



Acculturation Profiles of Central Florida Puerto Ricans: Examining the Influence of Skin Color, Perceived Ethnic-Racial Discrimination, and Neighborhood Ethnic-Racial Composition

Journal of Cross-Cultural Psychology
2019, Vol. 50(4) 556–576
© The Author(s) 2019
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/0022022119835979
journals.sagepub.com/home/jcc



Cristalis Capielo Rosario¹, Hector Y. Adames²,
Nayeli Y. Chavez-Dueñas², and Roberto Renteria¹

Abstract

Evaluating sociocultural factors that may influence acculturation strategies rather than assuming homogeneity among different Latinx ethnic groups is important. A latent profile analysis with covariates was used to identify acculturation profiles in a sample of first-generation Central Florida Puerto Ricans ($N = 381$) along bidimensional behavioral, values, and ethnic identity indicators. We examined whether three contextual covariates including (a) perceived ethnic-racial discrimination, (b) percentage of White Americans, and (c) percentage of Puerto Ricans residing in each participants' zip code could help derive latent profile membership. Participants were categorized into three profiles. The first profile exhibited the highest levels of White American ethnic identity and high levels of Puerto Rican and White American cultural behaviors. The second profile described individuals with the lowest adherence to White American behaviors and ethnic identity. It also exhibited high attachment to Puerto Rican cultural values. The third profile exhibited high levels of Puerto Rican and White American cultural values and moderate levels of White American cultural behaviors and ethnic identity. An examination of covariates revealed that only perceived ethnic-racial discrimination had an influence on profile identification and membership, with likelihood of belonging to Profile 2 decreasing, and likelihood of belonging to Profile 1 increasing as perceived ethnic-racial discrimination increased. Perceived ethnic-racial discrimination did not influence the likelihood of Profile 3 membership. Results highlight the importance of contextualizing acculturation.

Keywords

bidimensional acculturation, Puerto Ricans, perceived ethnic-racial discrimination, neighborhood composition

¹Arizona State University, Tempe, AZ, USA

²The Chicago School of Professional Psychology, IL, USA

Corresponding Author:

Cristalis Capielo Rosario, Arizona State University, Counseling and Counseling Psychology Department, Payne Hall 446, P.O. Box 870811, Tempe, AZ 85287-0811, USA.

Email: cristalis.capielo@asu.edu

Introduction

Over five million Puerto Ricans reside on the mainland of the United States (U.S.) (Flores, 2017). Currently, the state of Florida is home to the largest U.S. mainland Puerto Rican community. According to the American Community Survey (U.S. Census Bureau, 2017), 1,128,225 million Puerto Ricans resided in the state of Florida in 2017, with a majority residing in the Central Florida area (46%). Soon after Hurricane María devastated the island on September 20, 2017, the Puerto Rican community in Florida increased by about 143,000 (Meléndez & Hinojosa, 2017). While multiple studies have focused on understanding the demographic and migration patterns of Florida Puerto Ricans (Aranda, 2009; Duany & Silver, 2010; Silver & Vélez, 2017), to our knowledge only two studies have specifically examined the acculturation of Florida Puerto Ricans (i.e., Capielo, Delgado-Romero, & Stewart, 2015; Capielo Rosario, Lance, Delgado-Romero, & Domenech Rodríguez, 2019). Unlike any other Latin American immigrant group, Puerto Ricans can migrate into the U.S. unrestricted, thus creating the conditions for a unique acculturation experience (Cortés et al., 2003). However, this distinction is persistently ignored by quantitative methodologies (e.g., regression) that assume homogeneity across U.S. Latinxs with respect to how acculturation manifests, thus limiting our understanding of Puerto Rican acculturation.

Acculturation, generally defined as an orthogonal bidimensional attachment to the host and heritage culture (e.g., Berry, 2003), continues to be an important area of inquiry in the social sciences. For instance, using a bidimensional framework, multiple scholars have sought to understand how acculturation strategies manifests among U.S. Latinxs¹ (Gonzales-Backen, Bámaca-Colbert, Noah, & Rivera, 2017; Meca et al., 2017; Schwartz & Zamboanga, 2008; Schwartz, Zamboanga, Rodriguez, & Wang, 2007). Scholars also posit that bidimensional acculturation takes place across multiple domains (e.g., behaviors, values, ethnic identity; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). However, most of the literature on bidimensional acculturation has only included one or two of these domains, with most focusing on cultural behaviors (Schwartz et al., 2010). Beyond the lack of attention to the heterogeneity of Latinxs, another limitation in Latinx acculturation research is the dearth of psychological literature that explicitly considers the role phenotypic traits (e.g., skin color) and perceived ethnic-racial discrimination play on the acculturation strategies U.S. Latinxs endorse (Adames & Chavez-Dueñas, 2017). In addition, while some scholars have proposed models that consider the context of reception (see Bourhis, Moïse, Perreault, & Senécal, 1997; Navas et al., 2005; Schwartz et al., 2010), these have not been systematically evaluated. Hence, to deepen our understanding of bidimensional acculturation, an approach that disaggregates Latinxs and examines the influence of race (e.g., different skin colors), perceived ethnic-racial discrimination, and demographic characteristic of settlement area (e.g., neighborhood ethnic-racial composition) on acculturation strategies across multiple acculturation domains simultaneously is necessary.

Guided by the *Multidimensionality of Acculturation Model* (MAM; Schwartz et al., 2010) and the *Centering Racial and Ethnic Identity for Latino/as* (C-REIL; Adames & Chavez-Dueñas, 2017) framework, this study seeks to advance acculturation literature by identifying bidimensional acculturation strategies of first-generation Puerto Ricans residing in Central Florida across three acculturation domains (i.e., behaviors, values, and ethnic identity). In concert with the MAM and the C-REIL models, the study also examines whether participants' skin color, perceived ethnic-racial discrimination, and neighborhood ethnic-racial composition could help identify acculturation strategies and influence profile membership using a latent profile analysis (LPA) with covariates approach. After describing the theoretical and empirical work framing our study, major findings are presented and discussed.

Brief Overview of Bidimensional Acculturation

Multiple bidimensional models have been proposed (see Rivera, 2010, for a review), but none have generated more scholarship than Berry's (1997). This bidimensional model states that acculturation negotiation results in four strategies: (a) *assimilation* (orientation to the host culture and rejection of the heritage culture), (b) *separation* (rejection of the host culture and retention of the heritage culture), (c) *integration* (orientation to both cultures), and (d) *marginalization* (rejection of both cultures). Among U.S. Latinxs, Berry's model has received partial support. For example, Y. Kim, Newhill, and López (2013) found that Mexican American youth were meaningfully categorized into five different acculturation strategy clusters (integrated, highly assimilated, moderately assimilated, marginalized, and separated). Also using a Mexican American youth sample, Gonzales-Backen et al. (2017) showed that participants could be divided into four cultural profiles along ethnic identity and behavioral acculturation indicators (strong-positive, strong-negative, Spanish dominant low, and English dominant low). In an aggregate Latinx sample, of which only 6% were Puerto Rican, Schwartz and Zamboanga (2008) identified six latent acculturation classes (American oriented bicultural, assimilated, full bicultural, partial bicultural, separated, and undifferentiated). More recently, Meca et al. (2017) identified Berry's three strategies (separation, biculturalism, and marginalization) in a sample of undocumented Latinxs.

While the aforementioned research offers important contributions, their use of only one (e.g., behaviors; Kim et al., 2013; Schwartz & Zamboanga, 2008) or two (behaviors and ethnic identity; Gonzales-Backen et al., 2017; Meca et al., 2017; behaviors and values; Schwartz et al., 2007) domains as indicators of acculturation strategies limits our understanding of this complex phenomena (Schwartz et al., 2010). For instance, while behaviors, values, and ethnic identity domains are interrelated, changes in one domain do not necessarily entail changes in the other. In a study by Unger, Ritt-Olson, Wagner, Soto, and Baezconde-Garbanati (2007) practicing Latinx cultural behaviors only accounted for 6% of the variance on endorsement of Latinx cultural values. Specific to Puerto Ricans, Capielo Rosario et al. (2019) showed that practicing Puerto Rican behaviors only accounted for 11% and 30% of the variance on endorsement of Puerto Rican values and ethnic identity, respectively. Thus, research that identifies distinct acculturation typologies concurrently across behaviors, values, and ethnic identity can advance our understanding of acculturation.

