

# Characteristics of College Majors High School Students Want to Explore

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The college major choice is a critical decision students make as they progress along their education and career pathways. In addition to defining what programs of study students will take during college, major choice affects students' success and satisfaction. College students who choose majors that are a good fit (where personal characteristics are similar to, or compatible with, corresponding characteristics of majors) with their interests have higher GPAs, are more likely to persist in college, and are more likely to complete their degrees in a timely way (Allen & Robbins, 2010; Tracey & Robbins, 2006). The fit between students and majors is also related to academic major satisfaction and college satisfaction (Bowman & Denson, 2014; Milsom & Coughlin, 2017). Further, college students experience greater persistence when they are more decided about their educational goals (Allen & Robbins, 2008), which would potentially be reinforced by good-fit choices. Clearly, the importance of making good-fit college major choices should not be understated.

However, the National Center for Education Statistics (2017) reported that within three years of initial college enrollment, about 30% of undergraduates in degree programs changed majors at least once. Changing majors was even more pronounced in STEM fields such as Mathematics and Natural Sciences, where 52% and 40% of students in these fields, respectively, changed majors. Students who enter and then change STEM majors may not have been aware of the skills needed for success in these majors or had these skills. Additionally, among current college students younger than age 24, only 53% reported they would still select the same college major (Gallup, 2018). Many students are changing their minds, or would have changed their minds, about their major choices.

To support students as they prepare to choose majors in which they will persist and be satisfied, it is imperative for students to access relevant information on those majors. For students to identify good-fit college majors, they need to understand their options. Exploration of college majors is essential to understanding characteristics such as what coursework is needed for a major, the relationship between majors and careers, and how to prepare for achieving educational and career goals with a particular major. Using the information gathered during exploration, students are better able to consider different major options and evaluate whether those options are personally relevant (e.g., compatible with interests and abilities) and realistic (Bobek & Zhao, 2015). Given the importance of exploring characteristics associated with majors prior to making college major choices, we designed a survey study to identify the types of information that high school students want to know when exploring major options.

To better understand the types of major characteristics that students want to explore, we surveyed a random sample of 11th and 12th grade students (with 6% indicating they will

graduate high school in 2022, 93% graduating in 2023, and 1% graduating in 2024 or after) who registered for the July 2022 ACT national test. Students were presented a comprehensive list of major characteristics (identified using relevant literature and college websites) and asked to rate how likely they were to look at each type of characteristic when they searched for future college major options. Students assigned ratings using a 5-point scale (extremely unlikely, unlikely, neutral, likely, and extremely likely). A total of 5,700 students responded to the survey, and students who answered more than 50% of the required survey items were included in the analytical sample (n=3,474). Demographically, 71% of the respondents in the final sample identified as female, 27% identified as male, and .4% identified as another gender or did not report gender. There were 11% of students who identified as Black/African American, 11% as Hispanic/Latino, 60% as White, 10% as Asian, 1% as American Indian, Hawaiian Native, Alaska Native, 5% as two or more races/ethnicities, and 3% did not report race/ethnicity. Seventy-three percent of respondents indicated they were in 11th grade, and 27% in 12th grade.

