

High School Students' Education Goals and Opinions of Postsecondary Education

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Summary

Students in 11th or 12th grade will make important decisions about their post-high school plans, if they have not already done so. Some will plan to enter the workforce right after high school. Others will make decisions about pursuing an education goal. Will that goal be a nondegree credential or an academic degree? For those considering an academic degree, is it still worthwhile to earn a bachelor's degree, or is an associate's degree a better value? Students might find these decisions challenging for societal and economic reasons, including concerns about the value of a college degree and, for many students, the expense of a college education.

This study was intended to gather 11th- and 12th-grade students' opinions of their education plans (e.g., their level of confidence in being able to complete their education goals), their opinions on postsecondary education and the value of a bachelor's degree, and information on their primary sources of encouragement (e.g., parents, teachers) for attending college and the factors important to their choice of a college major. Where applicable, these data were disaggregated by students' reported family income category, the education level of their parents or guardians, whether they planned to attend college, and their race/ethnicity. Key findings from the study are summarized below.

Key Findings

- *Many students believed they were likely to get a good job after completing their education goals.* A large percentage (84%) of responding high school students agreed with a statement about getting a good job after completing their education goals (i.e., the highest level of education they expect to complete, such as a high school diploma or GED, certificate program, associate's degree, bachelor's degree, master's degree, or doctorate or professional degree). College-bound students (i.e., those reporting that they expect to earn an associate's degree or higher) had, on average, a higher level of agreement with this job-related education goal statement than did their non-college-bound peers. Students from high-income families had a significantly higher average level of agreement with this statement than did students from moderate-income families.
- *Many students (84%) were at least moderately confident that their education goals were their best educational options.* Analyses by race/ethnicity revealed that Black students, on average, were more confident than Asian and White students that their education goals were their best educational options.
- *Many students (89%) were at least moderately confident that they would complete their education goals.* Students from high-income families, on average, were more likely than

those from moderate-income families to express confidence in completing their education goals.

- *Some students likely underestimated how long it would take them to complete a bachelor's degree.* A large percentage (70%) of students believed that it would take them four years to complete a bachelor's degree, and 16% believed it would take them less than four years. In comparison, a recent report from the National Center for Education Statistics (2021) indicated that only 47% of the 2014 cohort entering college completed a bachelor's degree within four years.
- *Students had positive opinions of the value of postsecondary education.* Nearly half (47%) of responding high school students agreed or strongly agreed that the benefits of an academic degree outweigh its costs (tuition, time spent earning the degree, etc.). Sixty-five percent agreed or strongly agreed that an academic degree has considerable financial value for most people, and 74% agreed or strongly agreed that higher levels of education are generally associated with higher incomes. Students from high-income families expressed significantly higher average levels of agreement with a statement about the benefits of an academic degree outweighing its costs than did students from moderate-income families.
- *Students generally had positive opinions of the value of a bachelor's degree.* Although 41% of students agreed or strongly agreed with a statement that a bachelor's degree is less likely to get them a job than it was a few years ago, a majority (53%) agreed or strongly agreed that this degree was a better value than an associate's degree for most students who plan to attend college.
- *Students received more encouragement to attend college from parents or guardians than from other sources.* Nearly two-thirds (65%) of responding students reported that parents or guardians had provided a lot of encouragement to attend college. Teachers were the second greatest source of encouragement to attend college, followed by other family members or relatives.
- *Students reported that factors such as level of interest, career aspirations, and likelihood of getting a good job after graduating were important in choosing a college major.* Compared to these factors, the opinions of parents or guardians, family members or other relatives, friends, and high school counselors or teachers were noticeably less important in choosing a major.

Introduction

Students who are trying to decide what to do after high school may consider several factors, such as the benefits of a college education, the affordability of college, and the labor market. Current issues will likely have some bearing on the decision-making process as well. For example, students may be aware that college enrollments have declined over the past few years and that some people now question the value of a college degree.

The college enrollment decline is noticeable. From fall 2019 to fall 2022, total undergraduate enrollment in the United States declined by approximately 1.2 million students, a 7.6% decrease (National Student Clearinghouse, 2023). Several factors have been suggested as contributing to the decline (see Marcus, 2022, for an overview). For one thing, confidence in the value of a postsecondary education has eroded. One study reported an 18-percentage-point decrease from spring 2020 to fall 2021 in adults' expectations that postsecondary education would be worth the cost (Strada Education Network, 2022). Another study described decreases of 12 percentage points, from 2018 to 2023, and 21 percentage points, from 2015 to 2023, in the percentage of adult Americans who reported having either a great deal or quite a lot of confidence in higher education (Brenan, 2023). In a spring 2022 survey of high school graduates who decided against enrolling in college or dropped out, 45% agreed with a statement that a college degree was not worth the investment, citing concerns over going into debt when a future career path could not be guaranteed (Edge Research and HCM Strategists, 2022).

Moreover, many people are concerned about being able to pay for a college education. For example, one recent survey indicated that 77% of responding adults believed that a college education would be difficult to afford (Snyder, 2022). Another survey indicated that cost was the top concern about pursuing a post-high school education among teens between the ages of 13 and 18 (57% of respondents reported this as a concern; Junior Achievement and Citizens, 2023).

For many years, ACT has served students by helping them demonstrate academic preparedness for college and competencies needed for the workforce. ACT further serves these students by providing them with opportunities to participate in its research and let their collective opinions be known on important issues related to their current educational experiences and future education plans. By collecting students' opinions of the value of postsecondary education, analyzing those opinions, and publishing the findings, ACT can provide information that might assist students, their parents, and educators as students consider postsecondary education and workforce opportunities. Moreover, these activities allow ACT to contribute to current conversations about the perceived value of postsecondary education.

This study, therefore, was intended to examine high school students' opinions of the value of postsecondary education. It was also intended to examine other topics, such as students' education goals, whether students believe their goals are the best educational options for them, the degree of confidence they have in being able to complete their goals, their primary sources of encouragement to attend college (e.g., parents or guardians, teachers, friends), and factors that are important to them in choosing a college major.

A survey to collect this information was administered in September 2022 to a large sample of students in Grades 11 and 12. The sample intentionally included students who were planning to attend college and students who were not, so that the opinions of these two groups could be compared.

It is possible that high school students of different races/ethnicities might have different perspectives pertaining to postsecondary education. The results of a recent survey of adults support this notion to some extent, indicating that Hispanic adults were more likely than Black and White adults to cite affordability as the major reason for not having graduated from a four-

year college (Parker, 2021). To investigate potential differences in perspectives across racial/ethnic groups, this study's data were disaggregated accordingly.

The data were also disaggregated by reported family income category and parental education level, as these factors likely have some bearing on students' perspectives of postsecondary education. For example, the level of parents' education is known to be related to the secondary educational outcomes of their children (see, for example, Eccles, 2005, and Ludeke et al., 2021).

Detailed information about the sample and analytical methods used in the study is provided in a technical appendix (p. 29). The appendix also includes a description of the survey instrument.

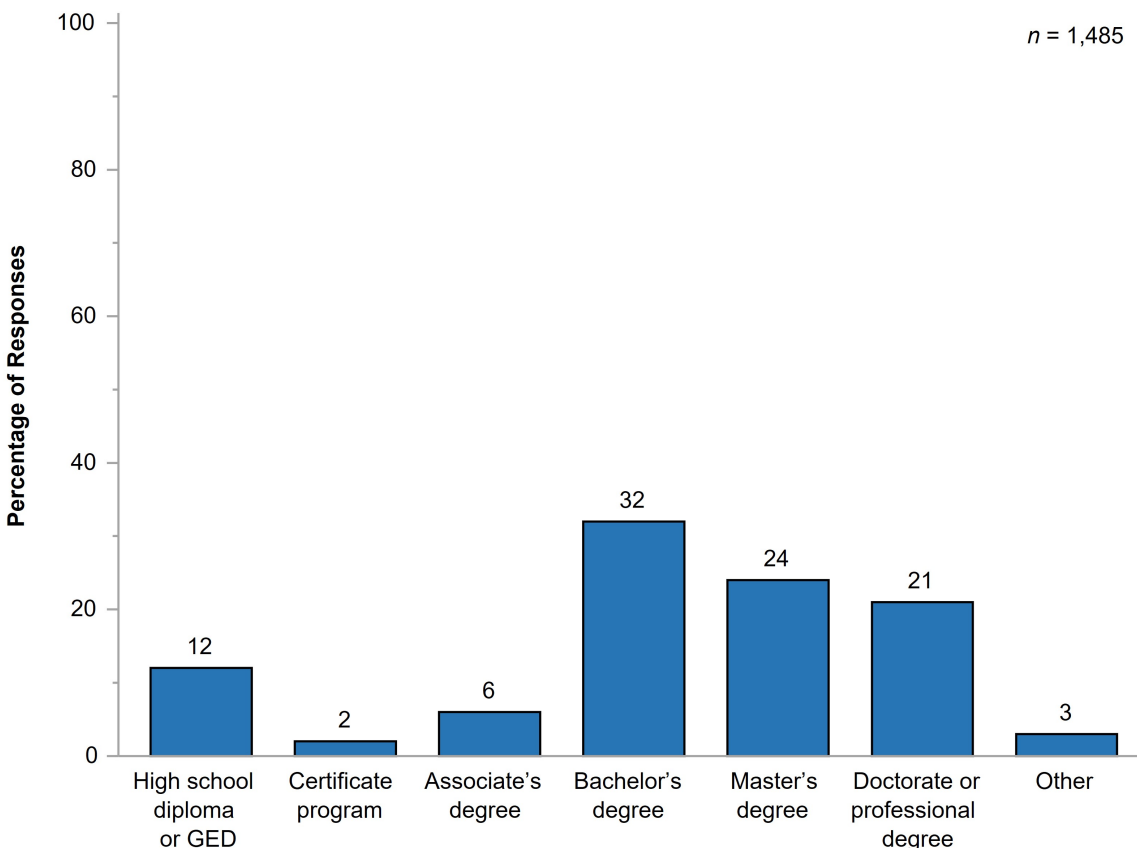
Findings

High School Students' Education Goals

What Education Goals Do High School Students Have?

Students were asked about their education goals. More than three-fourths (77%) of students reported that they expect to complete a bachelor's degree or higher (Figure 1). Twelve percent reported that a high school diploma or GED was the highest level of education they expect to complete, and 2% and 6%, respectively, reported that a certificate program or associate's degree was the highest expected level.

Figure 1. Students' Education Goals



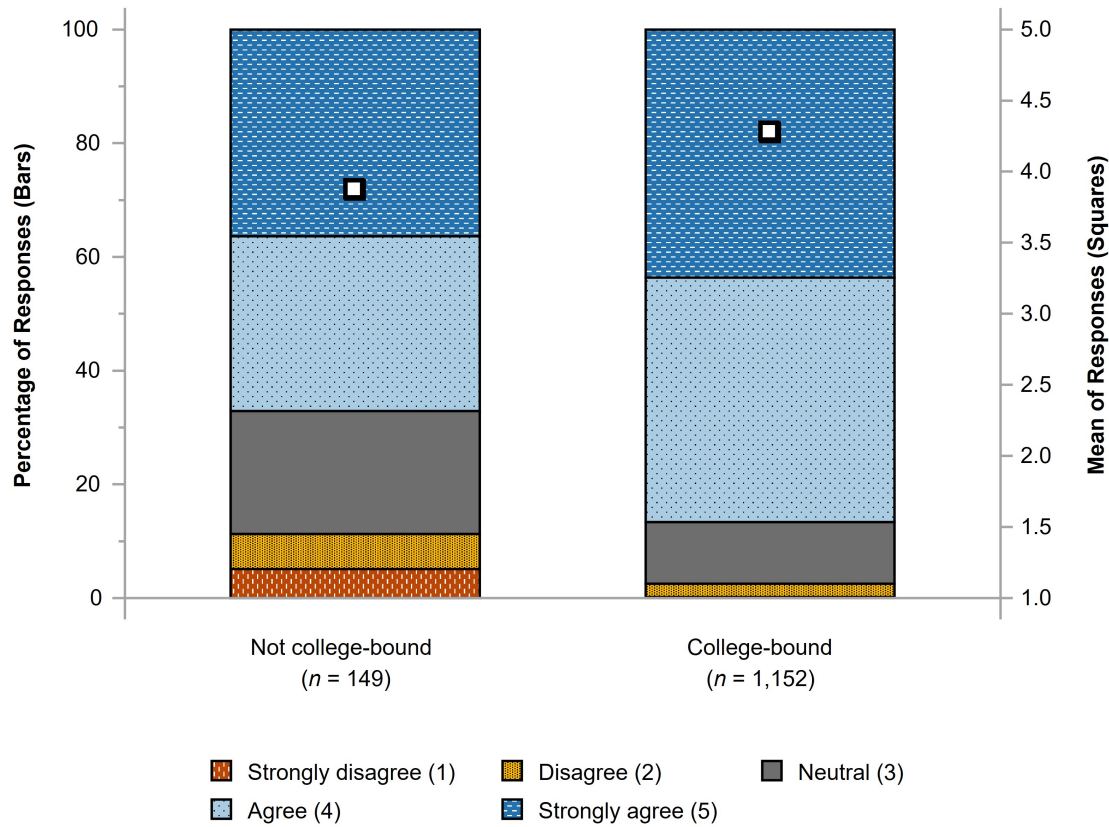
When interpreting these findings, consider that the sample for this study was designed to include students who were planning to attend college and students who were not. At the time the sample was prepared, however, the college-bound status of every student could not be determined. It is possible that the sample contained more college-bound than non-college-bound students, and the percentages shown in Figure 1 could reflect this difference (see the technical appendix for additional information about the sample).

Do High School Students Expect to Get Good Jobs After Completing Their Education Goals?

Students were asked to express their agreement or disagreement with a statement about getting a good job after completing their education goals. Overall, 84% of responding students agreed or strongly agreed that they would get a good job after completing their education goals.

