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# Test Preparation: Insights into Ecological Issues

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## Abstract

In this study, I examined several ecological factors at play when students make use of test preparation. I first looked at students' usage of test preparation and followed that with an examination of the relationship between family income and test preparation use. Finally, I examined familial support in preparing for admissions exams. Many students use test preparation to increase their chances of admissions and scholarship eligibility. Compared to students from higher income families, students from lower income families reported notably lower rates of agreement that their parents or guardians had the financial means to purchase test preparation. This manifested in the rates of using private tutors, where higher income students reported using private tutors more than lower income students. This study also showed that students' perceived levels of support from their families increases as family income increases and that minority students from traditionally underserved backgrounds perceived less support than White students. As family income increased, greater numbers of students reported that their parents made them prepare for standardized tests. Additionally, minority students reported lower rates of being made to prepare than White students. Highest parental education was positively related to both the percentage of students reporting their parent provides the support they need to prepare for admissions tests as well as students reporting that their parents made them prepare for the standardized admissions test.

## Introduction

There is ample research to demonstrate that test preparation plays an important role in the admissions testing process (Appelrouth, Zabrocky, & Moore, 2015; Bangert-Drowns, Kulik, & Kulik, 1983; Briggs, 2001; Briggs, 2009; Montgomery & Lilly, 2012; Powers, 1993).

Many types of test preparation programs have about a 1-scale score point impact on ACT® scores, as documented in a number of recent studies demonstrating the effectiveness of test preparation products on improvements in students' ACT scores (Sanchez, 2020a; Sanchez, 2020b; Payne, San Pedro, Moore, & Sanchez, 2020; Sanchez, 2020c; Sanchez, 2019; Moore, Sanchez, & San Pedro, 2019). Furthermore, these studies illustrate the essential components of test preparation and the

importance of focusing on core content learning while supplementing core content with test-taking strategies and test familiarity that improve test wiseness. Because of the efficacy of these products in improving test scores, more research should be done on the factors that are related to access to test preparation and differences in test preparation use.

Existing studies of test preparation tend to focus on the efficacy of test preparation programs. This is done either to validate a particular program or to understand the impact of test preparation on standardized test scores and by extension their impact on students' admission to postsecondary institutions.

In the current study, I attempted to explore factors associated with the use of test preparation rather than the efficacy of that preparation.<sup>1</sup> In the context of this study, I consider any factor external to the test preparation program itself to be an ecological factor that is associated with the use of test preparation. Prior research supports the impact of parental involvement in students' education on broader academic achievement and on test preparation and score attainment specifically (Ashbaugh, 2009). There is also research demonstrating that higher income families tend to utilize more expensive and more intensive test preparation programs, including tutors (Buchmann, Condrón, & Roscigno, 2010). Coupled with the correlation between standardized test score and family income, there is concern for the equity in standardized admissions testing with regard to the use of test preparation (Devine- Eller, 2012).

First, I looked at how students reported using test preparation, both in school and out of school. I further considered several motivational factors that may have contributed to the use of test preparation. I also examined what students were hoping to accomplish by using test preparation. Next, I turned to a second type of ecological factor: that of family income. I looked at whether students felt they had the financial means to access the test preparation that they needed as well as the use of private tutors. Finally, the third ecological factor considered was that of family support.

In examining these three ecological factors, I hope to provide a more holistic understanding of the need for and use of test preparation.

