



**A Look Beyond Cognitive Predictors of
Academic Success: Understanding the
Relationship between Academic Self-
Beliefs and Outcomes**

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Background

- A recurrent trend in higher education research has been to identify additional predictors of college success beyond the traditional cognitive measures (e.g., Camara & Kimmel, 2005; Willingham & Breland, 1982).
- A major impetus for this research is due to the resulting performance disparity among ethnic groups on these traditional measures.
- Research has found that self beliefs are related to college performance above and beyond cognitive measures (e.g., Robbins, Lauver, Le, Davis, Langley, & Carlstrom 2004).

Current Study

Purpose:

1. To examine the relationship between responses to items on the SAT-Questionnaire that assess self-beliefs and high school and college outcomes
2. To examine the characteristics of students who have high self-beliefs

Sample:

- The College Board collected data on nearly 200,000 first-time, first-year students from 110 institutions for the 2006 academic school year.
 - Students who had an SAT score, self-reported HSGPA, completed the self-belief items on the SAT Questionnaire, a valid FYGPA, and retention data were included in analyses (N = 107,543).

Measures of Self Beliefs

Self-Estimate of Math Ability

- “How do you think you compare with other people your own age in math ability?” with the following response options: A) *Among the highest 10 percent in this area of ability*, B) *Above average in this area*, C) *Average in this area*, D) *Below average in this area*

Self-Estimate of Writing Ability

- “How do you think you compare with other people your own age in writing ability?” with the following response options: A) *Among the highest 10 percent in this area of ability*, B) *Above average in this area*, C) *Average in this area*, D) *Below average in this area*

Degree Goal

- “What is the highest level of education you plan to complete beyond high school?” with the following response options: A) *Specialized training or certificate program*, B) *Two-year associate of arts or sciences degree*, C) *Bachelor’s degree*, D) *Master’s degree*, E) *Doctoral or related degree*, F) *Other*, G) *Undecided*.

Outcomes

SAT scores

- Official SAT scores were obtained from College Board records. The SAT is comprised of three sections, Critical Reading, Math, and Writing, and the score scale ranges from 200 to 800 for each section.

HSGPA

- HSGPA was self-reported and obtained from SAT Questionnaire responses. Students' HSGPAs ranged from 0.00 (F) to 4.33 (A+).

Help Seeking

- Students were asked whether they may want help in college to improve their mathematics skills and writing skills among other areas.