MAM and Puerto Rican Acculturation

According to the MAM (Schwartz et al., 2010), bidimensional acculturation occurs across behavioral, values, and ethnic identity domains. Given the distinct nature of these domains, the MAM also suggests that immigrant groups may adopt different acculturation strategies along these three acculturation domains (Schwartz et al., 2010). Therefore, though Berry's (1997) typologies are assumed to be the same across all domains (e.g., assimilation at the behavioral, values, or ethnic identity levels), the MAM model contends that immigrants may use one strategy at one level and use a different strategy at another level (Schwartz et al., 2010). The MAM also assumes that the cultural origin and premigration experiences of the immigrant group influence their acculturation (Schwartz et al., 2010). For Puerto Ricans, their cultural and premigration experiences are influenced by their long-standing association with the U.S. mainland. Unlike any other Latin American country, Puerto Rico, as a territory of the United States, has been subjected to the U.S. mainland's economy, laws, and culture since 1898 (Duany, 2003). This unique relationship with the United States is believed to have influenced the acculturation of Puerto Ricans (Cortés et al., 2003). To illustrate, English language education is mandatory in all public schools and about 30% of Puerto Ricans over the age of 18 identify as a Spanish and English bilingual speaker (Bilingual American, 2017). In a recent study that compared Florida

and island Puerto Ricans' adherence to Puerto Rican and White American culture, Capielo Rosario et al. (2019) found that while Florida Puerto Ricans had a stronger endorsement of Puerto Rican and White American values, the groups did not differ on their endorsement of Puerto Rican and White American cultural behaviors. Puerto Rico's association with the United States also influences Puerto Ricans' ethnic identity. For example, compared with other U.S. Latinxs, Puerto Ricans are significantly more likely to describe themselves as a "typical American" and self-identify as "an American" (López & Patten, 2015). While acculturation and ethnic identity—generally defined as the sense of belongingness an individual may experience toward an ethnic group (Phinney, 2003)—are conceptualized as distinct constructs, ethnic identity has been increasingly included as an indicator of Latinx acculturation (Meca et al., 2017; Schwartz et al., 2011; Wang, Schwartz, & Zamboanga, 2010).

Emerging data on Florida and island Puerto Rican acculturation provide support for the MAM. In Capielo Rosario et al. (2019), results showed that both Florida and island Puerto Rican acculturation was best measured using a bidimensional approach using behaviors, values, and ethnic identity domains. Although Capielo Rosario and colleagues (2019) provide initial support for the importance of investigating U.S. Latinx acculturation using a multidimensional foundation, it is still unknown which or to what level Berry's (1997) acculturation strategies emerge from a concurrent examination of behaviors, values, and ethnic identity indicators. Building on this literature and in accordance with Schwartz et al. (2010), the present study integrates bidimensional behaviors, values, and ethnic identity as indicators. Specifically, we examined whether distinct profiles of acculturation could be identified among first-generation Puerto Ricans that reflected either *parallel* (e.g., biculturalism across all domains) and/or *divergent* (e.g., separation in one domain and assimilation in another domain) approaches to acculturation.

Centering Racial and Ethnic Identity for Latinx Acculturation Research

Individual (e.g., phenotypic traits) and contextual (e.g., area of settlement) determinants are believed to influence if, and to what extent, acculturation strategies emerge (Schwartz et al., 2010). The C-REIL model (Adames & Chavez-Dueñas, 2017) provides a framework to examine these determinants of bidimensional acculturation among Puerto Ricans. The C-REIL was designed to (a) center both race and ethnicity as the main sources of most social inequities; (b) underscore how context determines which aspects of culture and identity become more salient; (c) recognize that Latinxs' view of themselves and others are a product of historical and contemporary oppression; (d) illustrate that members of the dominant group are socialized to engage in behaviors that reinforce and maintain the ethnic and racial hierarchy endemic to U.S. society (Adames & Chavez-Dueñas, 2017, p. 150). Therefore, we argue that the acculturation strategies of Florida Puerto Ricans are informed by their experiences of ethnic-racial discrimination, their skin color, and the ethnic-racial context of their settling neighborhood.

The Role of Perceived Ethnic-Racial Discrimination and Skin Color on Acculturation

Similar to other immigrants of color in the U.S., Puerto Ricans are likely to experience ethnic and racial based discrimination upon their arrival to the U.S. (Aranda, 2007). Possible responses to ethnic-racial discrimination include: (a) assimilating to the dominant group, or (b) increasing their ethnic self-awareness and strengthen their ethnic solidarity (Adames & Chavez-Dueñas, 2017; Rumbaut, 2008b). The latter is a process Rumbaut (2008b) calls *reactive ethnicity*. Thus, in accordance with both C-REIL and *reactive ethnicity* assumptions, when Puerto Ricans experience ethnic-racial discrimination in the U.S., they may (a) begin engaging in White American cultural behaviors and disconnect from Puerto Rican behaviors (assimilation) or (b)

begin adapting the behaviors of the host culture while still engaging in Puerto Rican behaviors (biculturalism) (Adames & Chavez-Dueñas, 2017; Rumbaut, 2008b). However, as argued by the MAM model, changes at a behavioral level may not be associated with similar changes in other acculturation domains (Schwartz et al., 2010). Thus, within the context of assimilating White American behaviors, as a response to ethnic-racial discrimination, endorsing Puerto Rican values and/or ethnic identity may be a way to preserve Puerto Rican culture (Aranda, 2007).

The link between perceived ethnic-racial discrimination and the acculturation strategies U.S. Latinx immigrants endorse has received some support. According to a recent national survey of U.S. Latinxs, about a third reported experiencing discrimination when applying for a job and/or when attempting to rent or buy a home (National Public Radio, Robert Wood Johnson Foundation, & Harvard T.H. Chan School of Public Health, 2017). Moreover, respondents reported that to avoid incidents of discrimination they would not seek medical care or call the police for assistance (National Public Radio, Robert Wood Johnson Foundation, & Harvard T.H. Chan School of Public Health, 2017). In other words, Latinxs who perceived ethnic-racial discrimination from members of the dominant culture and institutions were more likely to avoid interactions with those from the dominant culture to protect themselves from being discriminated against (e.g., using a separation strategy). This discrimination-acculturation association has also been documented among Puerto Ricans. For instance, Caragol-Barreto (2005) found that experiences of ethnic-racial discrimination were associated with a reconnection to Puerto Rican ethnic identity. However, although these data seem to support the influence that perceived ethnic-racial discrimination may have on U.S. Latinx immigrants (Adames & Chavez-Dueñas, 2017), within U.S. Latinx acculturation research, perceived ethnic-racial discrimination is predominately examined as an outcome of acculturation (e.g., Berry, Phinney, Sam, & Vedder, 2006; Cobb, Xie, Meca, & Schwartz, 2017; Torres, Driscoll, & Voell, 2012). Hence, acculturation literature could be further advanced by investigations that examine perceived ethnic-racial discrimination as a covariate of acculturation strategies.

However, not all U.S. Latinxs experience ethnic-racial discrimination in the same manner (Kulis, Marsiglia, & Nieri, 2009). Perceived ethnic-racial discrimination seems to vary among Latinxs according to their phenotype and skin color (Chavez-Dueñas, Adames, & Organista, 2014; Montalvo, 2005). To illustrate, Latinxs with darker skin and African and/or Indigenous features may have more frequent experiences of explicit racial discrimination both in the U.S. as well as in their countries of origin (Adames, Chavez-Dueñas, & Organista, 2016). As a result, they may be more likely to report perceived ethnic-racial discrimination compared with U.S. Latinxs who are phenotypically White with European features (Adames et al., 2016). Conversely, the C-REIL model also states that to regulate stress associated with negative cross-cultural interactions (e.g., discrimination), Latinxs may de-emphasize the impact that skin color and phenotype may have on their experiences (Adames et al., 2016). Accordingly, to expand our understanding of how perceived ethnic-racial discrimination and skin color influence the acculturation strategies of first-generation mainland Puerto Ricans, the current study evaluates how perceived ethnic-racial discrimination and skin color help to determine acculturation strategies among first-generation Central Florida Puerto Ricans.

The Role of Neighborhood Ethnic-Racial Composition on Acculturation

Both the MAM and C-REIL models argue that the neighborhood ethnic-racial composition of the neighborhoods where newcomers settle influences their acculturation. To illustrate, Latinxs settling in big metropolitan areas with large proportions of immigrants and ethnic-racial minority populations (e.g., Chicago, Los Angeles, New York City) may find these communities to be more welcoming, accepting of their culture, and are more likely to find opportunities for employment (Suárez-Orozco, Suárez-Orozco, & Todorova, 2008). In addition, they have more opportunities to retain their culture of origin (Schwartz, Pantin, Sullivan, Prado, & Szapocznik, 2006). On the

Table 1. Descriptive Statistics for Continuous and Categorical Demographical Variables.

	N = 381	
	%	M (SD)
Age	—	47.37 (15.65)
Years in the United States	—	16.91 (13.42)
Annual income	30,000 ^a	—
Male	33.7	—
Female	66.3	—
Married	51.8	—
High school or less	33.8	—

^aMedian was used as the centrality statistic.

contrary, Latinxs who settle in rural areas of the country (Portes & Rumbaut, 2001, 2006) or in areas with less ethnic-racial diversity may experience a negative context of reception (e.g., isolation and higher pressure to assimilate to the host culture; Schwartz et al., 2006) as well as high rates of perceived ethnic-racial discrimination (e.g., hostility). Thus, considering the racial and ethnic neighborhood composition in which Puerto Ricans settle allows for a more comprehensive and nuance understanding of factors influencing how acculturation manifests.

To this end, the current study empirically evaluates how perceived ethnic-racial discrimination, skin color, and neighborhood ethnic-racial composition influenced the identification of Berry's (1997) acculturation strategies along bidimensional behavioral, values, and ethnic identity indicators. If Berry's acculturation strategies emerge on these data, findings could provide empirical support for the applicability of these strategies across behavior, values, and ethnic identity domains (MAM), within a nuanced understanding of Latinx migration experiences (C-REIL).

