

STRIVING UPWARD

*From Adverse Backgrounds through
Four Years of College*

**A Longitudinal Study conducted with the 2017 Cohort of Horatio Alger
National and State Scholars between 2017 and 2021**

The Survey and Report were sponsored by Members of the
Horatio Alger Association of Distinguished Americans.

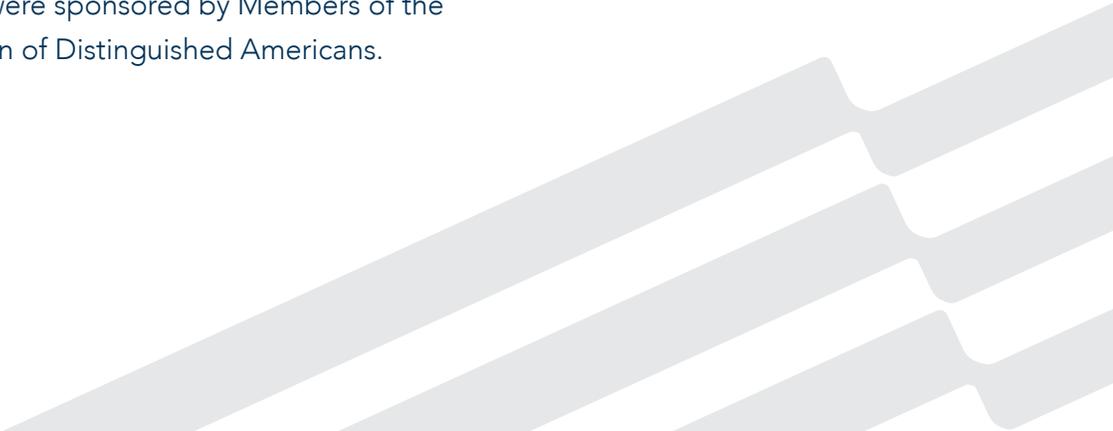


TABLE OF CONTENTS

v	FOREWORD
ix	EXECUTIVE SUMMARY
1	CHAPTER 1. CHARTING THE PATHS OF THE 2017 COHORT OF HORATIO ALGER SCHOLARS ACROSS FOUR YEARS OF COLLEGE
3	Research Framework
4	Study Procedures
6	The Report
10	CHAPTER 2. THE LASTING INFLUENCE OF ADVERSE CHILDHOOD EXPERIENCES
12	Chapter Aims
12	A Portrait of Scholars' Exposure to Adversity Prior to College
14	Continued Encounters with Adversity Over Four Years of College
15	Prior Adversity Aggravates Responses to New Adversity
18	Adversarial Growth
22	Supporting Students with Prior Adversities
27	CHAPTER 3. CULTIVATING LEADERSHIP IN COLLEGE AND BEYOND
28	Chapter Aims
29	What is "Leadership?"
29	How is Leadership Developed?
30	Horatio Alger Scholars' Leadership Aspirations at the Start of College
32	A Closer Look at National Scholars' Leadership Aspirations at the Start of College
33	Differences in Horatio Alger Scholars' Leadership Aspirations over the College Years
35	Factors that Influence Horatio Alger Scholars' Leadership Aspirations during College
36	Development of National Scholars' Leadership Aspirations during College
37	Supporting the Development of Horatio Alger Scholars' Leadership Aspirations
44	CHAPTER 4. FINANCING COLLEGE AND ECONOMIC PROSPECTS
46	Chapter Aims
46	How Much are Scholars Paying for College?
48	Concerns about Financing Higher Education
50	Rates of Utilizing Financial Aid by Source
52	Amount of Financial Aid
54	Concerns about Debt

	58	Looking Towards the Future: Finances and Careers
	63	The Influence of the Horatio Alger Association Scholarship
67		CHAPTER 5. SUCCESS IN CAREERS AND LIFE BEYOND COLLEGE
	69	Chapter Aims
	70	Educational Backgrounds of Horatio Alger Alumni Survey Respondents
	72	Careers Outcomes
	81	Civic Engagement
	84	Quality of Life
	87	The Role of Childhood Adversity
	88	Conclusions
93		CHAPTER 6. LESSONS LEARNED AND FUTURE DIRECTIONS
	94	Supporting Students with Prior Adversities
	94	Expanding the Leadership Pipeline
	95	Financial Support in College and Career Awareness
	96	Careers and Community Engagement Beyond College
	97	Striving Upwards
100		APPENDIX. SCALED MEASURES AND CONSTITUENT ITEMS
103		ABOUT THE AUTHORS

LIST OF EXHIBITS

- Exhibit 1.1. Framework for Understanding College and Its Influence on Students
 - Exhibit 1.2 Survey Response Rates (RR) Across Four Years of College
 - Exhibit 2.1 Exposure to Adverse Childhood Experiences Prior to College by Type
 - Exhibit 2.2 Number of Adverse Childhood Experiences Prior to College
 - Exhibit 2.3 Group Differences in Number of Adverse Childhood Experiences Prior to College
 - Exhibit 2.4 The Changing Influence of Adversities Experienced During High School Over Four Years of College
 - Exhibit 2.5 Increased Feelings of Overall Stress and Anxiety from the COVID-19 Pandemic by Level of Prior Adversity
 - Exhibit 2.6 Varied Challenges from the COVID-19 Pandemic by Level of Prior Adversity
 - Exhibit 2.7 The Motivational Influence of Prior Adversity
 - Exhibit 2.8 Importance of a Career Dedicated to Working for Social Change by Level of Prior Adversity
 - Exhibit 2.9 Belief that Mentoring is the Best Way to Give Back by Level of Prior Adversity
 - Exhibit 2.10 Academic Motivation at the End of the 4th Year of College by Level of Prior Adversity
 - Exhibit 3.1 Leadership Aspirations at Start of College
 - Exhibit 3.2 National Scholars: Leadership Aspirations at Start of College
 - Exhibit 3.3 Differences in Leadership Aspirations over Time, by Scholarship Type
 - Exhibit 3.4 Differences in Leadership Aspirations over Time, by Gender
 - Exhibit 3.5 Factors that Influence the Development of Leadership Aspirations (All Scholars)
 - Exhibit 3.6 Personal Characteristics that Influence the Development of Leadership Aspirations (National Scholars)
 - Exhibit 4.1 Scholar Reported Annual Cost of Attendance, by Scholar Type
 - Exhibit 4.2 Scholar Reported Annual Cost of Attendance, by Institution Type
 - Exhibit 4.3 Annual Cost of Attendance, by Institutional Selectivity
 - Exhibit 4.4 Percentage of Scholars Concerned about Financing Their College Education, by Scholar Type
 - Exhibit 4.5 Forms of Financial Aid Assistance Reported among Scholars
 - Exhibit 4.6 Percentages of Scholars Receiving Federal Loans, by Scholar Type
 - Exhibit 4.7 Scholar Reported Educational Expenses Covered by Grants & Scholarships versus Loans
 - Exhibit 4.8 Scholar Reported Anticipated Debt, by Scholar Type
 - Exhibit 4.9 Scholar Reported Anticipated Debt, by Major Field of Study
 - Exhibit 4.10 Percentage of Scholars Reporting Their College Debt is a Limiting Factor, by Scholar Type
 - Exhibit 4.11 Percentage of Scholars Reporting Their College Debt is a Limiting Factor, by Major Field of Study
 - Exhibit 4.12 Percentage of Scholars Reporting Their Undergraduate Degree Will Earn a Desirable Salary, by Major
-

