

# A Meta-Analysis of Acculturation and Enculturation: Bilinear, Multidimensional, and Context-Dependent Processes

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## Abstract

Acculturation and enculturation are currently conceptualized as bilinear, multidimensional, and context-dependent cultural socialization processes (Yoon et al., 2013). Yet, this conceptualization requires further specification and empirical evidence. Our work is timely given the downward shift in productivity of traditional acculturation research and the need for a new direction. We examined the constructs and processes of acculturation and enculturation by meta-analytically synthesizing the findings of 255 publications (343 independent samples). In support of a bilinear (vs. unilinear) conceptualization, we found that acculturation and enculturation were only slightly associated with each other,  $r = -.18$ . In support of multidimensionality and context-dependency, their relationship varied by dimension (e.g., nonsignificant association of mainstream and ethnic identities vs. significant associations in other dimensions), geographic region, and race. Additionally,

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acculturation and enculturation rates/patterns varied by dimension; extrinsic changes (e.g., behavior) proceeded faster than intrinsic changes (e.g., values, identity). We discuss a direction for future research and implications for practice, advocacy, and education/training.

## Keywords

construct and process of acculturation, contextual influences, evidence-based theory

### **Significance of the Scholarship to the Public**

Acculturation and enculturation are important constructs and processes directly related to the lives of immigrants/refugees and racial/ethnic minorities. Evidence-based conceptualization of acculturation and enculturation will provide a solid research foundation and have significant advocacy implications for policy makers and society in general, as well as clinicians or organizations working with immigrants/refugees.

Acculturation can occur in any intercultural contact (Schwartz, Unger, Zamboanga, & Szapocznik, 2010), when “groups of individuals sharing different cultures come into continuous first-hand contact” (Redfield, Linton, & Herskovits, 1936, p. 149). Rudmin, Wang, and de Castro (2017) therefore defined acculturation as a learning process of second-culture acquisition; through this definition, they intended to eliminate intercultural inequality by highlighting that second-culture acquisition applies to either party in contact (Rudmin et al., 2017). However, in practice, the significance and magnitude of second-culture acquisition may vary across individuals and groups. Given the power imbalance in intercultural relations, minorities (e.g., immigrants) are more likely pressured to acculturate to the dominant culture, (Yoon, Langrehr, & Ong, 2011). Thus, for racial/ethnic minorities and immigrants, acculturation is often defined as cultural socialization to the mainstream culture, while enculturation is defined as retention of, or cultural socialization to one’s culture of origin (Kim & Abreu, 2001; Yoon et al., 2011).

The acculturation and enculturation processes are currently understood to be: (a) *bilinear* (i.e., proceeding relatively independently from each other in two separate continua), as opposed to *unilinear* (i.e., proceeding in one continuum by acquisition of mainstream culture involving loss of ethnic culture); (b) *multidimensional* (i.e., proceeding across multiple dimensions of behavior, cultural identity, knowledge, and values); and (c) interactive with *social contexts*

(Kim & Abreu, 2001; Miller, 2007; Schwartz et al., 2010; Yoon et al., 2013; Yoon et al., 2011). However, this conceptualization requires further exploration of its constructs (e.g., factors influencing the degree of dependency between acculturation and enculturation), processes (e.g., acculturation and enculturation rates/patterns over generations), and interaction with social contexts (e.g., contextual influences on bicultural integration).

Acculturation research in social sciences and health sciences has accelerated in frequency over the past few decades (Rudmin et al., 2017), as indicated by a total of 6,591 PsycINFO keyword search results for “acculturation” (as of October 2018) and the publication of four edited books on acculturation in the 2000s. A restricted PsycINFO keyword search for “acculturation” in six major journals of counseling and ethnic minority psychology (i.e., *The Counseling Psychologist*, *Journal of Counseling Psychology*, *Counselling Psychology Quarterly*, *Cultural Diversity and Ethnic Minority Psychology*, *Journal of Counseling and Development*, and *Journal of Multicultural Counseling Psychology*) yielded a total of 205 results. A closer examination via five-year breakdowns indicated that acculturation related reports from literature reached a peak between 2006 and 2010 but production has somewhat leveled off since then.

Given the leading role that counseling psychologists have played in acculturation research, this downward shift in productivity warrants researchers' attention. It might suggest looming saturation of traditional acculturation research which is characterized as cross-sectional, quantitative research on the relationship of acculturation status and outcome variables (Yoon et al., 2011). Reflecting the proliferation and possible saturation of traditional acculturation research, several meta-analysis studies were published in the 2010s to synthesize major findings, including the relations of acculturation or enculturation and mental health (Yoon et al., 2013) and help-seeking attitudes (Sun, Hoyt, Brockberg, Lam, & Tiwari, 2016), biculturalism and adjustment (Nguyen & Benet-Martínez, 2013), and acculturation mismatch and intergenerational conflict (Lui, 2015).

Considering the downward shift in productivity and the subsequent meta-analytic syntheses, we feel it is timely to pause and explore the constructs and processes of acculturation and enculturation themselves rather than further continuing with their correlates. The field of acculturation research has matured enough to develop evidence-based conceptualization, an empirical foundation upon which to build future research. Thus, drawing on the current conceptualization of acculturation and enculturation as bilinear, multidimensional, and context-dependent cultural socialization processes, we examined: (a) the overall relation between acculturation and enculturation; (b) moderation by dimension (e.g., behavior, identity, knowledge, and values), context,

and sample characteristics; and (c) acculturation and enculturation rates and patterns across generations.

## **Historical Context for the Current Conceptualization of Acculturation and Enculturation**

To provide a historical context for the current conceptualization of acculturation and enculturation, we must start with Berry's signature work of acculturation strategies (Berry, 1995, 1997). Berry cross-tabulated mainstream versus ethnic cultural orientations into integration, assimilation, separation, and marginalization according to high versus low orientation to either culture. Despite its contribution to operationalizing acculturation for research purposes, this typology has been criticized for the following reasons. People might erroneously view acculturation strategies as traits inherent in an individual and seek causal explanations in an individual rather than in cultural contexts (Rudmin, 2003). Certain aspects of acculturation may be beyond one's choice and rely on demographic or contextual factors (Schwartz et al., 2010). In response, in more recent publications, Berry has adopted acculturation contexts conducive to different acculturation strategies such as multiculturalism, melting pot, segregation, and exclusion (Berry, 2009; Sam & Berry, 2010).

Berry's categorical (i.e., typological) approach may reflect the preponderance of mean comparison (vs. regression) studies in the past (Yoon et al., 2011). However, acculturation and enculturation are dynamic, developmental, and continuous processes, and thus should be treated as continuous variables. A continuous approach has the practical advantage in this increasingly pluralistic society of allowing for multiple cultural orientations (e.g., trilinear cultural socialization processes of a Mexican immigrant to the United States living in an African American community; Lee, Yoon, & Liu-Tom, 2006). Thus, although our current understanding of acculturation and enculturation as bilinear processes is due to Berry's pioneering work, a continuous (i.e., linear) approach may better depict the complexity of acculturative experiences than a categorical (i.e., typological) approach (Mills, Fox, Gholizadeh, Klonoff, & Malcarne, 2017).

Despite the increasing awareness of acculturation and enculturation as bilinear versus unilinear processes, the lack of availability of bilinear measures deterred development of bilinear research designs. The publication of the Acculturation Rating Scale for Mexican Americans–II (Cuéllar, Arnold, & Maldonado, 1995), which measures Anglo versus Mexican cultural orientation in two separate continua, gave impetus to the development of bilinear measures and research designs. Bilinear measurement helped to tease out whether, and to what extent, acculturation versus enculturation were related

to outcome variables of interest, which unilinear measures could not be used to determine. According to a meta-analysis on the relation of acculturation or enculturation and mental health, bilinear measures revealed a positive association between acculturation and positive mental health outcomes (e.g., self-esteem, life satisfaction, positive affect) that the use of unilinear measures could not reveal (Yoon et al., 2013).