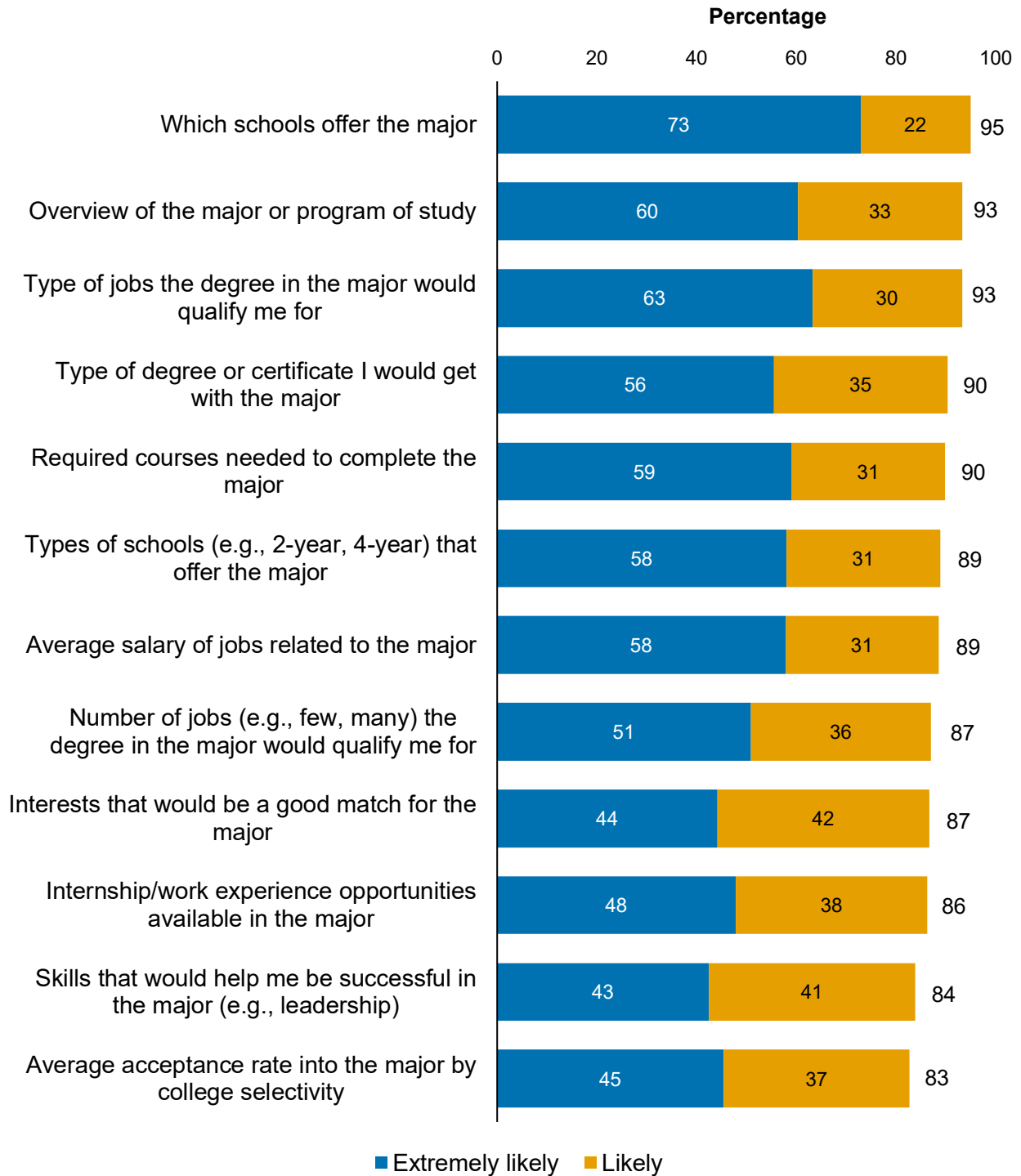
Figure 1 shows the top 12 characteristics that most students reported they were extremely likely or likely to explore (see Appendix for the percentage responding to all major-related characteristics). Overall, students want to be informed about majors and are interested in a wide range of characteristics. An overwhelming majority of students wanted to explore typical details associated with majors such as overviews (93%), type of degrees or certificates (90%), and required courses (90%). Moreover, three themes surfaced from the major characteristics that a very high percentage of students selected for likely exploration— (1) majors in relation to colleges and universities, (2) connections between majors and future careers, and (3) personal qualities for major success.

The first theme reveals that most high school students want to explore majors in relation to schools. Nearly all students (95%) indicated they were extremely likely or likely to explore which schools offer different majors. Similarly, a large majority of students (89%) also wanted to know whether 2-year, 4-year, or other types of schools offer certain majors. Further, 83% of students reported they were extremely likely or likely to explore average acceptance rates into majors based on the selectivity of colleges. These results suggest that students are taking into consideration both college options and major options at the same time.

The second theme emphasizes that high school students want to know about the connections between majors and relevant future career considerations. A substantial percentage of students reported that they were extremely likely or likely to explore the types of jobs (93%) and number of jobs (87%) for which a degree in a major would qualify them. Another career-related characteristic that 89% of students intended to explore was the average salary of jobs related to majors. Further, a large majority of students (86%) wanted to learn about internship or other work experience opportunities available as part of a major. That students want to explore multiple characteristics focusing on the link between majors and career information reinforces an education to career pathways perspective students are considering when making college major choices.

The final theme highlights that students are paying attention to the characteristics that can help them be successful in majors. Many students (87%) indicated they were extremely likely or likely to explore what interests would be a good match for different majors. Additionally, 84% of students reported that they want to know about the skills (e.g., leadership) that would prepare them for success in majors. By exploring these characteristics related to major success, students will be even better informed when making decisions about majors as they consider the interests and skills that may be a good fit with their own personal characteristics.