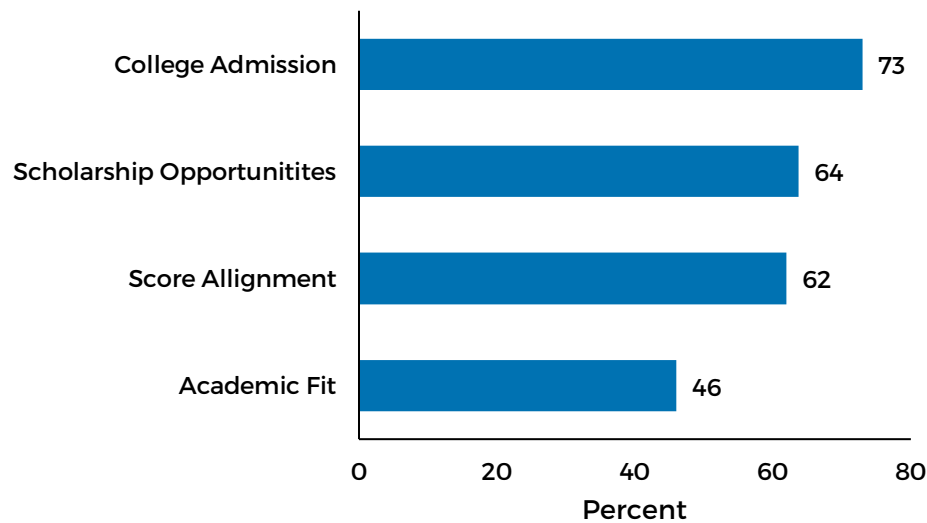
## **Students Use of Test Preparation**

In the 2019 academic year, about 65% of students indicated that they participated in some form of test preparation prior to taking the ACT. Within this context, we can see that students are making use of test preparation for a number of reasons, and there are many student factors that impact how or when they use it. For example, schools may offer test preparation courses during or after normal school hours. In the current study, about 57% of respondents indicated that their school offered a test

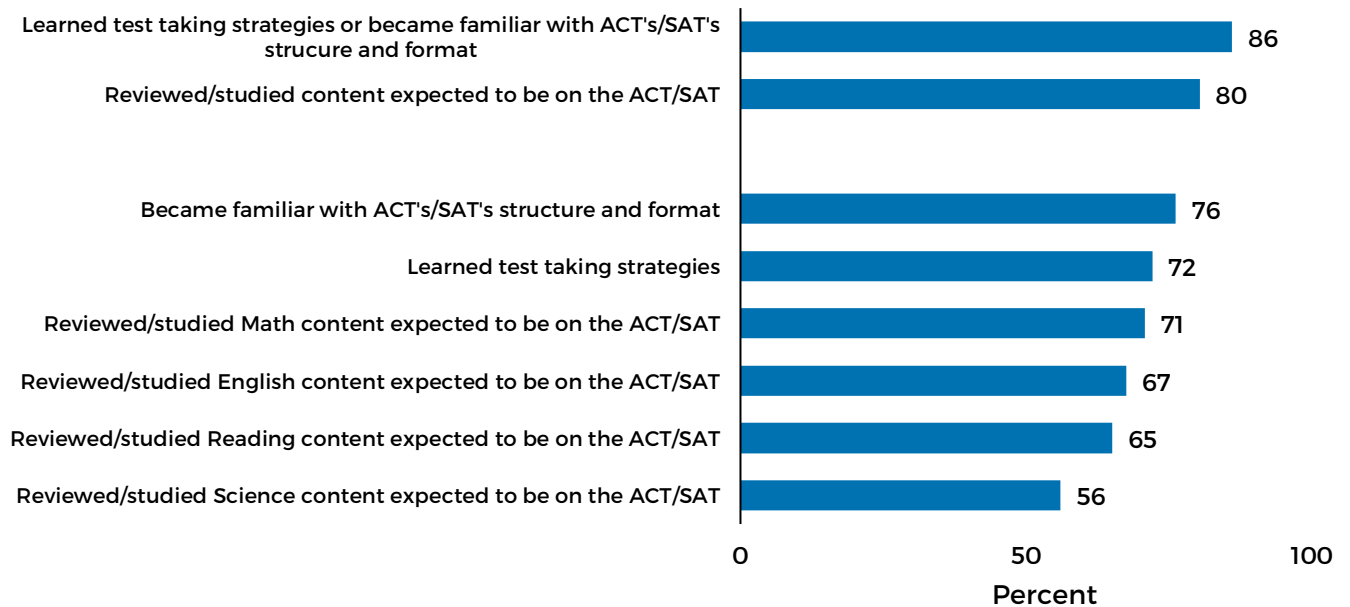
preparation course, though only 26% of students reported enrolling in those courses. In addition, 40% indicated that they attended a test preparation course outside of school hours, which may have included courses offered by the school.<sup>2</sup>

Regardless of whether a test preparation course was offered at their school, survey respondents indicated that there were several motivational factors that contributed to their use of test preparation. These factors included increasing their opportunities for scholarship attainment, increasing their chances of postsecondary admission, increasing the chances of aligning their ACT scores with the average ACT score of their college of interest, and increasing their academic fit with their postsecondary school of interest.<sup>3</sup> As seen in Figure 1, many students (73%) reported using test preparation to increase their likelihood of college admission. Around 60% of students were doing so to increase their score alignment and increase their scholarship opportunities, and 46% of students indicated that they used test preparation to increase their academic fit with their postsecondary school of interest.