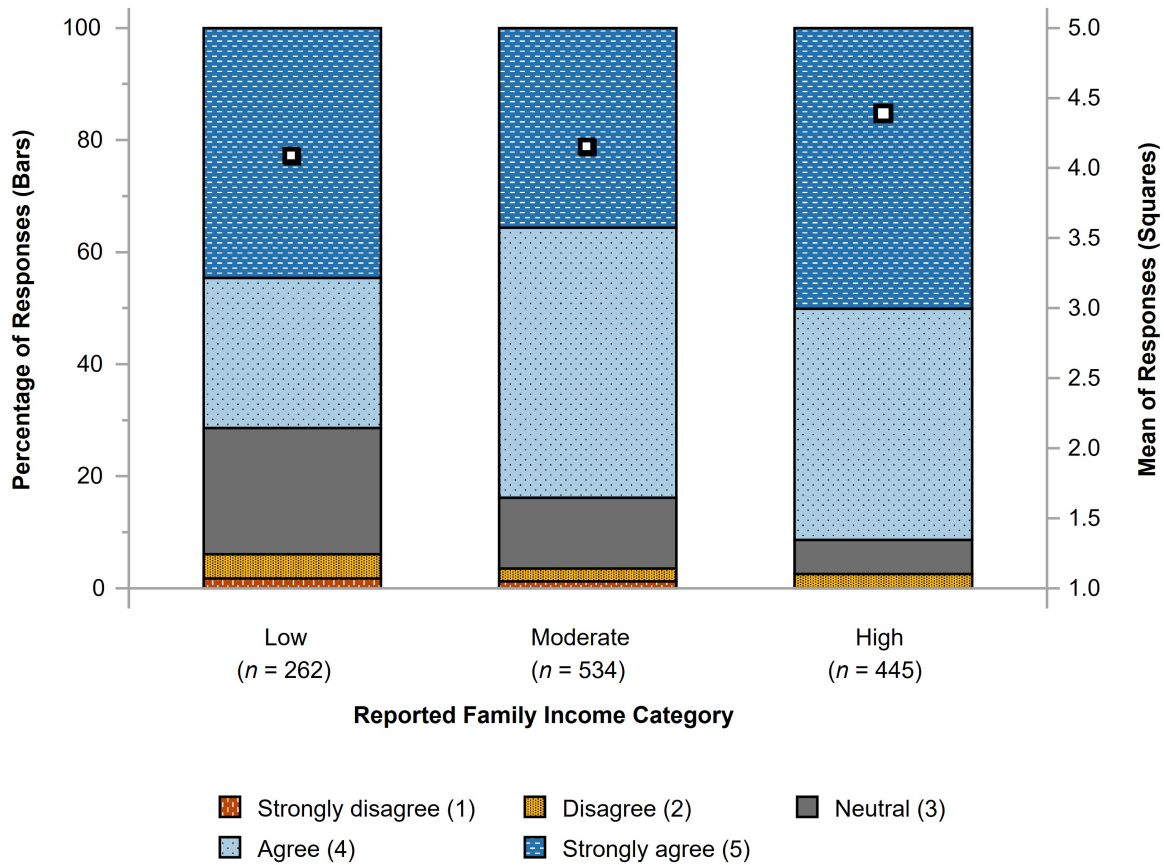
Differences were observed between college-bound students and students whose expected level of education was a high school diploma, GED, or certificate program. Eighty-seven percent of college-bound students agreed or strongly agreed that they would get a good job after completing their education goals, compared with 67% of non-college-bound students (Figure 2). Moreover, the mean level of agreement/disagreement for college-bound students was significantly higher than that of non-college-bound students (4.28 vs. 3.87, $t = 3.19$, $p < .01$, $ES = 0.50$; see Table 2 in the technical appendix)¹, suggesting that college-bound students, on average, were more inclined to agree with the statement about getting a good job following education goal completion than were their non-college-bound peers.

Figure 2. Students’ Perspectives on Getting a Good Job After Completing Education Goals, by College-Bound Status



Family income was related to students’ agreement with the statement about getting a good job after completing their education goals. Students who reported a high family income (\$100,000 or more annually) were more likely to agree with this statement than were students who reported a moderate (\$36,000 to \$100,000) or low (less than \$36,000) family income. Ninety-one percent of students in the high family income category agreed or strongly agreed that they would get a good job after completing their education goals, compared with 84% of students in the moderate family income category and 71% of students in the low family income category (Figure 3).

Figure 3. Students’ Perspectives on Getting a Good Job After Completing Education Goals, by Family Income Category



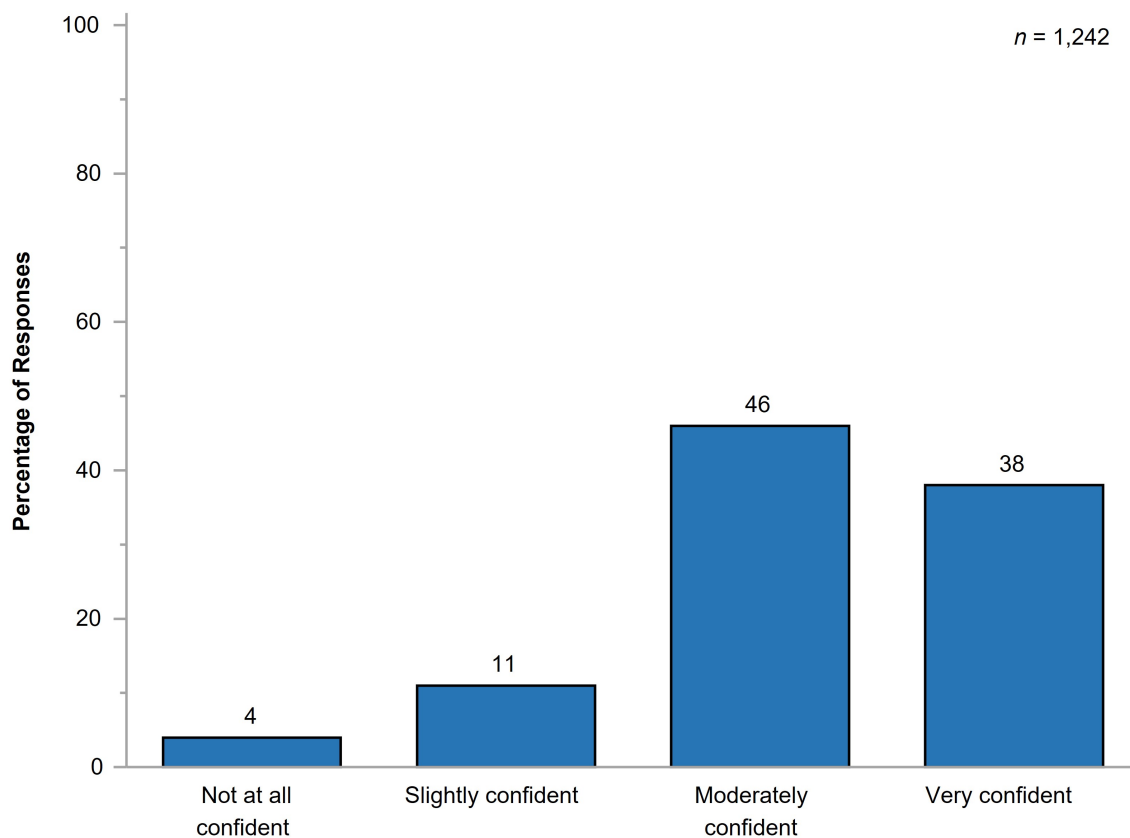
The mean level of agreement/disagreement for students from high-income families (4.39) was significantly higher than that of students from moderate-income families (4.15; $q = 3.58, p < .01, ES = 0.30$; see Table 3 in the technical appendix), suggesting that, on average, students in the former group were more likely to agree with the statement about getting a good job after completing their education goals. Family income category is clearly relevant when students consider their prospects for getting a good job after they have completed their education goals.

Like family income category, parental education level was related to students’ level of agreement with the statement about getting a good job after completing their education goals. Students who reported that at least one parent or guardian had a bachelor’s degree or higher expressed a significantly higher level of agreement (mean agreement/disagreement level = 4.32), on average, with this statement than did students who reported that their parent(s) or guardian(s) had not achieved this level of education (4.05; $t = 3.80, p < .001, ES = 0.33$; Table 2).

Are High School Students Confident That Their Education Goals Are the Best Options?

Students were asked how confident they were that their education goals were the best educational options for them. Many students (84%) reported that they were either moderately or very confident about this (see Figure 4).

Figure 4. Confidence in Education Goals Being the Best Educational Options

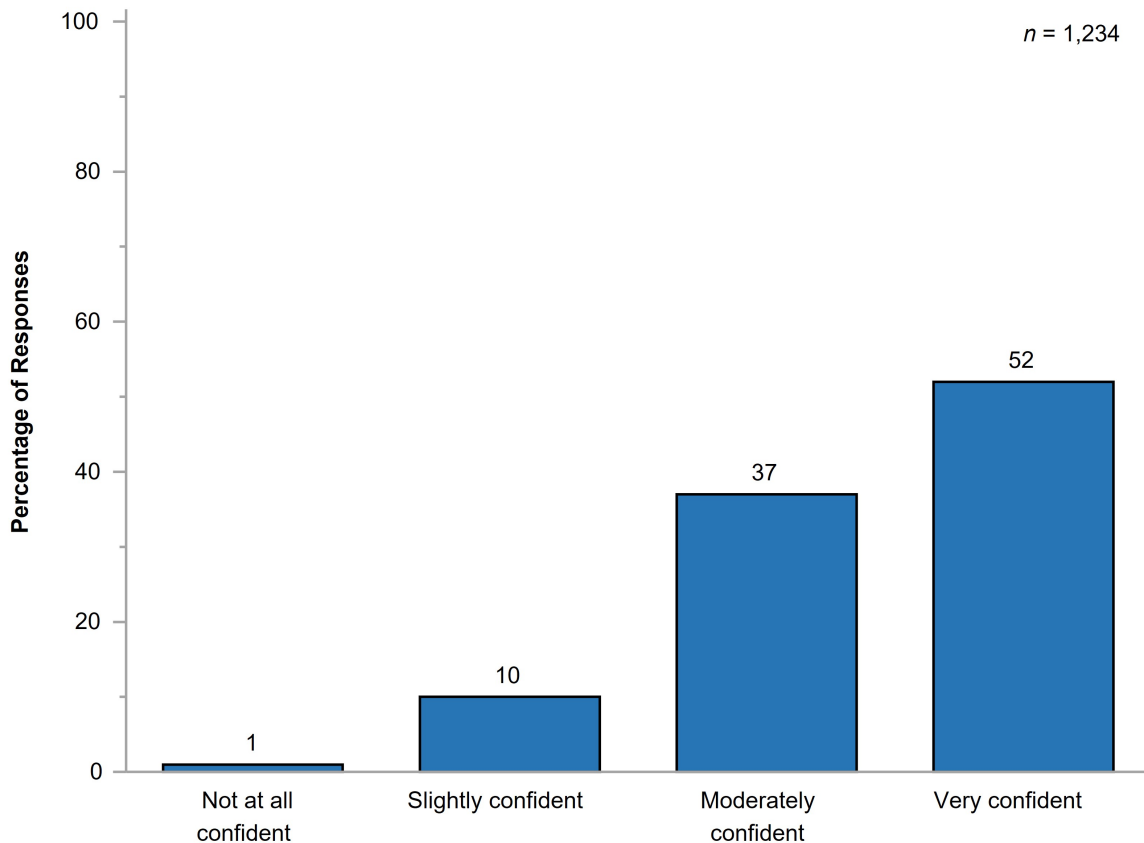


Note. Percentages in this figure do not sum to 100% because of rounding.

Analyses by race/ethnicity indicated that Black students, on average, were more confident than Asian and White students that their education goals were the best educational options for them. The mean confidence rating of Black students was significantly higher than that of Asian students (2.42 vs. 2.15 on a scale ranging from 0 = not at all confident to 3 = very confident; $q = 3.67$, $p < .01$, $ES = 0.71$) and White students (2.13; $q = 3.90$, $p < .001$, $ES = 0.30$; Table 4).

Are High School Students Confident That They Will Complete Their Education Goals?

Students expressed confidence that they will complete their education goals, with about half (52%) being very confident and 37% being moderately confident (see Figure 5).

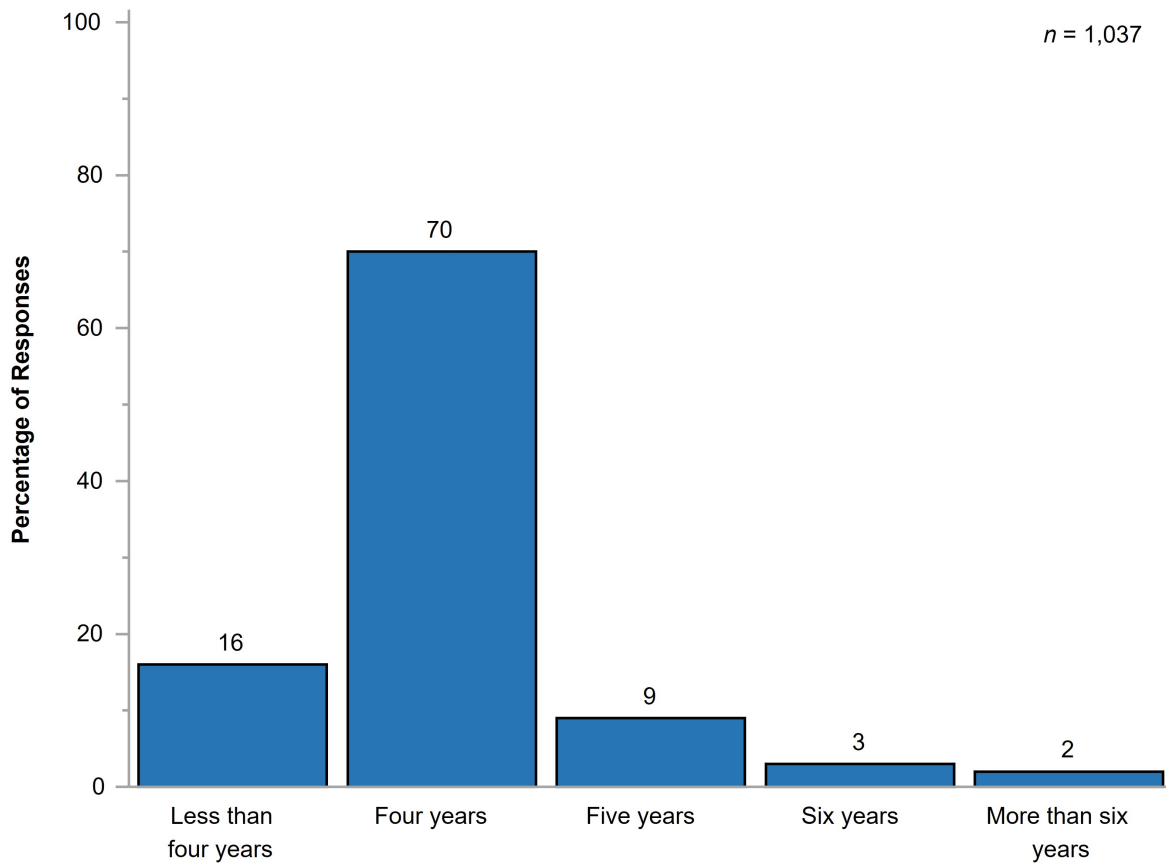
Figure 5. Confidence in Completing Education Goals

Students from high-income families, on average, expressed a higher level of confidence in completing their education goals than did students from moderate-income families. The mean confidence rating for students from high-income families (2.52) was significantly higher than that of students from moderate-income families (2.32; $q = 2.95$, $p < .01$, $ES = 0.27$; Table 3).

