Stereotype Threat among Latino School Age Children

Hui Chu and Christia Spears Brown

***Abstract*—Stereotype threat has been proposed as a potential explanation for the academic achievement gap. Although the achievement gap begins early in school, little research has examined whether susceptibility to stereotype threat exists for typical academic tasks in elementary school age children. The current study examined stereotype threat effect among first- and second-generation Mexican immigrant school-age children in the United States. Specifically, the study examined whether stereotype threat impacted Latino children's performance on a math task, and whether generational status and ethnicity salience served as moderators of the threat. Results indicated that the participants in the stereotype threat condition performed significantly worse on the math task than the participants in the control condition, especially if the participants' ethnicity was moderately salient. Students who did not perceive ethnicity to be salient and those who perceived ethnicity to be highly salient showed no differences across threat conditions.**

***Index Terms*—Stereotype threat, Latinos, ethnic identity, school-age children.**

I. Introduction

The educational disparities between Latino students and European American students begin in preschool and are evident at all subsequent markers of achievement in the United States. For example, throughout elementary school, Latino students are consistently performing worse in math and reading and performing below grade level at a higher rate than their European American counterparts [1] and [2]. In addition, Latino students are three times more likely to drop out of high school than European American students [3]-[5]. Because Latinos make up the second largest student demographic in the United States [6], it is increasingly important to understand the unique issues that may impact their academic success. It is especially important to examine these processes within elementary school children because the achievement gap begins in elementary school, is difficult to recover from, and has long-term implications for academic success [7].

To date, considerable research has examined the factors that contribute to this persistent achievement gap. Although the reasons are exceedingly complex, some research suggests that this achievement gap can be attributed, in part, to the stereotype threat that exists for Latino students [8]-[10]. Stereotype threat is "the threat in the air" that exists when members of a stereotyped group become concerned about being judged on the basis of a stereotype. For example, Latino students may feel at risk of confirming the negative academic stereotypes about their ethnic group [11]. Feeling at risk for confirming the negative stereotype leads to physiological stress responses and requires cognitive and affective effort to overcome the sense of threat, which in turn negatively affects a student's performance in the stereotyped domain [11] and [12]. As such, research has shown that Latino college students' academic performance is reduced when under conditions associated with stereotype threat [13] and [14].

Although suggested as a reason for the achievement gap, little research has focused on the impacts of stereotype threat on Latino elementary school children's academic performance. One of the few studies to examine Latino elementary school-aged children's susceptibility to stereotype threat found that children performed worse on tasks of working memory under conditions of stereotype threat if they were aware of the broadly-held negative stereotypes about their group [15]-[17]. Once children knew that others might hold negative stereotypes about them, their working memory was diminished in certain stereotype threat situations. These studies are important, but it is still unclear whether Latino elementary school-aged children perform worse on more typical academic tasks, such as those they might encounter everyday in school. Extending stereotype threat research to typical academic tasks is an important step in determining whether stereotype threat might partially explain the achievement gap that exists in the actual classrooms of Latino and European American students. To address this gap in the field, we examined whether Latino elementary school-aged children, while under conditions associated with stereotype threat, performed worse on a grade-level math task (a task based on the standardized tests children in this age group complete at school).

Importantly, even if children are susceptible to stereotype threat, there are likely to be individual differences in which children are most vulnerable to stereotype threat [9]. One factor that may influence stereotype threat susceptibility in children is the salience of ethnicity to the individual child. Children differ in how salient their ethnicity is to them on a daily basis [18]. Because children are still developing their conceptions of ethnicity [19], whether ethnicity is salient or not can vary widely among children. If ethnicity is not salient to an individual child, he or she is likely to be immune from the "threat in the air" associated with that ethnicity. Only children who consider ethnicity to be a salient grouping are likely to be concerned with fulfilling negative stereotypes about their ethnic group. Indeed, research with adults has shown that stereotype threat most strongly impacts those individuals who most highly identify with their group [20].

