjusted chi-square statistic (χ^2), root mean square error of approximation (RMSEA) .006 and the standardized root mean square residual .008 (SRMR; See Figure 1).

Reliability, Validity, and Descriptive Statistics—Cronbach's alpha was used to estimate total scale and subscale internal-consistency reliability. Pearson-product moment correlations estimated associations between the ICIAI scales. Proxy measures of acculturation were used in the assessment of known-groups validity. That is, group comparisons were made based on place of birth (U.S. or foreign-born) and parental place of birth (U.S., or foreign-born). For descriptive purposes, ICIAI Family Member (ICIAI-FAM) and Close Friends scales (ICIAI-FRD) scores are reported by race/ethnicity, as well as nativity of Latinos and APIs.

RESULTS

Sample Demographics

A description of the total sample can be found in Table 1. Notably, APIs had the youngest average age (33 years), followed by Latinos (35 years), and African Americans (41 years), and 39% of Latinos and 57% of APIs reported being born outside the U.S.

Confirmatory Factor Analysis

The model fit was essentially unchanged across successive tests of model fit, moving from the least restrictive to the most restrictive model. In the configural invariance model (i.e., equivalent factor structure), the model fit was good (adjusted $\chi^2 = 1925.98$, $df = 933$, $p = < .01$, RMSEA = .052, 90% CI [.048–.055], SRMR = .061). In the metric invariance model (i.e., equivalent factor loadings), the model fit was also good (adjusted $\chi^2 = 1962.69$, $df = 967$, $p = < .01$, RMSEA = .051, 90% CI [.048–.054], SRMR = .063). Lastly, the model fit indices for the scalar invariance model (i.e., additionally imposing equivalence of corresponding item intercepts across groups) was also good (Adjusted $\chi^2 = 2021.14$, $df = 1001$, $p = < .01$, RMSEA = .051, 90% CI [.047–.054], SRMR = .063) and is the focus of the presented results. All factor loadings significantly differed from zero (See Table 2). Lastly, three statistically significant intercept differences emerged between Latino and API MSM, but not between Latino and African Americans (Table 2). Compared to Latino MSM, API MSM had lower intercepts (i.e., expected mean value when acculturation and ethnic identity variables are equal to zero) on the *social harmony through action* factor for family members ($b = -.39$, $SE = .15$) and close friends ($b = -.48$, $SE = .16$), as well as the *respecting group norms* for close friends ($b = -1.35$, $SE = .14$).

Each of the six factors was also regressed onto the the 4-item ethnic identity latent variable covariate. In each group of MSM, higher levels of ethnic identity were associated with greater agreement on factor for *respecting group norms* of family members and close friends (Table 2 lists all estimates). For API MSM only, higher levels of ethnic identity was associated with greater agreement on the factor of *social harmony through action* for family members. Lastly, among African American MSM only, less ethnic identity was associated with greater agreement on the factor for *self-sacrificing* for close friends (See Table 2 for estimates). No differences emerged in the strength of ethnic identity (i.e., latent factor mean) between Latino and API MSM ($b = .04, p = .45$) or between Latino and African American MSM ($b = .03, p = .53$).

All six factors were regressed on the observed-level proxy measures of acculturation. For Latino MSM, higher ratings of the ability speak the language of their ancestry (e.g., Spanish) was associated with greater agreement on the factor for *social harmony through action* for family members ($b = .20, SE = .09, p < .05$) and *self-sacrificing* for family members ($b = .32, SE = .10, p < .01$), and close friends ($b = .23, SE = .10, p < .05$). For API MSM, higher ratings on the language ability measure was associated with greater agreement on the factor for *self-sacrificing* for family members ($b = .21, SE = .09, p < .05$), and close friends ($b = .26, SE = .09, p < .01$), and having at least one parent born outside the U.S. was associated with greater agreement on the factor for *social harmony through action* for family members ($b = .17, SE = .08, p < .05$).

Known-Groups Validity

Latino and API MSM with at least one parent born outside the U.S. had higher observed scores on the ICIAI-FAM ($t = 3.15, p < .05$) and ICIAI-FRD ($t = 2.46, p < .05$) scales, compared to participants with both parents born in the U.S. When evaluated by each individual subscale, Latino and API MSM who themselves were born outside the U.S. (versus those born in the U.S.) had higher scores. The pattern that “less acculturated” participants had higher ICIAI subscale scores held across comparisons of participants with parents born outside the U.S., versus participants with parents born in the U.S.