As for multidimensionality of acculturation and enculturation, publication of the Asian Values Scale (Kim, Atkinson, & Yang, 1999), a measure of Asian value enculturation, should be acknowledged. Since its publication, a series of value measures have been published: the European American Values Scale for Asian Americans (Wolfe, Yang, Wong, & Atkinson, 2001), the Asian Values Scale—Revised (Kim & Hong, 2004), and the Latino/a Values Scale (Kim, Soliz, Orellana, & Alamilla, 2009). The development of these instruments expanded the focus of acculturation research from behavior to values and added a new understanding of counseling process, help seeking, and intergenerational family conflicts (Kim, Ng, & Ahn, 2005; Kim & Omizo, 2003; Lui, 2015; Omizo, Kim, & Abel, 2008). Value measures highlighted the multidimensionality of acculturation and enculturation including behavior, values, knowledge, and cultural identity (Kim & Abreu, 2001). With the advancement in conceptualization and measurement, acculturation research in the counseling field flourished and reached its peak during the second half of 2000-2010, followed by meta-analytic syntheses in the 2010s.

## **Current Conceptualization of Acculturation and Enculturation**

The current conceptualization of acculturation and enculturation as bilinear, multidimensional, and context-dependent cultural socialization processes (Kim & Abreu, 2001; Miller, 2007, 2010; Yoon et al., 2011) needs further specification and empirical evidence. As for bilinearity, acculturation and enculturation are conceptually distinct from each other and confirmatory factor analyses supported their empirical independence (i.e., Miller, 2007, 2010). Nevertheless, they have often shown empirical overlap, as opposed to complete orthogonality; thus, the nuances of bilinearity need to be further explored. Previous research indicated varying degrees of dependency between acculturation and enculturation, ranging from non-significant to moderate associations, which included both positive and negative relationships (Sun et al., 2016). Some researchers have further examined how the relationship varied by a third variable, such as age at immigration, generational status, the degree of acculturation and enculturation, and regional context (Chang, Tracey, & Moore, 2005; Lee et al., 2006; Tsai, Ying, & Lee, 2000).

Overall, there is no definitive conclusion as to the direction (i.e., positive vs. negative) and magnitude of the relationship of acculturation and enculturation or how this relationship varies by demographics (e.g., race, nativity/generational status), dimension (e.g., behavior vs. values), or context (e.g., political climate). A positive association (i.e., the coexistence of two cultures) may suggest an easy integration of mainstream and ethnic cultures at an individual level, whereas a negative association (i.e., conflict between two cultures) may indicate difficulties with bicultural integration. Examining their overall relationship and specific moderators that affect this relationship would therefore illuminate support of and challenges regarding bicultural integration. The findings would have implications for clinical practice and policy making (e.g., creating environments conducive to bicultural integration and identifying intervention targets).

As for multidimensionality, Miller's (2007, 2010) confirmatory factor analysis indicated a multidimensional (i.e., behaviors and values) as well as a bilinear nature of acculturation and enculturation. Furthermore, acculturation and enculturation have been found to proceed at various rates/patterns across dimensions. Behavioral acculturation (e.g., language, food, media use, entertainment, social relationship, etc.) proceeded faster than value acculturation (Kim et al., 1999; Miller et al., 2013; Sabogal, Marin, Otero-Sabogal, VanOss Marin, & Perez-Stable, 1987). Even within the behavioral dimension, language acquisition occurred faster than social interactions (Hong & Min, 1999; Lee et al., 2006). Interestingly, decline in ethnic identity leveled off after two generations possibly because of the importance of ethnic identity, regardless of generational status, in keeping group solidarity in the face of discrimination (Phinney, 2003). In addition, although these cross-sectional studies indicated idiosyncratic rates/patterns of acculturation and enculturation across dimensions, these dimensions are likely to be interrelated and affect one another (Schwartz et al, 2011; Miller, 2007). For example, language acquisition may facilitate social interactions and value acquisition and vice versa.

Given that acculturation and enculturation are dynamic and developmental processes (vs. static statuses), longitudinal (vs. cross-sectional) research would better depict their developmental trajectories (see Knight et al., 2009; Knight et al., 2014; Schwartz, Unger, Baezconde-Gabanati et al., 2015; Schwartz, Unger, Zamboanga et al., 2015). However, acculturation and enculturation proceed over a long period of time, from a lifespan to generations (Kim et al., 1999; Phinney, 2003), so it is challenging to design longitudinal studies to capture the entire processes. Alternatively, a meta-analysis can be conducted to compare the findings from multiple age groups and generational

statuses, which cross-sectional research or short-term longitudinal research are too limited to study. In brief, meta-analytic studies give researchers an advantage in studying the processes of acculturation and enculturation in their entirety.

Furthermore, a meta-analytic study can be especially helpful in examining contextual influences due to the availability of studies conducted in various contexts. Acculturation and enculturation may proceed in interactions with surrounding systems such as family, school, community, and society in general. These subsystems may also interact with one another (e.g., community climate influencing parents' cultural socialization practice) and affect individuals' acculturative experiences. Also, a local community's political ideologies may influence its attitudes towards immigrants and ethnic minorities, thereby influencing their acculturative experiences. According to results reported from a national survey study, political ideologies (e.g., conservative vs. liberal) were related to respondents' willingness to accept immigrants (e.g., hostility toward out-group members vs. tolerance of immigrants; Brooks, Manza, & Cohen, 2016). Depending on local political climate, communities may be more or less welcoming environments for immigrants and racial/ethnic minorities, affecting how individuals engage with the mainstream and ethnic cultures. Acculturation researchers therefore have emphasized the importance of contexts (Lopez-Class, Gonzales Castro, & Ramirez, 2011; Yoon et al., 2011). However, it is not easy for researchers conducting primary studies to include context as a study variable because they usually recruit participants from similar contextual backgrounds (e.g., geographic region, institution, etc.). Thus, traditional acculturation research, based on one or two samples, has only rarely been conducted to empirically examine contextual influences beyond conceptual speculation (Yoon et al., 2011). A meta-analytic study, however, provides researchers with an advantage in studying contextual influences by allowing for comparison of findings from various contexts.

A positive versus negative relationship of acculturation and enculturation may suggest how the context in which a study was conducted is conducive to bicultural integration. Berry, Phinney, Sam, and Vedder (2006), in their international comparative study sample of immigrant youths across 13 nations, youths from highly supportive nations in diversity policy (e.g., Australia, New Zealand), found positive correlations between ethnic and national identities (i.e., coexistence of two identities), while youths from less supportive nations (e.g., Germany) tended to reveal negative correlations (i.e., conflict between two identities). These findings demonstrate the importance of macro-contexts for healthy bicultural integration.

## Our Study

Drawing on the bilinear, multidimensional, and context-dependent conceptualization of acculturation and enculturation, we examined using a meta-analytic approach the specifics of their constructs and processes to establish evidence-based conceptualization. First, we examined the direction (i.e., positive vs. negative) and magnitude of the overall relationship of acculturation and enculturation. We examined if these bilinear and conceptually distinct constructs were empirically related to each other. Second, to understand the specifics of this relationship, we examined how their degree of dependency varied by the following moderators: (a) dimension (i.e., behavior, language, social relationships, identity, knowledge, and values); (b) contexts of publication year, geographic region, and political climate; and, (c) sample characteristics of race, nativity (i.e., foreign-born vs. host country-born), gender, and age.

To examine a moderating effect of local political climate, we calculated an index of political climate for each state by using the results of eight presidential elections. We chose the elections spanning from 1988 until 2016 that correspond to the period when the primary studies (i.e., the data for our study) were conducted. For each election, we first calculated the state-level difference in the votes for a Republican candidate versus a Democratic candidate, by subtracting the percentage of votes for a Republican candidate from that for a Democratic candidate (see Federal Election Commission, 2018). We then divided this value by the equivalent national-level difference. We calculated a political climate index for each state by averaging these difference ratios from eight elections (V. Ottati, personal communication, October 11, 2017). Thus, positive indices indicated overall greater preference for Democratic candidates compared to the national norm, whereas negative indices indicated overall greater preference for Republican candidates. We then examined how the association of acculturation and enculturation varied by these indices to understand if bicultural integration was related to political climate.