Another factor that may influence Latino children's susceptibility to stereotype threat is their generational status as an immigrant. Research has shown that first-generation

Manuscript received November 20, 2016; revised March 23, 2017. This work was supported in part by the National Science Foundation under Grant No. 2010097787 awarded to the first author.

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doi: 10.18178/ijssh.2017.7.5.834

Latino immigrants perform better in school and have more positive academic attitudes than their native-born peers [21]. This decline in academic success the longer families are in the U.S. has been called the "immigrant paradox" [22]. Researchers have been urged to examine the risk factors that may make native-born or second-generation Latino immigrants more vulnerable to poor academic outcomes than more recent immigrants [22]. One risk factor that native-born children face is greater awareness and exposure, and thus possibly greater vulnerability, to the negative academic stereotypes facing their ethnic group compared to their first-generation counterparts. This pattern of greater susceptibility to stereotype threat among second-generation immigrants relative to first-generation immigrants has been observed in West Indian college students [23], but has not yet been examined in children. This potential moderator is examined in the current study.

The current study examined stereotype threat among fourth and fifth grade Latino immigrant children (mostly Mexican American) attending public schools in a predominantly European American community in the United States. To induce stereotype threat, students completed an ethnic identity measure either before (stereotype threat condition) or after (control condition) completing a standardized math task. The math task was selected because it is based on the standardized tests given at school every year, yet it is not language-dependent, and thus is more appropriate for children who may be novice English speakers. It was predicted that the children in the stereotype threat condition would perform significantly worse on the math task than the children in the control condition. It was predicted, however, that the stereotype threat effect would be moderated by the salience of ethnicity to participants. Specifically, it was predicted that children who perceived ethnicity to be a salient grouping would be more susceptible to stereotype threat than children who did not perceive ethnicity to be salient. It was also predicted that the stereotype threat effect would be moderated by immigrant generational status, such that native-born Latino students (second and third generation) would perform worse than the first-generation students under the stereotype threat condition (as an extension of the immigrant paradox).

II. Methods

A. Participants

Participants were 173 children (81 girls, 92 boys), consisting of 93 fourth graders and 80 fifth graders (ages 9-12, M = 10 yrs, SD = .85) from 19 elementary schools. All children were identified by the school as "Hispanic," and included 35% first-, 60% second-, and 5% third- generation immigrants primarily from Mexico (n=157; 16 were from Central and South America). Following a brief introduction about the general goals of the study, consent forms (printed in Spanish and English) were passed out to students. Only participants who returned a signed parental consent, and who themselves gave assent, participated in the study. This study was part of a larger longitudinal project on experiences related to ethnicity.

The sample was drawn from a moderate-sized city in the Upper South that is 81% European American, 14% African American, and 5% Latino. The school district consists of 35,429 students from 49 schools (32 elementary schools, 12 middle schools, and 5 high schools), with 2,137 students are enrolled in English as a Second Language. Of the 19 participating schools, 1 is predominantly Latino, 4 are predominantly African American, 13 are predominantly European American, and 1 is ethnically diverse (with roughly equal proportions of European American, African American, and Latino students). In the schools where the Latino students were the numerical minority (i.e., 17 schools), approximately 80%-85% of the Latino students at each of these schools participated in the study. There was a high correlation between the percentage of children at each school who qualified for free/reduced lunch and the percentage of Latino students at the school (r = 0.73, p < .01). At the predominantly Latino school, 94% of children qualified for free/ reduced lunch. There may have been a sampling bias due to the $15.00 gift certificate given to the participants. Specifically, the lower SES students' parents may have consented at higher rates than the higher SES parents but due to the majority of the participants receiving free/reduced lunch, we believe there is no such bias in the data. There were no effects of school on any of the measures described here.

B. Procedure

During normal school hours, trained bilingual research assistants administered the experiment individually to each participant in English and recorded their answers. Upon completion, participating children were debriefed and given a $15.00 gift certificate.

Participants were randomly assigned to one of two conditions (threat vs. control). In the threat condition, participants first completed an ethnic identity measure. They then took a 16-item math test normed for their grade level. Finally, to measure whether ethnicity was salient or not as a grouping, participants were administered a task in which they sorted pictures of individual people who varied in terms of gender, ethnicity, and age. In contrast, in the control condition, participants completed the math test first, then the sorting task, and finally the ethnic identity measure. For all participants, we also obtained their overall grade in Math at school.