Correlations

The observed-level correlation between the 10-item ICIAI-FAM and 10-item ICIAI-FRD scale scores was .63 ($p < .01$). Intercorrelations between each subscale within the ICIAI-FAM and ICIAI-FRD scale are presented in Table 5.

Reliability

Internal consistency reliability for the total sample of 1196 participants on the ICIAI-FAM ($n = 10$ items) and ICIAI-FRD ($n = 10$ items) scales was high ($\alpha = .91$ and $.90$; see Table 3). Reliability estimates for each of the three subscales examined separately was good (alphas ranged from .80 to .88; see Table 4). The reliability estimates for the ICIAI-FAM and ICIAI-FRD total scale when explored separately by each racial/ethnic group were also good: 5-item subscale of maintaining *social harmony through action* (alphas ranged from .87 to .89), 3-item subscale of *respecting the values and norms of the group* (alphas ranged from .

78 to .87), and 2-item subscale of *self-sacrifice on behalf of group needs* (alphas ranged from .77 to .82).

Descriptive Statistics

At the observed level, all groups rated as moderately important (i) *maintaining social harmony through action*, (ii) *respecting the norms of family members*, and (iii) *self-sacrifice on behalf of the needs* of family members and close friends (mean rating scores were equivalent to a 3 on the scale from 1 to 4; See Table 3).

DISCUSSION

In this study, the brief version of the ICIAI demonstrated robust psychometric properties when tested in a large sample of Latino, API and African American MSM. The results showed a high level of collectivism in each group of MSM in the context of family and friends. All model fit indices were good; including the most restrictive test of measurement invariance (i.e., scalar model) which supported an equivalent six-factor scale structure, item factor loadings and item intercepts in all groups of MSM. Common intercepts at the item level (as observed in this study) suggest that there is no systematic bias unique to one particular race/ethnic group that would influence how they responded to each item in the ICIAI-BV. Furthermore, based upon support for the same underlying factor structure for each group of MSM, the ICIAI-BV may be utilized with other groups of MSM and persons of diverse racial and ethnic backgrounds.

We did find Latino MSM to have higher factor intercepts than API MSM on the factors of *social harmony through action* for family members and close friends and *respecting group norms* for close friends. Factor intercept (as opposed to item intercept) differences suggest that Latinos have greater collectivism on these three factors, compared to API MSM, and this is not due to a systematic response bias or unrelated factor. Thus, we have observed partial measurement invariance between Latino and API MSM. However, at the observed level, both Latino and API MSM averaged a rating of 3 (i.e., moderately important) on the social harmony and respecting group norms factors.

The most stable finding was that groups of MSM of color with a strong sense of ethnic identity gave high priority to respecting the values and norms set forth by family members and close friends. Further, Latino and API MSM with parents born outside the U.S., who themselves were born outside the U.S., and those with a strong ability to speak their language of ancestry, all had higher ICIAI-BV scores than their counterparts. Overall, these results show racial/ethnic minority MSM strongly agree with the idea that maintaining social harmony and respecting the norms and values of both family members and friends is important to them. As a measure, the ICIAI-BV works in accordance with recommendations from previous reviews.

Implications

The ICIAI-BV has many implications for understanding the role of family members and close friends in the lives of MSM and the larger LGBT community, in addition to the benefit of being brief and simple to administer. As previously described, the ICIAI-BV collectivism

scale could be used to assess its association to social self concepts, need for affiliation, and the role of unique communities that shape a person's self-identity (Oyserman et al., 2002). From a health perspective, we may be able to understand the role of collectivism in relation to acceptance of new health and prevention interventions. In some cases, collectivist values have been seen as problematic, exacerbating a sense of shame or stigma around certain stigmatized identities. Alternatively, collectivism could help shape how to best deliver health messages by focusing on the benefits to both the person and the larger community. As it relates to LGBT persons, reductions in homophobia within society at large may have shifted the role the community plays in their lives, which traditionally was viewed as a bastion of solidarity against negative attitudes and stereotypes. However, these dynamics are changing but still may be important. For example, Choi and colleagues (2013b) suggest (as have others) that a person whose network is diverse (socially and by sexual orientation status), may differ with respect to sexual risk-taking than persons with homogenous networks. Therefore, the role of valuing a person's social world has strong implications for understanding how social networks affect behavior and how best to engage the community in health prevention efforts, among others. In a study in the Northwestern United States, a community-level HIV prevention intervention led by MSM community members was both beneficial to reducing risk behaviors through community engagement and establishing safer sex norms (Kegeles, Hayes, & Coates, 1996). In an Australian study, socializing within a gay community had declined in recent years and was associated with sexual risk behaviors in conjunction with increased HIV testing (Zablotska, Holt, Prestage, 2012).