Exhibit 4.13	Scholars' Anticipated Annual Salary in First Job, by Scholar Type
Exhibit 4.14	Scholars' Anticipated Annual Salary in First Job, by Gender
Exhibit 4.15	Percentage of Scholars Indicating Career Considerations to be "Important" or "Essential"
Exhibit 5.1	Horatio Alger Alumni Success in Higher Education
Exhibit 5.2	Importance of Paying off Debt to Career Planning
Exhibit 5.3	Alumni Early Success in Job Market
Exhibit 5.4	College Experience and Environment Factors that Influence Initial Career Success of Alumni
Exhibit 5.5	Alumni Ratings of Job Quality
Exhibit 5.6	College Experience and Environment Factors that Influence Alumni Perceived Job Quality
Exhibit 5.7	Important Career Considerations among Alumni
Exhibit 5.8	Alumni Leadership Aspirations
Exhibit 5.9	College Experience and Environment Factors that Influence Alumni Leadership Aspirations
Exhibit 5.10	Civic Engagement of National Scholar Alumni Compared to State/Other Scholar Alumni
Exhibit 5.11	College Experience and Environment Factors that Influence Alumni Civic Engagement
Exhibit 5.12	Differences in Receiving Public Assistance Benefits among Alumni
Exhibit 5.13	College Experience and Environment Factors that Influence Alumni Financial Stability and Stress

FOREWORD



Almost 20 years ago, former Association Board Chairman Joseph Neubauer laid the foundation for creating a research initiative within the Horatio Alger Association. He felt this was important enough to personally fund the Association’s initial research projects.

Mr. Neubauer has had a lifetime of experience chairing international corporations, universities, hospitals, and nonprofit organizations, and he continues today in “retirement” to chair his family’s foundation. He knows that regardless of the appearance of high-quality and effective programs and services, it is important for Board Members to ask questions such as:

- “Sounds great, but how do we know if these programs are actually working?”
- “Do we have clear measurable goals and objectives for each of these programs?”
- “Who else is offering programs like ours, and should we be collaborating with them?”
- “When will we know if we have achieved our goals?”
- “Are these all aligned with our mission?”
- “Have you looked at the cost/benefit analyses of these programs?”
- “What happens if we can’t afford to do all of these services next year?”
- “Are we basing our work on any research?”

His admiration of and decades of hard work and financial commitment to the Association led him to want to be able to answer those appropriate but often difficult questions. Mr. Neubauer’s first-hand interactions with Horatio Alger Scholars and Alumni had convinced him that the Association was doing an excellent job and making sound decisions, yet he knew that the next steps were to engage experts in the field of education and at-risk youth to carefully examine the premises of the Association’s approach and learn more regarding the influence of resilience and adversity. He wanted verification—or realignment as appropriate—that the programs and services for Scholars were utilizing up-to-date best practices. Through research initiatives, the Association could become the best in class for serving at-risk youth.

Mr. Neubauer’s thinking was correct two decades ago, and it remains true today. Although he knew firsthand of the impact of the scholarship program on young people, he urged the Board to take the steps necessary to add the critical dimension of informed research and program evaluation beyond the testimonials of program participants. With his advice and counsel, the Association identified a cadre of U.S. and Canadian researchers and university faculty who would focus on the important influence of resilience and adversity in determining success in selecting and supporting at-risk youth who wanted to experience the American Dream. The Association

will forever be indebted to Mr. Neubauer for bringing this new dimension to the Association and fostering research initiatives to the present day.

The work of the Research Committee has been featured during presentations at recent annual Membership and Board of Directors Meetings, with counselors, academicians, researchers, and journalists covering educational trends and issues facing current Scholars, and Alumni. The Research Committee continues to publish papers and advise Association staff on refinements and enhancements to programs and services. Also, the Association publishes articles through its *Investing in America's Future* series to update Association Members about current developments in higher education, career and technical training, funding college, and challenges facing at-risk youth.

The Research Committee's work is complemented by the ongoing role of the Strategic Directions Committee of the Board, which works throughout the year to ask thought-provoking questions regarding programs, services, and new initiatives. The Strategic Directions Committee ensures that all the Association's programs are mission-centered and utilizing best practices.

The Association has made significant program changes when merited. For example, during the last decade it became clear that the nation had a void of qualified applicants for some of the most important careers and trades, including medical technology, software development, electricians, plumbers, mechanics, and nursing. All these positions are important, and there are available opportunities that provide an income that can support a family. The Association's response was to create the Career and Technical Education Scholarship Program to assist young people seeking associate degrees and career certification to forge their own paths to the American Dream.

Another major shift involved changing the selection process for the Association's National and State undergraduate scholarship programs. Two years ago, the Association changed the process to award scholarships to juniors in high school, rather than seniors, in order to have a year to prepare students for college. The extra year enables the Association to conduct its College Success Program to provide guidance regarding college selection, financial aid, and study skills. This training is particularly helpful to the many first-generation Scholars who don't have other sources of advice and guidance regarding preparing for college. These enhancements will increase the graduation rates (currently 70% for Horatio Alger Scholars contrasted to 14% for their economic peers nationwide).

Forty years after launching the Horatio Alger Association of Distinguished Americans' first scholarships, which were presented to a handful of bright young people eager to enter college, the Association's aspirations for young people with adversities have reached heights that the founders could never have imagined:

- \$300 million in need-based scholarships to 40,000 students by 2026.
- National, Graduate, and State Scholarships reaching students in every corner of the United States.

- An effective relationship with the Horatio Alger Association of Canada which provides undergraduate and Career & Technical education scholarships throughout Canada and in every province and territory.
- A separately incorporated Horatio Alger Endowment Fund with a goal of \$600 million by 2026.
- Expansion in 2023 of the Dennis Washington Leadership Graduate Scholarship Program which created two tiers of grants: up to \$100,000 for Alumni Scholars, and up to \$250,000 which includes \$50,000 for research or entrepreneurial projects.
- More than 1,000 eligible students applying for Career & Technical Education Scholarships in 2024, and a goal of funding 500 students annually.
- An active Alumni Association of Scholars who are giving back to the Association and its current Scholars through mentoring and volunteering.
- Programs for middle school students to introduce them to entrepreneurship and leadership.
- Specialized scholarships, including the Beacon of Hope Scholarship Program, which reaches out to students who are working their way through immigration challenges or ones who have been impacted by human trafficking.

These remarkably diverse and mission-centered programs have gone beyond the initial scholarships, which provided a check for college and the Association's best wishes for success. Fifteen years ago, the Association's Board of Directors determined that as important as the financial resources are for its Scholars, money is only one of several factors to assist at-risk youth to stay the course to graduation. The Association started focusing on the "whole Scholar" to address their needs on many levels, including mentoring, mental health assistance, a crisis hotline, financial assistance during school breaks, internships, career counseling, courses on preparing for college, and financial planning.

The attached groundbreaking report, *STRIVING UPWARD: From Adverse Backgrounds through Four Years of College*, is a well-researched, in-depth four-year study of the Association's Scholars' Class of 2017 (2017-2021). The Association report documents research and longitudinal data about the impact of its programs and services from the time the Class of 2017 National and State Scholars entered college through their graduation and entry into the working world. The Association can state with confidence what works most effectively and what is needed by at-risk youth to succeed in college and begin their careers.

