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Implicit Orientation Toward Family and School Among Bilingual Latino College Students

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Abstract

The authors examined the associations that underlie the orientations of bilingual Latino college students toward family and school. Participants completed, in English or Spanish, 3 implicit association tests assessing their attitude toward family vs. school, identifications with these concepts, and self-esteem. Results revealed a more positive attitude toward, and stronger identification with, family than school. Identification with family was stronger among participants who completed the study in English, suggesting self-definition in terms of distinctions from the context. Last, the more participants valued family over school and identified with family rather than school, the higher was their self-esteem. These findings shed light on the subtle, yet crucial, mechanisms by which cultural knowledge is incorporated in the self-concept of bilingual Latino college students.

Keywords

bicultural identity; bilingualism; culture; implicit attitude; self-concept; self-esteem

At the juncture of different cultures, a growing number of people live. They are immersed in multicultural environments and are likely to define themselves, and likely to be defined, along multiple ethnic or cultural boundaries (Hermans & Kempen, 1998; LaFromboise, Coleman, & Gerton, 1993). Contemporary research on ethnic identity, acculturation, and cultural orientation has revealed that individuals can successfully internalize more than one culture (Berry, 1990; Berry, Phinney, Sam, & Vedder, 2006; Devos, 2006; Hong, Morris, Chiu, & Benet-Martínez, 2000; Padilla, 1994). In the present study, we focused on the experiences of bilingual Latino college students. Fluent in Spanish and English, these individuals have been immersed both in their culture of origin and in what is commonly referred to as the *dominant culture*. Thus, the experiences of Latino college students are often characterized by the need to negotiate the conflict between the values of their culture of origin and dominant cultural values (Segura, 1993; Vásquez, 1982; Vega, 2008). In this research, we examined the orientation of bilingual Latino college students toward family and school, two constructs that are often described as having cultural significance among Latinos. Understanding how Latinos reconcile their seemingly contradictory orientations

toward family and achievement is an important step toward identifying conditions under which family and academic achievement interact toward a positive end (Valenzuela & Dornbusch, 1994).

Importance of Family and School in the Latino Culture

Researchers have described beliefs and practices that promote close relationships, family support, and interdependence among family members as core aspects of the Latino culture in general and Mexican American culture in particular (Marín & Marín, 1991; Zinn, 1982). Researchers use the multidimensional construct of *familism* to capture this reality (Cauce & Domenech-Rodríguez, 2002; Marín & Marín; Valenzuela & Dornbusch, 1994; Zinn, 1994). Several scales have been developed to measure familism, enabling a growing number of researchers to investigate the construct (Rodríguez & Kosloski, 1998; Sabogal, Marín, Otero-Sabogal, & Marín, 1987; Steidel & Contreras, 2003). In comparison with individuals of European descent, Latinos often endorse higher values of family support and obligations to family members and use family members as referents (Sabogal et al., 1987). Mexican American adolescents place a greater value on family support, assistance, and obligations than do European American youth (Fuligni, Tseng, & Lam, 1999). Several researchers have emphasized the attitudinal component of familism (Steidel & Contreras). From their perspective, the concept refers to a normative commitment to family relationships and obligations, which supersedes personal goals. Familism encompasses a strong sense of interconnectedness and solidarity within the family unit, reciprocity in relationships, and a belief in familial honor (Cauce & Domenech-Rodríguez; Cortes, 1995; Marín & Marín; Sabogal et al.).

Researchers often contrast attachment to family relations and obligations with attachment to school. The college environment is influenced by values, beliefs, and practices that largely reflect the Anglo, or European, American culture (Castillo, Conoley, & Brossart, 2004; Castillo et al., 2006). In this environment, the emphasis is on individually centered values (e.g., self-reliance, independence, uniqueness). Personal accomplishments and achievements supersede collective interests and cultural heritages. Latino college students learn to balance values of their culture of origin with values of the college environment. Although many multicultural individuals navigate successfully between the two worlds, there are often compromises. Latino college students may have to give priority to their family responsibilities before they can focus on their schoolwork or vice versa (Fuligni et al., 1999; Phinney, Ong, & Madden, 2000; Saunders & Serna, 2004). Niemann, Romero, and Arbona (2000) showed cultural factors such as ethnic loyalty accounted for the perception of conflict between family and educational aspirations. Perception of an imbalance, or cultural incongruity, decreases the likelihood of academic persistence (Gloria, Castellanos, & Orozco, 2005). These findings should not obscure the fact that the value that an individual places on family obligation can also strengthen educational ambitions and academic motivation (Fuligni et al.; Phinney, Dennis, & Osorio, 2006; Phinney et al., 2000). Recent studies have revealed that family support is a predictor of academic persistence among Latino undergraduates (Gloria, Castellanos, Lopez, & Rosales, 2005). Similarly, Phinney et al. (2006) pointed out that ethnic minorities list “to help my family” as one of the strongest

reasons to attend college, and they are more likely than their European American peers to list family-oriented motives.

Implicit Attitude, Self-Concept, and Self-Esteem

Previous researchers who studied these issues have relied almost exclusively on self-report measures. Recent advances in the study of implicit social cognition suggest that attitudes and beliefs often operate outside of conscious awareness or control (Devos, 2008; Fazio & Olson, 2003; Greenwald & Banaji, 1995). In the present research, we focused on implicit associations toward the concepts of family and school. Implicit measures have two important advantages. First, attitudes and beliefs may not be fully available to introspection. Therefore, self-reports do not necessarily provide a complete assessment of people's feelings and thoughts. Second, social desirability, impression management, or demand characteristics can affect self-report of attitudes and beliefs. Implicit measures may capture associations that individuals are either unable or unwilling to report. Methodological and theoretical developments in the study of implicit social cognition have facilitated access to associations that may not fully enter consciousness and are less influenced by demand characteristics. These more recent concepts and paradigms have enriched the examination of cultural and contextual influences on attitudes and beliefs. For example, Banaji (2001) and Rudman (2004) have suggested that implicit associations are the product of repeated experiences within specific social or cultural contexts. From this theoretical vantage point, researchers can conceptualize attitudes and beliefs as a network of associations that can be activated, strengthened, or undermined through experiences and interactions. Research stemming from an implicit social cognition framework brings to the forefront the subtle but crucial ways in which sociocultural realities influence mental processes (Devos & Banaji, 2003).

Although cultural identities may involve experiences of reflexive consciousness and more deliberative processes, it is also evident that cultures and environments shape attitudes and beliefs in ways that operate outside of conscious awareness or control. In other words, cultural orientations are likely to develop, in part, from processes that do not entail deliberative participation. Cultures pervade or influence subtle psychological dynamics in ways that individuals may not be able to report. Although some facets of mental life imply that individuals reflect on their experiences, self-consciously evaluate their orientations, or introspect about what is most important to them, many other reactions derive from processes that are largely automatic or nonconscious. Thus, theories and tools developed to study implicit social cognition may pave the road to a better understanding of the complex interplay between cultures and individuals. The present study aims to inform a more sophisticated understanding of the structures of self-concept, self-esteem, familism, and academic achievement through the study of implicit associations among Latinos.