Study Hypotheses

Based on the afore-discussed literature, we hypothesize that at least four profiles (biculturalism, marginalization, separation, and assimilation) would emerge from the data along behavioral, values, and ethnic identity acculturation bidimensional indicators showing *parallel* and/or *divergent* approaches to acculturation. Our second hypothesis argues that perceived ethnic-racial discrimination, skin color, and neighborhood ethnic-racial composition will help determine the number of identified acculturation profiles as well as membership.

Method

Participants

Participants for this study consisted of 381 first-generation Central Florida Puerto Ricans. Table 1 shows the sociodemographic characteristics of the sample. To ensure that the sample size was adequate, we followed recommendations by Tein, Cox, and Cham (2013), which found through Monte Carlo simulation that models with six indicators produced an adequate average Entropy of .70 with samples of 250 or higher. Thus, a sample of 381 was determined to be adequate to complete the proposed analytical approach.

Procedures

Data for this study were collected after receiving institutional review board approval. The samples were recruited in person by the first author through contacts with Puerto Rican-serving

community organizations and businesses in Central Florida. The consent form, demographic, and values questionnaire were translated into Spanish following the recommendations made by Bracken and Barona (1991). A Puerto Rican bilingual speaker conducted the initial translation from English to Spanish. A Mexican American bilingual translator then performed a blind back translation (translator was unfamiliar with the scale being translated). The back translation was then compared with the original English version to check for similarity and grammar; this step was repeated twice until most discrepancies were eliminated. The next step involved asking a separate research team composed of multiregional bilingual researchers (two Puerto Ricans and two Mexican Americans) to evaluate the translated version to also check for accuracy and grammar. Although not included in Bracken and Barona's procedures, we also formed a small group of Spanish-speaking Puerto Rican community members to make sure that terms used aligned with Puerto Rican-specific words. The acculturation, ethnic identity, and perceived ethnic-racial discrimination scales had Spanish versions available. A majority of the sample responded to study questionnaires in Spanish (73.1%) and the rest responded in English (26.9%). Skin color was measured using the New Immigrant Survey Skin Color Scale. To obtain information regarding the racial and ethnic composition of each participant's neighborhood, participants were asked to provide their zip code. Each participant received a US\$10 gift card for their time.

Instruments

Demographic questionnaire. Participants answered questions about their age, sex, nativity, generational status, years in the U.S., zip code, civil status, annual median family income, and educational attainment.

Puerto Rican and European American behavioral acculturation. The Revised Acculturation Rating Scale for Mexican Americans-II (ARSMA-II; Cuéllar & Maldonado, 1995) was used to measure Puerto Rican and White American cultural behaviors. The ARSMA-II has demonstrated strong psychometric properties across Latinx subgroups (Lorenzo-Blanco, Unger, Baezconde-Garbanati, Ritt-Olson, & Soto, 2012). Six items on the Latino Orientation Scale (LOS) were modified to include the terms *Puerto Rico* and *Puerto Rican* instead of *Mexico* and *Mexican* (e.g., "My family cooks Puerto Rican foods"). Although items on the American Orientation Scale (AOS) were used to assess White American behaviors, the term *Anglo-American* was not changed to White American. Each item was scored on a Likert-type scale from 1 (*not at all*) to 5 (*extremely often or almost always*). Each subscale yields a total score by summing all the items in the subscale with higher scores reflecting more frequent engagement in Latinx and/or White American cultural behaviors. Informed by established methodology (Miller, 2007), four items designed to assess ethnic identity were not used to create either the LOS or the AOS scores. Previously reported internal consistency alpha coefficients for the Latina/o behaviors (.88) and American behaviors (.83) have been adequate (Cuéllar & Maldonado, 1995). Reliabilities in the current sample were .82 for the Puerto Rican cultural orientation and .91 for the White American cultural orientation.

Puerto Rican cultural values. The Latino/a Values Scale (LVS; Kim, Soliz, Orellana, & Alamilla, 2009) is a 35-item scale that measures common Latinx values, such as *familismo* (e.g., "One's family is the main source of one's identity.") and *personalismo* (e.g., "One must not offend others."). Each item on the LVS uses a Likert-type scale from 1 (*strongly disagree*) to 4 (*strongly agree*). The LVS yields a total score by summing all the items. Higher scores on the LVS reflect stronger adherence to Latinx values. Alpha coefficient in the present study was .80.

White American values. The European American Values Scale for Asian Americans Revised (EAVS-AA-R; Hong, Kim, & Wolfe, 2005) comprised of 25 items is a unidimensional scale

(Hong et al., 2005) designed to measure Asian Americans' adherence to White American cultural values (e.g., "You can do anything you put your mind to."). Each item on the EAVS-AA is measured using a Likert-type scale from 1 (*strongly disagree*) to 4 (*strongly agree*). EAVS-AA items are anchored in White American values' theoretical and empirical literature (see Wolfe, Yang, Wong, & Atkinson, 2001, for a review). Moreover, in a recent study with mainland and island Puerto Ricans, using confirmatory factor analysis, the EAVS-AA-R yielded adequate and statistically significant indices (Capielo Rosario et al., 2019). Reported alpha coefficients with Asian Americans samples have ranged from .63 to .70 (Miller, 2007). The reliability in the current sample was $\alpha = .64$.

Puerto Rican and White American ethnic identity. During cross-cultural interactions, members of the heritage culture may develop feelings of belonging and attachment toward their cultural group (Adames & Chavez-Dueñas, 2017; Liebkind, 2006; Rumbaut, 2008b). Therefore, we used the Multi-Ethnic Identity Measure (MEIM; Phinney, 1992) to measure Puerto Rican ethnic identity acculturation. This scale is composed of 15 items that measure exploration of the heritage culture (e.g., "I participate in cultural practices of my own group, such as special food, music, or customs") and a sense belonging/affirmation toward the heritage culture (e.g., "I am happy that I am a member of the group I belong to"). Each item on the MEIM is scored using a 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Higher MEIM scores suggest a stronger ethnic identity. An exploratory factor analysis of our data indicated the presence of a single ethnic identity factor that accounted for 40% of the variance. Thus, supported by our data and established methodology (Dandy, Durkin, McEvoy, Barber, & Houghton, 2008; Ponterotto, Gretchen, Utsey, Straczuzzi, & Saya, 2003), we created a summated total score for the MEIM.

On the contrary, ethnic identification as it relates to the dominant culture (e.g., calling oneself American) is thought to be the most important aspect of dominant culture ethnic identity (Phinney, 2003). Among U.S. Puerto Ricans, while they are likely to express a strong emotional attachment to Puerto Rican ethnic identity (Duany, 2003), they self-identify as American to assert their distinctiveness from other U.S. Latinx communities (Aranda, 2007) and U.S. citizenship (Duany, 2003), particularly when this is questioned by members of the dominant ethnic group. Accordingly, we used three individual survey items from the ARSMA-II (i.e., "I like to identify myself as an Anglo-American," "I like to identify as Puerto Rican American," and "I like to identify myself as an American") to assess White American ethnic identity. Although the term *Puerto Rican American* is associated with heritage ethnic identity orientation, this term has received empirical support as an indicator of White American cultural orientation among mainland Puerto Rican adults and children (Rogler, Cooney, & Ortiz, 1980). More recently, these three items have also received empirical support as part of an White American ethnic identity factor in a sample of mainland Puerto Ricans and has been validated in a sample of island Puerto Ricans (Capielo Rosario et al., 2019). Alpha coefficients for the Puerto Rican ethnic identity were .88 and .66 for the White American ethnic identity.

Skin color. Each participant was assigned a skin color number by the recruiter using the NIS Skin Color Scale (Massey & Martin, 2003). This scale ranges from zero to 10, with zero representing albinism and 10 representing the darkest possible skin. The 11 shades of skin color corresponding to the points 0 to 10 on the scale are depicted in a chart, with each point represented by a hand, of identical form, but differing in skin color shade. The recruiting researcher memorizes the scale, so that the respondent never sees the chart. In the current study, the recruiting researcher assigned skin color after participants completed the questionnaire.

Perceived racial and ethnic discrimination. The Brief Perceived Ethnic Discrimination Questionnaire Community—Version (Brief PEDQ-CV; Brondolo et al., 2005) is a 17-item questionnaire

design to assess the frequency of perceived racism or ethnic discrimination (e.g., “Have others made you feel like an outsider who doesn’t fit in because of your dress, speech, or other characteristics related to your ethnicity?”). Each item is scored using a 5-point Likert-type scale ranging from 1 (*never*) to 5 (*very often*), with higher scores indicating higher frequency of perceived racial or ethnic discrimination. Reported alpha coefficients for the Brief PEDQ-CV with Latina/o community samples have ranged from .88 to .87 (Brondolo et al., 2005). In the current study, alpha coefficient for sample was .93.

Neighborhood racial and ethnic composition. To test the influence of neighborhood composition, we created four racial and ethnic composition percentages: non-Hispanic White Americans, African Americans, Puerto Ricans, and Latinxs (Mexicans, Cubans, and Dominicans), for each zip code using the Social Explorer (Beveridge & Lacevic, n.d.) demographic data library based on 2015 ACS estimates. An advantage of Social Explorer is the ability to disaggregate racial and ethnic data (e.g., Black or African American alone). For example, to create the percentage of White Americans per zip code, after entering each zip code we selected the number of non-Hispanic Whites and divided it by the total zip code population. The same was done to create the African Americans, Puerto Ricans, and Latinxs percentages for each participants’ zip code.

