A World of Possibilities: Gifted Hispanic Students Overcoming Barriers to Advanced Placement (AP)

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Literature Overview

- AP is the primary gifted programming option in 90.7% of high schools (Callahan, Moon, & Oh, 2014).
- Research on AP and gifted students primarily examines students' perceptions of their experiences (Foust, Hertberg-Davis, and Callahan, 2008; Hertberg-Davis & Callahan, 2008; Hertberg-Davis, Callahan, & Kyburg, 2006; Schmitt and Goebel, 2015).
- Students from low-SES households and CLD ethnicities and cultures are identified as gifted and participate in advanced programming less frequently than expected based on their overall percentages in the general population (Callahan, 2014; Hébert & Beardsley, 2001; Ford, Grantham, & Whiting, 2008).
- "Taking and succeeding in AP courses came with powerful stakes attached, including disproving racial stereotypes, being the first in a family to graduate from college, and the opportunity to escape a lifestyle they did not wish for themselves" (Hertberg-Davis and Callahan, 2008).
- Primary factors influencing AP success were a systemic belief that these students could succeed and a willingness to scaffold instruction and provide the necessary support (Kyburg, Hertberg-Davis, & Callahan, 2007).

Purpose

The purpose of this study was to examine factors predictive of success on AP exams for gifted Hispanic students in a low-income, high-CLD high school.

- Additional analyses examined the following AP performance:
  - Gifted Hispanic students vs non-identified Hispanic students
  - Gifted Hispanic students vs. Gifted White students

Methods

Participants and Setting
Three years of secondary student data from a low-SES, high-CLD high school were analyzed (identified gifted students, $n = 152$; gifted Hispanic students, $n = 52$; non-identified Hispanic students, $n = 257$). This high school had grant funding to better prepare underrepresented students for AP success.

Table 1: Percent of District and School Population

	2012-13 District	2012-13 School	2013-14 District	2013-14 School	2014-15 District	2014-15 School
FARM[a]	61.9	63.4	61.9	65.3	61.9	62.9
CLD	63.7	68.7	64.4	69.5	65.6	68.0
ESL	25.6	22	24.4	23	22.9	19
Gifted	5.4	11.0	5.0	11.0	4.5	10.0

[a]Free and Reduced Meals

Gifted Identification
Students were identified for gifted programming through a body of evidence that included information on intellectual ability, achievement, gifted characteristics and behaviors, and demonstrated performance.

Table 2: Frequency Distributions for Advanced Placement Students Identified as Gifted

Variable of Interest	No. of Students (% of Gifted AP Population)
Race/Ethnicity	
American Indian	2 (1.3)
Asian American	2 (1.3)
Black	0 (0)
Caucasian	91 (59.9)
Hispanic	52 (34.2)
Multiple	5 (3.3)
Domains of Giftedness	
Language Arts	18 (11.8)
Mathematics	20 (13.2)
Language Arts & Mathematics	57 (37.5)
Other Areas (e.g., leadership, creativity, performing arts, general intellectual ability)	57 (37.5)

Measurement
Existing data from three years of AP exam scores were utilized for the analysis.

Dependent variable: Scores grouped into dichotomous "pass" (i.e., scores of 3-5) or "fail" (i.e., scores of 1 or 2).

Independent variables: (a) GPA, (b) gifted identification status, (a) ESL Status, (b) SES determined by free-and-reduced lunch participation, (c) gender, (d) race/ethnicity, (e) prior AP coursework

Data Analysis
A quantitative non-experimental design was used. Correlation analyses were conducted to examine the bivariate relationships between variables. Data were not normally distributed; therefore, chi-square tests of independence and logistic regression were implemented. Assumptions of both were met.

Results

CHI SQUARE:
- There was no significant association between Race/Ethnicity and AP exam success
  - X^2 (1, n = 143) = .16, p = .7, phi = .05
- Hispanic students identified as gifted were more likely (57.7%) to pass an AP exam than Hispanic students not identified as gifted (33.5%).
  - X^2 (1, n = 309) = 9.8, p = .002, phi = .19

LOGISTIC REGRESSION
- Identification as gifted was the only factor predictive of AP success for Hispanic students.
  - X^2 (6, n = 309) = 13.27, p = .039
  - p = .003, OR = 2.812, CI: 1.428-5.538

Discussion

- Low-SES, ESL, and Hispanic ethnicity were *not* negatively associated with AP exam success.
- There was no statistically significant difference in the performance of gifted White (non-Hispanic) and gifted Hispanic students.
- Gifted Hispanic students were almost three times more likely to pass an AP exam than non-identified Hispanic students, even when controlling for GPA.
- Hispanic students able to meet gifted identification criteria are likely a more selective group than White students identified as gifted.

Implications and Conclusion
Possible mediating factors that can be encouraged in schools:
- A culture where participation of diverse students in AP courses is expected and supported
- Teacher training in appropriately challenging and supporting gifted CLD students
- Gifted programming and support that continues through high school

Directions for Future Research
- Differentiate between specific AP courses
- Utilize quantitative dependent variable (i.e, 1-5) instead of categorical
- Include confounding independent variables (e.g., parental education level, student motivation, experience of AP teacher)
- Expand to other schools with similar demographics and GT/AP culture
- Case study approach

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