Several techniques allow researchers to investigate attitudes and beliefs that do not necessarily involve introspective access or deliberative thought (Fazio & Olson, 2003; Wittenbrink & Schwarz, 2007). In the present research, we used one of these techniques to examine bilingual Latino university students' orientation toward the concepts of family and school. We assessed the extent to which these concepts may elicit different implicit

evaluations, and we assessed the extent to which these concepts are automatically linked to the self. That is, do bilingual Latino students display a stronger implicit identification with one of these concepts? One goal of the present research was to demonstrate the ability of implicit measures to capture university students' attitudes toward these concepts and to capture the extent to which each concept is incorporated in university students' self-concepts. We expected that attitude and identification would be distinct components of students' implicit orientation toward family and school.

To demonstrate the predictive validity of the implicit orientation toward family and school, we also examined the extent to which Latino undergraduates derived implicit self-esteem from their implicit attitude toward and identification with family and school. Greenwald et al. (2002) proposed a unified theory that accounts for patterns of interrelations among self-concept, attitude, and self-esteem. A core principle of the theory is that (a) attitude toward self and (b) attitudes toward concepts closely associated with self (i.e., components of self-concept) tend to be of similar valence (also see Devos, Diaz, Viera, & Dunn, 2007). Researchers can test this balance-congruity principle by examining the extent to which they can predict one of these constructs (e.g., self-esteem, identification, attitude) as a function of the other two. In the present context, we tested whether college students' self-esteem is a multiplicative function of the extent to which they identify with and value family in comparison with school. For example, for individuals who strongly identify with family, liking the concept of family should be positively correlated with self-esteem. In other words, one could state, "If family is an important aspect of my self-concept and family is good, then I feel good about myself." With the correlational nature of the data, we do not mean this statement to imply a specific causal flow between the constructs.

Role of Language and Acculturation

Researchers have often cited language as a contributor to ethnic or cultural identity (Gudykunst & Ting-Toomey, 1990; Hurtado & Gurin, 1995). Language serves as a symbol of ethnic identity: It reminds the group of its heritage and contributes to the transmission of values, feelings, and practices (Giles, Bourhis, & Taylor, 1977; Hurtado & Vega, 2004; Phinney, Romero, Nava, & Huang, 2001). Language also influences bilingual people's responses to surveys and questionnaires (Bond & Yang, 1982; Yang & Bond, 1980). These effects have been explained in terms of cultural accommodation (Bond & Yang) and cultural frame switching (Hong et al., 2000; Ramírez-Esparza, Gosling, Benet-Martínez, Potter, & Pennebaker, 2006). These theoretical accounts posit that language primes specific values, attitudes, or memories, which in turn affect responses to the surveys or questionnaires. In general, responses reflect the beliefs and attitudes associated with the language that participants use to complete the measure. In the present research, participants were randomly assigned to complete the implicit and explicit measures either in English or Spanish, affording us the opportunity to systematically assess the impact of language on the participants' orientation toward family and school.

Researchers may expect the level of acculturation to influence the orientation of bilingual Latino students toward family and school, but research to date has provided mixed results. Sabogal et al. (1987) found that Latinos who were less acculturated to the dominant culture

in the United States reported higher levels of agreement with familial obligations and with the use of family as referents than more acculturated Latinos. In contrast to these findings, Rodnruez and Kosloski (1998) found that more acculturated Puerto Rican Americans expressed stronger commitment to family obligations and to family as referents than did less acculturated Puerto Rican Americans. Thus, despite the similarities between the measures that Sabogal et al. and Rodnruez and Kosloski have used, these researchers have observed contradictory correlations. More recently, Steidel and Contreras (2003) developed a scale to systematically assess the various components of attitudinal familism, and they examined the correlates with the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II; Cuéllar, Arnold, & Maldonado, 1995). Familial interconnectedness and familial honor were positively correlated with orientation toward the Latino culture and negatively correlated with orientation toward the Anglo culture. In the present research, we also relied on the same widely used measure of acculturation to explore the links between acculturation and the implicit orientation toward family and school. In line with recent advances in the literature on acculturation (Berry, 1990; Berry et al., 2006), the ARSMA-II relies on a bidimensional model of acculturation: Attachments to the Mexican and Anglo cultures are assessed independently. We reasoned that the strength of orientation toward the Mexican culture should be associated with a more positive attitude toward family and a stronger identification with family. In contrast, endorsement of the Anglo culture should go hand in hand with a more positive attitude toward school and a stronger identification with the academic domain.

Summary of Goals

In summary, the goals of the present research were the following: (a) to determine whether bilingual Latino students displayed both a stronger implicit identification with family than with school and a more positive implicit attitude toward family than toward school, (b) to test whether implicit orientation toward family and school predicted implicit self-esteem, and (c) to examine to what extent language and level of acculturation accounted for implicit orientation toward family and school.

Method

Participants

Participants were 128 Latino undergraduates (102 women, 24 men, 2 participants declined to report gender; M age = 21.7 years, SD = 6.2 years) at San Diego State University who defined themselves as bilingual (in English and Spanish). Participants received partial course credit for their participation. In all, 63 participants attended the main campus in San Diego, and 65 participants attended a small 900-student satellite campus located in Calexico, approximately 120 miles east of San Diego and a few blocks from the Mexican border. In addition, 15 participants were married and 23 participants had children. With respect to ethnic and cultural backgrounds, 49 participants defined themselves as Mexican, 42 participants defined themselves as Mexican American, 18 participants defined themselves as Hispanic, 4 participants defined themselves as Latino, 3 participants defined themselves as Chicano, and 12 participants used other terms. Most participants (63.3%) were second-

generation immigrants, having been born in the United States with at least one of their parents having been born in another country (in most cases, Mexico). The sample also included first-generation immigrants (29.7%). Foreign-born participants had resided in the United States for an average of 13.5 years ($SD = 7.9$ years). The remainder of the sample (7.0%) comprised individuals who were at least third-generation immigrants, each having two native parents. When asked to indicate their first language, 79.0% of participants indicated Spanish, and 21.0% of participants indicated English. Overall, participants considered themselves more proficient in English ($M = 4.34$ on a scale of 7, $SD = 0.72$) than in Spanish ($M = 3.80$, $SD = 0.97$), $t(127) = 4.89$, $p < .001$, $d = 0.43$. A minority of participants' parents were college graduates (14.1% of fathers, 7.8% of mothers). About one fourth of the participants' parents attended college for a few years (25.8% of fathers, 27.4% of mothers), and one fourth were high school graduates (26.6% of fathers, 27.3% of mothers). Other participants' parents did not attend or graduate from high school (33.6% of fathers, 37.5% of mothers).

Procedure

We randomly assigned participants to either the English or Spanish version of the procedure. We spoke to participants and gave them instructions in the corresponding language. Also, participants completed the measures in the corresponding language. The instructions and the measures were first developed in English by a researcher and then translated into Spanish by another researcher who was fluent in Spanish and English. Then, two translation experts reviewed both versions independently and found them to be equivalent.

On the San Diego campus, we conducted the procedure with groups of 1–4 participants. On the Imperial Valley campus, the procedure was conducted with groups of 10–25 participants in two computer classrooms with different researchers. In both cases, the researcher was a bilingual Mexican American woman. After giving their informed consent, participants completed implicit and explicit measures that we administered on PCs running Inquisit software (Version 2.0; Draine, 2005). Implicit measures were deemed more appropriate to administer before explicit measures because the opposite order might have produced more noise in the implicit data (e.g., increase of error rates) because of fatigue on the part of the participants. However, previous research indicates that order effects are minimal in most circumstances (Nosek, Greenwald, & Banaji, 2005).