A significant difference in the level of confidence concerning education goal completion was observed between students who were not planning to attend college and those who were. Students who planned to complete a high school diploma, GED, or certificate program (mean confidence rating = 2.63) expressed a significantly higher level of confidence that they would achieve this education goal, on average, than did their college-bound peers who planned to complete an associate's degree, bachelor's degree, master's degree, doctorate, or professional degree (2.37; $t = 2.90$, $p < .01$, $ES = 0.37$; Table 2).

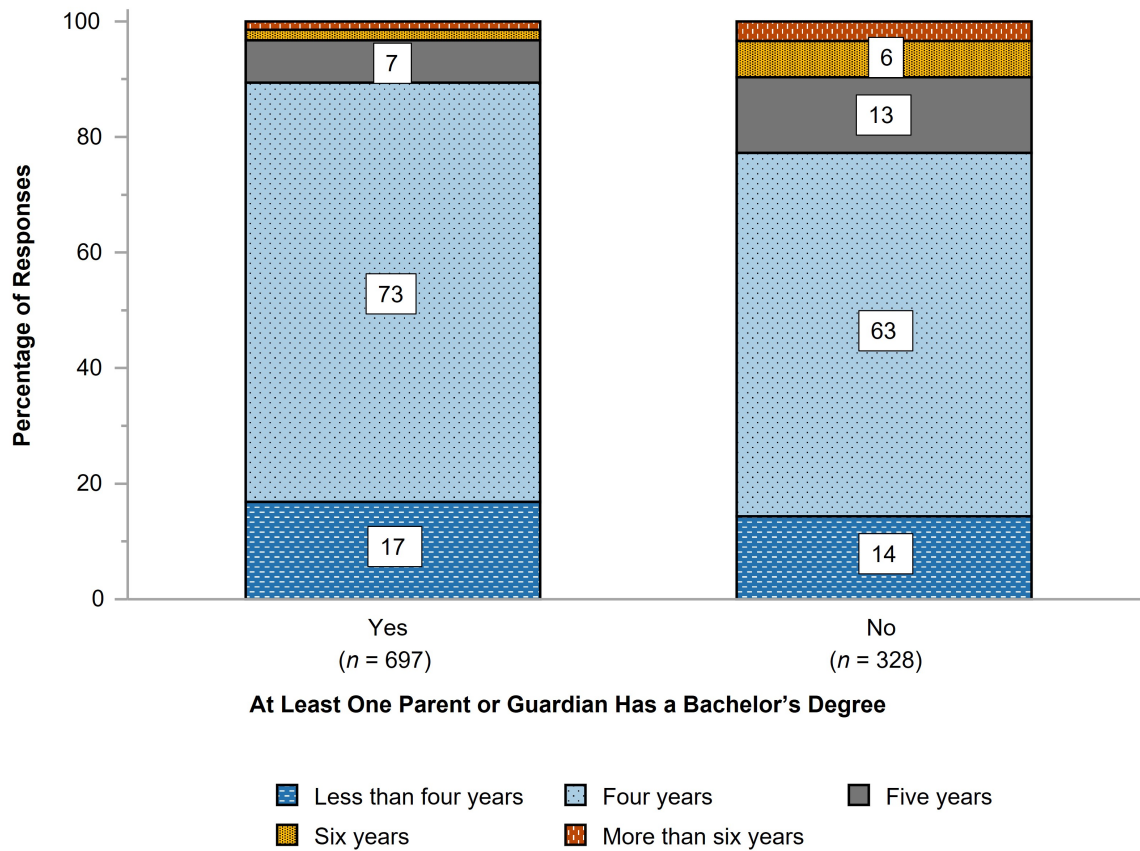
How Long Do High School Students Think It Will Take to Complete a Bachelor's Degree?

Students whose education goals were a bachelor's degree or higher were asked how long, in years, they thought it would take them to complete their bachelor's degree. A large percentage (70%) believed that it would take them four years to complete a bachelor's degree (Figure 6). Sixteen percent believed that this could be accomplished in less than four years, and 14% believed they would need five or more years.

Figure 6. Estimate of Years Needed to Complete a Bachelor's Degree

Students who had at least one parent or guardian with a bachelor's degree reported significantly different bachelor's degree completion estimates than did students whose parents or guardians did not have this level of education (see Figure 7; $X^2 = 13.82$, $p < .01$). For example, 89% of students who had a least one parent with a bachelor's degree estimated that they would complete a bachelor's degree in four years or less, whereas a smaller percentage (77%) of their peers provided this estimate (ES = 0.33).

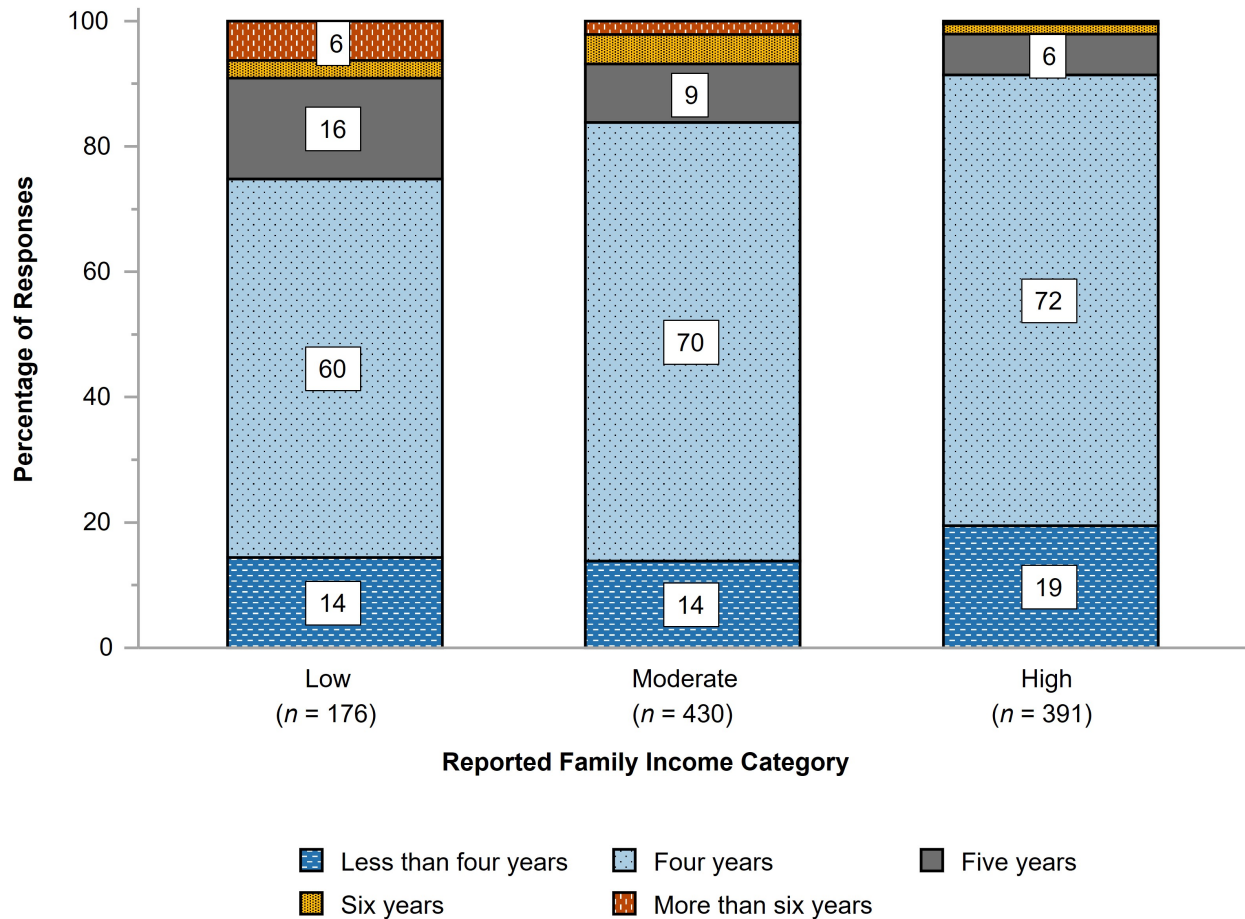
Figure 7. Estimate of Years Needed to Complete a Bachelor’s Degree, by Parental Bachelor’s Degree Attainment Status



Note. Percentages in this figure are rounded and therefore might not match percentages reported in the text.

As illustrated in Figure 8, family income was also significantly related to bachelor’s degree time-to-completion estimates ($X^2 = 20.90, p < .01$). Compared to students with low family incomes, a noticeably larger percentage of students with high family incomes predicted that they would graduate in four years or less (75% and 91%, respectively; ES = 0.46).

Figure 8. Estimates of Years Needed to Complete a Bachelor’s Degree, by Reported Family Income Category



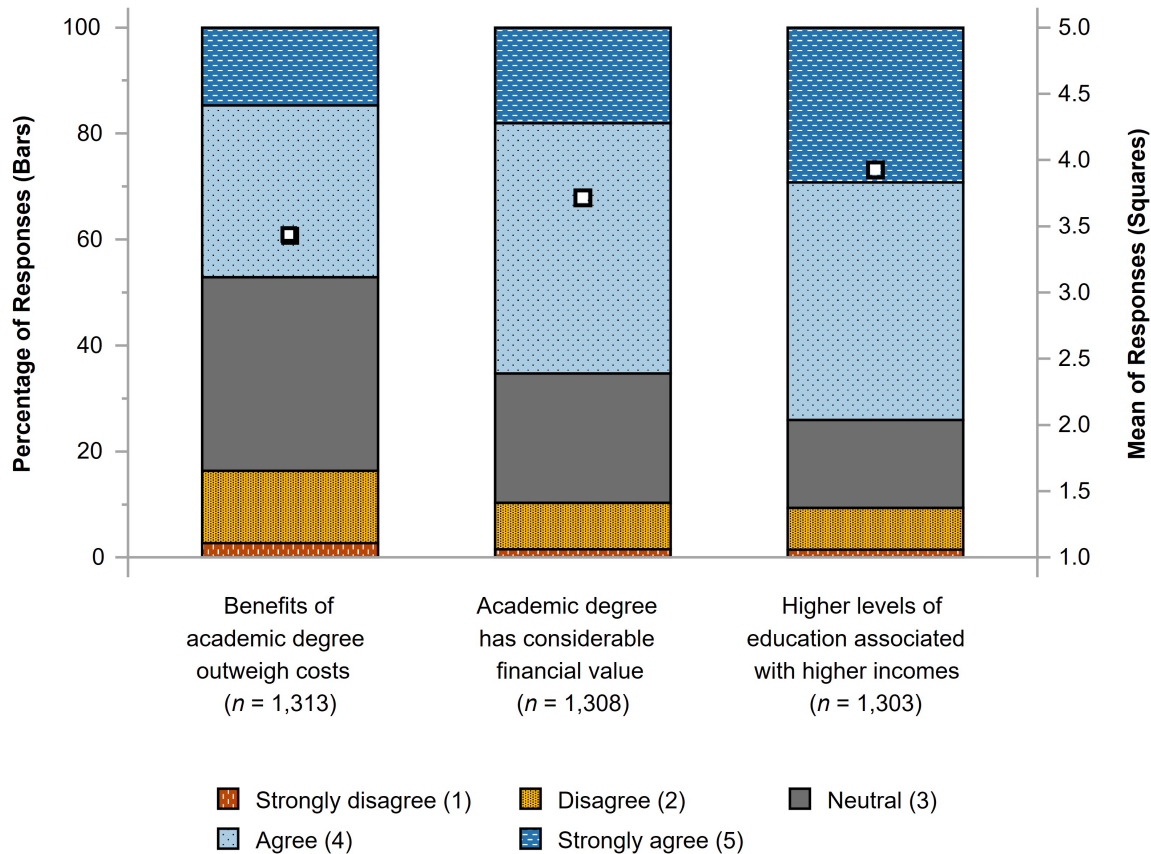
Note. Percentages in this figure are rounded and therefore might not match percentages reported in the text.

High School Students’ Opinions of the Value of Postsecondary Education

What Do High School Students Think About the Value of Postsecondary Education?

In general, high school students expressed positive opinions of the value of postsecondary education. Nearly half (47%) agreed or strongly agreed that the benefits of an academic degree (e.g., associate’s degree, bachelor’s degree) outweigh its costs (tuition, time spent earning the degree, etc.; see Figure 9). Sixty-five percent agreed or strongly agreed that an academic degree has considerable financial value for most people, and 74% agreed or strongly agreed that higher levels of education are generally associated with higher incomes. Mean levels of agreement/disagreement for these three items ranged from 3.43 (benefits of an academic degree outweigh its costs) to 3.93 (higher levels of education are associated with higher incomes) on a scale that ranged from 1 = strongly disagree to 5 = strongly agree.