This is a level of achievement reached by very few nonprofit organizations in the United States. The Association is honored to receive the highest level of recognition by Charity Navigator for its excellence in programs, finance, and management. The addition of a solid research program adds credibility and effectiveness to the work of the Association. The Members and Friends of the Association can take pride in knowing that their investments of time and financial resources are making an extraordinary difference in the lives of Scholars. And, it is a quantifiable and qualitative difference that can be measured.

The Association is indebted to Dr. Gregory C. Wolniak, Dr. Emily C. Chen-Bendle, and Dr. Sarah C. Burman for their dedication and fortitude in leading this study and providing insights to constituents of the Horatio Alger Association of Distinguished Americans to understand the value and importance of the its mission, programs, and services more fully. Dr. Wolniak has been working closely with the Association’s staff, Research Committee, and Scholars for over a decade. We are especially grateful to Dr. Mack Armstrong and Dr. Brian Victor for the decades of leadership and contribution to the educational, scholarship, and research programs of the Association.

From the opening pages of the Executive Summary through the final citations, please enjoy reading STRIVING UPWARD. This study will be especially important to Members of the Association as they reflect on their own early life adversities and those experienced by the young people whom they have helped to achieve their own versions of the American Dreams. The Association’s legacy continues to reach new heights due to the selfless commitment of its Members. The lives of countless young people, their families, and communities are the beneficiaries of Association Members’ generosity.

Terrence J. Giroux is the Executive Director of the Horatio Alger Association of Distinguished Americans.



EXECUTIVE SUMMARY

In fall 2017, the Horatio Alger Association initiated a groundbreaking and cutting edge study of the 2017 Cohort of Scholars. Led by Dr. Gregory Wolniak, Professor at the University of Georgia's Louise McBee Institute of Higher Education, the project is a systematic study of the 2017 Scholars during their transition into, through, and beyond college. Following the same group of Scholars over many years has produced one-of-a-kind data, offering a unique and compelling glimpse into the sources of influence and developmental processes affecting the 2017 Scholars, from the time they began their postsecondary education in fall 2017, through the end of their fourth year in spring 2021.

The distinct value of these data cannot be overstated: the social sciences contains very few datasets as comprehensive and rigorous as those stemming from this effort. Longitudinal designs with multiple assessments of validated measures is the gold standard for studying learning and development in college students. Collecting such information among Scholars across nearly 200 four-year colleges and universities is a notable achievement for the Horatio Alger Association Research Program. The data collected during this study offer valuable information for the Association's ongoing efforts to deliver empirically-informed support to its Scholars, as well as the broader scientific community, yielding numerous contributions to the Association's *Investment in America's Future* series and several peer-reviewed scientific publications in leading, high-impact journals¹⁻⁴.

This executive summary to the *Striving Upward* report highlights key findings across several primary themes. Detailed information on these and other findings, as well as an overview of the research methods employed, can be found in the full report.

The Lasting Influence of Adverse Childhood Experiences

Over four years of college, Scholars' prior exposure to childhood adversity exerted influence on multiple aspects of their lives. These presented both challenges *and* served as motivation.

- The average number of adversities Scholars experienced in childhood is 2.1 (including 2.8 among National Scholars, and 1.9 among State/Other Scholars). Not only did Scholars' exposure to prior adversities differ based on scholarship award, female Scholars encountered slightly more prior adversity than their male counterparts. No notable differences in number of prior adversities appeared between Scholars based on racial identity, or first-generation status.

- For Scholars who had experienced critical financial need in childhood or exposure to the foster care system, its influence on their lives weakened over four years of college. Alternatively, Scholars who had a physical or mental disability prior to college reported an increasing influence of their adversity over the college years.
- Adversity on a global scale emerged in spring 2020, with the onset of the COVID-19 pandemic. When confronted with this new adversity, the resulting overall stress and anxiety Scholars experienced differed by the amount of adversity they had experienced in childhood: Scholars who experienced higher levels of prior adversity reported greater overall feelings of stress and anxiety from the pandemic. In other words, greater exposure to prior childhood adversity aggravated the levels of overall stress and anxiety brought on by this new global adversity. Greater prior exposure to adversity introduced particular challenges related to access to stable housing, and learning course content: across these two areas, encountering more adversity in childhood exacerbated the negative effects of the pandemic.
- Scholars with relatively more exposure to adversity prior to college also expressed greater challenges managing employment demands and financing their education across four years of college.
- While a remarkable 94% of National Scholars and 87% of State/Other Scholars agreed that adversity had increased their motivation to succeed, Scholars who encountered higher levels of prior adversity were even *more* likely to attribute their motivation to succeed to prior adversity. A similar pattern appeared between high levels of prior adversity and inspiration to help others. And Scholars who experienced high levels of prior adversity placed greater importance on careers working for social change early in their first year of college, compared to those with lower levels of prior adversity. This association between high levels of prior adversity and the desire to work for social change grew stronger over four years of college, and offers striking evidence of Scholars' adversarial growth and continued resilience.

Implications

The identification of the particular vulnerabilities, as well as strengths, associated with higher levels of exposure to adversity prior to college can inform the advancement of Scholar support services. The findings uncovered that Scholars with more than two prior adversities before entering college, while exhibiting impressive and inspirational resilience, may nevertheless represent an important group on which to focus new outreach and support. Additionally, our findings suggest that Scholars who have childhood histories of physical or mental disability may be in need of tailored supports during their college years. Unfortunately, existing research offers little insight into how best to support these individuals. However, the research and analyses being conducted based on this study's data may yield important findings that will advance the understanding of how best to support college students with histories of childhood adversity during their college years.

Cultivating Leadership in College

Leadership is central to the Horatio Alger Association’s work. Perhaps nowhere is this more clearly exemplified than through the exceptional achievements of its Members. However, not much is known about the emergence and development of leadership aspirations, particularly among college students, and especially amongst diverse college students with histories of childhood adversity. Examining the leadership development of Scholars holds the promise of enhancing our ability to expand access to leadership positions and broaden the leadership pipeline.

- When Scholars arrived at college, there were already noticeable differences in leadership aspirations between groups: National Scholars, those with minoritized racial identities, and males entered college with *higher* leadership aspirations than their State/Other, White, and female peers, respectively. The differences in leadership aspirations observed at the beginning of college generally persisted throughout college, but to varying degrees.
- When examined over four years of college, the main driver of positive change in leadership aspirations was the extent that Scholars felt a sense of belonging to their campus and community. Sense of belonging exerted a stronger effect than any other aspect of the college experience, including type of institution attended, major field of study, and engagement.

Implications

These findings highlight value in targeted support—such as leadership interventions known to be effective in adolescent and college-aged populations—for Scholars *prior to* the start of their first year of college, and particularly for female Scholars. Once in college, efforts to cultivate Scholars’ sense of belonging (locally, and to the Horatio Alger Association) will enhance growth in leadership aspirations throughout the college years.

Financing College and Costs Considerations

The cost of college remained a barrier to higher education access and attainment. Horatio Alger Scholars are a unique population of students, having already experienced severe financial adversity, making broader trends in college costs an important backdrop against which to examine how Scholars are managing the burdens of paying for college.