In the present research, we used the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). The IAT is a widely accepted and powerful tool to assess the direction and strength of associations between two pairs of concepts (Nosek, Greenwald, & Banaji, 2007). The technique is based on the assumption that the extent to which concepts are interassociated is revealed in the ease with which they can be mentally combined. There is firm empirical evidence that participants have much less conscious control of their responses on the IAT than on self-report measures (Nosek et al., 2007).

Participants completed three IATs that assessed the following constructs: implicit attitude toward family versus school, implicit identification with family versus school, and implicit self-esteem. The pairs of concepts combined in each IAT are shown in Table 1 for both

languages. Stimuli are shown in the Appendix. We counterbalanced the order of the attitude and identification IATs and the order of the critical blocks for each IAT across participants.

For each IAT, we presented stimuli sequentially at the center of the computer screen. Participants were instructed to categorize, as quickly as possible, each stimulus by pressing a key that was toward either the left or right of the keyboard. Response times were recorded from the onset of a stimulus to its correct classification. Correct responses terminated a trial and initiated a 400-ms intertrial interval. Labels for the concepts were positioned at the top left and right of the screen to indicate the requested pairing. If a stimulus was incorrectly classified, a red “X” appeared below the stimulus; participants then had to provide the correct answer to move on to the next trial. Each critical block included a total of 60 trials, with a brief message appearing after the first 20 trials to remind participants to go fast.

Initial presentation of family and school stimuli—We selected six words (get-together, parents, dinner, home, siblings, and relatives) to represent the concept *family* and used another six words (degree, studying, homework, achievement, grades, and student) to represent the concept *school*. These words were generated by a small group of bilingual Latino college students. We pilot-tested the words on a larger sample of college students to ensure that they were easily and unambiguously linked to the concepts of interest in both languages. To acquaint participants with these stimuli before they took the IATs, we presented each word in the center of the screen for 2,000 ms under the appropriate label. Participants were instructed to simply watch the stimuli carefully. The order of presentation of the two sets of stimuli and the order of presentation of the stimuli within each category were randomized across participants.

Implicit attitude toward family versus school—We adapted a version of the IAT widely used in research on implicit attitudes to assess participants’ implicit attitude toward the concept of family versus the concept of school (Nosek et al., 2007). We operationalized the evaluative dimension by using the label “pleasant” versus the label “unpleasant.” The stimuli were eight pleasant words (e.g., rainbow, peace, joy, pleasure) and eight unpleasant words (e.g., agony, death, pain, tragedy). The stimuli were presented one at a time in the center of the screen with the contrasting category labels shown in the opposing top corners of the screen (e.g., “pleasant” on the left and “unpleasant” on the right). In one block of trials, participants were instructed to (a) categorize, as quickly as possible, stimuli in the pleasant and family categories by pressing a specific key (e.g., “a” or “5”) on the side of the keyboard corresponding to the category label and (b) categorize stimuli from the unpleasant and school categories by pressing another key (e.g., “5” or “a”) on the other side of the keyboard. In another block of trials, we combined the two pairs of concepts in the opposite way: Participants were asked to categorize pleasant and school stimuli with one key and unpleasant and family stimuli with the other key.

Implicit identification with family versus school—The IAT that assessed participants’ implicit identification with the concept *family* versus the concept *school* was based on the same logic. As is customary (Devos, 2006; Greenwald & Farnham, 2000; Nosek, Banaji, & Greenwald, 2002), self-relevant pronouns or terms (i.e., I, my, mine, me) and pronouns or terms that designate other people (i.e., they, others, their, people) were used

to represent the concepts *me* and *not-me*, respectively. In one block of trials, participants sorted, as fast as possible, *me* and family stimuli by pressing one key and sorted *not-me* and school stimuli by pressing another key. In another block of trials, we proposed the opposite pairing: *me* and school stimuli were combined and contrasted with *not-me* and family stimuli.

Implicit self-esteem—In line with previous research (Bosson, Swann, & Pennebaker, 2000; Devos et al., 2007; Greenwald & Farnham, 2000), we assessed implicit self-esteem by asking participants to categorize, as quickly as possible, *me* versus *not-me* words and pleasant versus unpleasant words. The stimuli were identical to those used in the aforementioned tasks. In one block of trials, participants sorted, as fast as possible, *me* and pleasant stimuli on one side and *not-me* and unpleasant stimuli on the other side. In another block of trials, *me* and unpleasant stimuli were contrasted with *not-me* and pleasant stimuli.

Explicit orientation toward family versus school—We did not intend the present research as a systematic investigation of the correspondence or the dissociation between implicit and explicit measures. However, explicit (self-report) measures were included to determine whether convergent findings would be obtained at both levels of responding. After completing the IATs, participants reported their attitude toward the stimuli used to represent the concepts *family* and *school*. The 12 stimuli were presented, one by one, in the middle of the screen. The question “How negative or positive do you feel toward this word?” appeared above the word, and participants provided responses by clicking on 7-point Likert-type scales ranging from 1 (*very negative*) to 7 (*very positive*). Participants completed a similar measure to assess the extent to which they identified with these stimuli. The question “To what extent does this word represent an aspect of your self-concept?” appeared above the word, and responses were provided on 7-point Likert-type scales ranging from 1 (*not at all*) to 7 (*completely*). The order of these two measures was counterbalanced across participants, and the order of presentation of the stimuli was randomized across participants. In addition, participants were asked to indicate on 7-point scales (a) whether they valued school or family more and (b) the extent to which school or family was more important to them. The end-point of the scales expressed the idea that they value one concept much more than the other or that one concept was much more important to them than the other. The midpoint of the scale expressed the idea they valued both concepts equally or that both concepts were of equal importance to them.

Acculturation—Next, participants completed the ARSMA-II (Cuéllar et al., 1995). This instrument includes items that focus on the following four factors: (a) language use and preference, (b) ethnic identity and classification, (c) cultural heritage and ethnic behaviors, and (d) ethnic interaction. It measures orientations toward the Mexican culture (17 items) and toward the Anglo culture (13 items), independently. Participants responded by using 5-point Likert-type scales ranging from 1 (*not at all*) to 5 (*extremely often or almost always*). The ARSMA-II was developed and validated in both English and Spanish. This scale has been used extensively with Latinos of different countries of origin (Steidel & Contreras, 2003).

Demographic questionnaire—At the end of the study, participants provided demographic information such as ethnicity, gender, country of birth, first language, and proficiencies in English and in Spanish (quality of reading, speaking, and writing). They also reported the ethnicity, country of birth, and level of education of each of their parents (father and mother). Last, we debriefed and thanked participants for their participation.