Although the reliabilities for the EAVS-AA and White American ethnic identity indicator were below .70, reliabilities $\geq .60$ meet minimal acceptability cutoffs (Anastasi, 1998). In addition, it is argued that measures with relative low levels of alpha (e.g., .50) can be useful if the measure’s content meaningfully covers a domain (Schmitt, Butcher, & Lowman, 1996). Given the content on the EAVS-AA and items to create the White American ethnic identity indicator, their use was deemed appropriate.

Main Analysis Plan

An LPA with covariates analysis was conducted using Mplus 7.1 (L. K. Muthén & Muthén, 1998–2012) to examine whether covariates (perceived ethnic-racial discrimination, skin color, and neighborhood composition) would help form conceptually meaningful profiles of bidimensional behavioral, values, and ethnic identity acculturation and help determine profile membership. LPA² involves identifying groups of participants that share similar traits across different domains while minimizing similarities between identified groups. LPA also allows researchers to model how auxiliary information in the form of covariates helps (a) find the proper number of profiles and (b) correctly estimate profile proportions and profile membership (B. Muthén, 2004). This is accomplished by regressing profile membership on these covariates (B. Muthén, 2004). This technique fits the purpose of this study, which was to determine distinct configurations (i.e., profiles) of potential bidimensional behavioral, values, and ethnic identity acculturation patterns and to examine whether contextual covariates could help determine profile membership.

Two major analytic steps were followed. Our initial step involved the estimation of latent profiles across indicators of bidimensional behavioral, values, and ethnic identity acculturation. The influence of covariates was simultaneously estimated in the model by regressing the specified profiles on each covariate. Using the Vuong–Lo–Mendell–Rubin test (VLMR; Lo, Mendell, & Rubin, 2001), we systematically compared models with fewer profiles against models with more profiles. The VLMR compares the fit of two nested models that differ by one profile. When the p value for the VLMR test is significant, model complexity is preferred over parsimony. On the contrary, a nonsignificant p value indicates that the model with fewer profiles is preferred. Aside from the VLMR, we also evaluated model fit using the Akaike information criterion (AIC), Bayesian information criterion (BIC), and entropy indices. Lower AIC and BIC values are more favorable, and entropy values above .70 indicate adequate classification of participants into profiles (Meeus, Van De Schoot, Keijsers, Schwartz, & Branje, 2010;

Table 2. Correlation Matrix for Bidimensional Acculturation Indicators and Covariates.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Skin color	—											
2. PED	.04	—										
3. PercWA	.09	-.04	—									
4. PercPR	.09	-.05	-.93**	—								
5. PercLTs	.10*	-.04	-.52**	.23**	—							
6. PercAA	.09	-.04	.08	.05	-.23**	—						
7. PRCB	-.02	.10*	.00	-.01	-.01	-.01	—					
8. PRCV	-.05	.22**	.05	.04	.05	.05	.30**	—				
9. PREIt	.02	.15**	.13*	.130*	.10	.11	.26**	.43**	—			
10. WACBt	.06	.52**	.04	.04	.04	.04	.36**	.27**	.17**	—		
11. WACVt	.02	.13*	-.02	-.02	-.03	-.021	.29**	.48**	.40**	.23**	—	
12. WAEI	-.08	.17**	.01	-.01	-.01	-.01	.35**	.34**	.29**	.33**	.31**	—

Note. PED = perceived ethnic-racial discrimination; PercWA = percentage of White Americans; PercPR = percentage of Puerto Ricans; PercLTs = percentage of Latinxs; PercAA = percentage of African Americans; PRCB = Puerto Rican cultural behaviors; PRCV = Puerto Rican Cultural Values; PREIt = Puerto Rican ethnic identity; WACBt = White American cultural behaviors; WACVt = White American cultural values; WAEI = White American ethnic identity.

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

Tein et al., 2013). To evaluate the effects of covariates on profiles identification and membership, z tests are conducted to examine whether or not the null hypothesis (i.e., covariates have no effect on profile membership) should be rejected in favor of the alternative hypothesis (i.e., covariates have an effect on profile membership) based on an absolute value z score of 1.96 (95% confidence level). Values between -1.96 and 1.96 indicate that the null hypothesis should be retained; values outside this range indicate that the alternative hypothesis should be selected (B. Muthén, 2004).

In our second analytical step, we performed a multivariate analysis of variance difference (MANOVA) tests to compare the profiles across the six acculturation indicators. Significant results were explored by Bonferroni pairwise comparisons to determine which pairs of profiles were significantly different from each other in terms of bidimensional behavioral, values, and ethnic identity patterns.

Results

Preliminary Analyses

Table 2 shows results from a correlation analysis between main study variables. Results revealed that only perceived ethnic-racial discrimination, percentage of White Americans living per zip code, and percentage of Puerto Ricans living per zip code were significantly related to the six bidimensional acculturation indicators. Skin color, percentage of African Americans, and percentage of Latinxs (a combination of Mexicans, Cubans, and Dominicans) living per zip code were not significantly related to any of the acculturation indicators; thus, they were excluded from the rest of the analyses.

Latent Profiles

Three profiles were determined based on the study indicators, partially supporting our first hypothesis. Models with one to six profile solutions were compared. Model fit comparisons are shown on Table 3. A MANOVA identified significant differences in scores across bidimensional

Table 3. Model Fit Indices for One- to Four-Profile Solutions.

Model	AIC	BIC	aBIC	VLMR <i>p</i> value	Entropy <i>R</i> ²
One-profile solution	16,343.1	16,414.4	16,357.3	—	—
Two-profile solution	6,435.29	6,518.26	6,448.48	.03	.77
Three-profile solution	6,372.37	6,493.06	6,391.56	.01	.73
Four-profile solution	6,338.62	6,497.02	6,363.81	.23	.72
Five-profile solution	6,318.46	6,514.57	6,349.64	.36	.73
Six-profile solution	6,296.06	6,529.89	6,333.24	.66	.74

Note. The bolder profile indicates the best-fitting solution. AIC = Akaike information criterion; BIC = Bayesian information criterion; aBIC = adjusted Bayesian information criterion; VLMR = Vuong–Lo–Mendell–Rubin test.

Table 4. Means, Standard Deviations, and Proportions of Profiles on Acculturation Indicators and Perceived Ethnic-Racial Discrimination.

Variables	Profile 1 High behaviors biculturalism & ethnic identity assimilation (<i>n</i> = 83)	Profile 2 High values separation (<i>n</i> = 113)	Profile 3 High values biculturalism & moderate behaviors and ethnic identity assimilation (<i>n</i> = 185)	Significant differences between profiles	<i>F</i> (2, 192)
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		
Puerto Rican cultural behaviors	12.51 (1.52)	10.86 (1.94)	11.34 (2.00)	1 > 2, 3; 2 = 3	10.77***
Puerto Rican cultural values	9.02 (0.96)	11.00 (1.02)	10.82 (0.93)	1 < 2, 3; 2 = 3	67.08***
Puerto Rican ethnic identity	10.06 (1.62)	9.96 (1.41)	10.04 (1.44)	1 = 2 = 3	.08
White American cultural behaviors	12.04 (1.29)	6.12 (1.04)	8.99 (1.24)	1 > 2, 3; 2 < 1, 3	332.82***
White American cultural values	8.68 (0.83)	8.70 (0.84)	10.08 (0.73)	3 > 1, 2; 1 = 2	72.91***
White American ethnic identity	9.72 (2.87)	6.41 (1.64)	7.40 (2.37)	1 > 2, 3; 2 < 3	28.44***
Perceived ethnic-racial discrimination	33.45 (14.24)	26.52 (10.68)	32.37 (11.63)	2 < 1, 3; 1 = 3	5.77*

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

acculturation indicators among the three profiles, Pillai's Trace = 1.33, $F(18, 364) = 39.86$, $p < .001$. Bidimensional behavioral, values, and ethnic identity acculturation significantly differed by profile (see Table 4). The model also showed that while neither percentage of White Americans or percentage of Puerto Ricans living per zip code influenced profile identification or membership, perceived ethnic-racial discrimination had a significant effect (see Figure 1). More specifically, results showed that as perceived ethnic-racial discrimination increased, participants were more likely to belong to Profile 1 ($z = 2.14$, $p = .03$) and less likely to belong to Profile 2 ($z = -2.14$, $p = .03$). Perceived ethnic-racial discrimination did not influence the likelihood of Profile 3 membership.