- Over time, the percentage of Scholars who indicated “some” or “a great deal” of concern regarding their ability to finance their college education *decreased* from the start of college to the end of their third year (78% to 68%), with a smaller percentage of National Scholars indicating concern when compared to State/Other Scholars.

- Towards the end of the fourth year of college, only 15% of National Scholars and 23% of State/Other Scholars believed that debt would hold them back. However, considerably larger shares of first-generation Scholars expressed concerns about their debt holding them back than continuing-generation Scholars (26% vs. 12%, respectively).
- The Horatio Alger Association Scholarship is making a difference: Across all four years of college, an average of 93% of Scholars indicated they benefited from the Scholarship by needing to take out fewer loans. These trends existed across the full range of Scholars who participated in the study; they did not differ based on Scholarship type received, gender, race, or first-generation status. Additionally, more than nine out of every 10 Scholars indicated that an additional benefit from receiving the Scholarship was a reduced amount of incurred debt.
- With an eye towards future employment, the percentage of Scholars who indicated their undergraduate degree would be enough to earn a desirable salary dropped slightly over time, from 55% in the first year of college to 51% towards the end of their fourth year. While this is a modest decline, it reflects a larger trend of Scholars adjusting their career expectations as they approach the end of their college experience, likely informed by the culmination of internships, work experiences, and even the new economic realities brought on by the COVID-19 pandemic.
- Scholars' anticipated annual salary in their first job after college notably declined over more years spent in college, suggesting that Scholars' awareness of early career salaries and the overall economic landscape sharpened over four years of college. National Scholars anticipated earning more money per year than State/Other Scholars, though anticipated salaries decreased over time for both groups.
- In terms of career priorities, across four years, achieving a stable, secure future was Scholars' highest priority, a view held by more than nine out of 10 Scholars across all four years of college. Work/life balance was the next highest priority, reaching nearly 91% in the fourth year of college. Across all other career considerations, social status and recognition was a priority among the smallest shares of Scholars, expressed among roughly one in four. This highlights Scholars' overall tendency to be driven by stability and security for themselves and their families, rather than by individual or selfish motives. In fact, Scholars' desire to work for social change increased more than the other career considerations across the years spent in college. Time in college instilled in Scholars the desire to cultivate careers that make the world a better place, not through a recognition of one's self or achieving individual status, but in terms of the larger society. Given the adverse backgrounds shared among Scholars, this finding suggests that, for Scholars, time spent in college cultivates a desire to contribute to a better world through one's career endeavors.

Implications

Overall, evidence indicates that Scholars (especially first-generation Scholars and those who received State/Other Scholarships) will particularly benefit from additional financial literacy training on topics like managing student loan debt and financing college. Furthermore, four year trends suggest that Scholars may benefit from a clearer understanding of the employment and earnings prospects associated with different degree programs, and degree programs with stable, secure job prospects in today's economy—particularly those leading to positive change in society. Ultimately, these findings signal a value in informational resources on salaries across different industries for bachelor's degree holders, particularly those industries and job types that align with Scholars' growing desire for careers that affect societal change.

Careers and Community Engagement Beyond College

With the central mission of ensuring the American Dream for future generations, the Horatio Alger Association Scholarship program supports Scholars in overcoming their challenges, completing higher education, and launching successful careers. In the final chapter of the report, data from the 2018 Alumni Survey were engaged to assess if the patterns found over four years of college among enrolled Scholars were also apparent among Scholar Alumni, offering a unique perspective on success in careers and life beyond college.

- While Horatio Alger Association Alumni achieved success in their careers in terms of job attainment and self-reported markers of job quality, success is not equally available to all Alumni; once in the labor market, inequities exist by gender, and particularly by race. For example, when asked to report whether sufficiently high earnings is an aspect of their job, the average score of male respondents exceeded that of female respondents, which was offset by female Scholars giving higher ratings to their jobs in terms of chances to balance work and family/personal responsibilities, as well as job security.
- Alumni were highly engaged in their communities through high levels of mentoring, volunteering, donating, and voting. National Scholars were more often engaged in these behaviors than their counterparts who were State/Other Scholars.
- Several college experiences were positively associated with long-term benefits in employment, including: participating in extracurricular activities, working during college, and mentorship. What's more, holding an internship in college was an important factor in securing a job immediately after graduating from college.
- Several differences also appeared in securing employment and aspects of job quality based on Scholars' major field of study in college. For example, compared to other fields, business majors were more likely to secure a job immediately after graduation and reported higher

average earnings. However, business majors were less likely to report their jobs offered them a chance to engage in socially impactful work, and expressed less job security. Alumni who majored in health profession majors also stood out for reporting greater opportunities to learn new things and engage with new challenges in their post-college jobs.

- Racial differences were persistent across many Alumni outcomes, highlighting important inequities. Alumni with racially minoritized identities experienced disproportionate challenges with respect to home ownership, greater reliance on public assistance, higher levels of debt, and more frequent reports that their student debt was an obstacle for achieving a more fulfilled and happy life. It is also worth noting that National Scholars' outcomes differed from their State/Other counterparts in important ways: National Scholars reported higher rates of homeownership, and lower levels of accessing public assistance.
- Despite the noted challenges, Alumni with minoritized racial identities expressed stronger aspirations to hold leadership positions than their White counterparts. In addition, racially minoritized Alumni had attained graduate degrees at roughly five percentage points higher than White Alumni (43% vs. 38%).

Implications

While overwhelmingly successful in their graduate degree attainment and in securing employment, evidence from Alumni Scholars altogether suggest value in offering tailored support to racially minoritized Scholars, particularly at the point of transitioning from college to the job market. In addition, given the post-college benefits noted above, currently enrolled Scholars may benefit from additional encouragement to participate in extra-curricular activities, internships, and mentorship during college, as well as awareness of the various advantages and disadvantages that different major fields of study in college tend to accompany once in the labor market.

Definitions of Success

The *Striving Upward* report concludes by returning attention to the 2017 Scholars, who were given the opportunity at the end of their fourth year of college to share how they define success in life. Scholars were asked: *what does a successful life look like to you?* Answers to this key question offer a fascinating glimpse into Scholars' values and priorities, in their own words, and effectively summarize many of the findings contained elsewhere in this report. Across the responses of nearly 300 Scholars, recurring themes emerged, highlighting notions of success rooted in:

- Achieving and maintaining a stable life emotionally, interpersonally, mentally/physically, and financially;
- Financial security;

- ❑ Generativity through giving back, helping others, serving one’s community, careers that contribute to positive social change, and providing a better life for one’s children;
- ❑ Career achievement and the opportunity to pursue career goals;
- ❑ Satisfaction in careers, relationships, and with one’s self;
- ❑ Setting, pursuing, and accomplishing goals; and
- ❑ Continued learning.

The following represent a small handful of particularly powerful reflections capturing these broad themes:

“Success is not a destination. It is the active ability to do the work I love while being in community with other passionate individuals. A successful life is where I am able to influence progress, take care of my needs, and support those who have made me who I am today.”

“A successful life to me is where I can make a difference in the world. This can be related to social justice, change, and innovation but I really want to do something worthwhile for my local and global community.”