**Figure 1.** Percentage of Students Indicating Motivating Factors for Using Test Preparation

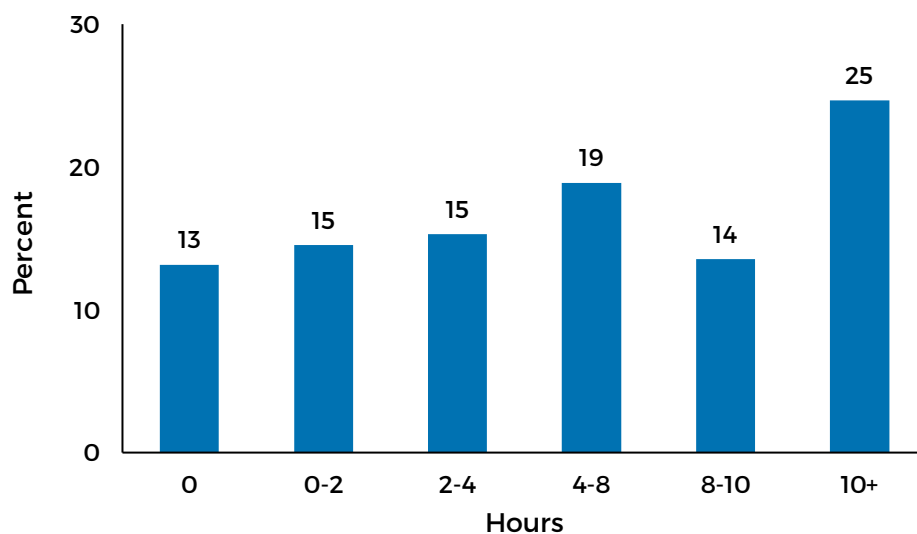


Many students (80%) indicated that they reviewed core content areas during test preparation programs (Figure 2). More students (86%), however, indicated that, by using test preparation, they hoped either to learn test-taking strategies or become more familiar with the structure and format of the test.

**Figure 2. Activities Students Engaged in During Test Preparation**

**Note:** The first two bars in Figure 2 are combinations of the six bars in the lower portion of the figure.

Almost 81% of respondents indicated that test preparation was advantageous for them. However, while they may have agreed that their use of test preparation was beneficial, there was disagreement about how much effort was required to attain a specific score increase. I asked students about the number of hours they would need to use test preparation to obtain a two-point ACT Composite score increase. Figure 3 indicates that there was considerable disagreement about the number of hours of test preparation required for a two-point Composite score increase. There may be several reasons for this disagreement. Differences between test preparation programs including quality and depth may impact the amount of time needed to gain two ACT Composite score points. In this survey, we were not guiding students toward a specific test preparation program; therefore, respondents may have been thinking about different programs and their respective efficacy levels when responding to this question.<sup>4</sup>

**Figure 3.** Number of Hours Students Felt Were Needed to Attain a Two-Point ACT Composite Score Increase

**Note:** Percentages in the figure do not add up to 100% due to rounding.

## Family Income

Undeniably, family income has an important role in students' access to, and usage of, test preparation. The sample was closely split between those who paid for test preparation and those who did not (50% versus 46%).<sup>5</sup> Overall, about 79% of students indicated that their family had the financial means to purchase the test preparation that they needed to prepare for admissions tests like the ACT or SAT.<sup>6</sup> This overall percentage, however, hides the fact that the responses differed by family income. As shown in Table 1, the percentage of students who agreed that they have the financial means to purchase the test preparation they need to prepare for admissions tests increases with family income level. There was a dramatic difference between students who come from families with income above \$100,000 and those with less than \$36,000. In these two cases, 93% of students versus 39% of students indicated that they had the financial means to purchase the test preparation they needed.