Next, we examined the overall acculturation and enculturation rates/patterns across generations. Given that acculturation and enculturation are long-term processes proceeding over generations (Kim et al., 1999; Phinney, 2003), we compared generational mean differences in acculturation and enculturation to examine the long-term changing processes. Significant and sizable mean differences would indicate faster rates, while nonsignificant mean differences would indicate slower changes (see Kim et al., 1999; Lee et al., 2006). To understand the overall processes of acculturation and enculturation, we examined their within-study mean differences between the first generation and subsequent generations (i.e., 1.5 [foreign-born, child immigrants], second, third,



and fourth generations). We then examined if these rates/patterns differed by dimension (e.g., behavior, values, identity, and knowledge).

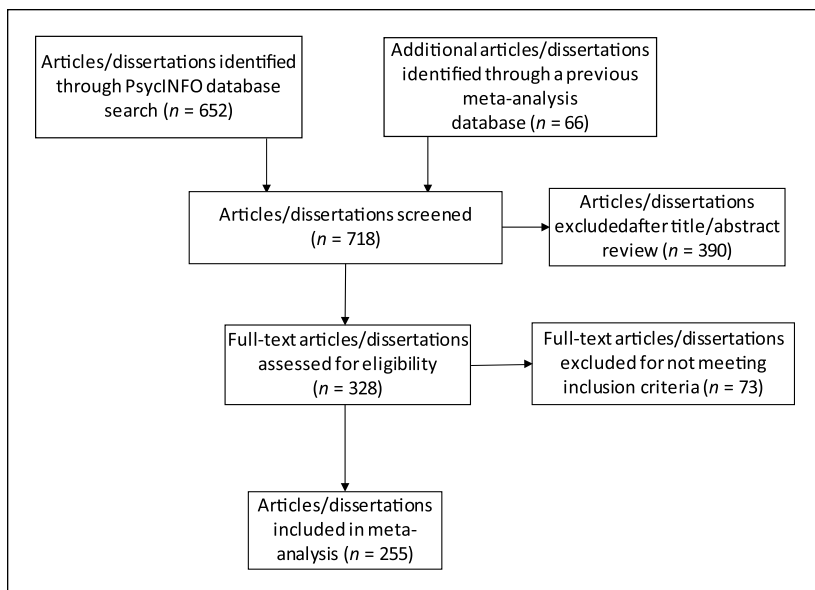
Overall, we hypothesized that acculturation and enculturation would be slightly or nonsignificantly related to each other, in support of bilinear conceptualization. We also hypothesized that this relationship would vary by dimension, context, and sample characteristics. We hypothesized that the relationship would be less negative or even slightly positive in states that are politically more liberal compared to conservative states, in support of contextual influences on bicultural integration reported in the literature. We left the specifics of the remaining moderators exploratory in nature. As for acculturation and enculturation rates/patterns, we hypothesized that external changes (e.g., language, behaviors) would proceed faster than internal changes (e.g., values, identity), supporting multidimensional idiosyncrasy in acculturative changes.

## Method

### *Literature Search*

Our research team comprised one faculty member (Eunju Yoon), who has conducted acculturation research for 15 years, and 12 graduate students in counseling psychology, including immigrants from Bulgaria, India, Mexico, Nigeria, South Korea, and Vietnam, a Malaysian international student, and U.S.-born African, Asian, and European Americans. Eunju Yoon conducted a literature search on the electronic database PsycINFO. A keyword search of acculturation and enculturation, cultural orientation\*<sup>1</sup>, or generation\* status yielded 652 publications (see Figure 1). After reviewing their titles and abstracts, Eunju Yoon examined the full texts of identified publications to determine their eligibility, which produced 189 eligible publications. She identified an additional 66 eligible publications from a database of a previously conducted meta-analysis on acculturation (Yoon et al., 2013). The final data included 343 independent samples from 255 publications (155 journal articles and 100 dissertations; see supplemental data list, available online at <https://journals.sagepub.com/doi/suppl/10.1177/0011000019898583>).

The inclusion criteria were: (a) operationalized acculturation and enculturation as cultural socialization to mainstream culture versus retention of, or cultural socialization to ethnic culture (i.e., bilinear operationalization); (b) examined the relationship of acculturation and enculturation and/or their mean differences by nativity/generational status; (c) reported the effect size (ES) of a bivariate correlation coefficient ( $r$ ), mean and standard deviation, mean difference ( $d$ ), or t-test result; (d) written in English; and, (e) published by the end of the year 2017. If a dissertation was later published as a journal



**Figure 1.** Flowchart of data inclusion.

article, only the journal article was included. An inclusive approach to methodological variations allows a larger number of studies to be analyzed, fuller representation of available research, and increased external (vs. internal) validity (Lipsey & Wilson, 2001). Thus, we allowed variability in measurement within our operational definition of acculturation and enculturation, by including both psychometrically validated scales and one to several item(s). Considering the dual standing of ethnic identity research, as an independent field as well as a part of acculturation research (Phinney, Horecnyk, Liebkind, & Vedder, 2001; Yoon et al., 2013), we included ethnic identity studies only when they were explicitly operationalized in the acculturative framework.

### Data Coding

Eunju Yoon created a coding system based on the conceptual framework of bilinearity, multidimensionality, and contextual dependency. Coded variables included (a) source of the study (e.g., journal article vs. dissertation, journal name); (b) when (i.e., publication year) and where (e.g., nation, state) the study was conducted; (c) sample size, race, gender, age, age group, and nativity/generational status; (d) acculturation and enculturation

measure, dimension, and reliability; and, (e) ES and test statistic (e.g.,  $r$ ,  $M$  and  $SD$ ,  $d$ , and  $t$ ). We held three 90-minute group training sessions to review the coding system, practice coding, and clarify any uncertainties. Between training sessions, the student researchers independently coded the same practice set of studies which advanced from simple to more complicated. In this way, we could ensure that each member was ready for independent coding. More advanced students (e.g., doctoral students, second year master's students) were paired with less advanced students (e.g., first year master's students) to work in coding dyads. Studies were randomly assigned to each pair and the total number of coded studies per student ranged from 18 to 59. Both researchers in each pair independently coded the assigned studies and then reviewed the coding sheets together to resolve any discrepancies. At biweekly research meetings, Eunju Yoon reviewed unresolved disagreements to reach consensus.

### *Effect Size Calculation*

The correlation coefficient,  $r$ , was the ES measure of choice for us to test the relationship of acculturation and enculturation. We used means, standard deviations, mean differences (i.e.,  $d$ ), and t-test results to examine acculturation and enculturation rates by estimating their mean differences by nativity/generational status. Some studies indicated multiple ESs from: (a) multiple measures of acculturation and enculturation (e.g., using both Northern Plains Biculturalism Inventory [Allen & French, 1993] and American Indian Enculturation [Winterowd, Montgomery, Stumblingbear, Harless, & Hicks, 2008]); (b) multiple dimensions of acculturation and enculturation (e.g., behavior, values, identity, and knowledge); and, (c) subgroups of participants by race, gender, age, and/or generational status. To avoid violating the assumption of independent samples, we selected only one ES from each sample (not each publication) for each analysis. Specifically, if multiple measures of acculturation and enculturation produced multiple ESs or the ESs for multiple dimensions were reported from the same sample, we calculated their average ESs. If ESs were reported for both the total sample (e.g., men and women combined) and subsamples (e.g., men and women separately), we chose the ES for the total sample. In one instance, however, multiple ESs were allowed from the same sample to test the moderating effect by dimension (Cooper, 2010). Overall, we attempted to minimize violation of statistical independence as well as include as much information as possible (Pieterse, Todd, Neville, & Carter, 2012; Smith & Silva, 2011).