“A successful life is a life where I do not have to worry about survival and where I am at a position to assist others without sacrificing my ability to survive.”

These and many more critical pieces of information stem from this landmark study. The study itself reflects the Horatio Alger Association’s consistent pursuit of new evidence to inform and advance its support of Scholars. In these and many other ways, the Association, like its Scholars, embodies the theme of *striving upward*.

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CHAPTER 1

CHARTING THE PATHS OF THE 2017 COHORT OF
HORATIO ALGER SCHOLARS ACROSS FOUR YEARS OF COLLEGE

Embodying the spirit of its namesake, the Horatio Alger Association strives to assist young people's ability to rise from humble and often adverse backgrounds to achieve the American Dream, or, "the idea that every citizen of the United States should have an equal opportunity to achieve success and prosperity through hard work, determination, and initiative"¹. By targeting higher education attainment as the key mechanism for overcoming childhood adversity and achieving success and prosperity, the Association advances its mission by providing college scholarship assistance, along with a host of support services and mentorship opportunities, to academically promising young people who have demonstrated integrity and determination. This has been a central charge of the Horatio Alger Association since launching its scholarship program four decades ago, to date awarding more than \$262 million in scholarships to more than 37,000 students.

Importantly, the Association's efforts reach much farther than financial assistance, social and educational support, and mentorship of its Scholars. Since 2011, the Association has sponsored numerous large-scale, rigorous research initiatives to understand and enhance the efficacy of its Scholarship Program, while also contributing original research findings to researchers, policymakers, and practitioners who strive to advance equality of opportunity and postsecondary success for upwardly mobile college students from across the nation. Numerous reports²⁻⁴, topical briefs⁴⁻¹⁶, and peer-reviewed scientific publications¹⁷⁻²⁰ have stemmed from the Association's commitment to scientific inquiry and empirically-informed practice.

At a time when the inequities in college access and postsecondary attainment are receiving tremendous attention²¹⁻²⁵, underscoring the many ways in which our higher education system reinforces advantages of students from higher income families and well-resourced secondary schools, the Horatio Alger Association Scholarship Program offers an encouraging counter narrative. The statistics speak for themselves: the historic attainment rate of four-year college degrees among Association Scholars is 70% compared to 16% among all U.S. students from similarly low-income backgrounds²⁶.

Building on its rich legacy of success, the Association embarked on the bold endeavor to look deeper into the sources of influence and developmental processes affecting Scholars. In fall 2017, the Association initiated a groundbreaking and cutting-edge study of the 2017 cohort of Scholars. The project is a systematic study of the 2017 Scholars during their transition into and through college. Following the same group of Scholars over many years has produced one-of-a-kind data, offering a unique and compelling glimpse into Scholars' pathways, from the time they began their postsecondary education in fall 2017, through the end of their fourth year in spring 2021.

The distinct value of these data cannot be overstated: the social sciences contains very few datasets as comprehensive and rigorous as those stemming from this effort. Longitudinal designs with multiple assessments of validated measures is the gold standard for studying learning and

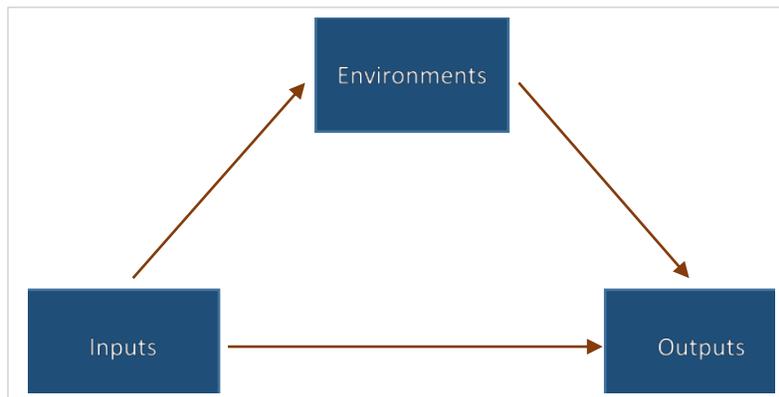
development in college students²⁷. Collecting such information among Scholars across nearly 200 four-year colleges and universities is a notable achievement for the Horatio Alger Association Research Program and provides the data on which this report is based.

Research Framework

This project was grounded in models of college student development²⁸⁻³⁰. Developmental models are useful for framing our understanding of how individuals engage with their educational surroundings when those surroundings may offer numerous differences from one's environment prior to entering college. As students encounter different experiences in and outside of the formal classroom, those experiences contribute to the ongoing development of attitudes, values, and beliefs, and establish the underlying basis for the Inputs-Environment-Outputs (I-E-O) framework for understanding college and its influence on students (See Exhibit 1.1)^{28,29}.

Exhibit 1.1

Framework for Understanding College and Its Influence on Students



Source: Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Development*, 25(4), 297–308.

This framework divides the college experience into three discrete categories: inputs, environments, and outputs. Inputs include sociodemographic characteristics, academic preparedness, and predispositions that students bring with them to campus (such as race, gender, markers of socioeconomic status, prior exposure to adversity, and academic motivation). Environments include institutional climates and specific educational experiences (such as college involvement, working while enrolled, and major field of study) designed to shape students in meaningful ways. Outputs (or outcomes) encompass attitudes (such as student satisfaction and career motivations), aptitudes (such as academic self-efficacy and achievement), and behaviors

(such as persistence and graduation) that students exhibit as a result of going to college. This study was conducted in a manner consistent with the I-E-O framework.

Study Procedures

Data collection

Data were collected through a series of web-based surveys administered across four points in time. First, surveys were administered in fall 2017 to all National and State/Other scholarship recipients as they were just arriving on their college campus for their first semester. Collecting data at this point in time allowed us to gather information from Scholars before their experiences as college students began to inform or influence their responses. As such, the fall 2017 data provide the “baseline” (or “input” characteristics) against which to examine subsequent data collected from the same group of students. We next administered a follow-up survey one year later, in fall 2018, to all Scholars who previously responded to the survey. This timeline for data collection enabled us to examine how Scholars may have changed as a result of their first full year in college. It also enabled us to collect information on the kinds of educational experiences they had during their first year, as well as their attitudes towards careers, among other factors. Similarly, additional follow-up surveys were administered a year-and-a-half later, in spring 2020, to all Scholars who responded to the 2017 “Baseline” survey. A final follow up survey took place in spring 2021, towards the end of Scholars fourth year of college, to all 2017 “Baseline” survey respondents.

The data collection timeline allowed us to continue to examine how Scholars may have changed throughout college, through the end of their fourth year. As the COVID-19 pandemic emerged in spring 2020, at the same time we were collecting follow-up data, we subsequently used the next year’s (Year 4) survey to ask Scholars for information on how the pandemic had affected educational and career plans.

Response rates

Response rates to the surveys administered from September 2017 through July 2021 are summarized below. From the full sample of 839 Scholars who started their freshman year in fall 2017, a final sample of 188 to 260 was needed to achieve at least a 95% confidence level, or a margin of error not greater than 5% for making meaningful comparisons among Scholars within a given year, and across the three time periods³⁰.