**Table 1.** Percentage of Students who Indicated Having the Financial Means to Purchase Test Preparation

	< \$36K	\$36K-60K	\$60K-100K	> \$100K
Agree	39	58	79	93
Disagree	61	42	21	7

**Note:** Results are being provided for students who provided their family income. Approximately 39% of students did not report their family income.

One of the potential advantages of having greater financial means is the ability to work one-on-one with a private tutor. Overall, only 26% of students indicated that they worked with a private tutor to prepare for the ACT or SAT. When we break this number down by family income, we see some interesting results (Table 2). Specifically, students with greater family income also reported working with a private tutor at a higher rate. However, there was still a fair percentage of lower income students who reported working with a private tutor.<sup>7</sup>

**Table 2.** Percentage of Students who Worked with a Private Tutor by Family Income

	< \$36K	\$36K-60K	\$60K-100K	> \$100K
Yes	18	11	20	34
No	82	89	80	66

*Note.* Results are being provided for students who provided their family income.

## Family Support for Using Test Preparation

Family support can have a big impact on how students prepare and perform on admissions tests. Parents' education level is an important factor when considering whether a parent provided the support needed to prepare for admissions tests (Table 3). For example, among students whose parents did not attend college, 60% agreed that their parents provided the support they needed while 40% disagreed. As parental education increased, so did the percentage of students who agreed that their parents provided the support they needed to prepare for the admissions test. This was most dramatically seen among parents with a graduate degree, where 92% of their students indicated that their parents provided the support they needed to prepare for admissions tests, while only 8% disagreed.

**Table 3.** Percent of Students Reporting Their Parent/Guardian Provides the Support They Need to Prepare for Admissions Tests by Highest Parental Education

	No College	Some College	Bachelor's Degree	Graduate Degree
Agree	60	75	85	92
Disagree	40	25	15	8

While about 85% of students overall reported that their parent provided the support they needed to prepare for admissions tests, there were differences by family income and race/ethnicity.<sup>8</sup> Table 4 shows that, as family income increased, the percentage of students reporting parental support also increased. For example, among students from lower income families (with an annual income less than \$36,000), about 67% reported parental support, while 90% of students with family incomes greater than \$100,000 reported support (Table 4). We can also see that Hispanic and African

American students reported lower rates of support from parents than do White students (Table 5).

**Table 4.** Percent of Students Reporting Their Parent/Guardian Provides the Support They Need to Prepare for Admissions Tests by Family Income

	< \$36k	\$36k-60k	\$60k-100k	> \$100k
Agree	67	73	83	90
Disagree	33	27	17	10

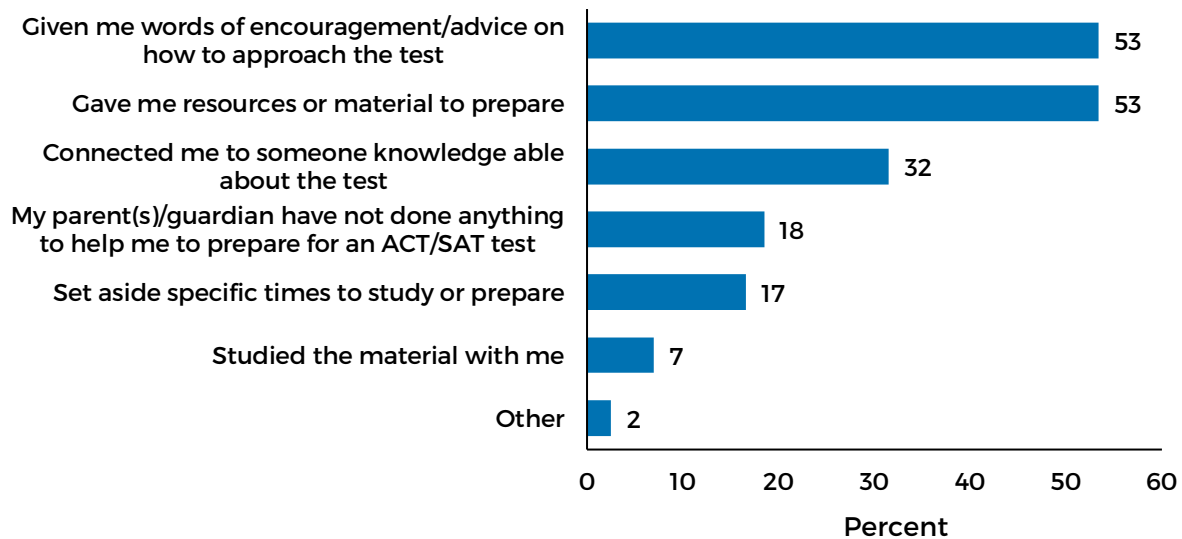
**Note.** Results are being provided for students who provided their family income.