Unreliable measurement attenuates ESs (i.e., ESs get smaller than they would be with more reliable measurement; Shadish & Haddock, 2009).

To correct attenuation due to unreliable measurement, ESs were adjusted according to the reliability estimates of the measures (e.g., Cronbach's alpha). When studies did not indicate reliability information from their own samples, we referred to the cited reliability information (e.g., reliability from original scale validation studies). A small number of ESs (12.76%) were not adjusted because reliability information of some measures was unavailable (e.g., unreported, single or several items). Both attenuated (original  $r$ ) and unattenuated (adjusted  $r$ ) ESs are reported in the online supplementary Table 1, but the subsequent analyses are based on the unattenuated ESs. We converted each ES of  $r$  to  $z_r$  by using Fisher's  $r$ -to- $z$  transformation; we then used the converted values to calculate the  $Q$  statistic and the mean ES of  $z_r$  (Lipsey & Wilson, 2001). To adjust for the heterogeneity of variance across studies, each ES was weighted by the inverse variance. Finally, the mean ES of  $z_r$  was back-transformed to report the mean ES of  $r$  and its 95% confidence interval (Hedges & Olkin, 1985; Lipsey & Wilson, 2001).

To examine the overall relation of acculturation and enculturation, we used a random-effects model which considers both within-study variability (i.e., subject-level sampling error) and between-study variability (i.e., random variability) to explain the heterogeneous distribution of ESs. We used a random-effects model because it enabled us to make inferences about a population of studies beyond our sample of studies (Lipsey & Wilson, 2001). In other words, as we aimed to establish evidence-based conceptualization of acculturation and enculturation, requiring generalization of the findings, a random-effects model was more appropriate than a fixed-effects model. We used a mixed-effects model for moderation analyses. By accounting for random between-study variability, a mixed-effects model better controls Type I error rates than a fixed-effects model (Lipsey & Wilson, 2001). All computation and analyses except for descriptive statistics and correlation analyses were conducted in Microsoft Excel spreadsheets that Eunju Yoon created by inserting calculation and analysis formulas.

## Results

### *Descriptive Characteristics*

*Sample characteristics*<sup>2</sup>. The total number of participants across all 343 samples was  $N = 76,879$ . As presented in Table 1, their mean age (weighted by sample size) was 25.77 ( $SD = 18.17$ ). The majority of the samples consisted of either college students ( $k = 139, 40.5\%$ ) or community-based adults ( $k = 107, 31.2\%$ ). Most samples included both males and females ( $k = 239, 73.5\%$ ). With respect to race/ethnic identity, Asian Americans ( $k = 140,$

**Table 1.** Descriptive Characteristics

Variable	Frequency (Percentage) <sup>a</sup>
Sample characteristics	
Age: <i>M</i> ( <i>SD</i> )	25.77 (18.17)
Age group	
College students	139 (40.5%)
Community-based adults	107 (31.2%)
Middle or high school students	84 (24.5%)
Elementary school students	7 (2.0%)
Other (e.g., elderly, adolescents in community)	4 (1.2%)
Gender	
Male and female combined	239 (73.5%)
Female only	55 (16.9%)
Male only	31 (9.5%)
Race	
Asian American	140 (40.8%)
Latino/a American	139 (40.5%)
African American	12 (3.5%)
Native American	7 (2.0%)
European American	7 (2.0%)
Two or more racial groups combined	20 (5.8%)
Other (e.g., Arab American, Asians outside of the United States)	17 (5.0%)
Study characteristics	
Publication type	
Journal article	155 (60.8%)
Dissertation	100 (39.2%)
Top journal outlets	
Cultural Diversity and Ethnic Minority Psychology	22 (14.2%)
Journal of Counseling Psychology	13 (8.4%)
Journal of Youth and Adolescence	9 (5.8%)
Journal of Cross-Cultural Psychology	8 (5.2%)
International Journal of Intercultural Relations	7 (4.5%)
American Journal of Community Psychology	5 (3.2%)
Publication year	
-1990	1 (.4%)
1991-1995	5 (2.0%)
1996-2000	13 (5.1%)
2001-2005	38 (14.9%)
2006-2010	99 (38.8%)
2011-2015	74 (29.0%)
2016-2017	25 (9.8%)

(continued)

**Table 1. (continued)**

Variable	Frequency (Percentage) <sup>a</sup>
Study place	
The United States	228 (89.1%)
West	85 (37.9%) <sup>b</sup>
South	48 (21.4%) <sup>b</sup>
Midwest	40 (17.9%) <sup>b</sup>
Northeast	12 (5.4%) <sup>b</sup>
Multiple regions	39 (17.4%) <sup>b</sup>
Canada	10 (3.9%)
The Netherlands	3 (1.2%)
Finland, Israel, and New Zealand	2 (.8%) each
Other (e.g., Hong Kong, Puerto Rico, Spain)	1 (.4%) each
Top acculturation and enculturation measures	
Acculturation Rating Scale for Mexican Americans-II	92 (30.3%)
Asian American Multidimensional Acculturation Scale	22 (7.2%)
Vancouver Index of Acculturation	22 (7.2%)
Abbreviated Multidimensional Acculturation Scale	17 (5.6%)
Stephenson Multigroup Acculturation Scale	16 (5.3%)
European American Values Scale for Asian Americans-Revised	13 (4.3%)
Asian Values Scale	10 (3.3%)

<sup>a</sup>Percentage calculation is based on the number of valid cases for each analysis (excluded missing cases). <sup>b</sup>Percentage calculation is based on the studies from the U.S.

40.8%) and Latino/a Americans ( $k = 139$ , 40.5%) were the most frequently studied groups.

**Study characteristics.** The final data set of 255 publications consisted of 155 journal articles (60.8%) and 100 dissertation studies (39.2%). The total number of ESs subjected to analyses included 380 correlation coefficients ( $r$ ) and 200 mean-related statistics ( $M$  and  $SD$ ,  $d$ , and  $t$ ). The articles were published in 65 different journals. Top outlets included *Cultural Diversity and Ethnic Minority Psychology*, the *Journal of Counseling Psychology*, the *Journal of Youth and Adolescence*, the *Journal of Cross-Cultural Psychology*, the *International Journal of Intercultural Relations*, and the *American Journal of Community Psychology*, in the order of frequency. The number of publications exponentially increased between 1990 and 2010, but productivity represented by publication has somewhat subsided since then. Most publications were done in the United States ( $n = 228$ , 89.1%), followed by Canada ( $n = 10$ ,

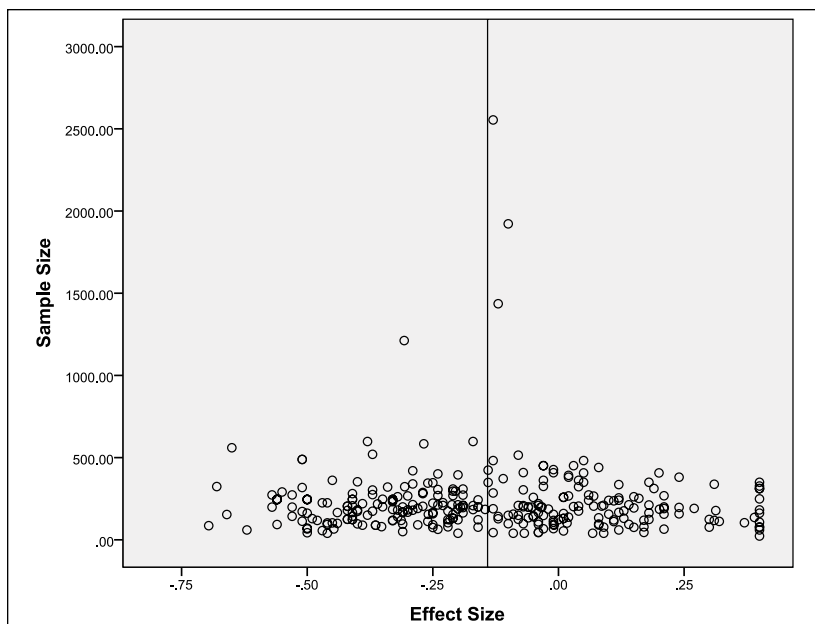
3.9%), and 13 additional nations. As for the United States–based studies, the largest number of studies were conducted in the West, followed by the South, the Midwest, multiple regions, and the Northeast.