Achieving a response rate that yielded at least 260 respondents at each time point enabled us to detect statistically significant differences between the baseline and follow-up surveys, which was essential for uncovering areas in which Scholars changed over their years in college. As shown below, the Baseline (Year 1) survey yielded 527 responses; those served as the sampling frame for all subsequent surveys, which produced 274, 394, and 305 responses across the subsequent follow-up surveys. The overall response rates far exceed most longitudinal survey projects of college students. Exhibit 1.2 presents the survey response rates through four years of college.

Exhibit 1.2

Survey Response Rates (RR) Across Four Years of College

	Population / Sample	Responses	Longitudinal RR	Population RR
Year 1 Survey (Baseline)	839	527	--	62.8%
Year 2 Survey (1 st follow-up)	514	274	53.3%	32.7%
Year 3 Survey (2 nd follow-up)	514	394	76.7%	47.0%
Year 4 Survey (3 rd follow-up)	506	305	60.3%	36.4%

Analysis

The information contained in this report is based on a series of analyses aimed at achieving each chapter’s aims, primarily utilizing descriptive methods to present trends over time, including development (or change) indicated by Scholars’ survey responses across four years of college. In addition, differences were examined across key Scholar characteristics, such as: type of scholarship received (National vs. State/Other), gender, race/ethnicity (e.g., White vs. belonging to a minoritized racial group), first-generation status and, where appropriate, type or amount of childhood adversity experienced. Differences were also tested across survey years in those cases where the same questions were asked (or items measured) across time points in order to identify trends.

Tests for statistically significant mean or percent differences across groups were assessed using *t*, *f*, and *Chi-squared* statistics depending on whether the variables being compared were nominal, ordinal, or interval. We flagged statistically significant differences when presenting the results at three confidence thresholds: 90% ($p < .10$), 95% ($p < .05$), and 99% ($p < .01$)—to highlight where the differences were unlikely to have occurred at random (e.g., 90% confidence indicates less than a 10% chance the particular difference is due to random chance).

In some instances, we employed multivariate statistical methods to isolate the relationship among variables to uncover where certain college experiences, or aspects of the college environment, influence development over Scholars’ time in college, net of (or controlling for) the influence of Scholar characteristics (such as scholarship type received, gender, and the like).

Here again, we focused our discussion of the findings on relationships that reached statistical significance at 90%, 95%, and 99% levels of confidence.

Lastly, in some instances we examined scaled measures based on combinations of individual survey questions (or items). Examples include a 4-item measure of academic motivation (see Chapter 2), and the 9-item measure of leadership aspirations (see Chapter 3). Each scaled measure included in this report was examined for internal consistency (or inter-item reliability, based on the Cronbach's alpha metric) to ensure strong psychometric properties^{31,32}. The individual items contained within scaled measures, as well as inter-item (alpha) reliabilities are presented in the Appendix.

The Report

The remainder of this report is organized by topical themes across four main chapters. Chapter 2 ("The Lasting Influence of Adverse Childhood Experiences") addresses the extent to which Scholars' prior adversities shaped their experiences and orientations towards academic and career success across four years of college. Chapter 3 ("Cultivating Leadership in College and Beyond") explores Scholars' leadership aspirations upon first entering college, and the extent to which those aspirations changed (or developed) during their time in college, as well the college experiences that drove that change. In Chapter 4 ("Financing College and Economic Prospects") we offer an in-depth view of financial circumstances experienced by Scholars, the ways those circumstances contributed to their preparation for careers, and the importance of the Association's financial support. Lastly, Chapter 5 ("Success in Careers and Life Beyond College") focuses on Scholars' lives after college--in terms of careers, community and civic engagement, and quality of life--as well as the extent to which Scholars' experiences in college and histories of childhood adversity are associated with post-college outcomes. Whereas Chapters 2-4 are solely based on the data collected among the 2017 cohort of Scholars over four years of college, Chapter 5 draws from the Horatio Alger Association's 2018 Alumni Survey project in order to extend our understanding of *how* and *for whom* Scholars' undergraduate education has influenced success and well-being years after completing college. The report concludes with Chapter 6 ("Lessons Learned and Future Directions"), where we offer conclusions and implications for the Horatio Alger Scholarship program.

This project is truly a landmark effort, producing a wide range of compelling and critical findings. The study itself reflects the Horatio Alger Association's consistent pursuit of new evidence to inform and advance its support of Scholars. In these and many other ways, the Association, like its Scholars, embodies the theme of *striving upward*.

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CHAPTER 2

THE LASTING INFLUENCE OF ADVERSE CHILDHOOD EXPERIENCES

Supporting the college and career pathways of individuals who have encountered adversity during childhood is a cornerstone of the Horatio Alger Association. This is evident in the honors the Association bestows on its Members through the Horatio Alger Award and lifetime membership, as well as in the undergraduate and graduate student scholarships it provides to students. Notably, the Horatio Alger Scholarship Programs annually assists high school students who have faced and overcome great obstacles in their youth and who have exhibited perseverance in overcoming adversity.

Through our study of the 2017 cohort of Association Scholars, we offer some of the only empirical evidence to date on how adversities experienced during childhood may influence pathways into and through four years of college among students who have already demonstrated resilience through their desire to achieve in education, careers, and other facets of life. Not only did these qualities earn Scholars the support of the Horatio Alger Association, their attitudes, decisions, challenges, and early successes offer a valuable opportunity to better understand how adverse childhood experiences may influence the college journey.

We ground this chapter on two important concepts.

First, we draw from what the Centers for Disease Control and Prevention (CDC) has termed “adverse childhood experiences”, or, ACEs. This is an umbrella term that encompasses “potentially traumatic events that occur in childhood”¹, ranging from things like abuse, to living with one or more people abusing substances, incarceration of a parent or guardian, or experiencing mental illness^{1,2,3}. Prior research has shown that ACEs are alarmingly widespread: reports indicate that 61% of adults have lived through one or more ACE, and 16% have experienced four or more different categories of ACEs¹.

Second, this examination of the influence of childhood adversity among Horatio Alger Scholars was informed by the concepts of adversarial growth and resilience^{4,5,6,7,8}, which are characterized by individual processes in which adverse events may lead to the creation of outcomes better than those prior to the event. Many Horatio Alger Scholars, given their prior encounters with severe adversity within their own childhoods, have already developed resilience, which may provide them with valuable skills (or protective mechanisms) for coping with subsequent life challenges.

Adding to these key concepts, the information presented in this chapter exists within the broader context of the COVID-19 pandemic; the worst global crisis of the last century^{9,10}. The pandemic represents a disruptive global event that exposed unprecedented numbers of individuals to trauma, and its associated psychological, social, educational, and economic effects. Many of these effects resulted from profound disruptions to individuals’ sense of community and connection, in addition to the striking toll taken on individuals’ mental and physical health.

We suggest that adversarial growth and resilience provide a useful lens through which to understand how college students respond to the challenges brought on by the COVID-19 pandemic. It is notable that the 2017 cohort of Horatio Alger Scholars, whom we followed through four years of college, were near the end of their third year of college in spring 2020, when the COVID-19 pandemic led to widespread closure of in-person instruction and campus-based activities¹¹. These unprecedented times place even more value on the evidence stemming from the longitudinal study of the 2017 cohort of Horatio Alger Scholars.

The data reported in this chapter provide new information on the ways in which exposure to adverse childhood events has influenced Scholars as they progress into and through college. The chapter's findings hold particular relevance for higher education practice, policy, and research¹², by offering new information on Scholars' outcomes over four years of college, in relation to their prior exposure to adversity; relationships essentially absent from the existing literature on college students¹³.