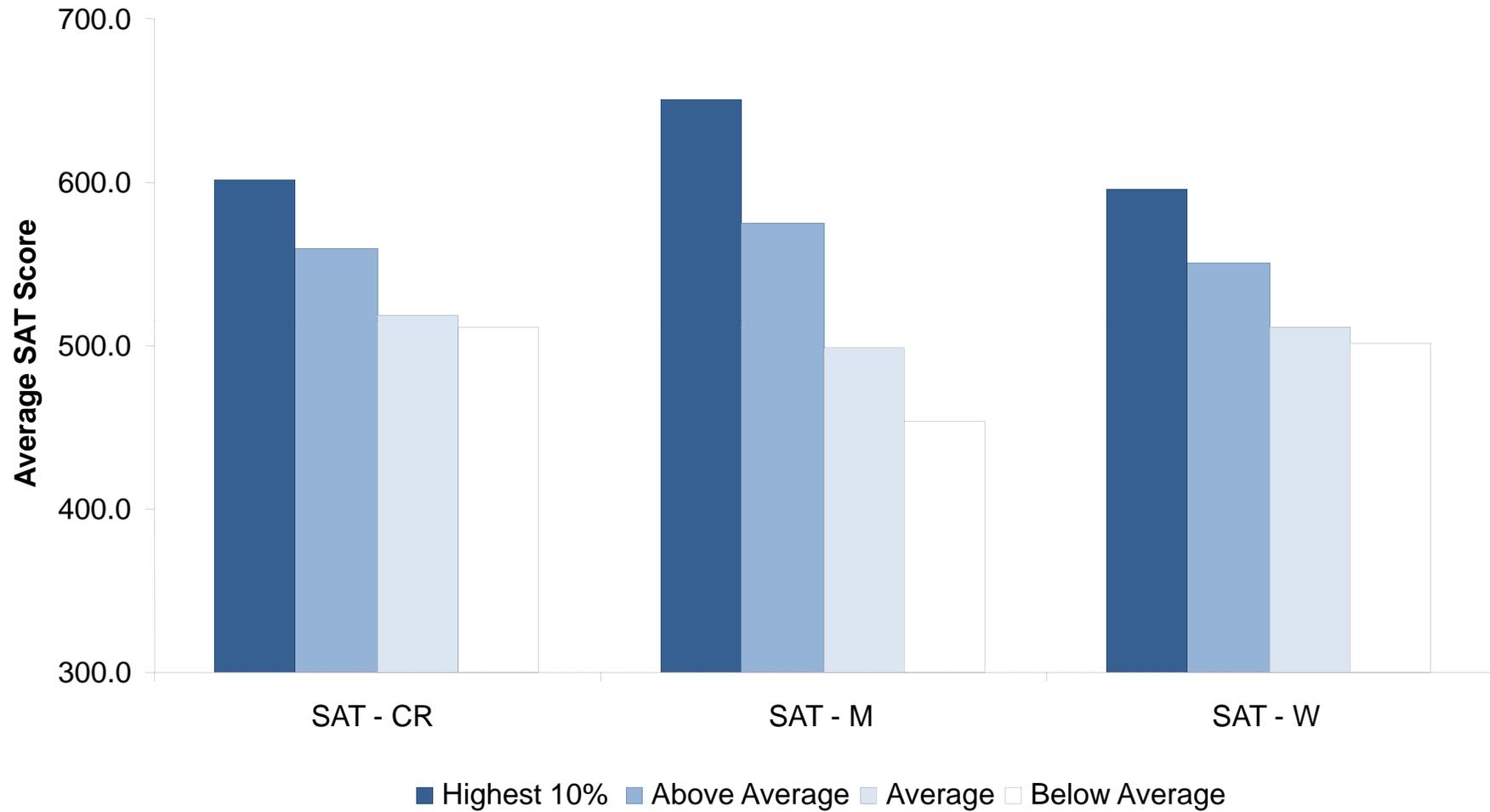
First-Year GPA

- First-year GPA was provided by the participating institutions. Values ranged from 0.00 to 4.27.