Profile 1 consisted of 83 participants (21.78%) who reported discrepant levels on the following determinants in comparison to all other profiles: (a) high Puerto Rican behavioral orientation, (b) low Puerto Rican cultural values orientation, (c) high White American behavioral orientation, (d) low White American values orientation, and (e) highest level of White American ethnic identity. Profile 2 consisted of 113 participants (29.66%) reporting (a) low Puerto Rican behaviors orientation, (b) high Puerto Rican values orientation, (c) lowest White American behaviors orientation, (d) low White American values orientation, and (e) lowest levels of White American ethnic identity orientation. Finally, Profile 3 consisted of 185 participants (48.56%) and had the following characteristics: (a) low Puerto Rican behaviors orientation, (b) high Puerto Rican values orientation, (c) moderate White American behavior

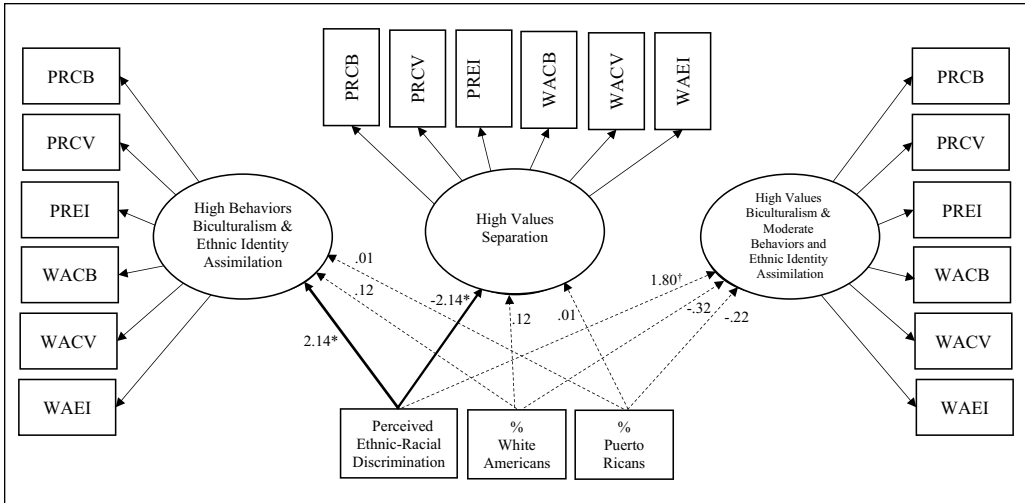


Figure 1. Three-profile with covariates model.

Note. PRCB = Puerto Rican cultural behaviors; PRCV = Puerto Rican cultural values; PREI = Puerto Rican ethnic identity; WACB = White American cultural behaviors; WACV = White American cultural values; WAEI = White American ethnic identity. Dashed arrows represent nonsignificant direct effects. Solid arrows represent significant effects.

† $p < .10$. * $p < .05$.

orientation, (d) high White American values orientation, and (e) moderate White American ethnic identity orientation.

Profile 1 participants were characterized by the highest scores on White American ethnic identity and high scores across White American and Puerto Rican cultural behaviors indicators and resembled individuals following a mixed bicultural and assimilation stance; therefore, we named this profile *High Behaviors Biculturalism & High Ethnic Identity Assimilation*. Membership on this profile was influenced by perceived ethnic discrimination with the likelihood of being assigned to this profile increasing as perceived ethnic discrimination also increased. On the contrary, participants on Profile 2 were characterized by the lowest scores across White American cultural behaviors and ethnic identity, and low White American values orientation, while simultaneously having a high Puerto Rican cultural values orientation; thus, the profile was labeled *High Values Separation*. Assignment to this profile was also influenced by perceived ethnic-racial discrimination, with membership likelihood decreasing as perceived racial-ethnic discrimination increased. Finally, those in Profile 3 presented with high levels of Puerto Rican and White American cultural values while also having a moderate endorsement of White American cultural behaviors and ethnic identity orientation, thus were labeled *High Values Biculturalism & Moderate Behaviors and Ethnic Identity Assimilation*.

Discussion

According to our findings, three acculturation profiles were identified, each representing distinctive adherence to bidimensional behavioral, values, and ethnic identity acculturation domains. The present study also described how perceived ethnic-racial discrimination helped determine profiles as well as profile membership. While several studies have used person-centered analytical methodologies to identify Berry's (1997) acculturation strategies (e.g., Berry et al., 2006; Jang, Kim, Chiriboga, & King-Kallimanis, 2007; Lee, Sobal, & Frongillo, 2003; Stevens,

Vollebergh, Pels, & Crijnen, 2007), to our knowledge, our study is the first to evaluate whether perceived ethnic-racial discrimination would inform the identification and membership of the acculturation typologies proposed by Berry (1997).

In addition, although multiple studies have examined the role of perceived ethnic-racial discrimination on adherence to acculturation strategies (e.g., Berry & Hou, 2016; Green, Sarrasin, & Maggi, 2014), their analytical strategy was based on the assumption that all of Berry's proposed strategies are present in the population (Schwartz & Zamboanga, 2008). Given this limitation, this study represents an important and innovative contribution: first, by using LPA to evaluate the extent to which Berry's acculturation strategies would be identified in the sample along multiple acculturation domains (i.e., cultural behaviors, values, and ethnic identity) instead of assuming that all four strategies would be present; second, by testing how contextual covariates (e.g., perceived ethnic-racial discrimination) would help identify acculturation strategies beyond just examining mean differences in perceived ethnic-racial discrimination between identified strategies.

Theoretical and Research Implications

Three of the four typologies proposed by Berry (1997), assimilation, biculturalism, and separation were identified in the sample, thus providing partial support for the relevance of this model across first-generation Florida Puerto Ricans. Results also provide empirical evidence for the applicability of the MAM model in two fronts: first, by showing the utility of simultaneously assessing acculturation across behaviors, values, and ethnic identity indicators; second, by highlighting how acculturation strategies may reflect either *parallel* (Profile 2) and/or *divergent* (Profiles 1 and 3) approaches. Specifically, participants in Profile 1 (*High Behaviors Biculturalism & Ethnic Identity Assimilation*) endorsed a bicultural approach to cultural behaviors but followed an assimilation stance when it came to ethnic identity. Participants in Profile 3 (*High Values Biculturalism & Moderate Behaviors and Ethnic Identity Assimilation*) adhered to a bicultural values strategy while simultaneously following an assimilation attitude across behaviors and ethnic identity domains.

Similar to the *Spanish-dominant Low* and *English-dominant Low* profiles identified by Gonzales-Backen et al. (2017, p. 165), which showed that Latina youth could have a high endorsement of Latinx or American cultural behaviors while also having a low attachment to Latinx ethnic identity, participants in our first (*High Behaviors Biculturalism & Ethnic Identity Assimilation*) and third (*High Values Biculturalism & Moderate Behaviors and Ethnic Identity Assimilation*) profiles used a combination of acculturation strategies. Our results expand this work by demonstrating that different strategies could also be employed across bidimensional values domains. Our second and largest profile (*High Values Separation*) resembled those describe by Schwartz and Zamboanga (2008) as *Separated* (p. 279). However, while Schwartz and Zamboanga's identified separation strategy took place along a behavioral acculturation domain, our identified separation strategy was observed along a values acculturation domain. Like Schwartz and Zamboanga, we also identified two distinct bicultural groups; however, it is noteworthy that their sample was mostly comprised of second-generation Latinxs (64%) while our sample was exclusively first-generation Puerto Ricans. The presence of biculturalism among U.S. second- and third-generation Latinxs is thought to be reflective of how Latinxs develop hybrid identities that reflect adherence to their Latinx and U.S. cultures (Flannery, Reise, & Yu, 2001; Schwartz & Zamboanga, 2008). Thus, the prominence of biculturalism among first-generation Puerto Ricans is interesting and significant. The sociopolitical context of the island may explain why 70% of our sample followed a bicultural approach (Profiles 1 and 3). As aforementioned, Puerto Rico is a territory of the U.S. resulting in Puerto Ricans having contact with the U.S. culture, society, and institutions for over 120 years (Duany, 2003). Thus, a strong orientation

toward White American culture may reflect this long-standing association. Endorsing a bicultural orientation may also be seen by Puerto Ricans as a way to facilitate their integration into White American cultural and climb the U.S. socioeconomic ladder (Vélez, 2017). While biculturalism is expected to be associated with better psychological outcomes, studies have produced conflicting results (Meca et al., 2017; Torres & Rollock, 2004). Perhaps this could be the function of conceptualizing biculturalism as a broad strategy, when there is evidence to support more nuanced bicultural strategies (Benet-Martínez & Haritatos, 2005; Ramirez, 1984; Schwartz & Zamboanga, 2008). Thus, the acculturation literature can be advanced by systematically evaluating how different subcategories of biculturalism may be both protective and/or risk factors for psychological distress among Puerto Ricans.

The composition and location of our sample may explain why we did not identify a marginalization profile. All our participants reported a high attachment to at least one aspect of Puerto Rican culture, whether manifested via cultural behaviors or cultural values. Aligned with our findings, first-generation immigrants are likely to maintain a connection with the heritage culture (Phinney, 2003). The frequent circular migration and travel to the island documented among Florida Puerto Ricans (Duany, 2002) may provide them with opportunities to renew their cultural connection to the island. In the absence of circular migration or travel to the island, maintenance of Puerto Rican culture can be supported by continuous Puerto Rican ethnic replenishment (new waves of first-generation Puerto Ricans; Vélez, 2017). Thus, future studies should evaluate how these strategies may or may not be present among later generation Puerto Ricans and Puerto Ricans in different regions of the United States.