Results

Data Preparation

Screening of IAT data revealed a mean response latency of 880 ms ($SD = 140$ ms) and an error rate of 7.06% ($SD = 5.20\%$), which suggested that participants had little difficulty completing the IATs. Overall response latencies were faster for the English version ($M = 820$ ms, $SD = 140$ ms) than for the Spanish version ($M = 934$ ms, $SD = 151$ ms), $t(126) = 4.40$, $p < .001$, $d = 0.78$. Error rates tended to be higher for the English version ($M = 7.96\%$, $SD = 6.09\%$) than for the Spanish version ($M = 6.27\%$, $SD = 4.15\%$), $t(126) = 1.86$, $p < .07$, $d = 0.33$. We analyzed IAT data by using the algorithm recommended by Greenwald, Nosek, and Banaji (2003). Researchers have showed that this scoring procedure reduces the influence of cognitive fluency (Cai, Sriram, Greenwald, & McFarland, 2004) and decreases the impact of individual differences that are method-specific but independent of the measures' content (Mierke & Klauer, 2003). For each IAT, we computed the difference between the mean response latencies for the two critical blocks of trials, divided by the standard deviation of all the trials. We computed this quotient separately for the first 20 trials and for the last 40 trials; then, we averaged the two values. As recommended by Greenwald et al. (2003), we performed all statistical analyses on this index (IAT D). For ease of interpretation, we report mean response latencies for each block. Preliminary analyses revealed no reliable differences as functions of (a) location (San Diego vs. Calexico), (b) generational status, (c) gender, or (d) marital or family status. Therefore, these factors were not included in the analyses. For each IAT, we report in Table 2 the means and standard deviations as functions of the language that the participant used to complete the study's instruments.

Implicit Attitude Toward Family Versus School

We found a significant IAT D effect on the measure of implicit attitude ($M = 0.18$, $SD = 0.40$), $t(127) = 5.18$, $p < .001$, $d = 0.46$. This effect indicated that it was easier for participants to pair pleasant words with family words and unpleasant words with school words ($M = 914$ ms, $SD = 195$ ms) than to complete the opposite pairing ($M = 1004$ ms, $SD = 252$ ms). Researchers can take this pattern as evidence of a more positive implicit attitude toward family than school. This effect was not moderated by the language that the participant used to complete the study, $t(126) = 0.11$, $p > .90$, $d = 0.02$.

Implicit Identification With Family Versus School

We obtained a significant IAT D effect on the implicit measure of identification ($M = 0.09$, $SD = 0.36$), $t(127) = 2.91$, $p < .005$, $d = 0.26$. This effect revealed that it was easier for participants to pair me words with family words and not-me words with school words ($M = 880$ ms, $SD = 184$ ms) than for participants to complete the opposite pairing ($M = 924$ ms,

$SD = 197$ ms). In other words, participants displayed a stronger identification with family than with school. This effect varied as a function of the language that participants used to complete the study, $t(126) = 3.54, p < .002, d = 0.63$. Identification was stronger with family than with school for participants who completed the study in English ($M = 0.21, SD = 0.36$), $t(59) = 4.50, p < .001, d = 0.59$, but not for participants who completed the study in Spanish ($M = -0.01, SD = 0.34$), $t(67) = -0.22, p > .80, d = 0.03$.

Implicit Self-Esteem as a Function of Implicit Identification and Attitude

It is not surprising that performances on the IAT that assessed implicit self-esteem indicated a much stronger connection between the concepts me and pleasant ($M = 743$ ms, $SD = 134$ ms) than between the concepts me and unpleasant ($M = 980$ ms, $SD = 214$ ms). This IAT D effect is evidence that participants held a relatively positive attitude toward the self ($M = 0.55, SD = 0.35$), $t(127) = 17.83, p < .001, d = 1.58$. This effect was not moderated by the language used to complete the study, $t(126) = 0.22, p > .80, d = 0.04$. We used regression analyses to determine the contributions of implicit attitude and implicit identification to implicit self-esteem (for similar analyses, see Greenwald et al., 2002).¹ We centered the predictors and followed standard practice (Aiken & West, 1991) in computing the interaction term. When we entered the two predictors and the interaction into the model, the proportion of variance that they explained was significant, $R^2 = .08, F(3, 124) = 3.37, p < .02$. The interaction between identification and attitude was significant ($\beta = .18, B = .39, SE = .19, p < .05$). To interpret this interaction, we examined simple slopes for meaningful contrasting values. Given that, overall, participants held a more positive attitude toward family and identified more strongly with family, we examined simple slopes for values reflecting a strong preference (positive affect) for family and a strong identification with family (1 SD above the M s) and for values corresponding to zero IAT D effects (no preference and identifications equally strong; see Figure 1). To the extent that participants identified with family, the pattern suggested that a more favorable attitude toward family accounted for higher self-esteem ($\beta = .38, B = .33, SE = .12, p < .007$). The extent to which participants held a more positive attitude toward family also accounted for higher self-esteem among participants who identified equally with family and school, but this path was weaker ($\beta = .18, B = .16, SE = .08, p < .05$).²

Explicit Orientation Toward Family Versus School

For each explicit measure, we report in Table 2 the means and standard deviations as functions of the language that participants used to complete the study. First, we examined the extent to which participants held a positive attitude toward the stimuli that we used to represent the concepts family and school. The ratings were aggregated for each set of six stimuli ($\alpha_s > .80$). An analysis of variance on these indexes revealed a highly significant difference between the two sets of stimuli, $F(1, 126) = 58.52, p < .001, \eta_p^2 = .32$. Participants expressed more positive feelings toward stimuli representing family ($M = 6.33$,

¹Bivariate correlations suggested that the three IATs were tapping distinct constructs. The correlation between implicit attitude and implicit self-esteem was significant but weak ($r = .19, p < .04$, two-tailed). The correlation between implicit attitude and implicit identification was marginal ($r = .17, p < .07$, two-tailed). Last, the correlation between implicit identification and implicit self-esteem did not reach the conventional significance level ($r = .13, p < .16$, two-tailed).

²A follow-up regression analysis revealed that this pattern was not moderated by the language used to complete the study.

$SD = 0.72$) than toward stimuli associated with school ($M = 5.70$, $SD = 1.00$). A similar analysis was performed on the ratings of identification ($\alpha_s > .74$). The effect of stimuli set was highly significant, $F(1, 126) = 3.48$, $p < .009$, $\eta_p^2 = .06$. Participants identified more strongly with stimuli representing family ($M = 6.13$, $SD = 0.87$) than with stimuli associated with school ($M = 5.89$, $SD = 0.94$). The language used did not qualify these effects, $F_s(1, 126) < 1$. Overall, participants expressed very positive attitudes and a strong identification with both sets of stimuli. These data also substantiate the relevance of the stimuli selected to operationalize the concepts of interest.

Next, we examined responses provided on the two comparative statements (value and importance). In both cases, a one-sample t test revealed that the mean was significantly above the midpoint of the scale. Participants valued family more than they valued school ($M = 5.66$, $SD = 1.48$), $t(127) = 12.71$, $p < .001$, $d = 1.13$, and they reported that family was more important to them than was school ($M = 5.41$, $SD = 1.59$), $t(127) = 10.01$, $p < .001$, $d = 0.89$. The effect of the language used was not significant on these measures, $t(126) = 0.22$, $p > .80$, $d = 0.04$, and $t(126) = 0.63$, $p > .50$, $d = 0.11$, respectively.