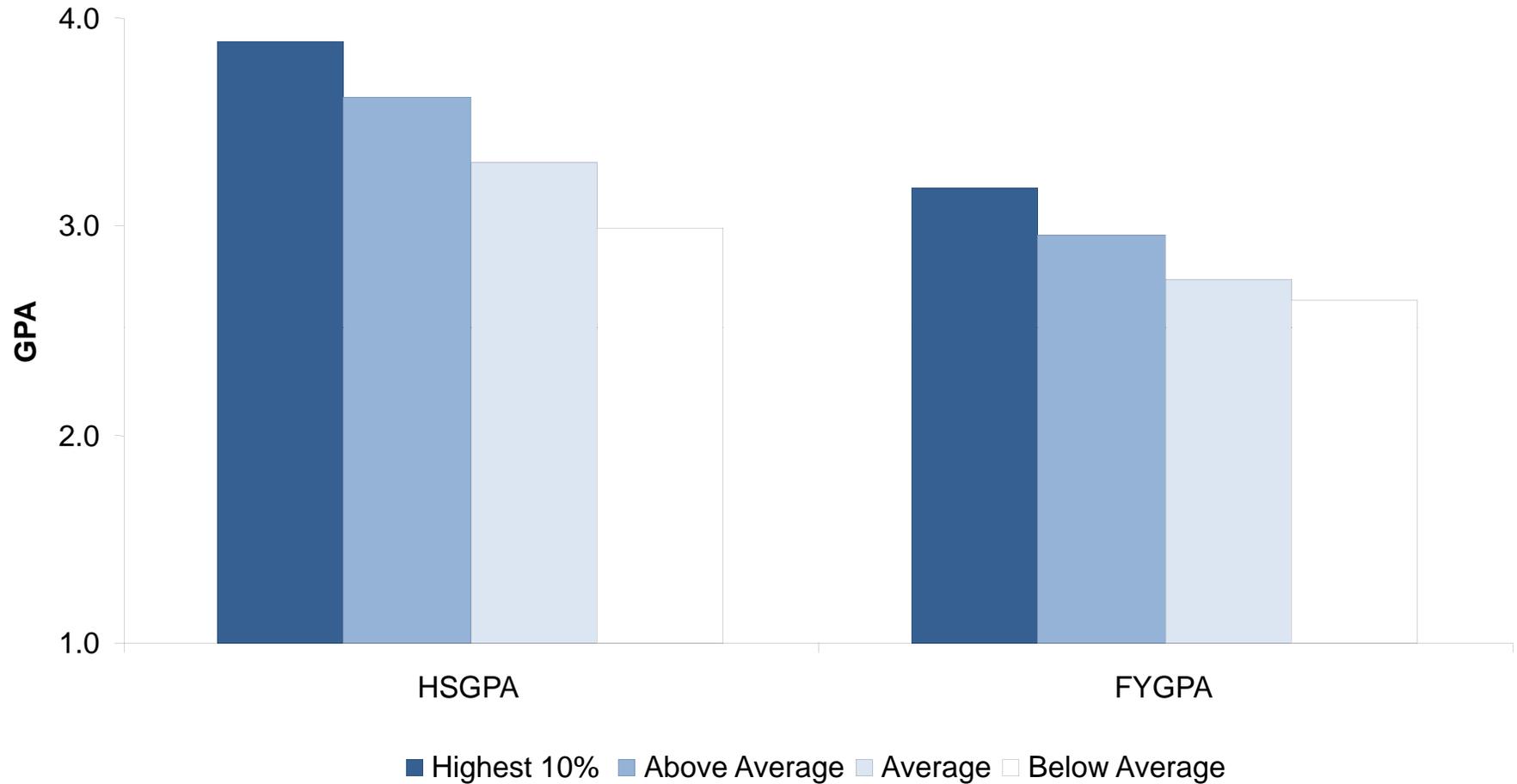
Self-Beliefs in Math Results

- Highest 10% of math ability (33.5%), above average (42.3%), average (23.0%), and below average (1.2%).
- Compared to the total sample, students in the highest 10% in math ability were more likely to be male, Asian-American, and White.
- One-way ANOVAs by perceived math ability groups reveal significant group differences for each academic outcome.