**Acculturation and enculturation measures.** A total of 54 measures were used in our sample. The most frequently used measures included, in the order of frequency, Acculturation Rating Scale for Mexican Americans-II (Cuéllar et al., 1995), Asian American Multidimensional Acculturation Scale (Gim Chung, Kim, & Abreu, 2004), Vancouver Index of Acculturation (Ryder, Alder, & Paulhus, 2000), Abbreviated Multidimensional Acculturation Scale (Zea, Asner-Self, Birman, & Buki, 2003), Stephenson Multigroup Acculturation Scale (Stephenson, 2000), European American Values Scale for Asian Americans-Revised (Hong, Kim, & Wolfe, 2005), and Asian Values Scale (Kim et al., 1999).

### *Main Analyses: Relationship of Acculturation and Enculturation*

**Potential publication bias and outliers.** We examined whether publication bias was present by sample size or publication status (journal article vs. dissertation; see Cooper, 2010). We first used funnel plots to examine potential publication bias by sample size. A funnel plot with a distribution resembling a symmetrical inverted funnel indicates a lack of bias; an asymmetrical distribution indicates bias against selecting unexpected findings. In addition, a lack of small-sample ESs at the bottom of the plot indicates bias against selecting nonsignificant findings (Sterne, Egger, & Smith, 2001; Sutton, 2009). As shown in Figure 2, the distribution was rather symmetrical and did not indicate bias. Next, given that the ESs of published studies tend to be larger than those of unpublished studies (Cooper, 2010), we examined a potential difference in mean ESs by publication status (journal article vs. dissertation) but did not find such a difference at the alpha level of .05,  $Q_b(1) = 1.46, p = .22$  (see Table 2). In addition, extreme ES values can disproportionately affect statistics and distort meta-analytic results. Thus, Hedges and Olkin (1985) suggest removing outliers or adjusting them to less extreme values. The distribution of ESs revealed that 17 ESs were over two standard deviations away from their respective mean of acculturation or enculturation. We winsorized them by replacing each outlier with the ES value at two standard deviations from the related mean (Lipsey & Wilson, 2001).

**Omnibus tests.** The omnibus test, by using a random-effects model, indicated a slightly negative relationship of acculturation and enculturation,  $r = -.18, p < .001, k = 301$ . The index of heterogeneity was significant, with 94% of variability attributable to heterogeneity beyond sampling error,  $Q(300) = 4961.20, p < .001, I^2 = 94\%$ . To examine systematic variations,



**Figure 2.** Funnel plot of effect size against sample size.

we proceeded with a priori planned subgroup moderation analyses by using a mixed-effects model.

### *Moderation by study characteristics<sup>2</sup>*

*Acculturation and enculturation dimension.* We followed Kim and Abreu (2001) to identify acculturation and enculturation dimensions for a moderation test: behavior, identity, knowledge, and values. However, quite a few studies contained measures of language proficiency and social relationships separate from other indicators of behavior. To utilize this information and obtain a more refined understanding of the behavioral dimension, we adopted the dimensions of behavior, language, social relationships, identity, knowledge, and values. For all moderation analyses, only subgroups that had a minimum of three ESs were included in relevant analyses, and all six dimensions met this criterion. As shown in Table 2, dimension revealed a significant moderating effect,  $Q_b(5) = 17.84, p = .003$ . Language acculturation and enculturation revealed the strongest negative association with each other ( $r = -.37, p < .001, k = 32$ ), followed by values ( $r = -.27, p < .001, k = 27$ ), social relationships ( $r = -.24, p = .02, k = 12$ ), behavior ( $r = -.20, p < .001, k = 9$ ), and knowledge ( $r = -.18, p < .001, k = 3$ ). Identity indicated a nonsignificant association,  $r = -.04, p = .36, k = 26$ .



**Table 2.** Relationship of Acculturation and Enculturation: Moderation by Categorical Variables

Moderator	<i>k</i>	<i>n</i>	<i>r</i>	95% CI
Publication bias				
Publication type: $Q_b(1) = 1.46$				
Journal article	186	45,164	-.19***	[-.24, -.15]
Dissertation	115	25,978	-.15***	[-.21, -.09]
Study characteristics				
Dimension: $Q_b(5) = 17.84^{**}$				
Behavior	9	2,118	-.20***	[-.33, -.08]
Language	32	13,863	-.37***	[-.50, -.23] <sup>a</sup>
Social relationships	12	4,883	-.24*	[-.44, -.04]
Identity	26	5,813	-.04	[-.14, .05] <sup>a,b</sup>
Knowledge	3	899	-.18***	[-.25, -.11]
Values	27	4,880	-.27***	[-.37, -.17] <sup>b</sup>
Contextual influences				
U.S. geographic region: $Q_b(4) = 13.87^{**}$				
Northeast	15	2,274	-.04	[-.15, .06] <sup>a</sup>
Midwest	43	7,747	-.22***	[-.32, -.13]
South	61	13,071	-.28***	[-.37, -.20] <sup>a</sup>
West	96	24,435	-.19***	[-.26, -.12]
Multiple regions	43	12,210	-.13***	[-.21, -.06]
U.S. political climate: $Q_b(2) = 3.54$				
Democratic context	30	5,486	-.13**	[-.23, -.04]
Moderate context	55	16,269	-.16***	[-.24, -.07]
Republican context	40	11,644	-.25***	[-.34, -.16]
Sample characteristics				
Race: $Q_b(4) = 66.19^{***}$				
Asian Americans	121	27,249	-.12***	[-.17, -.07] <sup>a,b</sup>
African Americans	12	1,609	.13*	[.02, .24] <sup>a,c,d</sup>
Latino/a Americans	123	33,513	-.30***	[-.35, -.25] <sup>b,c</sup>
Native Americans	7	1,151	-.36	[-.72, .01] <sup>d</sup>
European Americans	7	1,392	-.19	[-.51, .12]
Nativity: $Q_b(1) = 1.08$				
Foreign-born	56	9,294	-.10**	[-.18, -.03]
Host country-born	27	4,347	-.18**	[-.32, -.05]

Note. For each analysis, *k* is the number of effect sizes included in each analysis.

<sup>a-d</sup>Significant subgroup difference at the level of  $p < .05$ .

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Contextual influences.** We examined contextual influences regarding when (i.e., publication year as a continuous variable) and where (i.e., geographic region and political climate as categorical variables) a study had been conducted. First, we estimated a random-effects weighted correlation between the publication year and the ES. Publication year had no moderating effect on the relationship of acculturation and enculturation,  $r = .03, p = .60, k = 300$ . Next, we examined the moderating effect of geographic region by grouping the U.S. regions into Northeast, Midwest, South, West, and multiple regions. The number of studies conducted outside of the United States was too small to test a moderation effect by nation or continent. As shown in Table 2, geographic region had a significant effect on the relationship of acculturation and enculturation,  $Q_b(4) = 13.87, p = .008$ . Studies conducted in the South indicated the strongest negative association ( $r = -.28, p < .001, k = 61$ ), followed by the Midwest ( $r = -.22, p < .001, k = 43$ ), the West ( $r = -.19, p < .001, k = 96$ ), and multiple regions ( $r = -.13, p < .001, k = 43$ ). We found a nonsignificant association in the Northeast,  $r = -.04, p = .40, k = 15$ .