Our findings also provide partial support for the C-REIL assumptions. Although skin color was not associated with any of our bidimensional indicators and neighborhood composition did not help determine profile identification or membership, as stated on our second hypothesis, perceived racial-ethnic discrimination among Puerto Ricans in Central Florida helped identify and define membership for Profiles 1 and 2. That is, as participants experienced more perceived ethnic-racial discrimination, they were more likely to be part of the *High Behaviors Biculturalism & Ethnic Identity Assimilation* (Profile 1) strategy and less likely to belong to the *High Values Separation* (Profile 2) strategy. Although experiences of ethnic-racial discrimination may lead visible minorities to strongly connect or reconnect with aspects of their home culture and disconnect to the dominant cultural group (Branscombe, Schmitt, & Harvey, 1999; Jasinskaja-Lahti, Liebkind, & Solheim, 2009; Rumbaut, 2008a), our results provide further support for the reciprocity between ethnic-racial discrimination and acculturation (Berry et al., 2006; Rumbaut, 2008b). That is, when first-generation Florida Puerto Ricans perceive ethnic-racial discrimination, they are more likely to belong to a combined bicultural assimilation group (Profile 1: *High Behaviors Biculturalism & Ethnic Identity Assimilation*) and less likely to be found in a separation profile (Profile 2: *High Values Separation*). This mixed bicultural assimilation stance seems to reflect both a connection or reconnection to Puerto Rican behaviors and an affirmation of their U.S. membership (e.g., self-identifying as American) in response to discrimination. Although this study is not the first to find significant differences in levels of perceived ethnic-racial discrimination across acculturation profiles (e.g., Berry et al., 2006; Gonzales-Backen et al., 2017; Meca et al., 2017), differences in levels of perceived ethnic-racial discrimination are generally examined post hoc. Our findings, aligned with the C-REIL model, suggest that future investigations should consider perceived ethnic-racial discrimination as an important covariate and determinant of acculturation.

Unexpectedly, skin color was not associated with any of the acculturation indicators and neighborhood's ethno-racial composition did not have an effect on profile identification or membership. As argued by the C-REIL model (Adames & Chavez-Dueñas, 2017; Adames et al., 2016), Latinxs have been historically socialized to deny and minimize the influence skin color may have in their cross-cultural experiences. This racial socialization may explain why skin color was not related to the acculturation indicators examined in the current sample. These

racial ideologies may be particularly salient among first-generation U.S. Latinxs. For example, first-generation Latinxs who may lack an understanding of the U.S. system of racial stratification are less likely to perceive and report discrimination (Kulis et al., 2009). Moreover, first-generation Puerto Ricans may believe that because of their sociopolitical relationship with the U.S. mainland and U.S. citizenship, they can more easily integrate into U.S. White American culture without considering the ways in which their skin color or phenotypical traits may influence their experiences in the host culture. Although it was beyond the scope of this study, the C-REIL model also argues that while Latinxs have been socialized to deny issues around race, they have also been socialized to have preference for light skin (Adames & Chavez-Dueñas, 2017). This preference or *colorism* is believed to influence Latinx acculturation (Montalvo, 2005). Therefore, future research should evaluate how colorism influences Latinx and American orientation. Regarding the ethno-racial composition of the neighborhood, it is important to note that while zip code data provided information about the individual's immediate surroundings, we did not evaluate other potentially relevant interactions with members of the heritage or dominant cultural group outside these boundaries. To illustrate, according to the U.S. Department of Labor Statistics (2017), individuals 25 years of age and older spend more time at work and/or school than at home. Thus, future investigations should evaluate how acculturation strategies are influenced by the demographic composition in other important settings (e.g., school, work).

Limitations and Future Directions

Generalizing these results to the larger Latinx or Puerto Rican community may be difficult. Therefore, an important extension of this work is the replication of the current study with Puerto Ricans and Latinxs residing in different geographical regions in the U.S. and representing other generational statuses. While we evaluated the influence of neighborhood ethno-racial composition on acculturation, we did not examine how the attitudes the host culture holds about the incoming cultural group could affect acculturation strategies among Central Florida Puerto Ricans. For instance, the Interactive Acculturation Model (IAM; Bourhis et al., 1997) may provide a framework to examine how the attitudes of the host culture influences the acculturation of the incoming group. Specifically, IAM suggests that the acculturation strategy of the incoming group is best predicted by the relative fit between the dominant culture's preferred acculturation strategy for members of the incoming group and the acculturation strategy chosen by the incoming group. Future investigations should focus on how the attitudes of the receiving culture toward the incoming cultural group may affect how Latinxs in the U.S. navigate the acculturative process. The cross-sectional design of the current study also limits our ability to make causal inferences between the variables included in the model. Thus, future investigations should employ longitudinal designs and analytical techniques, such as latent profile growth modeling to test how perceived ethnic-racial discrimination and other contextual covariates can help detect acculturation profiles and changes in acculturation profiles' membership over time.

Internal consistency in the White American ethnic identity indicator is also a limitation. This indicator was operationalized using individual items. Item-level reliability can be estimated using test-retest correlations or a method proposed by Wanous and Hudy (2001), but the present study had insufficient data for either of these approaches. Rather, we estimated the internal consistency of the three items as an approximation, which yielded an alpha coefficient of .66, lower than might be desired but close to the .70 criterion that is often cited as acceptable reliability (Lance, Butts, & Michels, 2006). However, it is important to note that one of the appealing benefits of using LPA is that this methodology incorporates measurement error into the model by correcting for unreliability in the indicators themselves (Kreuter, Yan, & Tourangeau, 2008). While our use of ethnic self-identifiers (e.g., American) is supported by literature suggesting that American ethnic identity is primarily informed by the political association between the U.S. and

the island, what Rivera Ramos (2001) calls *the legal construction of identity* (p. 146), future studies should investigate the level to which Puerto Ricans explore and commit to an American ethnic identity.

Conclusion

The present study is an important step in contextualizing the acculturation of the second largest U.S. Latinx group. Our findings provide partial support for Berry's typologies among first-generation Florida Puerto Ricans. However, these seem to be less differentiated than those suggested in the literature. The complex acculturation of Florida Puerto Ricans provides an opportunity for scientists and practitioners to understand how contextual factors influence the ways in which specific Latinx subgroups navigate living between two cultures.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding


The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. Similar to the term *Latino/a*, the term *Latinx* is a socially constructed expression that describes individuals living in the U.S. who are of Latin American descent (Santos, 2017). The term's growing popularity in scientific outlets like the *Journal of Cross-Cultural Psychology (JCCP)*; see Herrmann & Varnum, 2018) is a recognition of the broad range of gender identities and expression present among individuals of Latin American descent. However, the term *Latinx* goes beyond the inclusion of diverse gender identity and expression (Santos, 2017). *Latinx* is used to convey how ethnic identity intersects with other forces of oppression (e.g., ethnic and racial discrimination) to influence the lived experiences of Latinx in the U.S. (e.g., acculturation; see Adames, Chavez-Dueñas, Sharma, & La Roche, 2018; Santos, 2017, for reviews). Our use of the term *Latinx* throughout the article is informed by this latter definition. That is, we believe that the acculturation experiences of Puerto Ricans in the U.S. are influenced at least in part by phenotypic characteristics (e.g., skin color), perceived ethnic-racial discrimination, and the demographic characteristic of settlement area (e.g., neighborhood ethnic-racial composition; Adames & Chavez-Dueñas, 2017).
2. Because LPA works with continuous variables, LPA must use a continuous distribution. This assumption was met, as all the variables included in the model were continuous variables. Regarding normal distribution of the data in mixture modeling (e.g., LPA), while the distributions of each identified profile is assumed to be normal, because any number of profiles can be extracted, the population distribution does not have to be normal (Oberski, 2016).

ORCID iDs

Cristalis Capielo Rosario  <https://orcid.org/0000-0002-5275-7094>

Hector Y. Adames  <https://orcid.org/0000-0003-2169-1165>

References

- Adames, H. Y., & Chavez-Dueñas, N. Y. (2017). *Cultural foundations and interventions in Latino/a mental health: History, theory, and within group differences*. New York, NY: Routledge.
- Adames, H. Y., Chavez-Dueñas, N. Y., & Organista, K. C. (2016). Skin-color matters in Latino/a communities: Identifying, understanding, and addressing Mestizaje Racial Ideologies in clinical practice. *Professional Psychology: Research and Practice*, 47, 46-55. doi:10.1037/pro0000062