Additionally, an individual's level of collectivism could be a potential moderator if it alters the relationship between racial and psychosocial stressors and health outcomes of MSM living in urban areas. For example, one study of Chinese college students found greater levels of collectivism to be negatively associated with exposure to Internet pornography and sexually permissive behavior (Lo, So, & Zhang, 2010). If comparable effects exist across ethnic and gay/lesbian/bisexual groups, then perhaps collectivism could protect against risky sexual decisions. Collectivism may also buffer the effect of perceived stigma in the form of HIV contagion beliefs, or buffer against structural issues like policies denying equal rights, or community-level negative attitudes toward MSM by either allowing affirming MSM and their values, beliefs and identities, or by mitigating the long-term health consequences of stigma-related stress (Cahill, Valadez, & Ibarrola, 2013; Preston, 2004; Mays & Cochran, 2001; Hatzenbuehler, 2014). On the other hand, MSM who may have grown up in societies that devalue/stigmatize homosexuality or come from religious backgrounds where adherence to a specific moralistic perspective is necessary to be part of a tightly-knit congregation, could reinforce a greater sense of collectivism in the LGBT community, while in other contexts (e.g., among family members with religious values that stigmatize homosexuality) they may diminish. That is, collectivism in the LGBT community can be experienced under a variety of contexts.

More often than not, the design of HIV risk-reduction interventions fails to consider how their acceptability and efficacy may be impacted by collectivistic values/beliefs, and how any such understanding of collectivism might be used to enhance the power and reach of these interventions (Herbst et al., 2007). If collectivist values guide attitudes, norms and behaviors (Oyserman, Coon, & Kemmelmeier, 2002) but vary by context, then the

measurement of collectivism may aid in the understanding of how cultural values affect decision-making processes in the future. Unfortunately, a review of the extant research literature identified only one study that evaluated the direct effect of collectivism on behavior in MSM. In this study of Asian and White gay men living in Australia, the collectivist-oriented concern for social harmony among friends was associated with less sexual risk (Mao, Van de Ven, & McCormick, 2004). These scores were higher for White participants than Asian participants in the study, which the authors suggest may have been due to the largely White concentrated residential nature of the gay community in Sydney, Australia. This supports the idea of a context-dependent collectivism measure. One other study did not assess the effect of collectivism on a health behavior directly, but did find higher self-reported collectivism to be associated with lower levels of perceived public stigma against Chinese gay men, which in turn was associated with more consistent condom use (Liu et al., 2011).

Limitations

The study findings must be interpreted in light of some limitations. First, the sample was of young-to-middle-aged adult males living in Los Angeles County and therefore may not be generalizable to all ethnic minority MSM in the U.S. (e.g., youth or older age groups, or those living in non-metropolitan areas). Second, although we clustered participants into three groups, Latinos, APIs and African Americans, we acknowledge the existence of heterogeneity within each group. Lastly, research on the conceptual, operational and assessment of collectivism is vast, albeit nearly absent when it comes to the LGBT community, and there are alternative viewpoints to our conceptual framework and scale. However, the relational, value-based measure of collectivism performed well in this diverse and understudied sample, and more importantly fits well with recommendations from a variety of seminal work in cross-cultural research.

Conclusions

Overall, we found Latino, APIs and African American MSM to all have high agreement with collectivism values in the context of their family members and close friends. The ICIAI-BV was psychometrically sound and stable across all groups. This tool can be used to understand and advance social and health science as it relates to the larger LGBT community.

Acknowledgments

The first author completed the manuscript with postdoctoral support by grant T32 MH19105 from the National Institutes of Mental Health of the U.S. Public Health Service. This study was supported by the National Institute of Mental Health (grant R01MH069119).

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Figure 1. Multiple Group Confirmatory Factor Analysis of the ICIAI with Acculturation and Ethnic Identity Measures

SH = Social harmony through action VN = Respecting group norms SS = Self-sacrifice for the group. Lat = Latino MSM, AP = Asian/Pacific Islander MSM, AA = African American MSM. Ethnic ID = 4-item latent variable, higher scores represent greater self-concept affiliated with ethnic group membership. Scalar Model fit: Adjusted $\chi^2 = 2021.14$, $df = 1001$, $p < .01$, 90% RMSEA CI = [.04–.05], SRMR = .06, CFI = .89. * $p < .05$. Estimates are unstandardized coefficients and standard errors.