Chapter Aims

With this chapter, we present information to address the following broad question: *To what extent do Horatio Alger Scholars' prior adversities shape their experiences and orientations towards academic and career success across four years of college?*

We address this question by presenting data on Scholars' continued encounters with adversity over four years of college; the ways in which prior adversity exacerbates responses to new adversity, while also serving as motivation—both generally and in striving to work for social change; and the extent to which prior adversity may shape the college experience. The chapter concludes by discussing implications for targeted support by the Horatio Alger Association, and the critically important role the Association's research plays in informing our collective understanding of the lasting influence of childhood adversity among college students. As a foundation to subsequent data, we begin by offering a profile of the 2017 Scholars who participated in this study in terms of the type and amount of adversities they experienced prior to college.

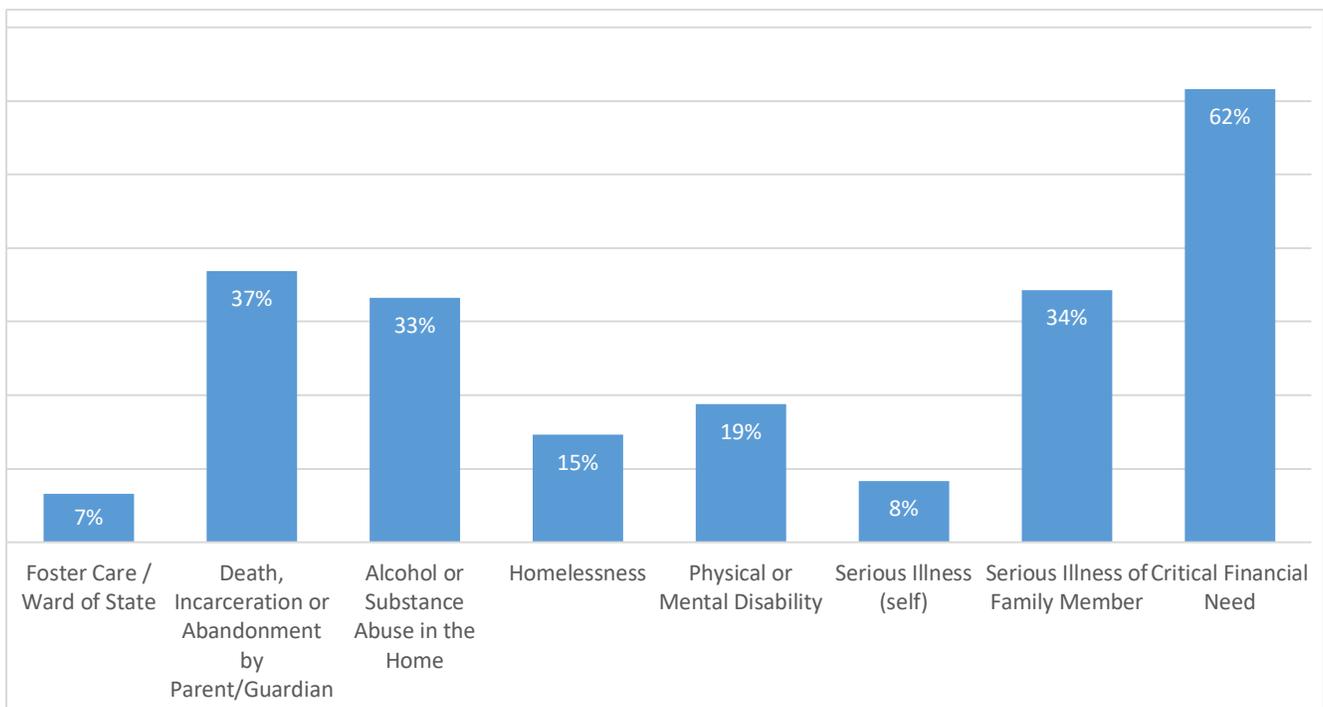
A Portrait of Scholars' Exposure to Adversity Prior to College

To contextualize the influence of prior adversity on Scholars over the course of their college years, it is important to first understand the nature of the adversities encountered prior to college. With the following three exhibits we present the kinds of adversities experienced among the Scholars who participated in this study (Exhibit 2.1) and their number of adverse experiences (Exhibits 2.2 and 2.3).

In terms of the type of prior adversity Scholars confronted before entering college, we see adversities spanning the interpersonal (such as death or incarceration of a parent or guardian), non-interpersonal (such as homelessness or serious illness) and financial domains. In fact, critical financial need was the most pervasive form of adversity, shared by nearly two out of every three Scholars (62%). More than one out of every three Scholars also reported: experiencing the death, incarceration, or abandonment of a parent or guardian (37%); confronting serious illness of a family member (34%); and alcohol or substance abuse in the home (33%). Among the most disruptive and challenging adversities include periods of homelessness (experienced by 15% of Scholars), serious illness of one’s self (8%), and encounters with the foster care system (7%).

Exhibit 2.1

Exposure to Adverse Childhood Experiences Prior to College by Type



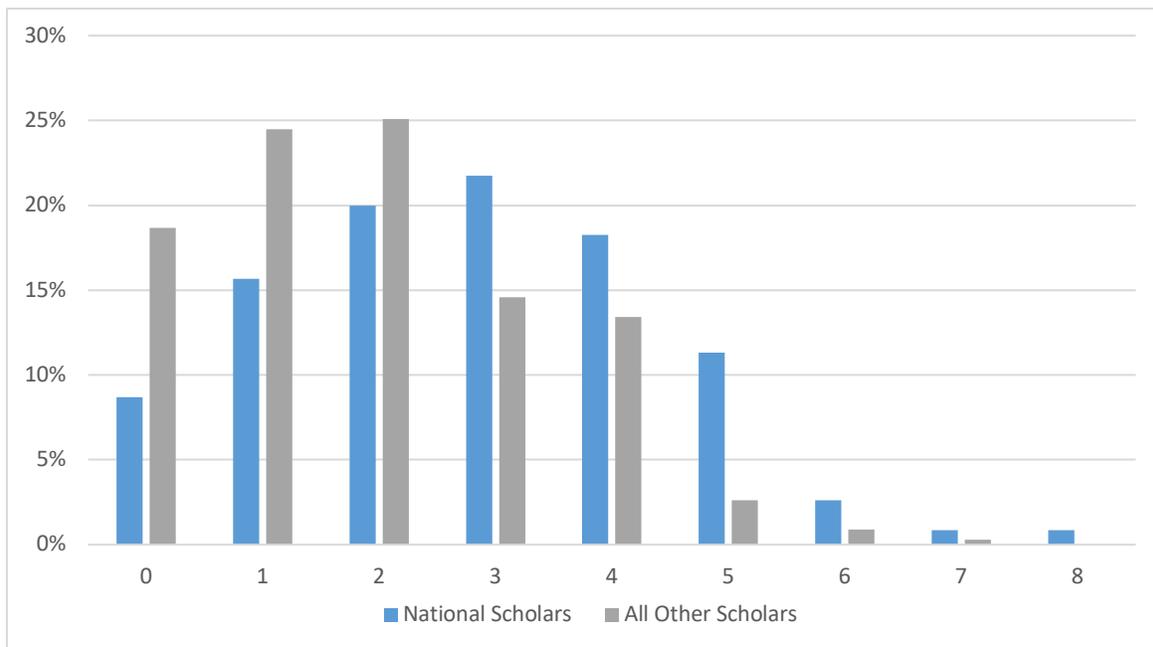
Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Exhibit 2.2 further presents the number of adverse childhood experiences among National and State/Other Scholars, highlighting that National Scholars more often experienced three or more different categories of adversity. In fact, among the 2017 Scholars, the average number of adversities experienced in childhood was 2.1, including 2.8 among National Scholars, and 1.9 among State/Other Scholars (see Exhibit 2.3). The greater number of prior adversities among National Scholars reflects one of the primary aims of the Horatio Alger Association’s Scholarship

program: to select—and thus dedicate the greatest amounts of resources and supports among —young people who have overcome the greatest obstacles in childhood.