Correlations Between Implicit and Explicit Results

At both implicit and explicit levels of responding, participants identified more strongly with family than with school, and they displayed a more positive attitude toward family than toward school. Correlations between implicit and explicit measures were significant but weak. The Identification IAT was positively correlated with the explicit identification with the stimuli ($r = .21$, $p < .01$, one-tailed), and the Attitude IAT was correlated with the explicit attitude toward the stimuli ($r = .17$, $p < .03$, one-tailed). These relatively weak correlations suggest that the implicit and explicit measures tapped distinct constructs.

Acculturation and Orientation Toward Family Versus School

We aggregated responses that participants provided on the ARSMA-II according to common practices (Cuéllar et al., 1995). We computed scores for the Mexican Orientation scale (17 items: $\alpha = .91$ in English, $\alpha = .93$ in Spanish) and the Anglo Orientation scale (13 items: $\alpha = .79$ in English, $\alpha = .77$ in Spanish) by calculating the mean score for each subscale. Participants who completed the study in English ($M = 3.82$, $SD = 0.79$) expressed the same level of attachment to the Mexican culture as participants who completed the study in Spanish ($M = 3.85$, $SD = 0.78$), $t(26) = 0.19$, $p > .80$, $d = 0.03$. Similarly, attachment to the Anglo culture did not differ as a function of the language ($M_s = 3.77, 3.70$; $SD_s = 0.50, 0.53$; respectively), $t(126) = 0.77$, $p > .40$, $d = 0.14$. Correlations between levels of acculturation and the implicit and explicit measures are reported in Table 3. These correlations did not reach the traditional significance level ($p < .05$), and that failure suggested that acculturation did not account for implicit or explicit attachments to family versus school as measured in the present study.

It is not surprising that there were reliable differences on the ARSMA-II as a function of generational status. Participants who were at least third-generation immigrants ($M = 2.92$, $SD = 0.72$) expressed a weaker attachment to the Mexican culture than did second-generation immigrants ($M = 3.84$, $SD = 0.74$) or first-generation immigrants ($M = 4.04$, $SD =$

0.76), $F(2, 125) = 8.21, p < .001, \eta_p^2 = .12$. In addition, participants who were first-generation immigrants ($M = 3.43, SD = 0.48$) expressed a weaker attachment to the American culture than did second-generation immigrants ($M = 3.84, SD = 0.49$) or third-generation immigrants ($M = 4.08, SD = 0.27$), $F(2, 125) = 11.78, p < .001, \eta_p^2 = .16$. In line with the aforementioned patterns of correlations, the effect of generational status on implicit or explicit measures never reached the conventional significance level, $F_s < 1.06$. Means and standard deviations for implicit and explicit measures as functions of generational status are reported in Table 4.

Discussion

We obtained convergent patterns of means at the implicit and explicit levels. Implicit assessments revealed a more positive attitude toward family than toward school and a stronger identification with family than with school. A strong orientation toward family also emerged from responses based on more conscious or controlled processes. In other words, the less conscious, less deliberate responses matched the reports of bilingual Latino college students when they were asked to (a) reflect explicitly on their attitudes and self-concept, (b) introspect about what is important to them, and (c) deliberately evaluate their attachment to these concepts. The results also revealed reliable but weak correlations between the implicit and explicit assessments, which suggests that the IATs and the self-report measures tap distinct constructs.

An important contribution of the present research is the use of a measure that is free of the limitations of self-reports. The IAT offers a powerful tool that should not replace, but complements, the use of paper-and-pencil measures that have been the mainstay of investigations of self-concept in multicultural environments. Moreover, the present data indicate that the strong attachment to family displayed by bilingual Latino college students is not merely the product of deliberate responses to normative demands or conscious attempts to convey a particular self-image. Thus, implicit measures are useful tools for understanding the complex and far-reaching influences of culture on the attitudes and self-concepts of bilingual Latino students. Culture influences a myriad of psychological phenomena that are often characterized by a lack of conscious awareness, control, intention, or self-reflection (Devos & Banaji, 2003). The results of the present study are consistent with recent developments in research on social cognition that have used implicit techniques allowing investigators to study cultural and contextual influences on attitudes and thoughts operating outside of conscious awareness or control.

Therefore, an intriguing finding that underscores the value of implicit measures is that participants identified more strongly with family when they completed the study in English than when they completed the study in Spanish. A difference between the two conditions (English vs. Spanish) appeared only on the implicit measure of identification. Participants' implicit attitude toward family and school did not vary as a function of the linguistic context. We found no differences in responses on the basis of more deliberate or controlled processes (explicit measures). These results provide evidence for the flexibility of implicit identifications among bilingual or bicultural Latinos and are compatible with recent work showing that implicit associations may be differentially activated by differences in context

or tasks (for reviews, see Blair, 2002; Gawronski & Bodenhausen, 2006). The findings are also consistent with the idea that individuals change their frame of reference in response to contextual cues as hypothesized in the dynamic-constructivist approach of multicultural identities (Benet-Martínez, Leu, Lee, & Morris, 2002; Hong et al., 2000). Although the procedure did not allow us to be more specific about the frame of reference, one possible explanation is that (a) the use of Spanish throughout the Spanish condition emphasized family and (b) the participants in that condition defined themselves as students in contrast to others within their family context. However, researchers may expect the English condition to activate more the academic context, thus promoting a self-definition that contrasts with the school environment. Self-identification that contrasts with the social frame of reference has been documented elsewhere (McGuire & McGuire, 1988; von Hippel, Hawkins, & Schooler, 2001). In all other aspects, the measures used in the present study yielded similar results regardless of whether administered in English or in Spanish. These findings highlight (a) the complexity of cultural identity among bilingual (and ostensibly bicultural) individuals and (b) that the use of implicit measures may enable a better understanding of the dynamics underlying cultural identity.

Despite the fact that we used a well-validated instrument to assess acculturation, we found no reliable interconnections between the levels of acculturation and orientation toward family and school. It is important to stress that this conclusion is warranted for both explicit and implicit assessments. The present study is not the first one to reveal a lack of evidence for the impact of acculturation (Castillo et al., 2004). Future research is needed to fully grasp the role of acculturation in shaping orientation toward family and school. It is possible that scales developed to assess acculturation are suitable to investigate processes among first-generation immigrants but do not capture meaningful variations among more acculturated individuals (Zane & Mak, 2003). The present sample included individuals who can be characterized as bicultural. Moreover, all were fluent in both languages and currently pursuing a college degree. For these populations at least, it is probably necessary to rely on or develop more sophisticated tools to elucidate the impact of multicultural experiences on implicit attitudes and beliefs.

Does implicit orientation toward family and school account for other important outcomes? The present study provides a limited but promising answer to this question by examining the relations among (a) implicit attitude toward family and school, (b) identification with these concepts, and (c) self-esteem. The findings indicate that the extent to which a concept was linked to the self and elicited a positive attitude predicted students' self-esteem. As hypothesized, the more it was that students implicitly valued and identified with family, the higher was their implicit self-esteem. This pattern supports a basic principle of affective-cognitive consistency (Greenwald et al., 2002) and provides a different type of empirical support for the importance of cultural values (i.e., familism) among Latinos.