Table 1

Participant Characteristics

Demographics	Latinos <i>n</i> = 400	Asian/Pacific Islanders <i>n</i> = 393	African Americans <i>n</i> = 403
Mean Age (Years)	35	33	41
Education (%)			
< High school diploma	22	4	14
High school diploma or GED	27	13	37
Some college	29	23	35
College graduate	21	60	14
Self-reported Sexual Orientation (%)			
Gay	77	86	60
Bisexual	17	11	27
Other	6	3	13
Nativity (%)			
US-born	61	43	--
Foreign-born	39	57	--
HIV Serostatus (%)			
Positive	43	14	51
Negative/Unknown	57	86	49

Table 2

Multiple Group Confirmatory Factor Analysis

Factor Names/Intercepts/Covariates	Latinos <i>n</i> = 400 Loadings/ Coefficient (SE)	Asian/Pacific Islanders <i>n</i> = 393 Loadings/Coefficient (SE)	African Americans <i>n</i> = 403 Loadings/Coefficient (SE)
<i>‡</i> F1 - <i>Social harmony through action</i> (Fam)			
Always being polite and proper with them, no matter how I am feeling (Q1)	.. <i>‡</i>	.. <i>‡</i>	.. <i>‡</i>
Cooperating with them (Q2)	.92*	.92*	.92*
Avoiding doing anything that might embarrass them (Q3)	.98*	.98*	.98*
Avoiding all conflict in my relationships with them (Q4)	.78*	.78*	.78*
Following their norms and expectations (Q5)	1.02*	1.02*	1.02*
F2 - <i>Respecting group norms</i> (Fam)			
Being loyal to them (Q6)	--	--	--
Respecting and honoring their traditions and customs (Q7)	.91*	.91*	.91*
Showing respect for them (Q8)	.87*	.87*	.87*
F3 - <i>Self-sacrifice for the group</i> (Fam)			
Adjusting my own plans or wishes to fit in with theirs (Q9)	--	--	--
Sacrificing my goals for them (Q10)	1.09*	1.09*	1.09*
F4 - <i>Social harmony through action</i> (Fri) [†]			
Q11	--	--	--
Q12	.82*	.82*	.82*
Q13	.98*	.98*	.98*
Q14	1.02*	1.02*	1.02*
Q15	.99*	.99*	.99*
F5 - <i>Respecting group norms</i> (Fri) [†]			
Q16	--	--	--
Q17	.82*	.82*	.82*
Q18	.95*	.95*	.95*
F6 - <i>Self-sacrifice for the group</i> (Fri) [†]			
Q19	--	--	--
Q20	1.21*	1.21*	1.21*
F7 – Ethnic Identity			
Q1	--	--	--
Q2	1.01*	1.01*	1.01*
Q3	1.18*	1.18*	1.18*
Q4	1.16*	1.16*	1.16*
Intercepts			

Factor Names/Intercepts/Covariates	Latinos <i>n</i> = 400 Loadings/ Coefficient (SE)	Asian/Pacific Islanders <i>n</i> = 393 Loadings/Coefficient (SE)	African Americans <i>n</i> = 403 Loadings/Coefficient (SE)
F1 - <i>Social harmony through action</i> (Fam)	0 [‡]	-.39 (.15)*	-.11 (.12)
F2- <i>Respecting group norms</i> (Fam)	0	-.05 (.15)	.14 (.13)
F3 - <i>Self-sacrifice for the group</i> (Fam)	0	-.24 (.15)	.03 (.13)
F4 - <i>Social harmony through action</i> (Fri)	0	-.48 (.16)*	-.06 (.12)
F5 - <i>Respecting group norms</i> (Fri)	0	-.35 (.14)*	-.09 (.12)
F6 - <i>Self-sacrifice for the group</i> (Fri)	0	-.05 (.13)	.05 (.12)
Latent-level Covariate – Ethnic Identity (F7)			
F1 - <i>Social harmony through action</i> (Fam) on F7	.04 (.06)	.21 (.06)*	.04 (.06)
F2- <i>Respecting group norms</i> (Fam) on F7	.13 (.06)*	.37 (.06)*	.29(.07)*
F3 - <i>Self-sacrifice for the group</i> (Fam) on F7	-.07 (.06)	.01 (.06)	-.11 (.07)
F4 - <i>Social harmony through action</i> (Fri) on F7	-.09 (.06)	.10 (.07)	-.06 (.06)
F5 - <i>Respecting group norms</i> (Fri) on F7	.14 (.05)*	.22 (.06)*	.20 (.05)*
F6 - <i>Self-sacrifice for the group</i> (Fri) on F7	-.09 (.06)	-.02 (.06)	-.23 (.06)*

Note.