Lastly, we examined the contextual influences of political climate. We calculated state-level indices of political climate based on the results of eight U.S. presidential elections between 1988 and 2016. By using the median index of  $-.34$  for California, we grouped states into Democratic (e.g., D.C., Massachusetts, Hawaii), moderate (California), and Republican (e.g., Utah, Texas, Mississippi) contexts. Our analysis of political climate did not indicate a significant moderating effect,  $Q_b(2) = 3.54, p = .17$ , although studies conducted in Democratic states tended to have a smaller negative association ( $r = -.13, p = .002, k = 30$ ) than studies conducted in Republican states ( $r = -.25, p < .001, k = 40$ ).

**Moderation by sample characteristics.** Moderation tests by sample characteristics included categorical moderators of race and nativity (i.e., foreign-born vs. host country-born) and continuous moderators of gender (i.e., female proportion) and age. Given the small number of studies conducted outside of the United States, we included only five U.S. racial groups (i.e., Asian Americans, African Americans, Latino/a Americans, Native Americans, and European Americans) to test moderation by race. Race indicated a significant moderating effect,  $Q_b(4) = 66.19, p < .001$ . Latino/a Americans indicated the strongest negative association of acculturation and enculturation ( $r = -.30, p < .001, k = 123$ ), followed by Asian Americans ( $r = -.12, p < .001, k = 121$ ). Despite substantial ESs, Native Americans ( $r = -.36, p = .06, k = 7$ ) and European Americans ( $r = -.19, p = .22, k = 7$ ) indicated nonsignificant relationships. Interestingly, African Americans demonstrated a positive association,  $r = .13, p = .01, k = 12$ . Nativity did not have any moderating effect,  $Q_b(1) = 1.08, p = .02$ . Random-effects weighted

**Table 3.** Standardized Mean Differences of Overall Acculturation and Enculturation by Generational Status

Generational status	<i>k</i>	<i>N</i>	<i>d</i>	95% CI
Overall acculturation				
1st generation vs. 1.5 generation	4	744 526	.36	[-.44, 1.17]
1st generation vs. 2nd generation	13	2,603 2,660	1.14***	[.80, 1.46]
1st generation vs. 3rd & 4th generation	7	983 346	2.30***	[1.43, 3.18]
Overall enculturation				
1st generation vs. 1.5 generation	5	435 388	-.36	[-1.12, .40]
1st generation vs. 2nd generation	16	2,655 2,810	-.71***	[-.96, -.45]
1st generation vs. 3rd & 4th generation	7	602 192	-2.05***	[-3.21, -.89]

Note. For each analysis, *k* is the number of effect sizes included in each analysis.

\*\*\* $p < .001$ .

correlation analyses for continuous moderators indicated nonsignificant effects by either gender (female proportion in each sample),  $r = -.01$ ,  $p = .90$ ,  $k = 288$ , or by age,  $r = -.02$ ,  $p = .78$ ,  $k = 275$ .

### *Main Analyses: Acculturation and Enculturation Rates/Patterns*

We examined the rates/patterns by examining within-study mean differences in acculturation or enculturation by generational status (see Table 3) or nativity (i.e., foreign-born vs. host country-born; see Table 4). The ES of choice was the standardized mean difference (*d*), using the first generation (for overall tests) or the foreign-born (for dimension specific tests) as reference groups. Subgrouping ESs considered balancing between obtaining maximum information and securing appropriate subgroup sizes. Thus, for overall acculturation or enculturation rates, we examined within-study mean differences between the first and subsequent generations (i.e., 1.5, second, third and fourth generations) to obtain maximum information about generational change (see Table 3). To examine the dimension specific acculturation and enculturation rates, we examined within-study mean differences by nativity to secure a sufficient number of ESs for each subgroup (see Table 4). ESs

**Table 4.** Standardized Mean Differences of Acculturation and Enculturation Dimensions by Nativity

Variable	<i>k</i>	<i>N</i>	<i>d</i>	95% CI
Acculturation dimension: $Q_b(4) = 29.80^{***}$				
Behavior				
Foreign-born vs.	5	750	1.18***	[.77, 1.60] <sup>a</sup>
Host country-born		665		
Language				
Foreign-born vs.	13	4,168	1.58***	[1.19, 1.96] <sup>b,c</sup>
Host country-born		4,746		
Social relationships				
Foreign-born vs.	8	1,575	.67**	[.22, 1.12] <sup>b</sup>
Host country-born		2,398		
Identity				
Foreign-born vs.	6	1,079	.47***	[.28, .67] <sup>a,c</sup>
Host country-born		1,064		
Values				
Foreign-born vs.	4	314	.67	[-.04, 1.38]
Host country-born		173		
Enculturation dimension: $Q_b(4) = 73.07^{***}$				
Behavior				
Foreign-born vs.	12	1,068	-1.53***	[-2.04, -1.02] <sup>a,b,c</sup>
Host country-born		1,020		
Language				
Foreign-born vs.	8	1,982	-1.26***	[-1.68, -.83] <sup>d,e</sup>
Host country-born		3,332		
Social relationships				
Foreign-born vs.	16	1,970	-.68***	[-.89, -.47] <sup>a,f,g</sup>
Host country-born		1,978		
Identity				
Foreign-born vs.	8	1,224	-.09	[-.18, .00] <sup>b,d,f</sup>
Host country-born		1,337		
Values				
Foreign-born vs.	7	757	-.16	[-.34, .01] <sup>c,e,g</sup>
Host country-born		442		

Note. For each analysis, *k* is the number of effect sizes included in each analysis.

<sup>a</sup> - <sup>g</sup>Significant subgroup difference at the level of  $p < .05$ .

\*\* $p < .01$ . \*\*\* $p < .001$ .

were adjusted according to the reliability estimates of acculturation and enculturation measures (e.g., Cronbach's alpha) and were weighted by the inverse variance based on the sample size.

**Overall acculturation and enculturation rates.** As shown in Table 3, within-study mean differences in acculturation between the first and subsequent generations were as follows: first vs. 1.5 generation,  $d = .36, p = .38, k = 4$ ; first vs. second generation,  $d = 1.14, p < .001, k = 13$ ; and first vs. third and fourth generation,  $d = 2.30, p < .001, k = 7$ . Mean differences in enculturation were as follows: first vs. 1.5 generation,  $d = -.36, p = .35, k = 5$ ; first vs. second generation,  $d = -.71, p < .001, k = 16$ ; and first vs. third and fourth generation,  $d = -2.05, p < .001, k = 7$ .

**Dimension specific acculturation and enculturation rates.** We included behavior, language, social relationships, identity, and values to test dimension specific acculturation and enculturation rates, but we excluded knowledge for having less than three ESs for subgroups of nativity. As shown in Table 4, within-study mean differences in acculturation by nativity indicated a significant moderating effect by dimension,  $Q_b(4) = 29.80, p < .001$ . Language acculturation proceeded at the fastest rate ( $d = 1.58, p < .001, k = 13$ ), followed by behavior ( $d = 1.18, p < .001, k = 5$ ), social relationships ( $d = .67, p = .004, k = 8$ ), and identity ( $d = .47, p < .001, k = 6$ ). Values indicated no significant mean differences by nativity,  $d = .67, p = .06, k = 4$ . Within-study mean differences in enculturation by nativity also indicated a significant effect by dimension,  $Q_b(4) = 73.07, p < .001$ . Behavioral enculturation declined at the fastest rate ( $d = -1.53, p < .001, k = 12$ ), followed by language ( $d = -1.26, p < .001, k = 8$ ), and social relationships ( $d = -.68, p < .001, k = 16$ ). Ethnic identity ( $d = -.09, p = .06, k = 8$ ) and cultural values ( $d = -.16, p = .07, k = 7$ ) did not indicate significant decline by nativity. When we did a follow-up test to examine if the magnitudes of these mean differences differed for acculturation versus enculturation by comparing their absolute values, identity indicated a significant difference,  $Q_b(1) = 11.79, p < .001$ . Acquisition of mainstream identity (e.g., national identity) occurred faster than loss of ethnic identity. Other dimensions did not indicate such differences.