C. Measures

Ethnic identity (Stereotype threat manipulation). To induce stereotype threat, children completed a measure of ethnic identity. Specifically, students were read a paragraph describing what ethnicity is and then asked to provide a self-label of their own ethnicity [24] and [25]. Using their own label (most commonly used labels: Mexican [42%], Mexican American [19%], Hispanic [19%], Latino [13%]), children were asked questions to assess their affect and pride about their ethnic group, as well as the importance of their ethnic identity to their sense of self. Children rated their agreement with five items that assessed the positive affect associated with their ethnicity (e.g., "I am happy to be [ethnicity].") and the importance of their ethnic group to their self-concept (e.g., "I feel that being [ethnicity] is a big part of who I am."). Scores ranged from 1 (not at all true) to 4 (very true). Students in the stereotype threat condition completed this measure before the math task, whereas students in the control

condition completed this measure after the math task.

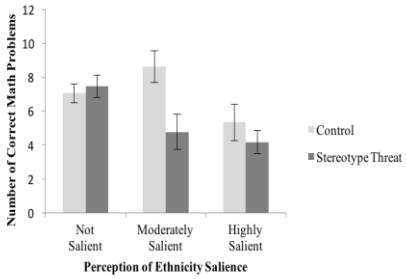

Fig. 1. Mean number of correct math problems in the control and stereotype conditions by the varying levels of the perception of ethnicity salience by participants. Note: Error bars indicate standard error.

Math scores were attained by administering a 16-item math task developed using the State Department of Education Core Content Curriculum for 4th and 5th graders. Specifically, the math items were taken from Commonwealth Accountability Testing, which is a mandatory standardized test all elementary students take in the district provided by the school district. This represents the content standards for instruction in the respective grades. For fourth graders, most items consisted of addition and subtraction of three-four digit numbers and simple multiplication and division. For fifth graders, most items consisted of long division and multiplication and simple addition of fractions. For both the fourth and fifth graders, the directions on the page stated, "You will have 5 minutes to complete these math problems. We just want to see how you will do on it. It is important that you try to do your best." This task was scored for how many items the participant answered correctly, with higher scores indicating a better math performance.

Salience of ethnicity was measured with a sorting task. This sorting task was developed to assess which social identity was most salient to children. This task was always given immediately after the math task. Participants were asked to sort 16 pictures of individuals in which half were children and half were adults, half were males and half were females, and half were Latino/a and half were European American. For example, there was a Latina female child, a Latino male child, a Latina female adult, a Latino male adult, etc. The pictures had been previously rated by undergraduates to be equal in attractiveness and to be prototypical of the ethnic group they represented. Research assistants instructed the participants, "Here are some cards with faces of people. Sort them into any 2 piles you want." Participants were asked "Please tell me why you decided to sort them into these 2 piles." After the original sort, the pictures were collected, shuffled again, and students were asked to put them into 2 different piles. Overall, children could sort on the basis of age, gender, or ethnicity (or some idiosyncratic characteristic). Students who sorted by ethnicity for the first sort were classified as perceiving ethnicity to be highly salient, those who sorted by ethnicity for the second sort were classified as perceiving ethnicity to be moderately salient, and those who never sorted by ethnicity were classified as not perceiving ethnicity to be salient.

III. Results

To investigate whether children were susceptible to stereotype threat, and whether this was moderated by generational status and ethnicity salience, we conducted a 2 (stereotype threat: threat vs. control) X 2 (generational status: first vs. second/third) X 3 (ethnicity salience: highly vs. moderately vs. not salient) analysis of covariance with math grades as the covariate and performance on the math task as the dependent variable. Means are reported in Table 1. Math grades were numerically coded (i.e., A=4, B=3, C=2, etc.) and was found to not be significantly correlated with the math task scores.