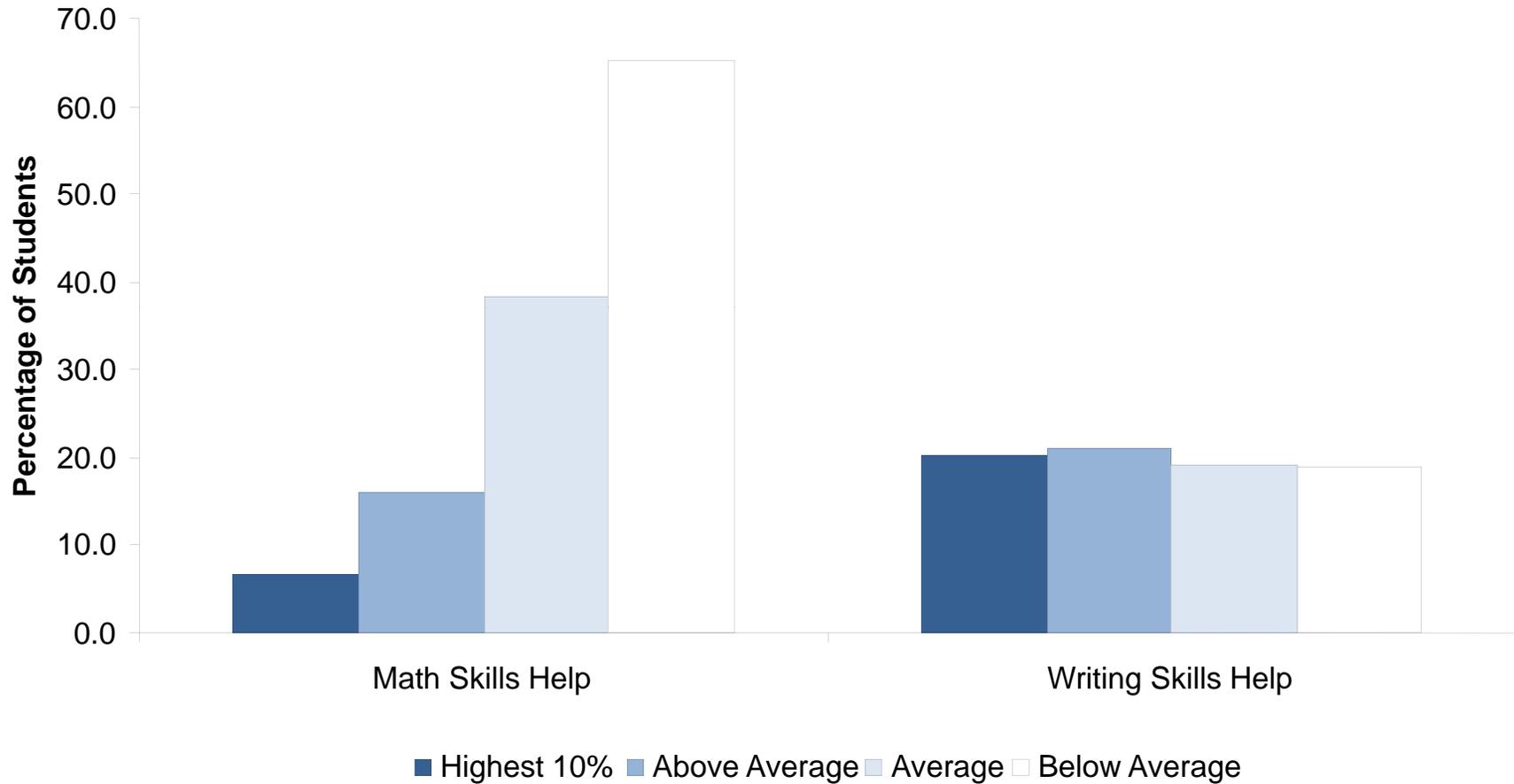
SAT Performance by Self-Beliefs in Math Ability