*
p < .05.

[‡]The first factor loading for each latent variable was fixed to unity as a model-identifying constraint.

[‡]Intercepts for Latinos was set to zero for estimation and because Latinos had the highest observed-level scores on the ICIAI Family and Friend scales.

[!]Q11 through Q20 are identical wordings as Q1 through Q10 except they refer to close friends. Item factor structure and factor loadings were set to be equivalent across all groups to assess measurement invariance. Model fit: Adjusted $\chi^2 = 2021.14$, df = 1001, p = <.01, 90% RMSEA CI = [.04–.05], SRMR = .06.

Table 3

Individualism-Collectivism Interpersonal Assessment Inventory (ICIAI) and Ethnic Identity Scale Descriptive Statistics

Total and Subscale Observed Scores	Latinos	Asian/Pacific Islanders	African Americans	Cronbach's Alpha Total Sample
	<i>n</i> = 400 Mean (SD)	<i>n</i> = 393 Mean (SD)	<i>n</i> = 403 Mean (SD)	<i>N</i> = 1196
ICIAI-FAM (<i>n</i> = 10 items)	3.05 (.72)	2.99 (.70)	2.90 (.77)	.91
- Maintaining social harmony through action (<i>n</i> = 5 items)	3.03 (.79)	2.91 (.78)	2.82 (.87)	.90
- Respecting group norms (<i>n</i> = 3 items)	3.29 (.79)	3.34 (.72)	3.27 (.85)	.85
- Self-sacrifice (<i>n</i> = 2 items)	2.75 (.95)	2.66 (.91)	2.57 (.97)	.80
ICIAI –FRD Total (<i>n</i> =10 items)	3.03 (.70)	2.88 (.65)	2.88 (.71)	.90
- Maintaining social harmony through action (<i>n</i> = 5 items)	2.99 (.81)	2.80 (.74)	2.83 (.81)	.88
- Respecting group norms (<i>n</i> = 3 items)	3.37 (.70)	3.26 (.70)	3.25 (.72)	.80
- Self-sacrifice (<i>n</i> = 2 items)	2.64 (.94)	2.52 (.89)	2.47 (.97)	.80
Ethnic Identity (<i>n</i> = 4 items)	3.01 (.79)	3.07 (.74)	3.05 (.84)	.85

Table 4

Item wordings in Individualism-Collectivism Interpersonal Assessment Inventory-Brief Version (ICIAI-BV)

ICIAI Item Wording
Q1. Exhibit “proper” manners and etiquette, regardless of how you really feel toward them *
<i>Always being polite and proper with them, no matter how I am feeling</i>
Q2. Cooperate with them
Q3. Save “face” for them
<i>Avoiding doing anything that might embarrass them</i>
Q4. Maintain harmonious relationships with them
<i>Avoiding all conflict in my relationships with them</i>
Q5. Follow norms established by them
<i>Following their norms and expectations</i>
Q6. Be loyal to them
Q7. Respect and honoring their traditions and customs
Q8. Respect them
<i>Showing respect for them</i>
Q9. Compromise your wishes to act in unison with them
<i>Adjusting my own plans or wishes to fit in with theirs</i>
Q10. Sacrifice your goals for them
<i>Sacrificing my goals for them</i>

Note. Italicized sentences are revised wordings in the ICIAI brief version.

* The word “them” refers to family members in questions 1 through 10, and close friends in questions 11 through 20.

Table 5

ICIAI-BV Subscale Intercorrelations

	Family SH	Family VN	Family SS	Friends SH	Friends VN	Friends SS
Family SH	--	.61	.68	.58	.57	.57
Family VN		--	.57	.46	.35	.31
Family SS			--	.52	.44	.42
Friends SH				--	.73	.39
Friends VN					--	.74
Friends SS						--

Notes. SH = Social harmony through action, VN = Respecting group norms, SS = Self-sacrifice. All correlations are statistically significant at the $p < .01$ level.