**Figure 1.** Top Characteristics of Majors High School Students Reported Wanting to Explore (by Percentage)



Through the major exploration intentions of high school students, findings from the survey underscore that students are keenly aware of the relationship between majors and schools, are sharpening their focus on education to career outcomes, and recognize the importance of personal qualities for major success. These findings can inform counselors, teachers, and other student advocates of ways to better support students' major exploration, such as the following:

- When providing students with opportunities to explore majors, pair these opportunities up with the exploration of colleges.
- Leverage an education to career pathways perspective by ensuring access to information that emphasizes the connections between majors and diverse aspects of career options.
- Encourage students to explore these major-career connections, which can help them understand different paths toward achieving future goals along with which paths may be preferred.
- Encourage students to compare how their own personal qualities, such as interests and skills, relate to majors to gain a more comprehensive and personalized view of what it takes to be successful in majors.

These supports can facilitate students' exploration of majors as they prepare to make major choices that ultimately shape their experiences, performance, and satisfaction in a major and in college.

## Appendix

**Table 1.** All Survey Characteristics of Majors High School Students Reported Wanting to Explore (by Percentage for Each Response Option)

Items	Extremely Likely	Likely	Neutral	Unlikely	Extremely Unlikely
Overview of the major or program of study	60	33	5	1	1
Prior college courses (pre-requisites) needed to get into the major	42	36	15	5	1
Required courses needed to complete the major	59	31	7	2	1
Elective courses related to the major	29	48	17	5	1
Time it typically takes to complete the major	40	39	15	5	2
Type of degree or certificate I would get with the major	56	35	7	1	1
Internship/work experience opportunities available in the major	48	38	11	2	1
Opportunities to obtain a second certificate or other credential with a subset of courses in the major	24	41	26	7	2
Other majors related to the major	24	47	23	6	1
Minors related to the major	21	44	25	8	1
Types of schools (e.g., 2-year, 4-year) that offer the major	58	31	8	2	1
Which schools offer the major	73	22	4	1	1
Qualities students in the major have that help them be successful	31	40	21	7	1
Skills that would help me be successful in the major (e.g., leadership)	43	41	12	3	1
Interests that would be a good match for the major	44	42	11	2	1
High school courses to prepare me for the major	44	35	15	5	2
Extracurricular activities that would help me be successful in the major	30	40	22	7	1
Average acceptance rate into the major by college selectivity	45	37	13	4	1
Average number of students who enter the major	20	32	31	15	3

Average high school GPA of students pursuing the major	41	33	17	7	2
Likelihood of graduating college with the major	43	34	16	6	2
Type of jobs the degree in the major would qualify me for	63	30	6	1	0
Number of jobs (e.g., few, many) the degree in the major would qualify me for	51	36	11	2	0
Average salary of jobs related to the major	58	31	10	2	0

## References

- Allen, J., & Robbins, S. B. (2008). Prediction of college major persistence based on vocational interests, academic preparation, and first-year academic performance. *Research in Higher Education, 49*(1), 62–79.
- Allen, J., & Robbins, S. (2010). Effects of interest-major congruence, motivation, and academic performance on timely degree attainment. *Journal of Counseling Psychology, 57*(1), 23–35.
- Bobek, B., & Zhao, R. (2015). Education and career navigation. In W. Camara, R. O'Connor, K. Mattern, & M. A. Hanson (Eds.), *Beyond academics: A holistic framework for enhancing education and workplace success* (pp. 39–51). ACT.  
[https://www.act.org/content/dam/act/unsecured/documents/ACT\\_RR2015-4.pdf](https://www.act.org/content/dam/act/unsecured/documents/ACT_RR2015-4.pdf)
- Bowman, N. A., & Denson, N. (2014). A missing piece of the departure puzzle: Student-institution fit and intent to persist. *Research in Higher Education, 55*(2), 123–142.
- Strada Network, & Gallup, Inc. (2018). *Crisis of confidence: Current college students do not feel prepared for the workforce*. <https://cci.stradaeducation.org/report/crisis-of-confidence-current-college-students-do-not-feel-prepared-for-the-workforce/>
- Milsom, A., & Coughlin, J. (2017). Examining person–environment fit and academic major satisfaction. *Journal of College Counseling, 20*(3), 250–262.
- Tracey, T. J., & Robbins, S. B. (2006). The interest–major congruence and college success relation: A longitudinal study. *Journal of Vocational Behavior, 69*(1), 64–89.
- U.S. Department of Education, National Center for Education Statistics. (2017). *Beginning college students who change their majors within 3 years of enrollment*.  
<https://nces.ed.gov/pubs2018/2018434.pdf>





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