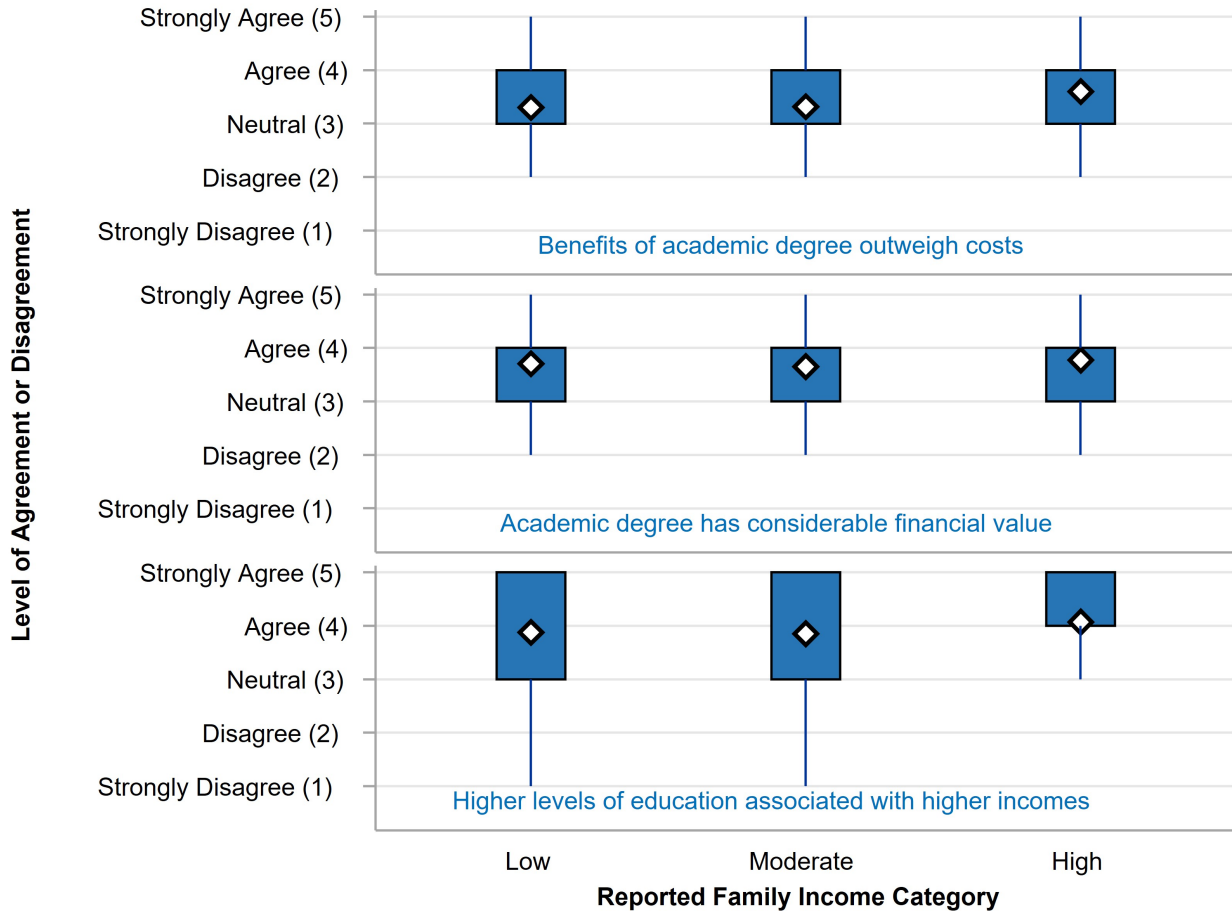
Figure 9. Value of Postsecondary Education



Note. This figure reflects data from all respondents, including those who reported having an education goal of a high school diploma, GED, or certificate program.

Family income category was related to students' perception of the benefits of an academic degree. Students who reported a high family income expressed significantly higher average levels of agreement (mean = 3.61) with the statement about the benefits of an academic degree outweighing its costs than did students who reported moderate family incomes (3.32; $q = 3.18$, $p < .01$, $ES = 0.29$; see Figure 10 and Table 3).²

Figure 10. Value of Postsecondary Education, By Family Income Category

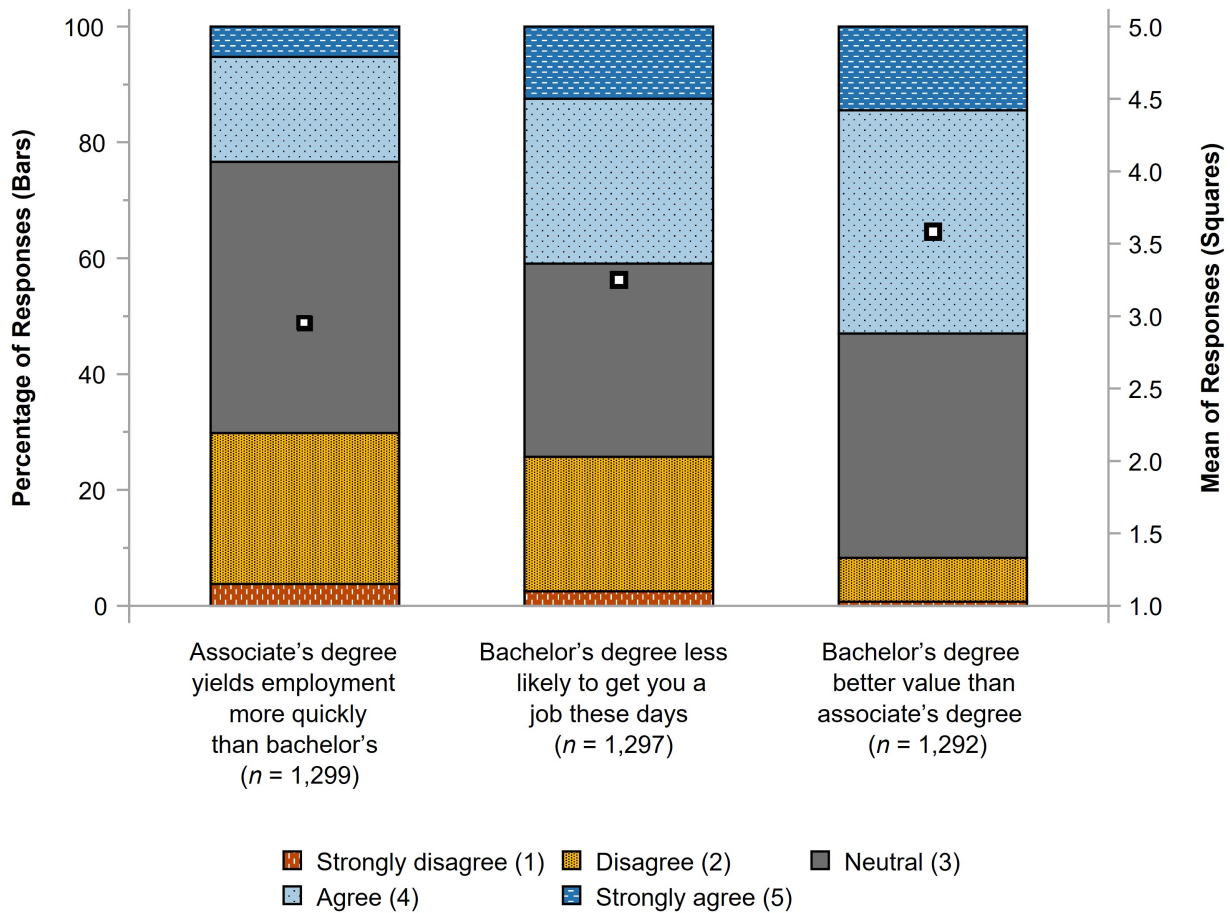


As illustrated in Figure 10, students’ mean levels of agreement on both the financial value of an academic degree and higher levels of education being associated with higher incomes did not differ significantly across family income categories.

What Do High School Students Think About the Value of a Bachelor’s Degree?

Three questions in the survey instrument focused on the value of a bachelor’s degree (see Questions 2e–2g in the description of the survey instrument in the technical appendix). When presented with a statement about associate’s degree holders finding employment more quickly than bachelor’s degree holders in today’s job market, the percentage of respondents who disagreed or strongly disagreed was somewhat larger than the percentage who agreed or strongly agreed (30% vs. 23%; see Figure 11). Almost half (47%) of the respondents reported a neutral perspective on this matter.

Figure 11. Value of a Bachelor’s Degree



More students agreed than disagreed with a statement about a bachelor’s degree being less likely to get them a job these days (41% agreed or strongly agreed; 26% disagreed or strongly disagreed). A majority (53%) of students agreed or strongly agreed that, for most students who plan to attend college, a bachelor’s degree is a better value than an associate’s degree. Mean agreement/disagreement levels for these three items ranged from 2.95 (associate’s degree holders find employment more quickly than bachelor’s degree holders) to 3.58 (a bachelor’s degree is a better value than an associate’s degree) on a scale that ranged from 1 = strongly disagree to 5 = strongly agree.

Noticeable differences in responses to the item about associate’s degree holders finding employment more quickly than bachelor’s degree holders were observed between students who reported that at least one parent or guardian had a bachelor’s degree and those who reported that their parents or guardians had not achieved this level of education. The mean agreement/disagreement level for students who had at least one parent or guardian with a bachelor’s degree was significantly lower than that of students whose parents or guardians did not have a bachelor’s degree (2.86 vs. 3.09, respectively; $t = -3.08, p < .01, ES = -0.26$; Table 2), suggesting that the former group was likelier to agree that bachelor’s degree holders are able to find employment more quickly in today’s market. Not surprisingly, students with parents or guardians holding bachelor’s degrees were, on average, more likely to agree with the

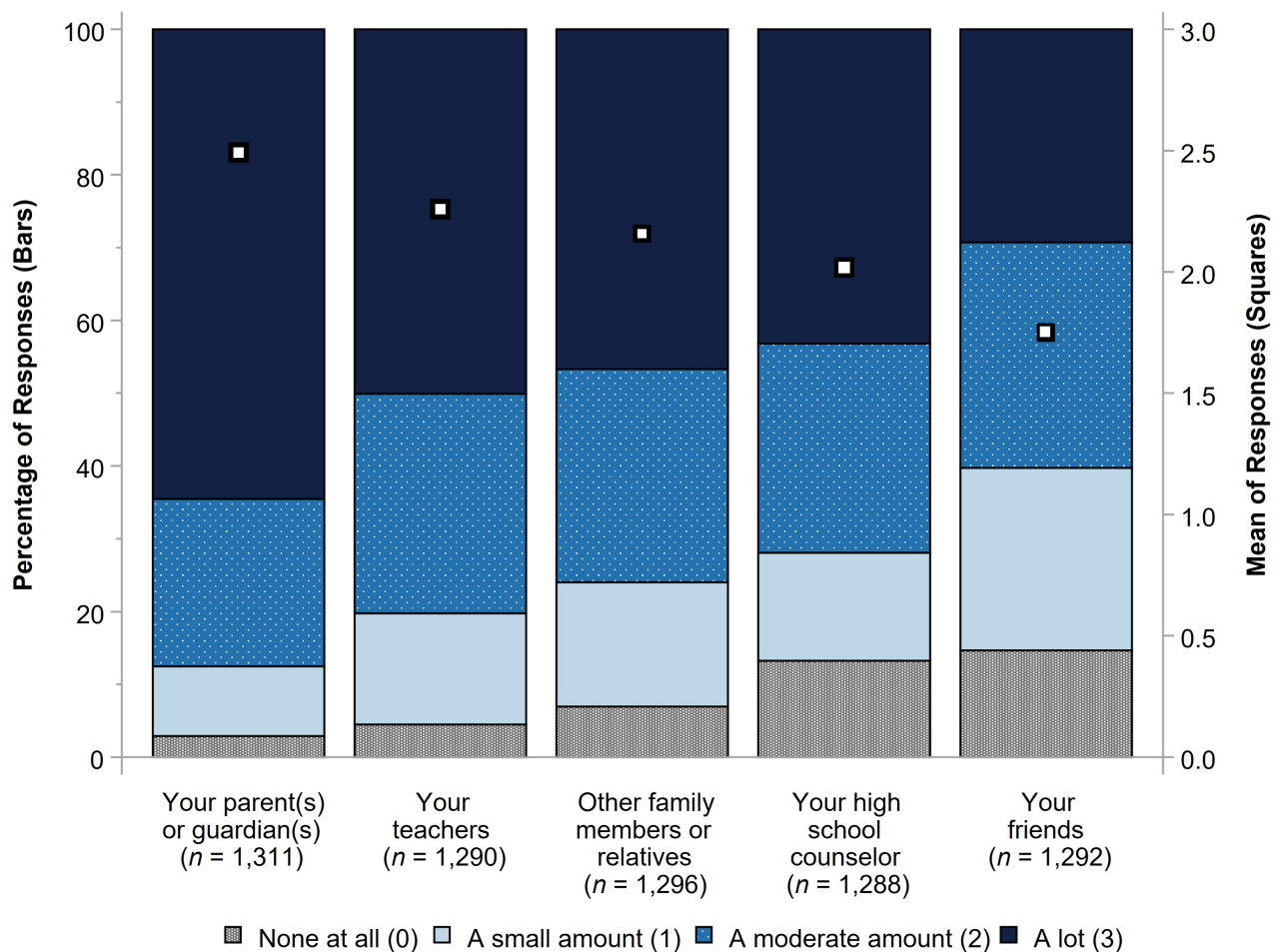
statement about a bachelor’s degree being a better value than an associate’s degree (3.69), compared with students whose parents did not have this level of education (3.44; $t = 3.56, p < .001, ES = 0.30$).

Factors that Influence High School Students’ Postsecondary Education Choices

Who Encourages High School Students to Attend College?