Performance in High School and College by Self-Beliefs in Math Ability



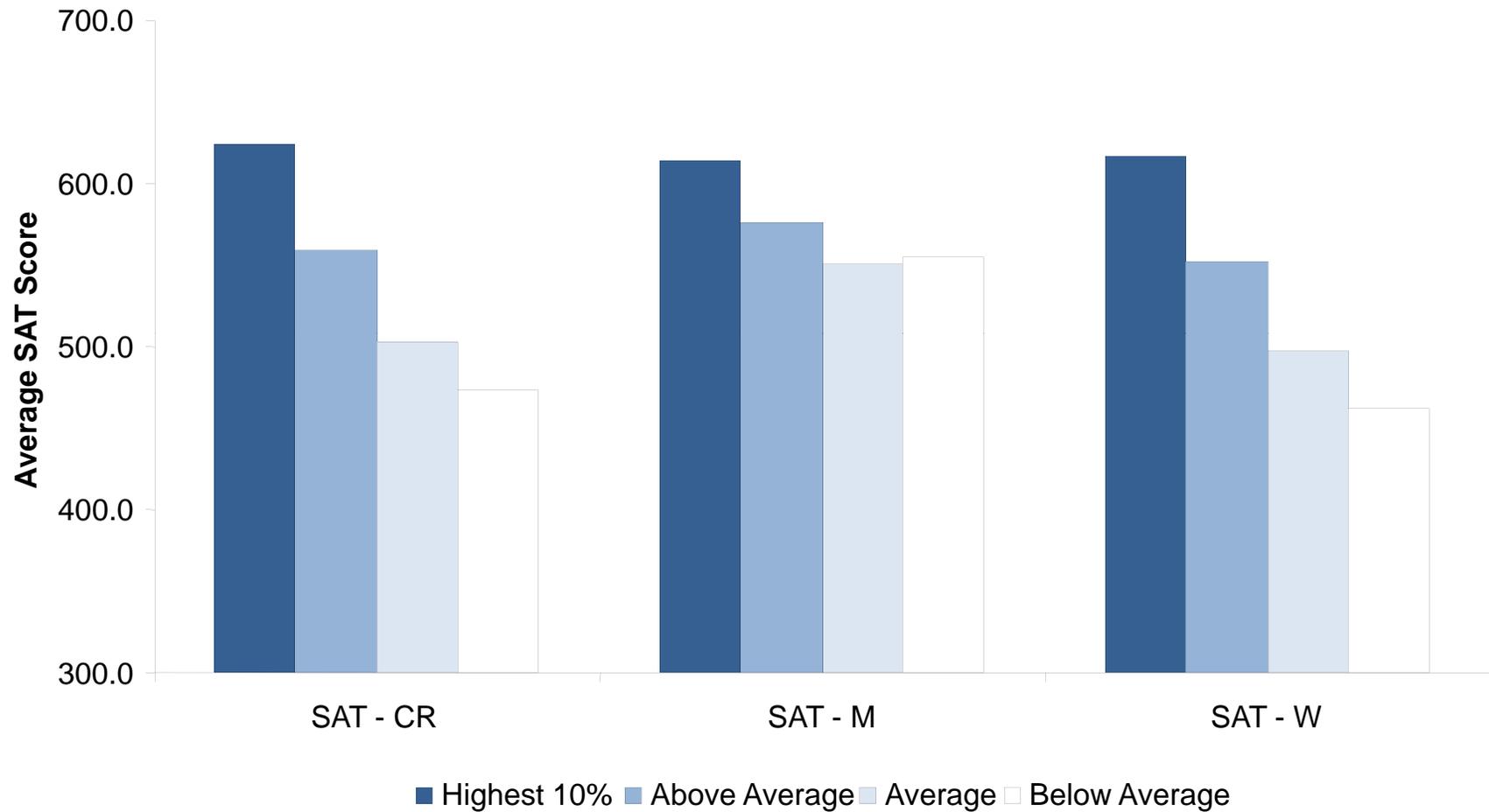
Percentage of Students Desiring Help in Math and Writing by Self-Beliefs in Math Ability