- Adames, H. Y., Chavez-Dueñas, N. Y., Sharma, S., & La Roche, M. J. (2018). Intersectionality in psychotherapy: The experiences of an AfroLatinx queer immigrant. *Psychotherapy, 55*, 73-79. doi:10.1037/pst0000152
- Anastasi, A. (1998). *Psychological testing* (6th ed.). New York, NY: Macmillan.
- Aranda, E. (2007). Struggles of incorporation among the Puerto Rican middle class. *The Sociological Quarterly, 48*, 199-228. Retrieved from <http://www.jstor.org/stable/40220097>
- Aranda, E. (2009). Puerto Rican migration and settlement in south Florida: Ethnic identities and transnational spaces. In A. M. Cervantes-Rodríguez, R. Grosfoguel, & E. Mielants (Eds.), *Caribbean migration to Western Europe and the United States: Essays on incorporation, identity, and citizenship* (pp. 149-165). Philadelphia, PA: Temple University Press.
- Benet-Martínez, V., & Haritatos, J. (2005). Bicultural identity integration (BII): Components and psychosocial antecedents. *Journal of Personality, 73*, 1015-1050. doi:10.1111/j.1467-6494.2005.00337.x
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology, 46*, 5-34. doi:10.1111/j.1464-0597.1997.tb01087.x
- Berry, J. W. (2003). Conceptual approaches to acculturation. In K. M. Chun, P. Balls Organista, & G. Marín (Eds.), *Acculturation: Advances in theory, measurement, and applied research* (pp. 17-37). Washington, DC: American Psychological Association.
- Berry, J. W., & Hou, F. (2016). Immigrant acculturation and wellbeing in Canada. *Canadian Psychology/Psychologie Canadienne, 57*, 254-264. doi:10.1037/cap0000064
- Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). Immigrant youth: Acculturation, identity, and adaptation. *Applied Psychology: An International Review, 55*, 303-332. doi:10.1111/j.1464-0597.2006.00256.x
- Beveridge, A., & Lacevic, A. (n.d.). *Social Explorer*.
- Bilingual American. (2017, August 11). *Puerto Rico Report*. Retrieved from <https://www.puertoricoreport.com/bilingual-america/#.WlktRNVKipr>
- Bourhis, R. Y., Moïse, L. C., Perreault, S., & Senécal, S. (1997). Towards an interactive acculturation model: A social psychological approach. *International Journal of Psychology, 32*, 369-386. doi:10.1080/002075997400629
- Bracken, B. A., & Barona, A. (1991). State of the art procedures for translating, validating and using psychoeducational tests in cross-cultural assessment. *School Psychology International, 12*, 119-132. doi:10.1177/0143034391121010
- Branscombe, N. R., Schmitt, M. T., & Harvey, R. D. (1999). Perceiving pervasive discrimination among African Americans: Implications for group identification and well-being. *Journal of Personality and Social Psychology, 77*, 135-149. doi:10.1037/0022-3514.77.1.135
- Brondolo, E., Kelly, K. P., Coakley, V., Gordon, T., Thompson, S., Levy, E., . . . Contrada, R. (2005). The perceived ethnic discrimination questionnaire: Development and preliminary validation of a community version. *Journal of Applied Social Psychology, 35*, 335-365. doi:10.1111/j.1559-1816.2005.tb02124.x
- Capielo, C., Delgado-Romero, E., & Stewart, A. E. (2015). A focus on an emerging Latina/o population: The role of psychological acculturation, acculturative stress, and coping on depression symptoms among central Florida Puerto Ricans. *Journal of Latina/o Psychology, 3*, 209-223. doi:10.1037/lat0000039
- Capielo Rosario, C., Lance, C. E., Delgado-Romero, E. A., & Domenech Rodríguez, M. M. (2019). Acculturated and acultura'os: Testing bidimensional acculturation across central Florida and island Puerto Ricans. *Cultural Diversity & Ethnic Minority Psychology, 25*, 152-169. doi:10.1037/cdp0000221
- Caragol-Barreto, T. B. (2005). Aesthetics of exile: The construction of Nuyorican identity in the art of El Taller Boricua. *Centro Journal, 17*(2), 7-21.
- Chavez-Dueñas, N. Y., Adames, H. Y., & Organista, K. C. (2014). Skin-color prejudice and within-group racial discrimination: Historical and current impact on Latino/a populations. *Hispanic Journal of Behavioral Sciences, 36*, 3-26. doi:10.1177/0739986313511306
- Cobb, C. L., Xie, D., Meca, A., & Schwartz, S. J. (2017). Acculturation, discrimination, and depression among unauthorized Latinos/as in the United States. *Cultural Diversity & Ethnic Minority Psychology, 23*, 258-268. doi:10.1037/cdp0000118
- Cortés, D. E., Deren, S., Andia, J., Colón, H., Robles, R., & Kang, S. Y. (2003). The use of the Puerto Rican biculturality scale with Puerto Rican drug users in New York and Puerto Rico. *Journal of Psychoactive Drugs, 35*, 197-207. doi:10.1080/02791072.2003.10400001

- Cuéllar, I. A. B., & Maldonado, R. (1995). Acculturation Rating Scale for Mexican Americans-II: A revision of the original ARSMA scale. *Hispanic Journal of Behavioral Sciences*, 17, 275-304. doi:10.1177/07399863950173001
- Dandy, J., Durkin, K., McEvoy, P., Barber, B. L., & Houghton, S. (2008). Psychometric properties of multigroup ethnic identity measure (MEIM) scores with Australian adolescents from diverse ethnocultural groups. *Journal of Adolescence*, 31, 323-335. doi:10.1016/j.adolescence.2007.06.003
- Duany, J. (2002). *The Puerto Rican nation on the move: Identities on the island and in the United States*. Chapel Hill: University of North Carolina Press.
- Duany, J. (2003). Nation, migration, identity: The case of Puerto Ricans. *Latino Studies*, 13, 424-444. doi:10.1057/palgrave.lst.8600026
- Duany, J., & Silver, P. (2010). The "Puerto Ricanization" of Florida: Historical background and current status: Introduction. *CENTRO: Journal of the Center for Puerto Rican Studies*, 22, 4-32.
- Flannery, W. P., Reise, S. P., & Yu, J. (2001). An empirical comparison of acculturation models. *Personality and Social Psychology Bulletin*, 27, 1035-1045. doi:10.1177/0146167201278010
- Flores, A. (2017). *How the U.S. Hispanic population is changing*. Retrieved from <http://www.pewresearch.org/fact-tank/2017/09/18/how-the-u-s-hispanic-population-is-changing/>
- Gonzales-Backen, M. A., Bámaca-Colbert, M. Y., Noah, A. J., & Rivera, P. M. (2017). Cultural profiles among Mexican-origin girls: Associations with psychosocial adjustment. *Journal of Latina/o Psychology*, 5, 157-172. doi:10.1037/lat0000069
- Green, E. G., Sarasin, O., & Maggi, J. (2014). Understanding transnational political involvement among Senegalese migrants: The role of acculturation preferences and perceived discrimination. *International Journal of Intercultural Relations*, 41, 91-101. doi:10.1016/j.ijintrel.2014.05.001
- Herrmann, S. D., & Varnum, M. E. W. (2018). Integrated social class identities improve academic performance, well-being, and workplace satisfaction. *Journal of Cross-Cultural Psychology*, 49, 635-663. doi:10.1177/0022022118761107
- Hong, S., Kim, B. S. K., & Wolfe, M. M. (2005). A psychometric revision of the European American Values Scale for Asian Americans using the Rasch model. *Measurement and Evaluation in Counseling and Development*, 37, 194-207.
- Jang, Y., Kim, G., Chiriboga, D., & King-Kallimanis, B. (2007). A bidimensional model of acculturation for Korean American older adults. *Journal of Aging Studies*, 21, 267-275. doi:10.1016/j.jaging.2006.10.004
- Jasinskaja-Lahti, I., Liebkind, K., & Solheim, E. (2009). To identify or not to identify? National disidentification as an alternative reaction to perceived ethnic discrimination. *Applied Psychology*, 58, 105-128. doi:10.1111/j.1464-0597.2008.00384.x
- Kim, B. S. K., Soliz, A., Orellana, B., & Alamilla, S. G. (2009). Latino/a values scale: Development, reliability, and validity. *Measurement and Evaluation in Counseling and Development*, 42, 71-91. doi:10.1177/0748175609336861
- Kim, Y., Newhill, C., & López, F. (2013). Latino acculturation and perceived educational achievement: Evidence for a bidimensional model of acculturation among Mexican-American children. *Journal of Human Behavior in the Social Environment*, 23, 37-52. doi:10.1080/10911359.2012.739531
- Kreuter, F., Yan, T., & Tourangeau, R. (2008). Good item or bad—Can latent class analysis tell? The utility of latent class analysis for the evaluation of survey questions. *Journal of the Royal Statistical Society*, 171, 723-738. doi:10.1111/j.1467-985X.2007.00530.x
- Kulis, S., Marsiglia, F. F., & Nieri, T. (2009). Perceived ethnic discrimination versus acculturation stress: Influences on substance use among Latino youth in the southwest. *Journal of Health and Social Behavior*, 50, 443-459. doi:10.1177/002214650905000405
- Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cutoff criteria: What did they really say? *Organizational Research Methods*, 9, 202-220. doi:10.1177/1094428105284919
- Lee, S.-K., Sobal, J., & Frongillo, E. A. (2003). Comparison of models of acculturation: The case of Korean Americans. *Journal of Cross-Cultural Psychology*, 34, 282-296. doi:10.1177/0022022103034003003
- Liebkind, K. (2006). Ethnic identity and acculturation. In D. L. Sam & J. W. Berry (Eds.), *The Cambridge handbook of acculturation psychology* (pp. 78-96). New York, NY: Cambridge University Press.
- Lo, Y., Mendell, N. R., & Rubin, D. B. (2001). Testing the number of components in a normal mixture. *Biometrika*, 88, 767-778. doi:10.1080/01621459.2014.986272.1632