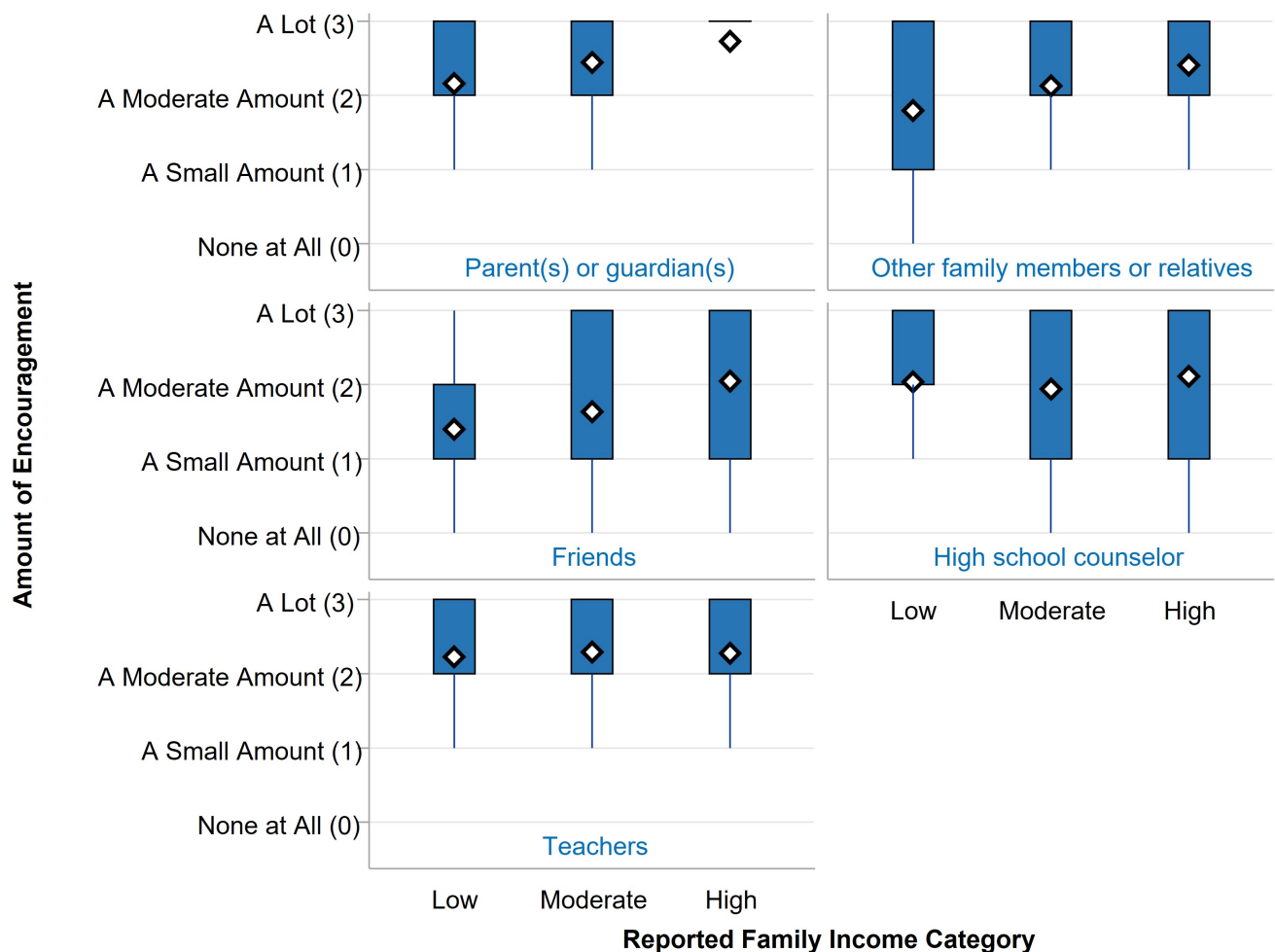
Students were asked about the degree to which they were encouraged to attend college by various people—parents or guardians, other family members or relatives (e.g., siblings, grandparents), friends, high school counselors, and teachers. Parents and guardians were the most encouraging, as 65% of students reported that they had provided a lot of encouragement (Figure 12). Teachers were the second greatest source of encouragement (50% of students reported that teachers had provided a lot of encouragement), followed by other family members or relatives (47%) and high school counselors (43%). Friends were somewhat less encouraging (29%). Mean encouragement ratings across these five items ranged from 1.75 (your friends) to 2.49 (your parents/guardians) on a scale that ranged from 0 = no encouragement at all to 3 = a lot of encouragement.

Figure 12. Sources of Encouragement to Attend College



Differences in sources of encouragement to attend college were observed across family income categories. Parents or guardians of students who reported high family incomes were significantly more likely, on average, to provide encouragement to attend college (mean encouragement rating = 2.73) than were parents or guardians of students from moderate-income (2.44; $q = 4.36$, $p < .0001$, $ES = 0.40$) or low-income families (2.16; $q = 5.55$, $p < .0001$, $ES = 0.79$; see Figure 13 and Table 3). Similarly, other family members and relatives of students who reported high family incomes were more likely to provide encouragement to attend college (mean encouragement rating = 2.40) than were other family members and relatives of students from moderate-income (2.13; $q = 3.48$, $p < .01$, $ES = 0.31$) or low-income (1.80; $q = 4.80$, $p < .0001$, $ES = 0.67$) families. This pattern also extended to friends as a source of encouragement. Friends of students who reported high family incomes were more likely to provide encouragement to attend college (2.05), on average, than were friends of students from moderate-income (1.64; $q = 4.74$, $p < .0001$, $ES = 0.40$) or low-income families (1.40; $q = 5.36$, $p < .0001$, $ES = 0.66$). No statistically significant differences were observed across family income levels in students' reported levels of encouragement to attend college by either high school counselors or teachers.

Figure 13. Sources of Encouragement to Attend College, By Family Income Category



Parental education level was related to encouragement to attend college. Students who had at least one parent or guardian with a bachelor's degree were, on average, significantly more likely to receive encouragement to attend college from a parent or guardian (mean encouragement rating = 2.66) than were students whose parents or guardians did not have this level of education (2.23; $t = 5.77$, $p < .0001$, $ES = 0.57$; Table 2). In addition, students with at least one parent holding a bachelor's degree were more likely to receive encouragement from other family members or relatives (2.30) and friends (1.87), compared to students whose parents did not have bachelor's degrees. (Family members or relatives: 1.91; $t = 4.45$, $p < .0001$, $ES = 0.42$. Friends: 1.52; $t = 4.04$, $p < .0001$, $ES = 0.34$.)

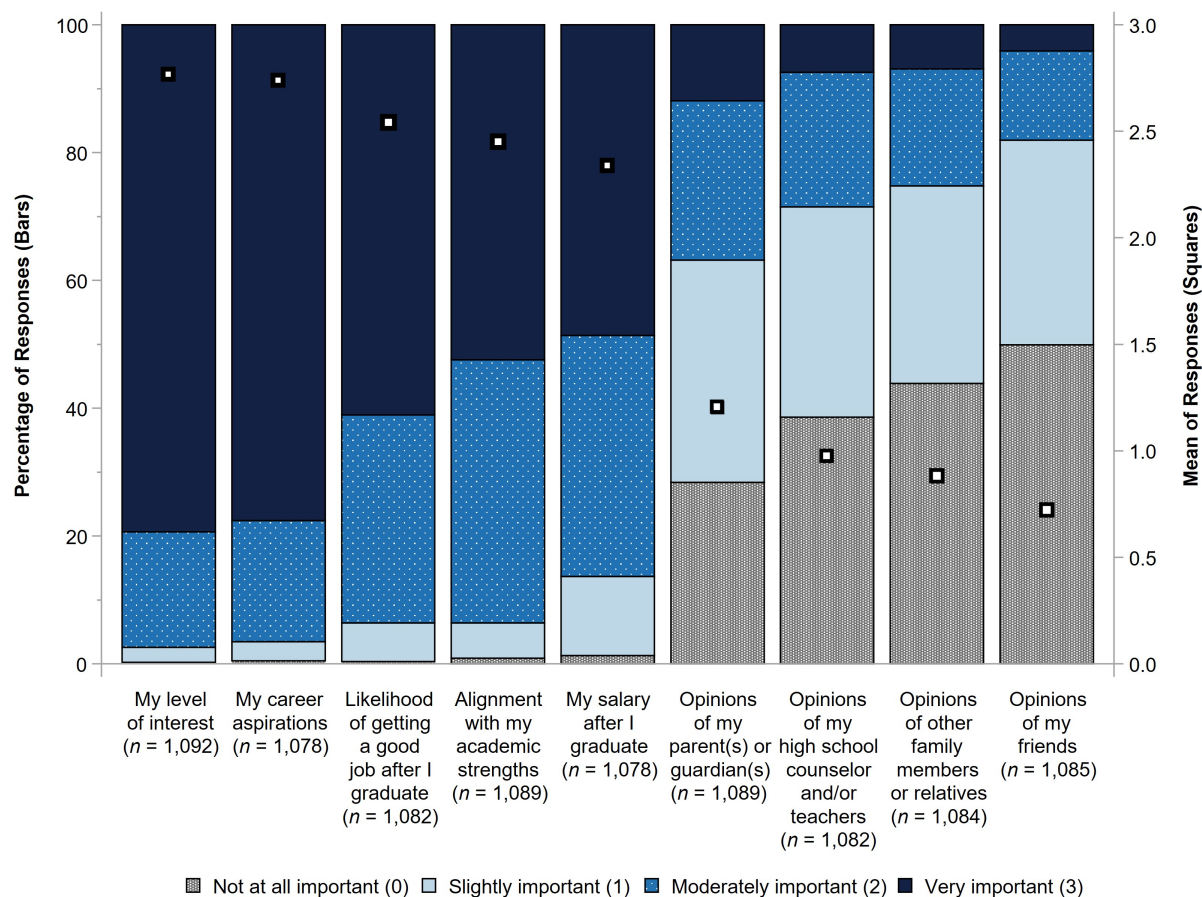
College-bound students were, on average, significantly more likely to receive encouragement to attend college from their parents or guardians (mean encouragement rating = 2.57) than were students whose expected level of education was a high school diploma, GED, or certificate program (2.00; $t = 4.25$, $p < .0001$, $ES = 0.75$; Table 2). College-bound students were also more likely than their non-college-bound peers to receive encouragement from other family members or relatives (2.21 vs. 1.81; $t = 3.00$, $p < .01$, $ES = 0.42$) and friends (1.81 vs. 1.34; $t = 3.71$, $p < .001$, $ES = 0.45$).

Some significant racial/ethnic differences in encouragement to attend college were observed. On average, Asian students (mean encouragement rating = 2.06) were significantly more likely than their Hispanic (1.67; $q = 4.09$, $p < .001$, $ES = 0.61$) or White peers (1.79; $q = 3.70$, $p < .01$, $ES = 0.23$; Table 4) to receive encouragement from friends to attend college.

What Do High School Students Consider to Be Important in Choosing a College Major?

Students were asked about the importance of several factors in choosing a college major or program of study (see Questions 4a–4i in the survey instrument section of the technical appendix). Many students (79%) reported that their level of interest was very important in choosing a college major (Figure 14). Equally important were the students' career aspirations (78%), followed by the likelihood of getting a good job after graduating (61%), alignment with academic strengths (52%), and salary after graduating and getting a job related to the major (49%).³

Figure 14. Importance of Factors in Choosing a College Major



Interestingly, the opinions of parents or guardians, family members or other relatives, friends, and high school counselors or teachers were not as important in choosing a college major as were the other factors mentioned above (level of interest, career aspirations, etc.). Mean importance ratings for the opinion-based factors ranged from 0.72 (opinions of friends) to 1.20 (opinions of parents or guardians) and were noticeably lower than those of the other factors, which ranged from 2.27 (salary after graduating) to 2.77 (level of interest) on a scale that ranged from 0 = not at all important to 3 = very important.

Students who had a parent or guardian with a bachelor’s degree placed noticeably less importance on job salary after graduation, on average, than did students whose parents or guardians did not have bachelor’s degrees (2.27 vs. 2.49; $t = -3.17, p < .01, ES = -0.30$; Table 2). The importance of salary was also related to race/ethnicity. Asian, Black, and Hispanic students had higher average ratings of the importance of salary after graduation in choosing a major (mean importance ratings of 2.54, 2.61, and 2.56, respectively) than did White students (2.26; Asian vs. White: $q = 4.89, p < .0001, ES = 0.33$; Black vs. White: $q = 4.87, p < .0001, ES = 0.38$; Hispanic vs. White: $q = 4.34, p < .0001, ES = 0.33$).

Racial/ethnic differences in the importance of choosing a college major were also observed in two other factors: the opinions of parents and career aspirations. Asian students rated the importance of the parental opinions higher, on average, than did White students (means of 1.58

and 1.24, respectively; $q = 4.40$, $p < .0001$, $ES = 0.32$; Table 4). Black students (2.83) rated the importance of career aspirations higher, on average, in choosing a major than did Asian students (2.69; $q = 3.13$, $p < .01$, $ES = 0.69$).

Discussion

High school students in this study were not only confident that their education goals were the best educational options for them (84% reported that they were at least moderately confident about this), but they were also confident in being able to complete those goals (89% reported that they were at least moderately confident) and get a good job afterward (84% agreed or strongly agreed with a statement about this). These findings suggest a high degree of student optimism concerning their education and work in the future.

Some college-bound students perhaps were overconfident in their estimates of the time it would take them to complete a bachelor's degree, with 86% reporting that they could accomplish this in four years or less. Contrast this finding with that of a recent report indicating that only 47% of the 2014 cohort entering college completed a bachelor's degree within four years (National Center for Education Statistics, 2021). This overconfidence might be the result of some students being in an early stage of college planning. Some 11th-grade students, for example, might be more focused on choosing a college and major than they are on estimating the time it might take to complete a bachelor's degree.

An alternative explanation for this finding involves the recent increase in the availability of online learning. Perhaps students, many of whom have likely had exposure to online learning while in high school, view online learning as a way to accelerate the pace of their bachelor's degree completion (e.g., by enrolling in a competency-based online degree program). Moreover, results of a recent study suggest that taking courses required for a major online is associated with efficiencies such as a greater likelihood of graduating from college in four years and somewhat reduced degree-completion times (Fischer et al., 2021). Students might have been aware of these potential benefits of online course-taking and thus reduced their time estimates of bachelor's degree completion.

The findings of this study also suggest that high school students' opinions of postsecondary education are favorable, despite the recent declines in college enrollment and questions about the value of a college degree by the public. In general, students expressed beliefs that the value of an academic degree outweighs its costs (47% of respondents agreed or strongly agreed, whereas only 16% disagreed or strongly disagreed), that it has considerable financial value for most people (65% agreed or strongly agreed), and that higher levels of education are generally associated with higher incomes (74% agreed or strongly agreed). These are positive and encouraging signs for higher education and for the current cohort of students who will soon enter college. It would be interesting, in a future study, to determine whether the students in the present study follow through on their positive opinions of postsecondary education and enroll in college.

Students' views of the value of a bachelor's degree appear to reflect some of the recent scrutiny this degree has received. Although a bachelor's degree was perceived by a noticeable percentage of responding students as less likely to get a person a job these days (41% agreed or strongly agreed with a statement about this), over half believed it was a better value than an

associate's degree for most students who plan to attend college (53% agreed or strongly agreed).

Students' views on the value of a bachelor's degree might also have been influenced if they had knowledge of the financial advantage of this degree, which many of them probably did (74% agreed or strongly agreed that higher levels of education are generally associated with higher incomes). Students might have been aware, for example, of data showing that among workers between ages 25 and 34 in 2021, the median earnings of those who completed a bachelor's degree were 37% higher than the median earnings of those who completed an associate's degree. A positive relationship between higher educational attainment and higher median earnings has been observed each year from 2010 through 2021 (National Center for Education Statistics, 2023a).