An important goal for future researchers is to demonstrate that implicit measures of orientation toward family and school predict meaningful overt behaviors by bilingual college students. Although much remains to be learned, a growing body of work has shown that implicit measures of social cognition account for judgments, decisions, and behaviors in subtle yet systematic ways (Dasgupta, 2004; Devos, 2008). More precisely, implicitly

assessed attitudes often predict relatively spontaneous, uncontrollable, or unconscious behaviors (Dasgupta & Rivera, 2006; Dovidio, Kawakami, & Gaertner, 2002). In particular, when individuals lack the processing capacities or the motivation to override automatic responses, behaviors are likely to stem from automatic associations (Fazio, 2001). In many cultural settings, implicit orientation toward concepts such as school or family may emerge in subtle ways and affect judgments, decisions, and behaviors that evade strategic or conscious control. A bilingual person may not necessarily be aware of or able to control how socially constructed attitudes or beliefs orient him or her toward the environment. Future researchers should elucidate the circumstances under which, and the extent to which, implicit associations about family and school result in behavioral predispositions (e.g., avoidance or approach tendencies) or relatively uncontrollable reactions (e.g., spontaneous inclinations or preferences). We emphasize that researchers should not study the interconnections between implicit associations and behaviors exclusively with the assumption that associations guide behavior. It also is very likely that the behaviors that bilingual individuals engage in either strengthen or weaken these individuals' implicit orientations. Implicit associations may be the product of activities and experiences that reflect a person's involvement or immersion in specific cultural environments. Nonetheless, a clear understanding of the implicit associations about family and school among Latinos is a necessary prerequisite for any research that aims to understand the behavioral implications of those associations.

In the present research, we examined participants' implicit attitudes and identifications with culturally meaningful concepts and the relation of these concepts with implicit self-esteem. Future researchers could extend this initial investigation to test whether the present findings are moderated by factors such as intergenerational conflicts, acculturative stress, processes of social influence, social identity dynamics, or structural realities (Gurin, Hurtado, & Peng, 1994; Vega, 2008). As several scholars have suggested, researchers interested in ethnic identity, acculturation, and cultural orientation may benefit from the social cognition framework (Padilla & Perez, 2003) and from the development of techniques that do not require introspection by individuals (Tsai, Chentsova-Dutton, & Wong, 2002). In the present study, we illustrated the viability of this approach in assessing the orientation of Latino college students toward family and school. These cultural orientations are not necessarily available to introspection. Individuals may be unaware of or underestimate the strength of their identification with these concepts. In addition, they may sometimes feel pressured to emphasize or downplay their attachment to family or school. More fundamentally, assessments of implicit associations may reveal the extent to which socialcultural realities shape personal orientations.

References

- Aiken, LS.; West, SG. Multiple regression: Testing and interpreting interactions. Thousand Oaks, CA: Sage; 1991.
- Banaji, MR. Implicit attitudes can be measured. In: Roediger, HL., III; Nairne, JS.; Neath, I.; Surprenant, A., editors. *The nature of remembering: Essays in honor of Robert G. Crowder*. Washington, DC: American Psychological Association; 2001. p. 117-150.

- Benet-Martínez V, Leu J, Lee F, Morris MW. Negotiating biculturalism: Cultural frame switching in biculturals with oppositional versus compatible cultural identities. *Journal of Cross-Cultural Psychology*. 2002; 33:492–516.
- Berry, JW. Psychology of acculturation. In: Berman, JJ., editor. *Nebraska Symposium on Motivation: Vol. 37. Cross-cultural perspectives*. Lincoln: University of Nebraska Press; 1990. p. 201-234.
- Berry, JW.; Phinney, JS.; Sam, DL.; Vedder, P., editors. *Immigrant youth in cultural transition: Acculturation, identity, and adaptation across national contexts*. Mahwah, NJ: Erlbaum; 2006.
- Blair IV. The malleability of automatic stereotypes and prejudice. *Personality and Social Psychology Review*. 2002; 6:242–261.
- Bond MH, Yang KS. Ethnic affirmation versus cross-cultural accommodation: The variable impact of questionnaire language on Chinese bilinguals from Hong Kong. *Journal of Cross-Cultural Psychology*. 1982; 13:169–185.
- Bosson JK, Swann WB, Pennebaker JW. Stalking the perfect measure of implicit self-esteem: The blind men and the elephant revisited. *Journal of Personality and Social Psychology*. 2000; 79:631–643. [PubMed: 11045743]
- Cai H, Sriram N, Greenwald AG, McFarland SG. The Implicit Association Test's D measure can minimize a cognitive skill confound: Comment on McFarland and Crouch (2002). *Social Cognition*. 2004; 22:673–684.
- Castillo LG, Conoley CW, Brossart DF. Acculturation, White marginalization, and family support as predictors of perceived distress in Mexican American female college students. *Journal of Counseling Psychology*. 2004; 51:151–157.
- Castillo LG, Conoley CW, Choi-Pearson C, Archuleta DJ, Phoummarath MJ, Van Landingham A. University environment as a mediator of Latino ethnic identity and persistence attitudes. *Journal of Counseling Psychology*. 2006; 53:267–271.
- Cauce, AM.; Domenech-Rodríguez, M. Latino families: Myths and realities. In: Contreras, JM.; Kerns, KA.; Neal-Barnett, AM., editors. *Latino children and families in the United States*. Westport, CT: Praeger Press; 2002. p. 5-25.
- Cortés DE. Variations in familism in two generations of Puerto Ricans. *Hispanic Journal of Behavioral Sciences*. 1995; 17:249–255.
- Cuéllar I, Arnold B, Maldonado R. Acculturation rating scale for Mexican Americans–II: A revision of the original ARSMA Scale. *Hispanic Journal of Behavioral Sciences*. 1995; 17:275–304.
- Dasgupta N. Implicit ingroup favoritism, outgroup favoritism, and their behavioral manifestations. *Social Justice Research*. 2004; 17:143–169.
- Dasgupta N, Rivera LM. From automatic antigay prejudice to behavior: The moderating role of conscious beliefs about gender and behavioral control. *Journal of Personality and Social Psychology*. 2006; 91:268–280. [PubMed: 16881764]
- Devos T. Implicit bicultural identity among Mexican American and Asian American college students. *Cultural Diversity and Ethnic Minority Psychology*. 2006; 12:381–402. [PubMed: 16881745]
- Devos, T. Implicit attitudes 101: Theoretical and empirical insights. In: Crano, WD.; Prislin, R., editors. *Attitudes and attitude change*. New York: Psychology Press; 2008. p. 61-84.
- Devos, T.; Banaji, MR. Implicit self and identity. In: Leary, MR.; Tangney, JP., editors. *Handbook of self and identity*. New York: Guilford Press; 2003. p. 153-175.
- Devos T, Diaz P, Viera E, Dunn R. College education and motherhood as components of self-concept: Discrepancies between implicit and explicit assessments. *Self and Identity*. 2007; 6:256–277.
- Dovidio JF, Kawakami K, Gaertner SL. Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology*. 2002; 82:62–68. [PubMed: 11811635]
- Draine, SC. Inquisit (Version 2.0) [Computer software]. Seattle, WA: Millisecond Software; 2005.
- Fazio RH. On the automatic activation of associated evaluations: An overview. *Cognition & Emotion*. 2001; 15:115–141.
- Fazio RH, Olson MA. Implicit measures in social cognition research: Their meaning and uses. *Annual Review of Psychology*. 2003; 54:297–327.
- Fuligni AJ, Tseng V, Lam M. Attitudes toward family obligations among American adolescents with Asian, Latin American, and European backgrounds. *Child Development*. 1999; 70:1030–1044.