First, there was a significant main effect of stereotype threat $F(1, 151) = 4.75$, $p < .05$, $\eta p2 = .03$. As predicted, children under conditions of stereotype threat answered fewer math problems correctly than children in the control condition. There was also a main effect of ethnicity salience, $F(2, 151) = 3.82$, $p < .05$, $\eta p2 = .05$. Post hoc tests indicated that children who perceived ethnicity to be highly salient, and children who did not perceive ethnicity as salient at all, answered fewer math items correctly than children who perceived ethnicity to be moderately salient.

Both of these main effects were situated within a marginally significant interaction between stereotype threat and ethnicity salience, $F(2, 151) = 2.81$, $p = .06$, $\eta p2 = .04$ (see Fig. 1). Analyses of simple effects indicated that students who perceived ethnicity to be moderately salient answered significantly fewer math problems correctly in the threat condition than the control condition. A limitation is that in the threat condition, the sorting always came after the ethnic identity measure and in the control condition the sorting task came before the ethnic identity measure. Thus, if the ethnic identity measure itself induced ethnicity salience, there would be significant differences in saliency by condition, however, there were none. Specifically, among students who perceived ethnicity to be highly salient, there was no significant difference between the threat and control conditions. There were no stereotype threat effects for children who never perceived ethnicity to be salient. There were no significant differences based on generational status.

TABLE I: Means (Standard Deviations) of Math Task Scores by Stereotype Threat Condition and Ethnicity Salience Level

	Stereotype Threat Conditions		
Ethnicity Salience	Threat	Control	Combined
High	4.17_a (3.14)	5.33_a (2.71)	4.51_a (3.04)
Moderate	4.77_a (4.36)	8.62_b (3.86)	7.15_b (4.42)
Not Salient	7.47_b (3.96)	7.05_b (3.76)	7.24_b (3.84)
Combined	5.66_a (3.98)	7.14_b (3.74)	

Note. Different subscripts for means indicate significant pairwise contrasts ($p < .05$).

IV. Discussion

As predicted, the Latino immigrant children in the current study performed worse on a real-world standardized math task when they were under conditions of stereotype threat than when under control conditions. Specifically, when they were made to think about their ethnicity, they answered fewer grade-normed math items correctly than when ethnicity was not mentioned until later. This was moderated, however, by whether they considered ethnicity to be a salient category. Children who perceived ethnicity to be moderately salient were most vulnerable to the situational conditions. They performed the best of all groups under the control condition,

when ethnicity was never mentioned, scoring an average of 8 items correctly. However, when induced to think about their ethnicity, their average math performance dropped by 50%.

These findings suggest that children with moderately salient ethnicities are most susceptible to stereotype threat. In contrast, children who never perceived ethnicity to be salient were immune to the threat of the situation. For these children, it is likely that ethnicity-based negative stereotypes are rarely if ever considered. Previous research found that Latino elementary school-aged children were susceptible to stereotype threat only if they were aware of the broadly-held negative stereotypes about their group [15]-[17]. Thus, for these children, because ethnicity is not salient, the stereotypes associated with ethnicity are also not salient.

Interestingly, children who considered ethnicity to be highly salient performed more poorly on the math task than anyone else, regardless of the situational condition. There are two different possibilities to explain this finding. Perhaps, simply taking a diagnostic test, regardless of whether they were primed to think about their ethnicity, was sufficient for them to be vulnerable to stereotype threat. Previous research suggests that diagnosticity is an important factor in the susceptibility of stereotype threat and these children may frequently operate under stereotype threat conditions [11], [26], and [27]. Conversely, there may be other reasons, such as lower levels of acculturation, that may lead them to have both highly salient ethnicities and perform more poorly on the math tasks, independent of stereotype threat.

The findings of the present study add to the extant literature by showing that the Latino children are susceptible to stereotype threat on a math test that mimicked their actual schoolwork, and children with moderately salient ethnic identities are most vulnerable. Future research should examine other individual and contextual factors, such as ethnicity of the teacher/researcher and knowledge of negative stereotypes about Latinos, which may contribute to stereotype threat susceptibility.

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