When presented with a statement about associate's degree holders finding employment more quickly than bachelor's degree holders, students' views were split, with 30% either disagreeing or strongly disagreeing with this statement and 23% either agreeing or strongly agreeing (47% were neutral). We do not know to what extent, when expressing their opinions, students considered factors that may be related to time to employment, such as major or program of study, geographic location, and job-seeking behaviors. Moreover, some students may have known about data indicating that higher employment rates are related to higher levels of educational attainment, and perhaps this could have influenced their opinions. For example, the 2022 employment rate for 25-to-34-year-olds was 87% for those with a bachelor's degree or higher, but only 61% for those who had not completed high school (National Center for Education Statistics, 2023b).

An important contribution of parents or guardians, other family members or relatives, and teachers was identified in this study: encouraging students to attend college. Nearly two-thirds of students reported that parents or guardians had provided a lot of encouragement to attend college. Teachers were the second greatest source of encouragement to attend college (50% of students reported that teachers had provided a lot of encouragement), followed by other family members or relatives (47%) and high school counselors (43%).

The fact that many students reported that parents or guardians provided substantial encouragement to attend college is likely related to the importance of parental involvement in adolescents' educational aspirations, as identified in previous research. Although parental involvement does not have a direct effect on educational aspirations, it has been found to have a direct effect on a student personal factor, which consists of measures of academic grades, perception of courses, perception of school climate, importance of school and homework, and extracurricular reading. This personal factor is in turn directly related to adolescents' educational aspirations (Garg et al., 2002).

A noticeable difference between different types of factors important in choosing a college major was observed. The opinions of parents and guardians, family members and other relatives, friends, and high school counselors and teachers were reported to be less important than were factors such as level of interest, career aspirations, likelihood of getting a good job after graduating, alignment with academic strengths, and salary after graduating and getting a job related to the major.

Level of interest in a major is important not only to choosing a major but also to enrolling in college. Previous research by ACT indicated that when there is a good fit between measured interests (i.e., those identified by the ACT Interest Inventory) and planned major, the chances of enrolling in college increase (ACT, 2016). The finding that perceived alignment with academic strengths is important in choosing a college major is similar to a finding from an earlier study, in which it was observed that students' perceptions of their abilities play an important role in their choices of majors (Wiswall & Zafar, 2015).

Subgroup Highlights

By Race/Ethnicity

Only a few significant differences among racial/ethnic groups were found. Compared with Hispanic and White students, Asian students reported receiving, on average, significantly higher levels of encouragement to attend college from friends. Asian students also rated the importance of the opinions of parents or guardians in choosing a college major higher, on average, than did White students. Black students, on average, reported career aspirations to be more important in choosing a college major than did Asian students. Asian, Black, and Hispanic students gave significantly higher average ratings to the importance of salary after graduation in choosing a major than did White students.

This latter finding is curious, and one possible explanation is that it is related to the family income category. Racial/ethnic differences in family income were observed in the data. For example, a larger percentage of White students (50%) reported family incomes exceeding \$100,000 than did their Asian, Black, and Hispanic peers (36%, 22%, and 33%, respectively). We might be inclined to think that students with relatively low family incomes might place greater importance on salary after graduation in choosing a major than do students with relatively high family incomes. However, the analyses by family income category do not support this. No significant differences in views of the importance of salary after graduation in choosing a major were observed across family income categories. Moreover, when the data were disaggregated by both family income category and race/ethnicity, it was found that Asian, Black, and Hispanic students, on average, rated the importance of salary more highly in choosing a major than did White students, irrespective of family income category. A multiple regression analysis provided confirmation, indicating that, when controlling for race/ethnicity, family income category was not a statistically significant predictor of importance of salary in choosing a major. Other, perhaps unobserved, factors likely are involved, but additional data collection and analysis would be needed to identify them. Unobserved tastes (i.e., preferences for outcomes of the major, such as the enjoyability of coursework) for majors have been found in other research to be related to the choice of major (Wiswall & Zafar, 2015).

It was also found that Black students expressed significantly higher average levels of confidence, compared with Asian and White students, of their education goals being their best educational options. This might be related to Black high school students' relatively high average estimates of experiencing such future life outcomes as a career that pays well, a career that they enjoy, and steady employment during their careers (Schiel, 2022). It seems possible that

Black students, in general, could be anticipating that their education goals will assist them in experiencing these positive life outcomes.

No statistically significant differences in views of the value of postsecondary education in general or the value of a bachelor's degree were found across racial/ethnic groups. This is a positive finding, because it implies that students of different races/ethnicities were similarly aware of the potential employment and financial benefits of attending college.

By Family Income Category

The findings clearly indicate that family income category is related to students' views on postsecondary education. Several statistically significant differences in survey responses were observed across family income categories. Highlights included students from high-income families expressing significantly higher average levels of agreement with statements about getting a good job following education goal completion and the benefits of an academic degree outweighing its costs, compared with students from moderate-income families; students from high-income families reporting more encouragement to attend college from their parents or guardians, other family members or relatives, and friends, on average, compared with students from low- and moderate-income families; and higher average levels of confidence in completing an education goal being expressed by students from high-income families than by those from moderate-income families. These findings are not surprising, as higher family incomes can be associated with benefits and opportunities that are not necessarily available to students from lower-income families.

It is worth emphasizing that no statistically significant differences across the family income category were found in students' views of the financial value of an academic degree and higher levels of education being associated with higher incomes. These findings are positive, in that there is no evidence to suggest that students from low-income families view the potential gains that postsecondary education can provide differently than do students from high-income families. In general, both groups are aware of the value of postsecondary education.

By College-Bound Status

High school students' educational aspirations have some bearing on their views of postsecondary education. Compared with non-college-bound students, students who reported that they planned to earn an associate's degree or higher were significantly more likely, on average, to agree with statements about getting a good job after completing their education goals and were more likely to report that they received encouragement to attend college from parents or guardians, other family members or relatives, and friends.

When considering the findings about encouragement to attend college, keep in mind that this study did not intend to determine whether a causal relationship existed between students' educational aspirations and any encouragement they might have received to attend college. Therefore, it cannot be determined whether students decided to attend college based on prior encouragement from parents or guardians and others or whether students first expressed an interest in attending college and then received encouragement.

Interestingly, college-bound students expressed a significantly lower level of confidence in completing their education goals than did students who were not college-bound. This finding

might be related to concerns about the affordability of a college education. Financial issues have a substantial influence on bachelor's degree completion. For example, 42% of adults reported in a recent study that a major reason they do not have a four-year college degree is that they were unable to afford college (Parker, 2021). It is possible that students who plan to complete a bachelor's degree (or a higher degree) and have concerns about its costs therefore expressed lower levels of confidence about completion than did students who plan to complete a high school diploma, GED, or certificate program.

By Parental Education Level

Parents' or guardians' level of education was also found to be related to high school students' views of postsecondary education. Compared with students whose parent(s) or guardian(s) did not have a bachelor's degree, students who had at least one parent or guardian with a bachelor's degree were more likely, on average, to agree with a statement about getting a good job after completing their education goals; were more likely to perceive bachelor's degree holders as being able to find employment more quickly in today's job market than associate degree holders and to agree with a statement about a bachelor's degree being a better value than an associate's degree; and were more likely to report that they received encouragement to attend college from parents or guardians, other family members or relatives, and friends.

Curiously, students who had at least one parent or guardian with a bachelor's degree placed significantly less importance on job salary after graduation in choosing a college major than did students whose parents or guardians did not have bachelor's degrees. It seems as if this finding could be related to family income. If students who have at least one parent or guardian with a bachelor's degree typically have higher family incomes, then perhaps those students feel more financially secure and therefore are more comfortable in choosing majors aligned with lower-paying jobs. However, the study's data do not support this possibility. A multiple regression analysis indicated that having at least one parent or guardian with a bachelor's degree was not a statistically significant predictor of importance of job salary in choosing a major, when controlling for family income category.

In general, the findings by parental education level suggest that parents' or guardians' perspectives and knowledge of postsecondary education have an influence on the postsecondary education perspectives of their children, which is not surprising, as the level of parents' education is known to be related to the secondary educational outcomes of their children (see for example, Eccles, 2005 and Ludeke et al., 2021), and parents are known to have a considerable influence on first-generation students' motivation during the college planning process (Mitchall & Jaeger, 2018). Parents and guardians, of course, are not the only source of influence on students' postsecondary education perspectives. The findings of the present study underscore the important role high school teachers and counselors have, not only in encouraging students to attend college, but also in assisting students, especially those who are the first in their families to plan to attend college, with understanding as much as possible about the benefits and value of postsecondary education.

Limitations

As noted in the technical appendix, the response rate for the study's survey was low (1.4%) compared to other surveys of ACT-tested students. We cannot be certain that the postsecondary education opinions of the relatively small number of respondents were similar to

those of the nonrespondents. However, we do know that the response patterns observed in the study were similar to those observed in other surveys of ACT-tested students. For example, in those surveys it is typical for students of higher academic ability to respond at higher rates than students of lower academic ability, for Asian and White students to respond at higher rates than Black and Hispanic students, and for females to respond at higher rates than males. An examination of response patterns over these and other student characteristics revealed no anomalies that might cast doubt on the representativeness of the respondents and the inferences to be made from the study's data.

Conclusion

During a time of declining college enrollments, when the value of college degrees is viewed with increasing skepticism, it is heartening to learn that high school students, irrespective of their race/ethnicity, held positive views of postsecondary education. High school students' parents, family members, teachers, and counselors were notable sources of encouragement for attending college, and students were confident in their ability to complete their education goals. These findings should serve as reminders to all of us—educators, parents, and researchers—that we must continue to do our best to encourage high school students, to augment their confidence, and to support them in other ways in their educational journeys.

About the Author

Jeff Schiel, PhD, a lead research scientist on ACT's Behaviors and Skills Measurement team, specializes in the design and methodology of surveys and survey sampling. His interests include the study of high school students' educational experiences and plans.

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Technical Appendix

Sample

A stratified random sample of 108,642 high school students in Grades 11 or 12 nationwide was used for this study. The sample consisted of students from three groups: 1) students who had registered for the national ACT® test, but not yet taken it, 2) students who had both registered for and taken this test, and 3) students who had taken the ACT as part of a state- or district-wide testing effort.

Students who plan to take or take the national ACT test are presumed to be college-bound, although it is possible that some of them will not attend college. ACT testing that is sponsored by states and school districts includes a mix of college-bound and non-college-bound students. State and district ACT test takers were included in the study to ensure that the opinions of non-college-bound students were represented as well.

State and district ACT test takers who previously took a national ACT test are presumed to be college-bound. To increase the proportion of non-college-bound students in the sample, state and district test takers were screened to include only those who were first-time test takers.

Before they take the ACT, students are asked to provide background information, including the highest level of education they expect to complete, which can be used to determine college-bound status. However, a considerable percentage of students do not provide information about expected education level. Among national test takers in the sample, 33% did not provide this information, and among state and district test takers, the percentage was substantially higher (59%). Therefore, students were asked in the survey instrument about expected education level, and these data were used to supplement the previously collected data.

Asian, Black, and Hispanic students were intentionally oversampled, from among both national ACT test takers and state and district ACT test takers. This was done to ensure enough respondents for analyses by race/ethnicity and to ensure that there was sufficient representation of racial/ethnic groups across the two different types of testing.

The sample reflects students who tested on one of several different test dates. National ACT test takers from October 2021, December 2021, February 2022, April 2022, and June 2022 were included. Registrants for the July 2022 or September 2022 national tests were also included, as were students who took a state or district ACT test in March 2022 or April 2022.

A total of 1,527 students responded to the survey, for a response rate of 1.4%. This rate is relatively low for surveys of ACT-tested students, and it is likely related to including in the sample students who had taken the test several months before the survey was administered in September 2022. In general, students who have tested recently are more likely to respond to ACT surveys than students who have tested several months previously.

Student characteristics (race/ethnicity, gender, high school grade point average, high school rank, and grade level) are reported in Table 1 for the survey's target population, sampled population, sample, and respondents. All the characteristics in this table were self-reported by students and were collected when they registered for the national ACT test or as part of state

and district ACT testing. High school grade point average was less likely to be available for state and district ACT test takers (37% missing) than for national ACT test takers (9% missing). This was also true of high school class rank (52% missing for state and district test takers; 22% missing for national).

Table 1. Characteristics of the Survey Population, Sample, and Respondents

| Characteristic | | Target population | | Sampled population | | Sample | | Respondents | |
|---|--|-------------------|--------|--------------------|-------|--------|-----|-------------|-----|
| | | n | % | n | % | n | % | n | % |
| Stratum: ACT test type x race/ ethnicity | National, Asian | 35,080 | 3% | 11,347 | 1% | 5,674 | 5% | 151 | 10% |
| | National, Black | 44,347 | 4% | 22,024 | 3% | 14,167 | 13% | 200 | 13% |
| | National, Hispanic | 51,062 | 5% | 28,355 | 3% | 14,167 | 13% | 223 | 15% |
| | National, White | 310,508 | 31% | 247,252 | 29% | 14,167 | 13% | 249 | 16% |
| | National, Other | 43,125 | 4% | 31,411 | 4% | 1,667 | 2% | 30 | 2% |
| | National, Unknown | 158 | 0% | 28 | 0% | 28 | 0% | 1 | 0% |
| | State & District, Asian | 13,029 | 1% | 12,937 | 1% | 12,937 | 12% | 223 | 15% |
| | State & District, Black | 60,888 | 6% | 60,730 | 7% | 14,167 | 13% | 120 | 8% |
| | State & District, Hispanic | 107,649 | 11% | 107,436 | 12% | 14,167 | 13% | 126 | 8% |
| | State & District, White | 264,086 | 26% | 263,315 | 30% | 14,167 | 13% | 171 | 11% |
| | State & District, Other | 47,059 | 5% | 46,971 | 5% | 1,667 | 2% | 26 | 2% |
| State & District, Unknown | 34,568 | 3% | 34,520 | 4% | 1,667 | 2% | 7 | 0% | |
| Race/ ethnicity | American Indian/Alaska Native | 9,256 | 1% | 8,732 | 1% | 372 | 0% | 5 | 0% |
| | Asian | 48,109 | 5% | 24,284 | 3% | 18,611 | 17% | 374 | 24% |
| | Black | 105,235 | 10% | 82,754 | 10% | 28,334 | 26% | 320 | 21% |
| | Hispanic | 158,711 | 16% | 135,791 | 16% | 28,334 | 26% | 349 | 23% |
| | Native Hawaiian/Other Pacific Islander | 2,053 | 0% | 1,908 | 0% | 73 | 0% | 0 | 0% |
| | White | 574,594 | 57% | 510,567 | 59% | 28,334 | 26% | 420 | 28% |
| | Two or more races | 45,335 | 4% | 39,966 | 5% | 1,640 | 2% | 24 | 2% |
| | Prefer not to respond | 68,266 | 7% | 62,324 | 7% | 2,944 | 3% | 35 | 2% |
| Gender | Female | 507,687 | 50% | 426,541 | 49% | 56,136 | 52% | 981 | 64% |
| | Male | 465,544 | 46% | 403,431 | 47% | 49,772 | 46% | 477 | 31% |
| | Other/Unknown | 38,328 | 4% | 35,354 | 4% | 2,734 | 3% | 69 | 5% |