**Table 5.** Percent of Students Reporting Their Parent/Guardian Provides the Support They Need to Prepare for Admissions Tests by Race/Ethnicity

	White	African American	Hispanic	Asian	Other	Prefer Not To Say
Agree	87	79	74	87	84	87
Disagree	13	21	26	13	16	13

I asked students about several ways that parents could possibly provide support as students prepared for their admissions exam. This included activities such as providing words of encouragement or providing study materials. Figure 4 shows which of these activities were more common among parents according to their students. For example, we can see that about 50% of parents provided words of encouragement or advice as well as providing resources to help students prepare. We can also see that very few parents studied the materials with their child or set aside specific times for their child to prepare for the admissions exam.

**Figure 4. Activities Done by Parent/Guardian to Help Students Prepare for an Admissions Exam**

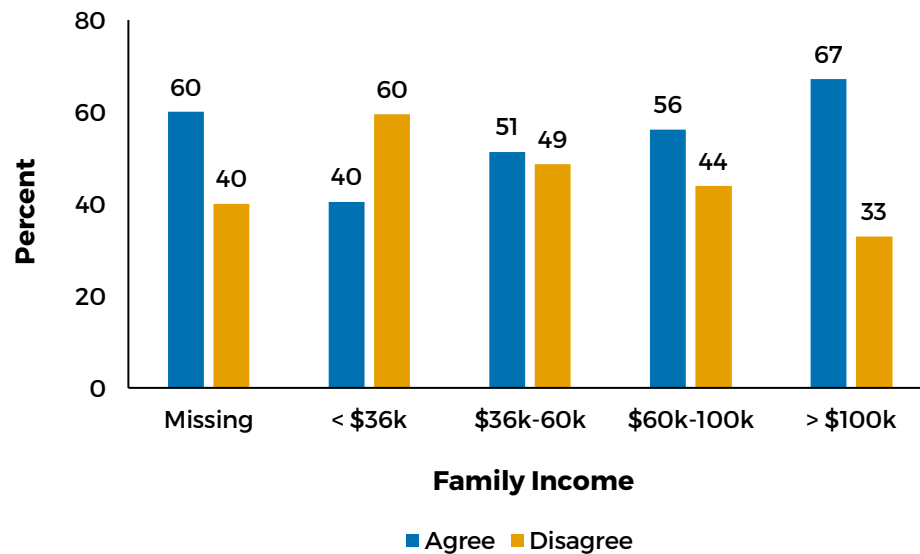


Interestingly, 75% of students who indicated that their parents had done something to help them prepare for the ACT/SAT agreed that their parents provided the support they needed to prepare for the admissions test. 15% of students, however, gave contradictory responses to these two questions. For example, about 9% of students indicated that their parents had not done anything to help them prepare for an ACT/SAT test, yet they agreed that their parents provided the support they needed to prepare for admissions tests. The remaining 10% of students indicated both that their parents had not provided the support they needed to prepare for admissions tests and that their parents had not done anything to help them prepare for an ACT/SAT test.