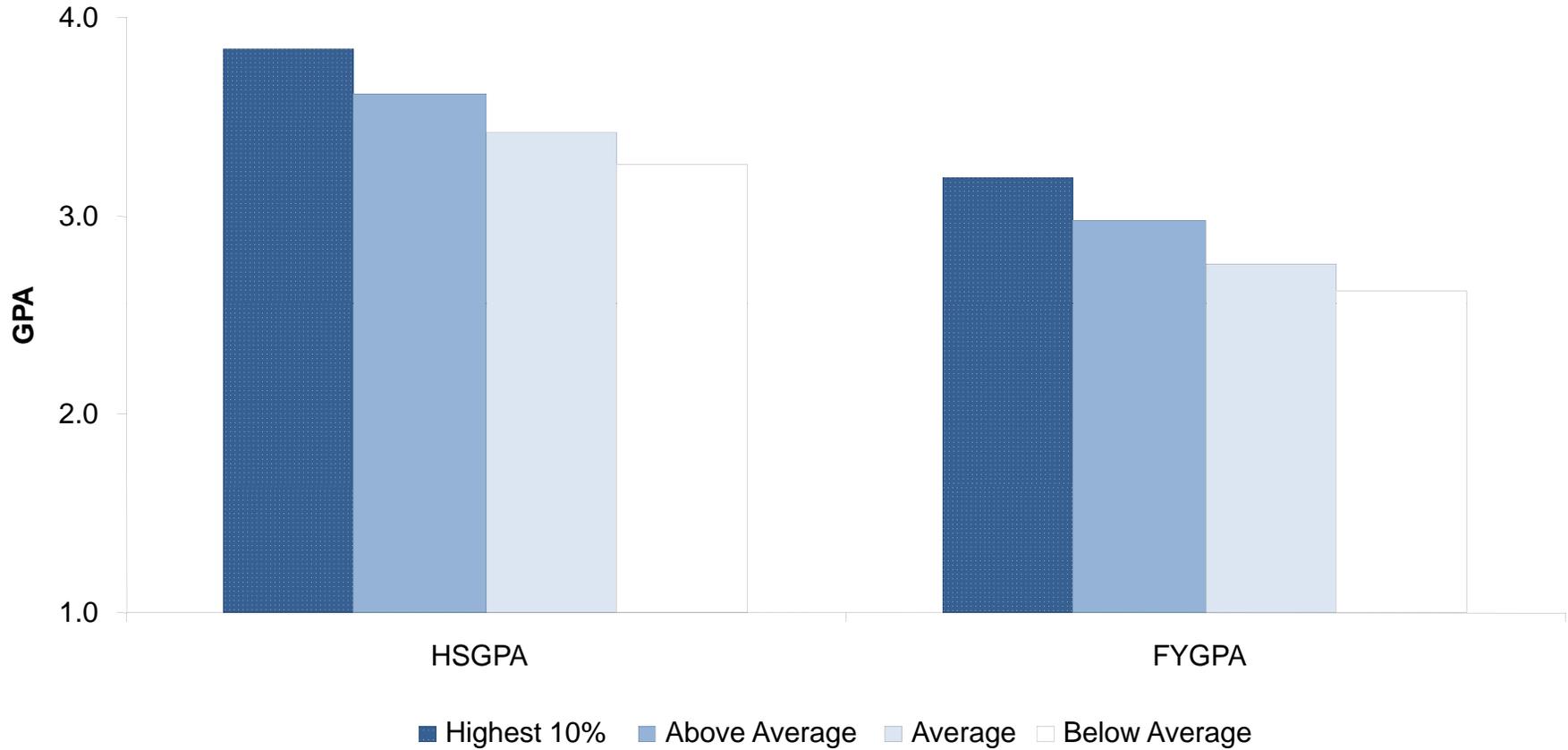
Self-Beliefs in Writing Results

- Highest 10% of writing ability (29.4%), above average (44.7%), average (24.9%), and below average (1.0%).
- Compared to the total sample, students in the highest 10% in writing ability were more likely to be female, White, and report their best language as English.
- Similar to the math results, one-way ANOVAs by perceived writing ability groups reveal significant group differences for each academic outcome.