| Characteristic | | Target population | | Sampled population | | Sample | | Respondents | |
|---------------------------------|-----------------------------|-------------------|---------|--------------------|--------|---------|------|-------------|------|
| | | n | % | n | % | n | % | n | % |
| High school grade point average | (A– to A) 3.5–4.0 or higher | 450,668 | 45% | 350,916 | 41% | 43,278 | 40% | 920 | 60% |
| | (B to B+) 3.0–3.4 | 130,686 | 13% | 110,931 | 13% | 14,815 | 14% | 162 | 11% |
| | (B– to B) 2.5–2.9 | 56,147 | 6% | 50,415 | 6% | 6,932 | 6% | 62 | 4% |
| | (C to B–) 2.0–2.4 | 30,963 | 3% | 29,012 | 3% | 3,810 | 4% | 37 | 2% |
| | (C– to C) 1.5–1.9 | 12,311 | 1% | 11,876 | 1% | 1,429 | 1% | 14 | 1% |
| | (D to C–) 1.0–1.4 | 4,940 | 0% | 4,857 | 1% | 616 | 1% | 4 | 0% |
| | (D– to D) 0.5–0.9 or lower | 1,429 | 0% | 1,413 | 0% | 178 | 0% | 0 | 0% |
| Unknown | 324,415 | 32% | 306,906 | 35% | 37,584 | 35% | 328 | 21% | |
| High school rank | Top quarter | 323,597 | 32% | 250,214 | 29% | 29,483 | 27% | 638 | 42% |
| | Second quarter | 162,354 | 16% | 134,007 | 15% | 17,240 | 16% | 180 | 12% |
| | Third quarter | 91,485 | 9% | 81,486 | 9% | 10,783 | 10% | 127 | 8% |
| | Fourth quarter | 27,720 | 3% | 24,722 | 3% | 3,413 | 3% | 42 | 3% |
| | Unknown | 406,403 | 40% | 375,897 | 43% | 47,723 | 44% | 540 | 35% |
| Grade level (at registration) | 12 | 66,242 | 7% | 27,688 | 3% | 3,732 | 3% | 164 | 11% |
| | 11 | 862,351 | 85% | 764,371 | 88% | 93,659 | 86% | 1,140 | 75% |
| | 10 | 82,966 | 8% | 74,267 | 9% | 11,251 | 10% | 223 | 15% |
| Total | | 1,011,559 | 100% | 866,326 | 100% | 108,642 | 100% | 1,527 | 100% |

The sampled population, which is a subset of the target population, excluded students who opted out of receiving nontransactional communications from ACT. It also excluded students who were in samples for other recent ACT surveys.

The sample and respondents differed on some characteristics. For example, students who reported that they were in the top quarter of their high school class represent 27% of the sample but 42% of the respondents. It is typical in surveys of ACT test registrants and test takers for students who report higher class ranks and higher grade point averages to respond at higher rates compared with those who report lower class ranks and lower grade point averages. In addition, it is typical in these surveys for Asian and White students to respond at higher rates than Black and Hispanic students and for females to respond at higher rates than males.

National ACT test takers responded at a higher rate than did state and district ACT test takers (1.7% and 1.1%, respectively). This is probably related to the fact that students of higher academic ability (as measured by reported grade point average and class rank) tend to respond to ACT surveys at a higher rate than do students of lower academic ability. Differences in academic ability were apparent for the two groups of test takers. For example, of the respondents who were national test takers, 77% reported a high school grade point average of A– to A. Of the respondents who were state and district ACT test takers, 39% reported this information.

The oversampling of Asian, Black, and Hispanic students within testing type is illustrated in Table 1. These racial/ethnic groups represent 3%, 10%, and 16%, respectively, of the sampled

population but 17%, 26%, and 26%, respectively, of the sample. White students represent 59% of the sampled population but only 26% of the sample. Weights were used to adjust statistically for these differences in representation. Additional information on the weights is provided in the Analysis section.

Survey Instrument

The survey instrument was administered online to participating students in September 2022. The instrument contained several questions, the first of which was intended to identify whether each respondent was a student who had registered for the ACT test, a parent or guardian who had assisted with a student's registration, or a school counselor who had assisted with a student's registration. This question was needed because when parents or guardians and counselors assist with a student's ACT registration, they sometimes provide their own email address instead of the student's. This results in survey invitation emails being sent unintentionally to parents or guardians and counselors. Only those respondents who indicated that they were students were permitted to continue the survey.

The other questions are listed below.

1. *What is the highest level of education you expect to complete?* (high school diploma or GED, certificate program, associate's degree, bachelor's degree, master's degree, doctorate or professional degree, other)
2. *How much do you agree or disagree with each of the following statements?*
 - a. *After completing my (education goal from Question 1), I will be able to get a good job.*
 - b. *The benefits of an academic degree (e.g., associate's degree, bachelor's degree) outweigh its costs (tuition, time spent earning the degree, etc.).*
 - c. *An academic degree has considerable financial value for most people.*
 - d. *In general, higher levels of education are associated with higher incomes.*
 - e. *In today's job market, students who have associate's degrees will find employment more quickly than those who have bachelor's degrees.*
 - f. *A bachelor's degree is less likely to get you a job these days, compared to a few years ago.*
 - g. *For most students who plan to attend college, a bachelor's degree is a better value than an associate's degree.*
(five-point scale ranging from "strongly agree" to "strongly disagree" and including a neutral midpoint)
3. *How much encouragement to attend college have you had from ...*
 - a. *Your parent(s)/guardian(s)*
 - b. *Other family members/relatives (siblings, grandparents, etc.)*
 - c. *Your friends*
 - d. *Your high school counselor*
 - e. *Your teachers*
(a lot, a moderate amount, a small amount, none at all)
4. *How important in choosing your college major (program of study) are each of the following?* (displayed only for those respondents who indicated that they expect to earn an associate's degree or higher)
 - a. *My level of interest*
 - b. *Alignment with my academic strengths*

- c. *The opinions of my parent(s)/guardian(s)*
 - d. *The opinions of other family members/relatives (siblings, grandparents, etc.)*
 - e. *The opinions of my friends*
 - f. *The opinions of my high school counselor and/or teachers*
 - g. *The likelihood of getting a good job after I graduate*
 - h. *My career aspirations*
 - i. *My salary after I graduate and get a job related to my major*
(very important, moderately important, slightly important, not at all important)
5. *How long do you think it will take to complete your bachelor's degree?* (displayed only for those respondents who indicated that they expect to earn a bachelor's degree or higher; less than four years, four years, five years, six years, more than six years)
 6. *How confident are you that pursuing your (education goal from Question 1) is the best educational option for you?* (very confident, moderately confident, slightly confident, not at all confident)
 7. *How confident are you that you will complete your (education goal from Question 1)?* (very confident, moderately confident, slightly confident, not at all confident)
 8. *What was the approximate total combined income of your parent(s)/guardian(s) before taxes last year?* (less than \$36,000, \$36,000 to \$100,000, more than \$100,000). This question was prefaced by "The following question is important to allow ACT researchers to study the survey's data for different family income categories. Please remember that your answers to all survey questions will be held in confidence and will always be combined with answers from other students for research and reporting purposes."
 9. *Do either of your parents/guardians have a bachelor's degree?* (yes, no)

Analysis

Analyses were performed on data from the entire group of students ($N = 1,527$), and racial/ethnic group analyses were performed on data from student respondents representing each of four racial/ethnic groups: Asian, Black, Hispanic, and White. Too few students of other races/ethnicities responded to the survey to perform additional racial/ethnic group analyses.

The data were also analyzed by family income category. When students register to take the ACT test, they are asked to provide an estimate of their parents' total combined income before taxes in the preceding year by choosing one of nine intervals (less than \$24,000, about \$24,000 to \$36,000 ... more than \$150,000). Many students choose not to provide this information. For this reason, students were asked a similar question in the survey instrument, but that question had only three options and included an explanation of why the family income information was being collected and a statement that it would be kept confidential (see Question 8 in the Survey Instrument section above). Family income data from the survey were considered primary and, when not provided by students, were supplemented with family income data from students' ACT registration records. In the study, low family income is defined as income of less than \$36,000. Moderate family income is between \$36,000 and \$100,000, and high family income exceeds \$100,000.

Additional analyses compared the survey responses of college-bound students (i.e., those planning to complete an associate's degree, bachelor's degree, master's degree, or doctorate or

professional degree) with non-college-bound students (i.e., those planning to complete a high school diploma, GED, or certificate program) and the responses of students who had a least one parent or guardian with a bachelor's degree with students whose parents or guardians did not have this level of education. For all subgroup analyses, only statistically significant findings are reported.

Because the sample was disproportionately stratified on race/ethnicity, weights that reflect statistical adjustments for population representation in the sampling design and survey nonresponse were used in the computation of weighted sample statistics (e.g., weighted percentages and means for the sample). These statistics serve as estimates for the population of students in Grades 11 or 12 who participated in either ACT national or state and district testing.

Percentages of responses were computed for all survey questions, and mean responses were computed for questions that had appropriate scales (i.e., Questions 2–4, 6, and 7 above). For each multiple comparison of mean responses across racial/ethnic and family income subgroups, an analysis of variance (ANOVA) with pairwise comparisons based on the Tukey-Kramer procedure was used. The test statistic yielded by this procedure is denoted in this report by q .

For comparing mean responses of students who reported that at least one parent or guardian had a bachelor's degree with those of students who reported that their parents or guardians did not have this level of education, a two-sample t -test was used. This test was also used for comparing mean responses of students who reported that they were college bound with those of students who were not planning to attend college.

Whenever a statistically significant difference was observed between a pair of means, an effect size (ES) was computed. Effect sizes for differences between means were computed using a pooled sample standard deviation as the denominator. Effect sizes for differences between proportions were computed using Cohen's h (Cohen, 1988).

Chi-square tests of association were used for subgroup analyses of data from the question about length of time to complete a bachelor's degree. The test statistic from this procedure is the Rao-Scott chi-square, and it, like other statistics in this report, reflects adjustments based on the study's complex sampling design.

Multiple linear regression was used to investigate further a few unusual findings. For example, the importance of job salary after graduation in choosing a college major was modeled as a function of family income category, race/ethnicity, and parental education level (i.e., at least one parent had a bachelor's degree or higher). The threshold for statistical significance of tests of regression coefficients in these models was $p < 0.01$.

For various reasons (e.g., change of plans or illness), not all students who register for the national ACT test subsequently take it. All student respondents who registered for either the July 2022 or September 2022 national tests were included in the analyses for the study, whether they tested or not.

Table 2. Weighted Comparison Statistics for Survey Items, by Parental Degree Status and Student College-Bound Status

| Survey item | At least one parent or guardian has a bachelor's degree | | | | | College-bound | | | | |
|---|---|------|-----|------|----------------------------------|---------------|------|-----|------|----------------------------------|
| | Yes | | No | | Test statistic (t) / Effect size | Yes | | No | | Test statistic (t) / Effect size |
| | n | Mean | n | Mean | | n | Mean | n | Mean | |
| After completing my (education goal from Question 1), I will be able to get a good job. | 822 | 4.32 | 480 | 4.05 | 3.80**/0.33 | 1,152 | 4.28 | 149 | 3.87 | 3.19*/0.50 |
| The benefits of an academic degree (e.g., associate's degree, bachelor's degree) outweigh its costs (tuition, time spent earning the degree, etc.). | 805 | 3.47 | 471 | 3.35 | — | 1,132 | 3.44 | 144 | 3.30 | — |
| An academic degree has considerable financial value for most people. | 803 | 3.74 | 469 | 3.69 | — | 1,130 | 3.73 | 142 | 3.53 | — |
| In general, higher levels of education are associated with higher incomes. | 801 | 3.99 | 467 | 3.86 | — | 1,125 | 3.94 | 142 | 3.81 | — |
| In today's job market, students who have associate's degrees will find employment more quickly than those who have bachelor's degrees. | 797 | 2.86 | 468 | 3.09 | -3.08*/-0.26 | 1,123 | 2.93 | 140 | 3.06 | — |
| A bachelor's degree is less likely to get you a job these days, compared to a few years ago. | 797 | 3.28 | 465 | 3.22 | — | 1,121 | 3.24 | 140 | 3.35 | — |
| For most students who plan to attend college, a bachelor's degree is a better value than an associate's degree. | 794 | 3.69 | 463 | 3.44 | 3.56**/0.30 | 1,115 | 3.60 | 141 | 3.51 | — |
| Encouragement to attend college from: Your parent(s)/guardian(s) | 810 | 2.66 | 469 | 2.23 | 5.77***/0.57 | 1,131 | 2.57 | 145 | 2.00 | 4.25***/0.75 |
| Encouragement to attend college from: Other family members/relatives (siblings, grandparents, etc.) | 802 | 2.30 | 463 | 1.91 | 4.45***/0.42 | 1,119 | 2.21 | 143 | 1.81 | 3.00*/0.42 |
| Encouragement to attend college from: Your friends | 798 | 1.87 | 463 | 1.52 | 4.04***/0.34 | 1,116 | 1.81 | 142 | 1.34 | 3.71**/0.45 |
| Encouragement to attend college from: Your high school counselor | 798 | 2.06 | 460 | 1.94 | — | 1,114 | 2.05 | 140 | 1.84 | — |
| Encouragement to attend college from: Your teachers | 798 | 2.30 | 461 | 2.20 | — | 1,114 | 2.30 | 142 | 2.06 | — |
| Importance in choosing a college major of: My level of interest | 723 | 2.79 | 354 | 2.72 | — | n/a | n/a | n/a | n/a | n/a |
| Importance in choosing a college major of: Alignment with my academic strengths | 720 | 2.42 | 355 | 2.52 | — | n/a | n/a | n/a | n/a | n/a |
| Importance in choosing a college major of: The opinions of my parent(s)/guardian(s) | 720 | 1.16 | 354 | 1.24 | — | n/a | n/a | n/a | n/a | n/a |



| Survey item | At least one parent or guardian has a bachelor's degree | | | | | College-bound | | | | |
|--|---|------|----------|------|---|---------------|------|----------|------|---|
| | Yes | | No | | Test statistic (<i>t</i>) / Effect size | Yes | | No | | Test statistic (<i>t</i>) / Effect size |
| | <i>n</i> | Mean | <i>n</i> | Mean | | <i>n</i> | Mean | <i>n</i> | Mean | |
| Importance in choosing a college major of: The opinions of other family members/relatives (siblings, grandparents, etc.) | 717 | 0.83 | 353 | 0.94 | — | n/a | n/a | n/a | n/a | n/a |
| Importance in choosing a college major of: The opinions of my friends | 717 | 0.71 | 354 | 0.72 | — | n/a | n/a | n/a | n/a | n/a |
| Importance in choosing a college major of: The opinions of my high school counselor and/or teachers | 715 | 0.90 | 353 | 1.12 | — | n/a | n/a | n/a | n/a | n/a |
| Importance in choosing a college major of: The likelihood of getting a good job after I graduate | 715 | 2.51 | 353 | 2.60 | — | n/a | n/a | n/a | n/a | n/a |
| Importance in choosing a college major of: My career aspirations | 712 | 2.75 | 352 | 2.71 | — | n/a | n/a | n/a | n/a | n/a |
| Importance in choosing a college major of: My salary after I graduate and get a job related to my major | 712 | 2.27 | 352 | 2.49 | -3.17*/-0.30 | n/a | n/a | n/a | n/a | n/a |
| Confidence that pursuing education goal is the best educational option | 776 | 2.16 | 453 | 2.22 | — | 1,070 | 2.18 | 139 | 2.19 | — |
| Confidence that education goal will be completed | 773 | 2.45 | 449 | 2.32 | — | 1,063 | 2.37 | 138 | 2.63 | -2.90*/-0.37 |

The statistical significance of the test statistic *t* is denoted by * $p < .01$, ** $p < .001$, or *** $p < .0001$. Only statistically significant results are reported. The sample sizes in this table are unweighted. An analysis by college-bound status was not performed for the items pertaining to factors important in choosing a college major, because these items were not relevant for students who indicated that they were not college-bound and therefore were not displayed to them in the survey instrument.