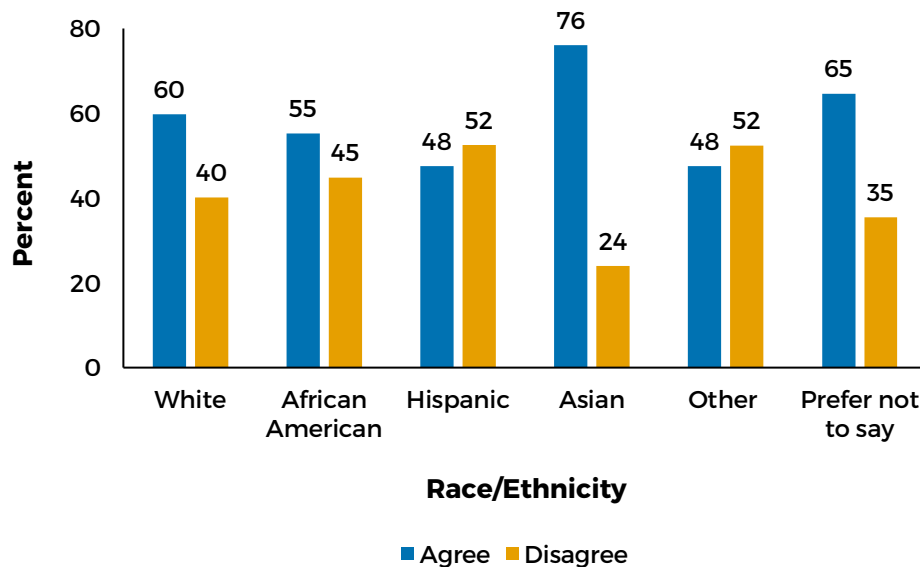
Fifty-nine percent of students indicated that their parents made them engage in test preparation in advance of taking an admissions test.<sup>9</sup> Figure 5 illustrates that, as family income increases, so did the percentage of students reporting that their parents made them prepare for their college admissions exam. For example, only 40% of students from family incomes of less than \$36,000 reported their parents made them prepare, whereas 67% of students from family incomes of over \$100,000 indicated their parents made them prepare. There were important differences by racial/ethnic groups as well (Figure 6). We can see that African American and Hispanic students had lower rates of reporting that their parents made them prepare for their college admissions exam. There was a 12-percentage point difference in the percentage reported between White students and Hispanic students.



**Figure 5.** Percentage of Students Indicating Their Parents Made Them Prepare for Their College Admissions Exam by Family Income

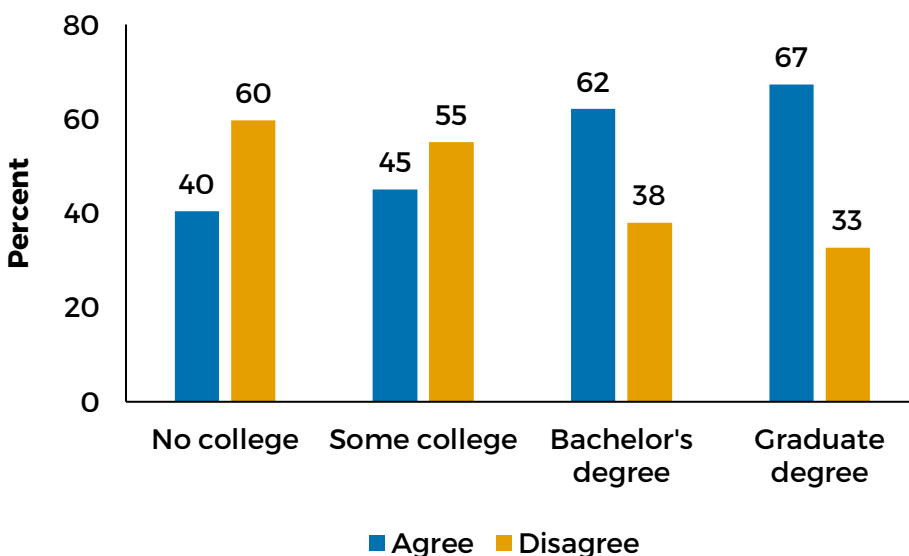


**Figure 6.** Percentage of Students Indicating Their Parents Made Them Prepare for Their College Admissions Exam by Race/Ethnicity



These differences may, however, be driven by parental education. Figure 7 shows a stark contrast in the percentages of parents who made students prepare for their college admissions exam between parents with a bachelor's degree or higher and parents with some or no college. Among parents who had some or no college, over half of students reported that their parents did not make them prepare for their college admissions exam. Students with parents who had completed at least a bachelor's degree, however, overwhelmingly reported that their parents made them prepare for their college admissions exam.

**Figure 7.** Percentage of Students Indicating Their Parents Made Them Prepare for Their College Admissions Exam by Parental Education



In the entire sample, just over 97% of students indicated that their family expected them to go to college. This value changed little across family income levels. In this study, it ranged from 94% to 98%. Furthermore, there was little change in these rates by race/ethnicity.