- Gawronski B, Bodenhausen GV. Associative and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin*. 2006; 132:692–731. [PubMed: 16910748]
- Giles, H.; Bourhis, RY.; Taylor, DM. Toward a theory of language in ethnic group relations. In: Giles, H., editor. *Language, ethnicity, and intergroup relations*. London: Academic Press; 1977. p. 32-65.
- Gloria AM, Castellanos J, Lopez AG, Rosales R. An examination of academic nonpersistence decisions of Latino undergraduates. *Hispanic Journal of Behavioral Sciences*. 2005; 27:202–223.
- Gloria AM, Castellanos J, Orozco V. Perceived educational barriers, cultural fit, coping responses, and psychological well-being of Latina undergraduates. *Hispanic Journal of Behavioral Sciences*. 2005; 27:161–183.
- Greenwald AG, Banaji MR. Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*. 1995; 102:4–27. [PubMed: 7878162]
- Greenwald AG, Banaji MR, Rudman LA, Farnham SD, Nosek BA, Mellot DS. A unified theory of implicit attitudes, stereotypes, self-esteem, and self-concept. *Psychological Review*. 2002; 109:3–25. [PubMed: 11863040]
- Greenwald AG, Farnham SD. Using the implicit association test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*. 2000; 79:1022–1038. [PubMed: 11138752]
- Greenwald AG, McGhee DE, Schwartz JLK. Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*. 1998; 74:1464–1480. [PubMed: 9654756]
- Greenwald AG, Nosek BA, Banaji MR. Understanding and using the implicit association test: 1. An improved scoring algorithm. *Journal of Personality and Social Psychology*. 2003; 85:197–216. [PubMed: 12916565]
- Gudykunst, W.; Ting-Toomey, S. Ethnic identity, language and communication breakdowns. In: Giles, H.; Robinson, P., editors. *Handbook of language and social psychology*. New York: Wiley; 1990. p. 309-327.
- Gurin P, Hurtado A, Peng T. Group contacts and ethnicity in the social identities of Mexicanos and Chicanos. *Personality and Social Psychology Bulletin*. 1994; 20:521–532.
- Hermans HJM, Kempen HJG. Moving cultures: The perilous problems of cultural dichotomies in a globalizing society. *American Psychologist*. 1998; 53:1111–1120.
- Hong YY, Morris MW, Chiu CY, Benet-Martínez V. Multicultural minds: A dynamic constructivist approach to culture and cognition. *American Psychologist*. 2000; 55:709–720. [PubMed: 10916861]
- Hurtado, A.; Gurin, P., editors. *Ethnic identity and bilingualism attitudes*. Thousand Oaks, CA: Sage; 1995.
- Hurtado A, Vega LA. Shift happens: Spanish and English transmission between parents and their children. *Journal of Social Issues*. 2004; 60:137–155.
- LaFromboise T, Coleman HL, Gerton J. Psychological impact of biculturalism: Evidence and theory. *Psychological Bulletin*. 1993; 114:395–412. [PubMed: 8272463]
- Marín, G.; Marín, BV. *Research with Hispanic populations*. Thousand Oaks, CA: Sage; 1991.
- McGuire, WJ.; McGuire, CV. Content and process in the experience of self. In: Berkowitz, L., editor. *Advances in experimental social psychology*. Vol. 21. San Diego, CA: Academic Press; 1988. p. 97-144.
- Mierke J, Klauer KC. Method-specific variance in the implicit association test. *Journal of Personality and Social Psychology*. 2003; 85:1180–1192. [PubMed: 14674823]
- Niemann YF, Romero A, Arbona C. Effects of cultural orientation on the perception of conflict between relationship and education goals for Mexican American college students. *Hispanic Journal of Behavioral Sciences*. 2000; 22:46–63.
- Nosek BA, Banaji MR, Greenwald AG. Math = male, me = female, therefore math = me. *Journal of Personality and Social Psychology*. 2002; 83:44–59. [PubMed: 12088131]
- Nosek BA, Greenwald AG, Banaji MR. Understanding and using the Implicit Association Test: II. Method variables and construct validity. *Personality and Social Psychology Bulletin*. 2005; 31:166–180. [PubMed: 15619590]

- Nosek, BA.; Greenwald, AG.; Banaji, MR. The implicit association test at age 7: A methodological and conceptual review. In: Bargh, JA., editor. *Social psychology and the unconscious: The automaticity of higher mental processes*. New York: Psychology Press; 2007. p. 265-292.
- Padilla, AM. Bicultural development: A theoretical and empirical examination. In: Malgady, RG.; Rodriguez, O., editors. *Theoretical and conceptual issues in Hispanic mental health*. Melbourne, FL: Krieger; 1994. p. 20-51.
- Padilla AM, Perez W. Acculturation, social identity, and social cognition: A new perspective. *Hispanic Journal of Behavioral Sciences*. 2003; 25:33–55.
- Phinney JS, Dennis J, Osorio S. Reasons to attend college among ethnically diverse college students. *Cultural Diversity and Ethnic Minority Psychology*. 2006; 12:347–366. [PubMed: 16719582]
- Phinney JS, Ong A, Madden T. Cultural values and intergenerational value discrepancies in immigrant and non-immigrant families. *Child Development*. 2000; 71:528–539. [PubMed: 10834482]
- Phinney JS, Romero I, Nava M, Huang D. The role of language, parents, and peers in ethnic identity among adolescents in immigrant families. *Journal of Youth and Adolescence*. 2001; 30:135–153.
- Ramírez-Esparza N, Gosling SD, Benet-Martínez V, Potter JP, Pennebaker JW. Do bilinguals have two personalities? A special case of cultural frame switching. *Journal of Research in Personality*. 2006; 40:99–120.
- Rodriguez JM, Kosloski K. The impact of acculturation on attitudinal familism in a community of Puerto Rican Americans. *Hispanic Journal of Behavioral Sciences*. 1998; 20:375–390.
- Rudman LA. Sources of implicit attitudes. *Current Directions in Psychological Science*. 2004; 13:79–82.
- Sabogal F, Marín G, Otero-Sabogal R, Marín BV. Latino familism and acculturation: What changes and what doesn't? *Hispanic Journal of Behavioral Sciences*. 1987; 9:397–412.
- Saunders M, Serna I. Making college happen: The college experiences of first-generation Latino students. *Journal of Hispanic Higher Education*. 2004; 3:146–163.
- Segura, DA. Slipping through the cracks: Dilemmas in Chicana education. In: De la Torre, A.; Pesquera, BM., editors. *Building with our hands: New directions in Chicana studies*. Los Angeles: University of California Press; 1993. p. 199-216.
- Steidel AGL, Contreras JM. A new familism scale for use with Latino populations. *Hispanic Journal of Behavioral Sciences*. 2003; 25:312–330.
- Tsai, JL.; Chentsova-Dutton, Y.; Wong, Y. Why and how we should study ethnic identity, acculturation, and cultural orientation. In: Hall, GCN.; Okazaki, S., editors. *Asian American psychology: The science of lives in context*. Washington, DC: American Psychological Association; 2002. p. 41-65.
- Valenzuela A, Dornbusch SM. Familism and social capital in the academic achievement of Mexican origin and Anglo adolescents. *Social Science Quarterly*. 1994; 75:18–36.
- Vásquez MJ. Confronting barriers to the participation of Mexican American women in higher education. *Hispanic Journal of Behavioral Sciences*. 1982; 4:147–165.
- Vega, LA. Social psychological approaches to bilingualism. In: Altarriba, J.; Heredia, RR., editors. *An introduction to bilingualism: Principles and processes*. Mahwah, NJ: Erlbaum; 2008. p. 185-198.
- von Hippel W, Hawkins C, Schooler JW. Stereotype distinctiveness: How counter-stereotypic behavior shapes the self-concept. *Journal of Personality and Social Psychology*. 2001; 81:193–205. [PubMed: 11519926]
- Wittenbrink, B.; Schwarz, N., editors. *Implicit measures of attitudes: Procedures and controversies*. New York: Guilford Press; 2007.
- Yang KS, Bond MH. Ethnic affirmation by Chinese bilinguals. *Journal of Cross-Cultural Psychology*. 1980; 11:411–425.
- Zane, N.; Mak, W. Major approaches to the measurement of acculturation among ethnic minority populations: A content analysis and an alternative empirical strategy. In: Chun, KM.; Balls Organista, P.; Marín, G., editors. *Acculturation: Advances in theory, measurement, and applied research*. Washington, DC: American Psychological Association; 2003. p. 39-60.
- Zinn MB. Familism among Chicanos: A theoretical review. *Humboldt Journal of Social Relations*. 1982; 10:224–238.