## Discussion

Drawing on the conceptualization of acculturation and enculturation as bilinear, multidimensional, and context-dependent cultural socialization processes (Kim & Abreu, 2001; Miller, 2007; Schwartz et al., 2010; Yoon et al., 2011),

we examined its constructs and processes by meta-analytically synthesizing the findings of 255 publications (343 independent samples) across the span of three decades. To briefly summarize sample characteristics, approximately 80% of the samples included Asian or Latino/a Americans, while less than 10% included African, Native, or European Americans. This finding suggests a need to expand the scope of acculturation research to involuntarily subjugated groups (e.g., African Americans, Native Americans) as well as recent immigrant/refugee groups from Caribbean, African, and European nations. The scarcity of research on African Americans may be partially due to the salience of their racial and sociopolitical experiences in the United States, as opposed to ethnic or cultural experiences, in addition to the misconception that African Americans are cultureless (Mills et al., 2017).

The top five journal outlets included two discipline specific journals, the *Journal of Counseling Psychology* and the *American Journal of Community Psychology*, reflecting the discipline-specific emphasis on culture in counseling and community psychology (Delgado-Romero, Lau, & Shullman, 2012; Trickett, 1996). Acculturation research exponentially increased until the end of 2010 but has somewhat leveled off since then, possibly suggesting looming saturation of traditional, cross-sectional research on the relations of acculturation or enculturation and outcome variables of interest (e.g., mental health, help seeking, family conflicts). Thus, it was timely to refocus on the constructs and processes of acculturation and enculturation instead of further continuing with their correlates.

In support of our hypothesis, acculturation and enculturation were slightly negatively associated with each other,  $r = -.18$ , meaning that acculturation involves some loss of ethnic culture. Given their conceptual distinction from each other, we recommend separately measuring acculturation and enculturation as independent, bilinear constructs. Nevertheless, considering their slight empirical overlap, we recommend focusing on their varying degrees of dependency by third variables, as opposed to viewing them as completely orthogonal constructs. Thus, we further explored moderation effects by: (a) dimension (i.e., behavior, language, social relationships, identity, knowledge, and values); (b) contexts of publication year, geographic region, and political climate; and (c) sample characteristics of race, nativity, gender, and age. As hypothesized, the relationship of acculturation and enculturation varied by dimension. The relationship was negative in all dimensions except for identity. Language acculturation and enculturation indicated the strongest negative association of  $r = -.37$ , meaning that people use one or the other language to a certain degree. Acculturation and enculturation were negatively related in other behavioral (e.g., social relationships) and value dimensions, as well. In contrast, identity revealed a nonsignificant association. Two identities

(e.g., ethnic and national identities) were not necessarily in conflict and were rather independent from each other.

As to contextual influences, publication year indicated no moderating effect, but geographic region did. Studies conducted in the South indicated the largest negative association of acculturation and enculturation, while a nonsignificant association was found in the Northeast. Additionally, even though the moderation test for political climate did not reach statistical significance and failed to support our hypothesis, the negative association of acculturation and enculturation tended to be smaller in Democratic states ( $r = -.13$ ) than in Republican states ( $r = -.25$ ). Interestingly, the South, which revealed the largest negative association, consisted of mostly Republican states, while the Northeast, which revealed a nonsignificant association, consisted of Democratic states. In an environment where cultural diversity is appreciated and biculturalism is supported, cultural integration at an individual level would be easier. Conversely, in a less supportive environment, ethnic minorities may feel pressured either to assimilate to mainstream culture or separate themselves within ethnic culture.

Traditional acculturation research tends to be acontextual as it is exclusively focused on individual characteristics such as acculturation strategies (Yoon et al., 2011). Our findings supported the importance of situating acculturation and enculturation experiences within social contexts. Unfortunately, researchers conducting meta-analysis studies can analyze only the information reported in the primary studies. Thus, we tested the effects of only three macro-level variables, and could not examine other contextual influences (e.g., institutional multicultural climate, neighborhood demographic composition, ethnic density, overall diversity policy).

As for sample characteristics, nativity, gender, and age did not have any moderating effects, although race did. Latino/a Americans revealed the largest negative ES, followed by Asian Americans, whereas European Americans indicated a nonsignificant ES and African Americans indicated a positive ES. The degree of similarity between mainstream and ethnic cultures (e.g., use of the English language, individualistic values) may impact the degree of ease or difficulty associated with bicultural integration (Rudmin, 2003; Schwartz et al., 2010). Also, each racial group has unique interracial, intercultural history and relations, and cultural socialization proceeds within such contexts. For example, if a group has experienced high discrimination, its members may develop *reactive ethnicity* by strongly holding onto ethnic culture and refusing to adopt mainstream culture (Rumbault, 2008). Group specific factors, such as cultural similarity, discrimination, and reactive ethnicity, may interact with one another and produce variant associations of acculturation and enculturation.

When we made an eyeball (vs. statistical) comparison of the overall acculturation versus enculturation rates/patterns, acculturation appeared to have larger mean differences than enculturation between the first and subsequent generations. In other words, acquiring mainstream culture appeared to proceed faster than losing ethnic culture. Moreover, both acculturation and enculturation revealed moderating effects by dimension. Language acculturation proceeded at the fastest rate, followed by behavior, social relationships, and identity, whereas the levels of value acculturation did not differ by nativity. Similarly, behavioral enculturation declined at the fastest rate, followed by language, and social relationships, whereas cultural values and ethnic identity did not decline by nativity.

These findings are consistent with the previous findings by other researchers that behavioral acculturation proceeded faster than value acculturation when different generations of immigrants were compared (Kim et al., 1999; Miller et al., 2013). Within the behavioral dimension, language acquisition occurred faster than social interactions (Hong & Min, 1999; Lee et al., 2006). In addition, previous research indicated that Asian American and Latino/a adolescents cherished heritage, cultural values, and ethnic identity even though they were not proficient in their ethnic languages (Portes & Rumbaut, 2001; Schwartz, Zamboanga, & Jarvis, 2007). Phinney (2003) also found that decline in ethnic identity leveled off after two generations. The longitudinal study results of Schwartz, Unger, Baezconde-Garbanati et al. (2015) further supported these cross-sectional findings, via acculturative trajectories of recent-immigrant Hispanic adolescents over a 2.5 year-period. Latent class growth analyses of five waves of data revealed that cultural practices were likely to change during the first few years following immigration, but values did not. In brief, our results supported the previous findings on acculturation and enculturation rates/patterns including the changes over generations as well as during the first few years following immigration. In support of our hypothesis, extrinsic changes (e.g., behavior), in general, occurred faster than intrinsic changes (e.g., values, identity). Faster external adaptations (e.g., English language use, mainstream interpersonal manners) may be partially due to immigrants' need for survival and success in mainstream contexts (Yoon et al., 2013).

When we further compared the sizes of dimensional mean differences by nativity for acculturation versus enculturation, identity indicated a significant difference. Mainstream identity indicated a larger mean difference by nativity than ethnic identity, meaning acquisition of mainstream identity occurred faster than decline of ethnic identity. Other dimensions did not indicate such differences. In addition to the nonsignificant association of mainstream and ethnic identities, this finding suggests that identity acculturation does not



necessarily involve decline of ethnic identity but rather, they are independent processes. Given the varying rates/patterns and relationship of acculturation and enculturation by dimension, researchers need to attend to dimension specific experiences of acculturation and enculturation.