- López, G., & Patten, E. (2015). *Hispanics of Puerto Rican origin in the United States, 2013*. Retrieved from <http://www.pewhispanic.org/2015/09/15/hispanics-of-puerto-rican-origin-in-the-united-states-2013/>
- Lorenzo-Blanco, E., Unger, J. B., Baezconde-Garbanati, L., Ritt-Olson, A., & Soto, D. (2012). Acculturation, enculturation, and symptoms of depression in Hispanic youth: The roles of gender, Hispanic cultural values, and family functioning. *Journal of Youth and Adolescence*, 41, 1350-1365. doi:10.1007/s10964-012-9774-7
- Massey, D. S., & Martin, J. A. (2003). *The NIS Skin Color Scale*. Retrieved from www.nis.princeton.edu/downloads/NIS-Skin-Color-Scale.pdf
- Meca, A., Cobb, C., Xie, D., Schwartz, S. J., Allen, C., & Hunter, R. (2017). Exploring adaptive acculturation approaches among undocumented Latinos: A test of Berry's model. *The Counseling Psychologist*, 45, 1115-1140. doi:10.1177/0011000017745978
- Meeus, W., Van De Schoot, R., Keijsers, L., Schwartz, S. J., & Branje, S. (2010). On the progression and stability of adolescent identity formation: A five-wave longitudinal study in early-to-middle and middle-to-late adolescence. *Child Development*, 81, 1565-1581. doi:10.1111/j.1467-8624.2010.01492.x
- Meléndez, E., & Hinojosa, J. (2017). *Estimates of post-Hurricane Maria exodus from Puerto Rico*. Retrieved from https://centopr.hunter.cuny.edu/sites/default/files/RB2017-01-POST-MARIA%20EXODUS_V3.pdf
- Miller, M. J. (2007). A bilinear multidimensional measurement model of Asian American acculturation and enculturation: Implications for counseling interventions. *Journal of Counseling Psychology*, 54, 118-131. doi:10.1037/0022-0167.54.2.118
- Montalvo, F. F. (2005). Surviving race: Skin color and the socialization and acculturation of Latinas. *Journal of Ethnic & Cultural Diversity in Social Work*, 13, 25-43. doi:10.1300/J051v13n03_02
- Muthén, B. (2004). Latent variable analysis. In D. Kaplan (Ed.), *The SAGE handbook of quantitative methodology for the social sciences* (pp. 345-368). Thousand Oaks, CA: Sage.
- Muthén, L. K., & Muthén, B. O. (1998-2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Author.
- National Public Radio, Robert Wood Johnson Foundation, & Harvard T.H. Chan School of Public Health. (2017). *Discrimination in America: Experiences and views of Latinos*. Retrieved from <https://www.npr.org/documents/2017/oct/discrimination-latinos-final.pdf>
- Navas, M., García, M. C., Sánchez, J., Rojas, A. J., Pumares, P., & Fernández, J. S. (2005). Relative acculturation extended model (RAEM): New contributions with regard to the study of acculturation. *International Journal of Intercultural Relations*, 29, 21-37. doi:10.1016/j.ijintrel.2005.04.001
- Oberski, D. (2016). Mixture models: Latent profile and latent class analysis. In J. Robertson & M. Kaptein (Eds.), *Modern statistical methods for HCI* (pp. 275-287). New York, NY: Springer.
- Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with adolescents and young adults from diverse groups. *Journal of Adolescent Research*, 7, 156-176. doi:10.1177/074355489272003
- Phinney, J. S. (2003). Ethnic identity and acculturation. In K. M. Chun, P. Balls Organista, & G. Marín (Eds.), *Acculturation: Advances in theory, measurement, and applied research* (pp. 63-81). Washington, DC: American Psychological Association.
- Ponterotto, J., Gretchen, D., Utsey, S., Stracuzzi, T., & Saya, R., Jr. (2003). The multigroup ethnic identity measure (MEIM): Psychometric review and further validity testing. *Educational and Psychological Measurement*, 63, 502-515. doi:10.1177/0013164403063003010
- Portes, A., & Rumbaut, R. G. (2001). *Legacies: The story of the immigrant second generation*. Berkeley: University of California Press.
- Portes, A., & Rumbaut, R. G. (2006). *Immigrant American: A portrait* (3rd ed.). Berkeley: University of California Press.
- Ramirez, M. (1984). Assessing and understanding biculturalism-multiculturalism in Mexican-American adults. In J. Martinez & R. Mendoza (Eds.), *Chicano psychology* (pp. 77-94). Orlando, FL: Academic Press.
- Rivera, L. M. (2010). Acculturation: Theories, measurement, and research. In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (3rd ed., pp. 331-341). Thousand Oaks, CA: Sage.
- Rivera Ramos, E. (2001). *The legal construction of identity: The judicial and social legacy of American colonialism in Puerto Rico*. Washington, DC: American Psychological Association.

- Rogler, L. H., Cooney, R. S., & Ortiz, V. (1980). Intergenerational change in ethnic identity in the Puerto Rican family. *International Migration Review*, 14, 193-214.
- Rumbaut, R. G. (2008a). The coming of the second generation: Immigration and ethnic mobility in Southern California. *Annals of the American Academy of Political and Social Science*, 620(1), 196-236. doi:10.2277/0002716208323957
- Rumbaut, R. G. (2008b). Reaping what you sow: Immigration, youth, and reactive ethnicity. *Applied Developmental Science*, 12, 108-111. doi:10.1080/10888690801997341
- Santos, C. E. (2017). The history, struggles, and potential of the term Latinx. *Latina/o Psychology Today*, 4(2), 7-14.
- Schmitt, N., Butcher, J. N., & Lowman, R. L. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment*, 8, 350-353. doi:10.1037//1040-3590.8.4.350
- Schwartz, S. J., Pantin, H., Sullivan, S., Prado, G., & Szapocznik, J. (2006). Nativity and years in the receiving culture as markers of acculturation in ethnic enclaves. *Journal of Cross-Cultural Psychology*, 37, 345-353.
- Schwartz, S. J., Unger, J. B., Zamboanga, B. L., & Szapocznik, J. (2010). Rethinking the concept of acculturation: Implications for theory and research. *American Psychologist*, 65, 237-251. doi:10.1037/a0019330
- Schwartz, S. J., Weisskirch, R. S., Zamboanga, B. L., Castillo, L. G., Ham, L. S., Huynh, Q., . . . Cano, M. A. (2011). Dimensions of acculturation: Associations with health risk behaviors among college students from immigrant families. *Journal of Counseling Psychology*, 58, 27-41. doi:10.1037/a0021356
- Schwartz, S. J., & Zamboanga, B. L. (2008). Testing Berry's model of acculturation: A confirmatory latent class approach. *Cultural Diversity & Ethnic Minority Psychology*, 14, 275-285. doi:10.1037/a0012818
- Schwartz, S. J., Zamboanga, B. L., Rodriguez, L., & Wang, S. C. (2007). The structure of cultural identity in an ethnically diverse sample of emerging adults. *Basic and Applied Social Psychology*, 29, 159-173. doi:10.1080/01973530701332229
- Silver, P., & Vélez, W. (2017). "Let me go check out Florida": Rethinking Puerto Rican diaspora. *Centro Journal*, 29, 98-125.
- Stevens, G. W. J. M., Vollebergh, W. A. M., Pels, T. V. M., & Crijnen, A. A. M. (2007). Problem behavior and acculturation in Moroccan immigrant adolescents in the Netherlands: Effects of gender and parent-child conflict. *Journal of Cross-Cultural Psychology*, 38, 310-317. doi:10.1177/0022022107300277
- Suárez-Orozco, C., Suárez-Orozco, M. M., & Todorova, I. (2008). *Learning a new land: Immigrant students in American society*. Cambridge, MA: Harvard University Press.
- Tein, J., Cox, S., & Cham, H. (2013). Statistical power to detect the correct number of classes in latent profile analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 20, 640-657. doi:10.1080/010705511.2013.824781
- Torres, L., Driscoll, M. W., & Voell, M. (2012). Discrimination, acculturation, acculturative stress, and Latino psychological distress: A moderated mediational model. *Cultural Diversity & Ethnic Minority Psychology*, 18, 17-25. doi:10.1037/a002671
- Torres, L., & Rollock, D. (2004). Acculturative distress among Hispanics: The role of acculturation, coping, and intercultural competence. *Journal of Multicultural Counseling and Development*, 32, 155-167. doi:10.1002/j.2161-1912.2004.tb00368.x
- Unger, J. B., Ritt-Olson, A., Wagner, K., Soto, D., & Baezconde-Garbanati, L. (2007). A comparison of acculturation measures among Hispanic/Latino adolescents. *Journal of Youth and Adolescence*, 36, 555-565. doi:10.1007/s10964-007-9184-4
- U.S. Census Bureau. (2017). *Hispanic or Latino Origin by Specific Group, 2017 American Community Survey 1-year estimate*. Retrieved from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_1YR_B03001&prodType=table
- U.S. Department of Labor Statistics. (2017). *Average hours employed people spent working on days worked by day of week*. Retrieved from <https://www.bls.gov/charts/american-time-use/emp-by-ftpt-job-edu-h.htm>
- Vélez, W. (2017). A new framework for understanding Puerto Ricans' migration patterns and incorporation. *Centro Journal*, 29, 126-153.

- Wang, S., Schwartz, S., & Zamboanga, B. (2010). Acculturative stress among Cuban American college students: Exploring the mediating pathways between acculturation and psychosocial functioning. *Journal of Applied Social Psychology*, 40, 2862-2887. doi:10.1111/j.1559-1816.2010.00684.x
- Wanous, J. P., & Hudy, M. J. (2001). Single-item reliability: A replication and extension. *Organizational Research Methods*, 4, 361-375. doi:10.1177/109442810144003
- Wolfe, M. M., Yang, P. H., Wong, E. C., & Atkinson, D. R. (2001). Design and development of the European American values scale for Asian Americans. *Cultural Diversity & Ethnic Minority Psychology*, 7, 274-283. doi:10.1037//1099-9809.7.3.274