Zinn, MB. Adaptation and continuity in Mexican-origin families. In: Taylor, RL., editor. *Minority families in the United States: A multicultural perspective*. Englewood Cliffs, NJ: Prentice Hall; 1994. p. 64-94.

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FIGURE 1.
Implicit self-esteem as a function of implicit identification with and attitude toward the concepts family vs. school.

TABLE 1

Implicit Association Tests: Pairs of Concepts Combined

Measure	Pair 1	Pair 2
English version		
Implicit attitude	Pleasant, Unpleasant	Family, School
Implicit identification	Me, Not-me	Family, School
Implicit self-esteem	Me, Not-me	Pleasant, Unpleasant
Spanish version		
Implicit attitude	Agradable, Desagradable	Familia, Escuela
Implicit identification	Yo, Yo no	Familia, Escuela
Implicit self-esteem	Yo, Yo no	Agradable, Desagradable

TABLE 2

Means and Standard Deviations for Implicit Association Tests and Explicit Measures, as a Function of Language Used to Complete the Study

Variable	English version (<i>n</i> = 60)			Spanish version (<i>n</i> = 68)		
	α	<i>M</i>	<i>SD</i>	α	<i>M</i>	<i>SD</i>
Implicit association tests						
Implicit attitude	—	0.18	0.41	—	0.19	0.40
Implicit identification	—	0.21	0.36	—	−0.01	0.34
Implicit self-esteem	—	0.56	0.37	—	0.55	0.34
Attitude toward stimuli						
Family	.81	6.31	0.71	.83	6.36	0.73
School	.82	5.73	0.91	.84	5.67	1.08
Identification with stimuli						
Family	.84	6.05	0.94	.75	6.20	0.80
School	.85	5.85	0.91	.83	5.94	0.98
Comparative ratings						
Value	—	5.63	1.46	—	5.69	1.51
Importance	—	5.50	1.35	—	5.32	1.78

Note. For the implicit attitude measure, positive values reflect a more positive attitude toward family, whereas negative values reflect a more positive attitude toward school. For the implicit identification measure, positive values reflect a stronger identification with family, whereas negative values reflect a stronger identification with school. For the implicit self-esteem measure, positive values reflect a positive attitude toward the self, whereas negative values reflect a negative attitude toward the self. For the attitude toward stimuli measure, response options ranged from 1 (*very negative*) to 7 (*very positive*). For the identification with stimuli measure, response options ranged from 1 (*not at all*) to 7 (*completely*). For the comparative ratings, response options ranged from 1 to 7.

TABLE 3

Bivariate Correlations Between Acculturation and Orientation Toward Family Versus School

Measure	English version (<i>n</i> = 60)		Spanish version (<i>n</i> = 68)	
	Mexican orientation	Anglo orientation	Mexican orientation	Anglo orientation
Implicit attitude	-.02	-.04	.03	.22
Implicit identification	.02	-.21	-.06	-.01
Implicit self-esteem	-.14	-.03	.18	.12
Attitude toward stimuli	-.08	-.19	-.06	.16
Identification with stimuli	.01	-.12	.11	-.05
Value	.19	.06	.09	.01
Importance	.04	.04	.18	-.09

Note. Acculturation was measured using the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II; I. Cuéllar, B. Arnold, & R. Maldonado, 1995). For the attitude toward stimuli measure and the identification with stimuli measure, we subtracted ratings for school words from ratings for family words.

Means and Standard Deviations for Implicit Association Tests and Explicit Measures, as a Function of Generational Status

TABLE 4

Measure	First generation (<i>n</i> = 38)		Second generation (<i>n</i> = 81)		Third generation (<i>n</i> = 9)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Implicit attitude	0.14	0.43	0.20	0.39	0.22	0.45
Implicit identification	0.15	0.37	0.08	0.37	−0.01	0.24
Implicit self-esteem	0.62	0.31	0.52	0.37	0.56	0.35
Attitude toward stimuli	0.45	0.87	0.71	0.91	0.72	1.33
Identification with stimuli	0.18	0.86	0.30	1.02	−0.15	0.93
Value	5.58	1.54	5.73	1.47	5.44	1.51
Importance	5.53	1.35	5.36	1.69	5.33	1.73

Note. For the implicit attitude measure and attitude toward stimuli measure, positive values reflect a more positive attitude toward family, whereas negative values reflect a more positive attitude toward school. For the implicit identification measure and the identification with stimuli measure, positive values reflect a stronger identification with family, whereas negative values reflect a stronger identification with school. For the value measure and importance measure, response options ranged from 1 to 7.

APPENDIX

Stimuli Used for the Implicit Association Tests

Family vs. school

Family: Get-together, parents, dinner, home, siblings, relatives

Familia: Juntos, padres, cena, hogar, hermanos, parientes

School: Degree, studying, homework, achievement, grades, student

Escuela: Título, estudiando, tarea, logro, calificaciones, estudiante

Pleasant vs. unpleasant

Pleasant: Rainbow, peace, joy, sunrise, pleasure, happiness, freedom, laughter

Agradable: Arco iris, paz, alegría, amanecer, satisfacción, felicidad, libertad, risas

Unpleasant: Agony, death, poison, pain, tragedy, sorrow, hatred, rotten

Desagradable: Agonía, muerte, veneno, dolor, tragedia, pena, odio, podrido

Me vs. not-me

Me: I, my, mine, me

Yo: Soy, mí, mío, yo

Not-me: They, others, their, people

Yo No: Ellos, otros, su, gente