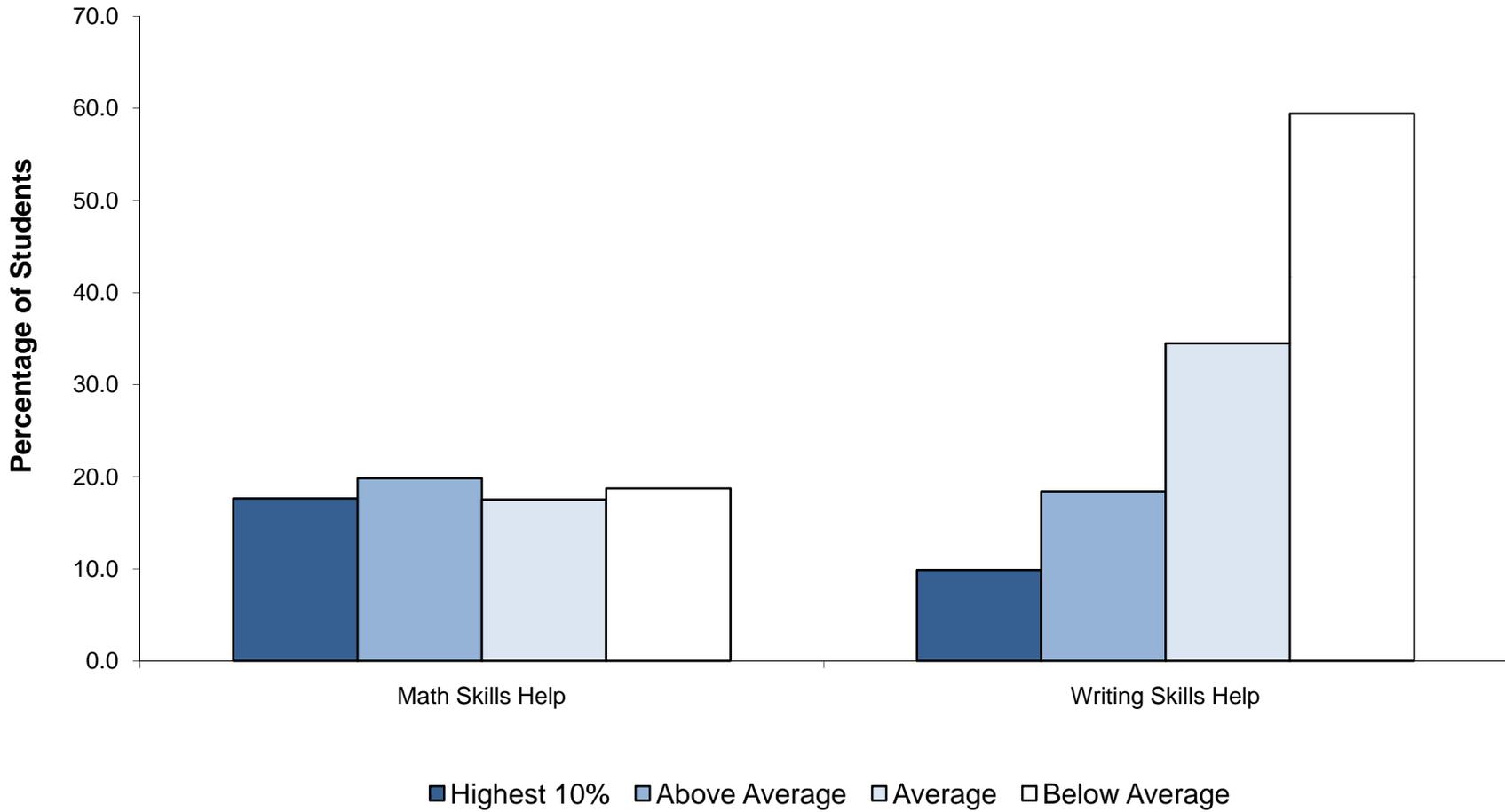
SAT Performance by Self-Beliefs in Writing Ability