## Conclusion

In this study, I examined three factors that impact students' use of test preparation for admissions exams. Regarding students' general uses of test preparation, 57% of respondents indicated that their school offered a test preparation course, while only 26% of students enrolled in those courses, and about 40% of students participated in test preparation programs after school. While most students took test preparation to increase their chances of admissions to their postsecondary institution of choice, they also wanted to increase scholarship opportunities, among other goals. The majority of students also wanted to learn test-taking strategies and the structure of the test.

Students from lower income families reported notably lower rates of agreement that their parents had the financial means to purchase the test preparation they needed than students from higher income families. One way that this manifested was in the use of private tutors, where higher income students reported higher rates of using private tutors than lower income students.

Finally, as important as family support is in helping students prepare for admissions tests, support varied by family income, race/ethnicity, and parental education. This study showed that the level of support students perceive from their families

increased as family income increased and that minority students from traditionally underserved backgrounds perceived less support than White students. A similar trend was observed for the rates at which families made students prepare for admissions exams.

The results regarding students use of test preparation largely confirmed expectations. Most students are choosing to participate in test preparation to help their chances of college admissions, to increase their scholarship opportunities, and to increase their score alignment with their institution of choice. Additionally, most students use test preparation to learn test-taking strategies or become familiar with the test's structure and format, as well as to review and study the content expected to be on the standardized test. As parents' education increased beyond high school, they appeared to recognize the value of test preparation more and more.

This study provides contextual information for some ecological factors at play when students make use of test preparation. Other ecological factors not considered include peer and school support.<sup>10</sup>

## Notes

1. A total of 70,000 incoming high school seniors (class of 2021) were randomly selected to participate in an online survey from a total of 667,202 US students who registered to take the ACT as a junior between September 2019 and June 2020. A total of 2,965 students answered at least 80% of the survey and identified themselves as male or female, which was used as our analytical sample (4.2% response rate). We required gender to be answered so that we could appropriately weight the sample. Each analysis was completed using normalized weights to compensate for the differences in sample size in each analysis, as well as the overrepresentation of both female respondents and respondents who took the ACT closer to the time the survey was distributed in June 2020. For information on the population, sampling, and weighting, see: Howland, Moore, and Sanchez, 2021
2. The percentage of students who indicated that they enrolled in a test preparation course that occurred outside of school hours did not differ dramatically by family income. For example, among students whose family income was less than \$36,000, about 3% of students indicated that they took a course outside of school hours, while about 6% indicated they did not. Among students from families earning over \$100,000, about 14% of students indicated that they took a test preparation course outside of school hours, while approximately 16% indicated they did not.
3. While alignment of ACT scores works to increase a student's match to a school (i.e. alignment between academic credentials and the selectivity of the institution),

academic fit focuses on how a student may fit in to an institution once on campus including socially, emotionally, and financially.

4. In response to this question, 13% of students indicated zero hours were required for a two-point increase. It is possible that this response indicates that students believe that no test preparation is required for a two-point increase, but it is also possible this reflects students who did not take the question seriously.
5. In this survey item, 4% of students were unsure whether they had paid for test preparation programs.
6. Because this survey item asked about what students felt they needed to prepare for standardized tests such as the ACT or the SAT, it is possible that students had different ideas of the type of test preparation they needed. For example, lower income students may not have been thinking about the same types of test preparation as higher income students.
7. In this survey, I did not define “private tutor.” It is possible that higher income students made use of costly professional private tutors while lower income students may have had access to 1-on-1 tutoring through social programs.
8. The wording of this question was intentionally vague in order to allow the students to define what they felt was the level of support they needed from their parents.
9. In this question, I asked students if their parents “made them” prepare for the ACT/SAT. It is possible that respondents may have interpreted this term differently. Some respondents may have interpreted this term to mean that their parents supported them in their test preparation while others may have interpreted this term in a more authoritarian manner.
10. In this study, I found that 60% of students felt that their schools provided them the resources they needed to prepare for an admissions exam. Additionally, 74% of students thought there was someone at their school they could go to if they had questions about their admissions exam. On top of the school support, 74% of students reported that they talked with their friends about how to prepare for their admissions exam.

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