Table 3. Weighted Comparison Statistics for Survey Items, by Reported Family Income Category

| Survey item | Reported family income category | | | | | | Test statistic (<i>q</i>) / Effect size | | |
|---|---------------------------------|------|-------------------|------|----------|------|---|----------------|----------------|
| | Low (1) | | Mod- erate (2) | | High (3) | | 1 vs. 2 | 1 vs. 3 | 2 vs. 3 |
| | <i>n</i> | Mean | <i>n</i> | Mean | <i>n</i> | Mean | | | |
| After completing my (education goal from Question 1), I will be able to get a good job. | 262 | 4.08 | 534 | 4.15 | 445 | 4.39 | — | — | -3.58*/-0.30 |
| The benefits of an academic degree (e.g., associate's degree, bachelor's degree) outweigh its costs (tuition, time spent earning the degree, etc.). | 258 | 3.31 | 524 | 3.32 | 435 | 3.61 | — | — | -3.18*/-0.29 |
| An academic degree has considerable financial value for most people. | 257 | 3.71 | 521 | 3.65 | 435 | 3.78 | — | — | — |
| In general, higher levels of education are associated with higher incomes. | 255 | 3.88 | 521 | 3.86 | 433 | 4.07 | — | — | — |
| In today's job market, students who have associate's degrees will find employment more quickly than those who have bachelor's degrees. | 257 | 3.14 | 519 | 2.96 | 430 | 2.82 | — | — | — |
| A bachelor's degree is less likely to get you a job these days, compared to a few years ago. | 256 | 3.20 | 518 | 3.23 | 430 | 3.36 | — | — | — |
| For most students who plan to attend college, a bachelor's degree is a better value than an associate's degree. | 253 | 3.55 | 516 | 3.58 | 430 | 3.66 | — | — | — |
| Encouragement to attend college from: Your parent(s)/guardian(s) | 258 | 2.16 | 528 | 2.44 | 442 | 2.73 | — | -5.55***/-0.79 | -4.36***/-0.40 |
| Encouragement to attend college from: Other family members/relatives (siblings, grandparents, etc.) | 256 | 1.80 | 523 | 2.13 | 435 | 2.40 | — | -4.80***/-0.67 | -3.48*/-0.31 |
| Encouragement to attend college from: Your friends | 256 | 1.40 | 521 | 1.64 | 433 | 2.05 | — | -5.36***/-0.66 | -4.74***/-0.40 |
| Encouragement to attend college from: Your high school counselor | 255 | 2.03 | 519 | 1.94 | 433 | 2.11 | — | — | — |
| Encouragement to attend college from: Your teachers | 256 | 2.23 | 519 | 2.29 | 433 | 2.27 | — | — | — |
| Importance in choosing a college major of: My level of interest | 188 | 2.78 | 455 | 2.72 | 401 | 2.83 | — | — | — |
| Importance in choosing a college major of: Alignment with my academic strengths | 189 | 2.56 | 454 | 2.46 | 399 | 2.40 | — | — | — |
| Importance in choosing a college major of: The opinions of my parent(s)/guardian(s) | 190 | 0.96 | 452 | 1.21 | 399 | 1.21 | — | — | — |



| Survey item | Reported family income category | | | | | | Test statistic (<i>q</i>) / Effect size | | |
|--|---------------------------------|------|-------------------|------|----------|------|---|---------|--------------|
| | Low (1) | | Mod- erate (2) | | High (3) | | 1 vs. 2 | 1 vs. 3 | 2 vs. 3 |
| | <i>n</i> | Mean | <i>n</i> | Mean | <i>n</i> | Mean | | | |
| Importance in choosing a college major of: The opinions of other family members/relatives (siblings, grandparents, etc.) | 187 | 0.82 | 453 | 0.92 | 397 | 0.76 | — | — | — |
| Importance in choosing a college major of: The opinions of my friends | 188 | 0.60 | 453 | 0.76 | 397 | 0.68 | — | — | — |
| Importance in choosing a college major of: The opinions of my high school counselor and/or teachers | 188 | 0.96 | 452 | 1.00 | 395 | 0.90 | — | — | — |
| Importance in choosing a college major of: The likelihood of getting a good job after I graduate | 188 | 2.55 | 452 | 2.55 | 395 | 2.55 | — | — | — |
| Importance in choosing a college major of: My career aspirations | 186 | 2.71 | 451 | 2.74 | 394 | 2.75 | — | — | — |
| Importance in choosing a college major of: My salary after I graduate and get a job related to my major | 186 | 2.49 | 451 | 2.28 | 394 | 2.33 | — | — | — |
| Confidence that pursuing education goal is the best educational option | 253 | 2.28 | 519 | 2.13 | 423 | 2.21 | — | — | — |
| Confidence that education goal will be completed | 251 | 2.35 | 514 | 2.32 | 423 | 2.52 | — | — | -2.95*/-0.27 |

The statistical significance of the test statistic for the Tukey-Kramer procedure is denoted by * $p < .01$, ** $p < .001$, or *** $p < .0001$. Only statistically significant results are reported. The sample sizes in this table are unweighted.

Table 4. Weighted Comparison Statistics for Survey Items, by Race/Ethnicity

| Survey item | Asian (1) | | Black (2) | | Hispanic (3) | | White (4) | | Test statistic (<i>q</i>) / Effect size | | | | | |
|---|-----------|------|-----------|------|--------------|------|-----------|------|---|-------------|------------|---------|---------|---------|
| | <i>n</i> | Mean | <i>n</i> | Mean | <i>n</i> | Mean | <i>n</i> | Mean | 1 vs. 2 | 1 vs. 3 | 1 vs. 4 | 2 vs. 3 | 2 vs. 4 | 3 vs. 4 |
| After completing my (education goal from Question 1), I will be able to get a good job. | 332 | 4.15 | 260 | 4.20 | 308 | 4.06 | 384 | 4.29 | — | — | — | — | — | — |
| The benefits of an academic degree (e.g., associate’s degree, bachelor’s degree) outweigh its costs (tuition, time spent earning the degree, etc.). | 327 | 3.65 | 255 | 3.47 | 302 | 3.42 | 373 | 3.46 | — | — | — | — | — | — |
| An academic degree has considerable financial value for most people. | 323 | 3.94 | 255 | 3.76 | 300 | 3.77 | 374 | 3.75 | — | — | — | — | — | — |
| In general, higher levels of education are associated with higher incomes. | 321 | 4.10 | 253 | 4.16 | 299 | 3.97 | 374 | 3.92 | — | — | — | — | — | — |
| In today’s job market, students who have associate’s degrees will find employment more quickly than those who have bachelor’s degrees. | 320 | 3.04 | 253 | 3.08 | 298 | 3.07 | 373 | 2.94 | — | — | — | — | — | — |
| A bachelor’s degree is less likely to get you a job these days, compared to a few years ago. | 320 | 3.31 | 253 | 3.32 | 297 | 3.34 | 371 | 3.24 | — | — | — | — | — | — |
| For most students who plan to attend college, a bachelor’s degree is a better value than an associate’s degree. | 319 | 3.66 | 253 | 3.54 | 295 | 3.67 | 371 | 3.56 | — | — | — | — | — | — |
| Encouragement to attend college from: Your parent(s)/guardian(s) | 323 | 2.65 | 255 | 2.56 | 297 | 2.50 | 381 | 2.53 | — | — | — | — | — | — |
| Encouragement to attend college from: Other family members/relatives (siblings, grandparents, etc.) | 317 | 2.35 | 250 | 2.33 | 294 | 2.13 | 380 | 2.20 | — | — | — | — | — | — |
| Encouragement to attend college from: Your friends | 316 | 2.06 | 248 | 1.88 | 294 | 1.67 | 379 | 1.79 | — | 4.09**/0.61 | 3.70*/0.23 | — | — | — |
| Encouragement to attend college from: Your high school counselor | 314 | 2.19 | 248 | 2.25 | 293 | 2.05 | 379 | 2.02 | — | — | — | — | — | — |



| Survey item | Asian (1) | | Black (2) | | Hispanic (3) | | White (4) | | Test statistic (<i>q</i>) / Effect size | | | | | |
|--|-----------|------|-----------|------|--------------|------|-----------|------|---|---------|--------------|---------|--------------|--------------|
| | <i>n</i> | Mean | <i>n</i> | Mean | <i>n</i> | Mean | <i>n</i> | Mean | 1 vs. 2 | 1 vs. 3 | 1 vs. 4 | 2 vs. 3 | 2 vs. 4 | 3 vs. 4 |
| Encouragement to attend college from: Your teachers | 313 | 2.24 | 248 | 2.32 | 295 | 2.26 | 379 | 2.25 | — | — | — | — | — | — |
| Importance in choosing a college major of: My level of interest | 263 | 2.75 | 195 | 2.77 | 249 | 2.79 | 335 | 2.78 | — | — | — | — | — | — |
| Importance in choosing a college major of: Alignment with my academic strengths | 263 | 2.45 | 195 | 2.47 | 248 | 2.48 | 334 | 2.43 | — | — | — | — | — | — |
| Importance in choosing a college major of: The opinions of my parent(s)/guardian(s) | 262 | 1.58 | 194 | 1.23 | 249 | 1.33 | 335 | 1.24 | — | — | 4.40***/0.32 | — | — | — |
| Importance in choosing a college major of: The opinions of other family members/relatives (siblings, grandparents, etc.) | 262 | 1.12 | 191 | 0.92 | 247 | 1.00 | 335 | 0.89 | — | — | — | — | — | — |
| Importance in choosing a college major of: The opinions of my friends | 262 | 0.87 | 191 | 0.62 | 248 | 0.70 | 335 | 0.76 | — | — | — | — | — | — |
| Importance in choosing a college major of: The opinions of my high school counselor and/or teachers | 261 | 1.13 | 191 | 1.00 | 248 | 1.10 | 333 | 0.92 | — | — | — | — | — | — |
| Importance in choosing a college major of: The likelihood of getting a good job after I graduate | 261 | 2.66 | 191 | 2.63 | 248 | 2.64 | 333 | 2.51 | — | — | — | — | — | — |
| Importance in choosing a college major of: My career aspirations | 261 | 2.69 | 191 | 2.83 | 247 | 2.74 | 331 | 2.72 | -3.13*/-0.69 | — | — | — | — | — |
| Importance in choosing a college major of: My salary after I graduate and get a job related to my major | 260 | 2.54 | 191 | 2.61 | 247 | 2.56 | 332 | 2.26 | — | — | 4.89***/0.33 | — | 4.87***/0.38 | 4.34***/0.33 |
| Confidence that pursuing education goal is the best educational option | 297 | 2.15 | 244 | 2.42 | 282 | 2.28 | 365 | 2.13 | -3.67*/-0.71 | — | — | — | 3.90**/0.30 | — |
| Confidence that education goal will be completed | 294 | 2.27 | 244 | 2.47 | 277 | 2.36 | 365 | 2.41 | — | — | — | — | — | — |

The statistical significance of the test statistic for the Tukey-Kramer procedure is denoted by * $p < .01$, ** $p < .001$, or *** $p < .0001$. Only statistically significant results are reported. The sample sizes in this table are unweighted.



Notes

¹ Generally accepted guidelines for interpreting effect sizes (ES) are as follows: An effect size (in absolute value) of 0.20 or less is small, 0.21–0.49 is small to medium, 0.50–0.79 is medium to large, and 0.80 or more is large.

² A box-and-whisker plot, which summarizes the distribution of survey responses, is shown in Figure 10 for each combination of survey question and reported family income category. The bottom and top edges of a box denote the 25th and 75th percentiles of the distribution of responses. The diamond denotes the mean of the distribution. The upper whisker of each boxplot extends to the maximum value that is below the “upper fence” (not shown in the graphs), which is defined as the point that is 1.5 times the interquartile range (75th percentile minus 25th percentile) above the 75th percentile. Similarly, the lower whisker extends to the minimum value above the lower fence (1.5 times the interquartile range below the 25th percentile).

³ Instead of being asked only about the importance of their salaries after graduating in choosing college majors, students were asked about the importance of their salaries in the context of getting jobs related to their majors (see the technical appendix for the wording of this question). This was done to ensure students had their planned majors and potential salaries for those majors in mind when thinking about the importance of salary after graduation in choosing a major. Students could, for example, be planning employment that is not necessarily related to their majors before seeking employment that is related. Such interim employment might have a lower or higher anticipated salary than would employment related to the major.



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