Performance in High School and College by Self-Beliefs in Writing Ability



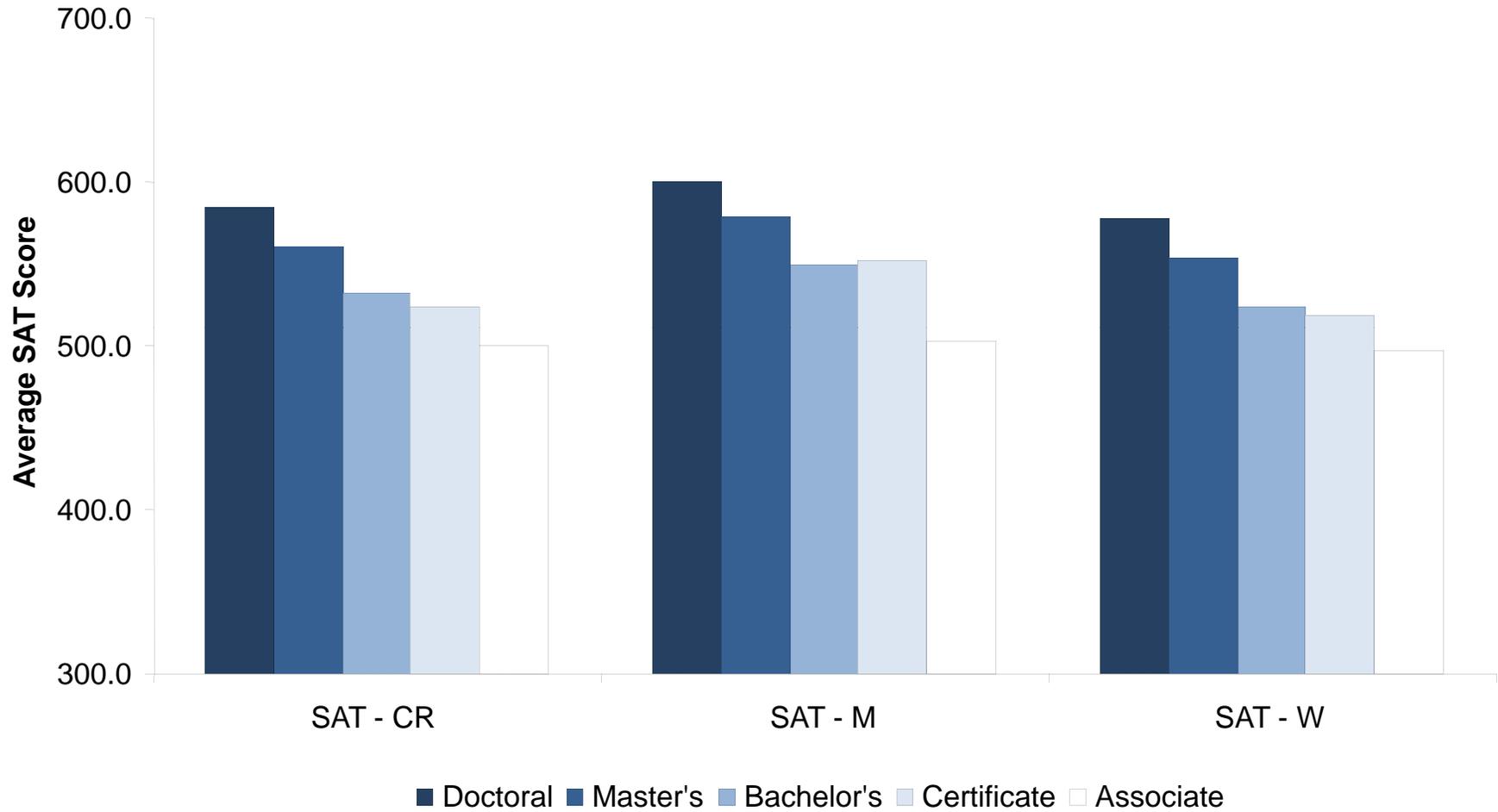
Percentage of Students Desiring Help in Math and Writing by Self-Beliefs in Writing Ability



Degree Aspiration Results

- The majority (79.4%) of students in the sample aspired to complete a bachelor's or higher while 19.7% of the sample was undecided. Less than 1% indicated the desire to earn either a certificate, associate, or other.
- Compared to the total sample, students who stated that their degree aspiration was a doctoral degree were more likely to be female, Asian, African-American, and Hispanic.
- Similar to the other self-belief results, one-way ANOVAs by degree aspiration groups reveal significant group differences for each outcome.

SAT Performance by Degree Aspirations



Performance in High School and College by Degree Aspirations



Discussion

- Congruent with a substantial body of literature, students' academic self-beliefs are positively related to academic outcomes.
 - Unfortunately, subgroups who tend to perform lower on traditional measures tend to also hold lower academic self-beliefs. On the other hand, this does not hold for degree aspirations.
- An additional contribution of this study is the investigation of the relationship between self-beliefs and desiring help to improve skills in the respective content areas.
 - Are these students getting the help they desire?

References

- Camara, W., & Kimmel, E. (2005). (Eds.) Choosing students: Higher education admissions tools for the 21st century. Mahwah, NJ: Lawrence Erlbaum.
- Robbins, S., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130, 261–288.
- Willingham, W. W., & Breland, H. M. (1982). Personal qualities and college admissions. New York: College Entrance Examination Board.

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