### *Limitations*

Our findings should be understood in consideration of the following limitations. First, we may have omitted some literature in our data search by using only one database, PsycINFO, and including only English-written studies. Thus, the constructs and processes of acculturation and enculturation in other parts of the world (e.g., non-Western countries) may differ from our findings. Second, we did not assess inter-rater reliability for initial coding although coding pairs resolved occasional discrepancies via discussion and Eunju Yoon who has expertise in acculturation research reviewed the remaining discrepancies. Third, our analysis was primarily based on correlational data, so a strict interpretation of causality is discouraged. Nevertheless, the included moderators (e.g., dimension, context, demographic characteristics) are not likely to be influenced by acculturation and enculturation. It is more reasonable to interpret our findings such that the moderators affected the relation or rates/patterns of acculturation and enculturation rather than vice versa. Fourth, the moderation tests by dimension inevitably included more than one ES from one sample, in an attempt to balance between minimizing the violation of statistical independence and retaining as much information as possible. Lastly, a meta-analytic review is limited to analyzing only the information that primary studies have provided. Thus, we could not examine the complexity of contextual influences (i.e., diversity policy, local ethnic density, family/school/neighborhood environments). Also, considering the possible within-state variability (e.g., rural vs. urban) in political climate, a state-level index may not accurately reflect individuals' local context.

### *Implications for Practice, Advocacy, Education/Training, and Research*

Based on our findings, we suggest a direction for future research and discuss implications for practice, advocacy, and education/training. First, cultural socialization is inherently a developmental process (Schwartz, Unger, Zamboanga, et al., 2015). Given the downward shift in the productivity of traditional, cross-sectional research, future research needs to move beyond single point in time measurements toward longitudinal studies to understand acculturative process versus status (Knight et al., 2014). Researchers intending to conduct lifespan

development studies need to consider the following developmental factors: (a) different needs across the lifespan (e.g., peer approval for adolescents vs. financial security for adults); (b) critical/sensitive ages in cultural socialization (e.g., language acquisition, identity formation); and, (c) cultural openness and susceptibility. Given the variant rates/patterns by dimension, both short-term and long-term longitudinal research is needed: (a) over several years following immigration (e.g., language acquisition and social interactions) and (b) over generations (e.g., value and identity changes).

Next, future research needs to include context as a study variable and examine the impact of multiple levels of social systems as well as interaction between subsystems (Yoon et al., 2013). Future researchers may examine congruence and incongruence among cultural socialization messages that children receive from different subsystems (e.g., parents vs. school vs. media), and explore how children navigate and adopt these messages. Findings at different levels of social systems may have different implications. For instance, familial influences (i.e., micro-level impact) can have direct implications for family therapy and parent education, whereas macro-level findings can have implications for advocacy and policy making.

Berry et al. (2006) provide an excellent example of assessing macro-contexts. They evaluated the diversity policy of 13 nations based on nine criteria that were developed in political science (e.g., a government policy promoting multiculturalism, adoption of multiculturalism in the school curriculum, ethnic representation in the media). Even if proposing a large-scale study investigating macro-contexts may feel daunting to many researchers lacking adequate resources, the increasing number of web-based research engines makes it easier to collect data from diverse backgrounds and examine contextual influences. This line of research will produce particularly useful implications for practice, advocacy, and education by shifting exclusive focus from individuals to systems. In addition to such objective assessment of acculturative contexts, it would be informative to assess individuals' subjective perception of the context of reception in the host nation (Schwartz, Unger, Baezconde-Garbanati et al., 2015), as well as the goodness-of-fit between individuals and the environment that maximize their well-being (Schwartz et al., 2010).

Furthermore, beyond illuminating supportive versus challenging environments for bicultural integration, researchers may examine how context shapes different types of biculturalism (see LaFromboise, Coleman, & Gerton, 1993). For example, biculturalism may emerge as cultural frame-switching when one or the other cultural orientation is more or less appropriate depending on the context (e.g., adopting mainstream work values vs. ethnic family values; Schwartz et al., 2014). Conversely, biculturalism may emerge as a new, blended culture in places with high ethnic density such as Miami (e.g., Spanglish; Benet-Martínez & Haritatos, 2005; Schwartz et al., 2014).

We could not examine the relations between different dimensions of acculturation and enculturation because many primary studies did not report this information. According to anecdotal reports, Yoon's (2006) exploratory factor analysis of the Abbreviated Multidimensional Acculturation Scale (Zea et al., 2003), in a community sample of Korean immigrant adults, revealed distinct subscales of the Korean language and Korean cultural competency, while the English language and U.S. cultural competency merged into one factor. Similarly, Miller (2007, 2010) found in samples of Asian American college students that behavior and values were more closely related to each other in acculturation than in enculturation. According to these findings, acculturation may be a more *interdependent* process across dimensions, while enculturation may proceed more *independently* across dimensions. Future research needs to be conducted to test this hypothesis.

From a theoretical perspective, African and European migrants are fascinating groups to study as to the complexity of social identity from an acculturative perspective. Asian and Latino/a Americans have briefer histories in the United States compared to African or European Americans. Thus, their ethnicity/culture tend to be more salient than race to both themselves and outsiders (Cokley, 2007; Yoon, 2011). In contrast, recent immigrants of African/Caribbean or European descents may experience dissonance between internal and external identities in that their intrinsic identity is based on ethnicity/culture, but race is more salient to outsiders. Considering differential social statuses by race, African migrants may hold onto their ethnic identity and culture of origin as a source of pride in the face of racial discrimination, while European immigrants may be willing to quickly acculturate, adopt racial identification as European Americans, and thus partake in the racial privileges afforded them in the United States.

Additionally, researchers and clinicians should consider within-group differences among European American immigrants. As to occupational privileges and income levels, the migratory experience of East European immigrants differs from that of Northern and Western European counterparts with similar educational backgrounds (Michalikova, 2018). East European immigrants indicated that their cultural values were different from the U.S. mainstream values (Adler, 2004; Robila & Krishnakumar, 2004). As such, researchers and clinicians need to attend to the distinct cultural socialization and adaptation experiences of East European immigrants, including those from previously Communist countries (Robila, 2007). In brief, acculturative trajectories among diverse immigrant groups may vary depending on the different segments of society available to them (e.g., socioeconomic mobility; Portes & Zhou, 1993). Additionally, majority groups' cultural socialization experiences need to be explored, both in the local and global contexts of this increasingly diversifying world (Chen et al., 2016).

A few researchers have raised intriguing critiques on the current practice of acculturation research (Chirkov, 2009; Lopez-Class et al., 2011; Rudmin et al., 2017). They criticized a quantitative, deductive-nomological approach that involves hypothesis testing and empirical generalization. We also adopted this approach by statistically synthesizing accumulated findings to discover a general law underlying acculturative experiences. Instead, these researchers have suggested a paradigm shift from a quantitative to qualitative approach in order to better comprehend the complexity of acculturative phenomena which are uniquely situated in historical and cultural contexts.

Finally, psychologists may use the current findings as an empirical foundation for practice, advocacy, and education/training. A systematic, evidence-based conceptualization of acculturation and enculturation would provide a solid framework to guide their practice and explain advocacy and outreach efforts. By understanding the bilinearity (or multilinearity) of acculturation and enculturation, psychologists may encourage development and integration of two or more cultural orientations in clinical practice, advocacy work, and education/training, as opposed to viewing them to be inherently in conflict. Understanding the dimensional variation in acculturation and enculturation rates/patterns has practical implications. For example, many first-generation immigrants feel distant from second or third-generation immigrants due to their observable differences in language use and behaviors. While observing children's rapid behavioral changes, parents may feel that their children are drifting away from them and experience additional loss resulting from immigration. Through family therapy, parent education, and community outreach, psychologists can bridge different generations by highlighting internal similarities between generations (e.g., values, identity) despite external behavioral differences. Psychologists should incorporate acculturating contexts into case conceptualization and intervention plans, instead of ascribing bicultural integration solely to individuals. Such efforts may extend beyond individuals to advocacy, community education, and policy making.

In conclusion, as addressed by Chirkov (2009), acculturation is an important research area that has significant advocacy implications for policy makers and society in general, as well as practitioners and organizations working with immigrants/refugees. We expect that our findings will catalyze the next phase of research in this significant area and serve as an evidence-based framework to guide practice, advocacy, and education/training.

## Authors' Note

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## Notes

1. A PsycINFO search returns variations in the ending of the word if an asterisk is inserted after the root stem of a search term.
2. See the superscripts next to the confidence intervals in Tables 2–4 for statistically significant subgroup differences.

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