Exhibit 2.2

Number of Adverse Childhood Experiences Prior to College



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Not only did Scholars’ exposure to prior adversity differ based on scholarship award, we also found that female Scholars have encountered slightly more prior adversity than their male counterparts (2.1 vs. 1.9, see Exhibit 2.3). No statistically significant differences in prior adversity appeared between Scholars based on minoritized racial identity (vs. White), or first-generation (vs. continuing-generation) status.

Continued Encounters with Adversity Over Four Years of College

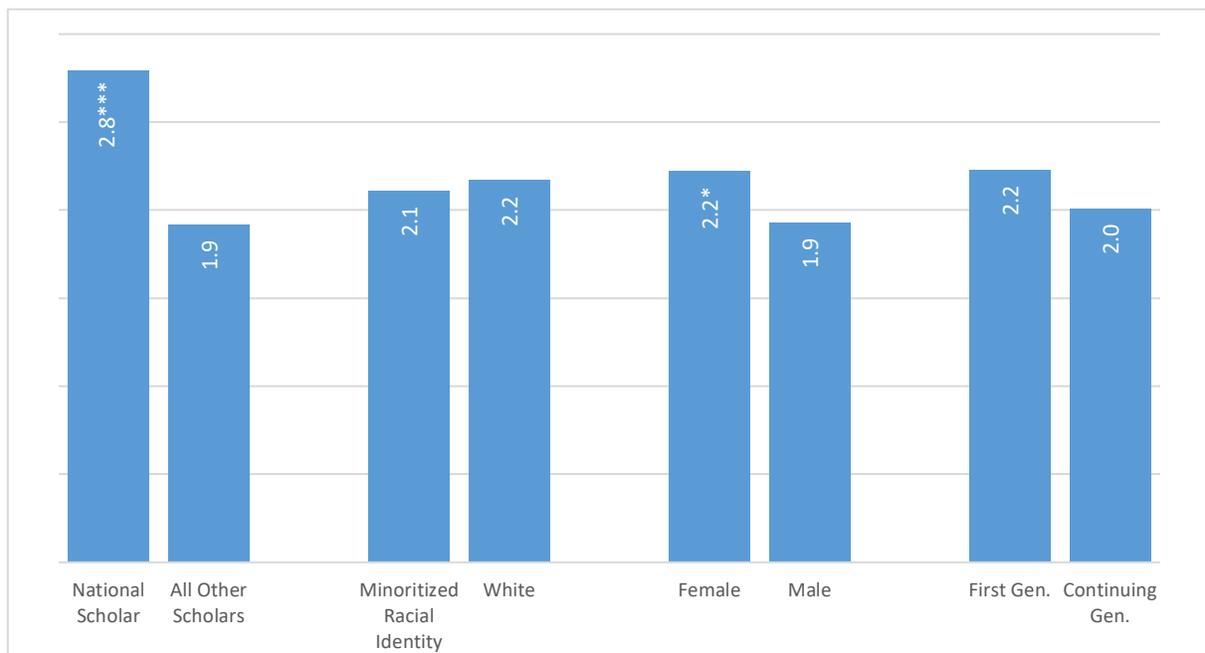
Given the above snapshot of the types and amount of adversity Scholars experienced prior to entering college, it is important to understand the extent to which those adversities continued to influence Scholars as they progress in college. To this end, across all four years of college, Scholars were asked to report on the extent that adversities experienced during high school were still exerting an influence on their lives, on a scale of 1 (Not at all) to 4 (A great deal).

The influence of adversity over time varied based on the type of adversity. In particular, Scholars reported noticeable changes in the influence of three types of prior adversity across the college years. As shown in Exhibit 2.4, the effects Scholars felt from prior encounters with severe

financial adversity and the foster care system diminished the more time that had passed from their youth. However, for Scholars whose adversity involved a physical or mental disability, the influence increased over the four college years. It may be that living with a disability represents an ongoing challenge that is exacerbated by the added responsibilities that accompany the college years.

Exhibit 2.3

Group Differences in Number of Adverse Childhood Experiences Prior to College



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

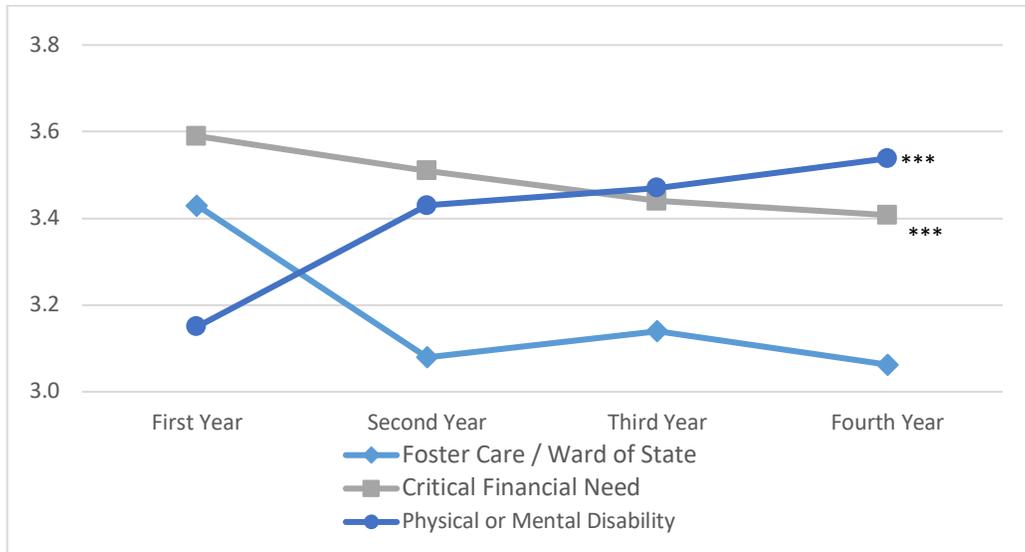
Notes. *Groups differ at a statistically significant level, with 90% confidence ($p < .10$). ***Groups differ at a statistically significant level, with 99% confidence ($p < .01$).

Prior Adversity Aggravates Responses to New Adversity

Adversity on a global scale emerged in spring 2020, with the onset of the COVID-19 pandemic taking place towards the end of the 2017 cohort of Scholars' third year of college. Given the far-reaching societal implications of the pandemic, and Scholars' unique histories of experiencing adversity in childhood, we sought new information on whether Scholars' prior encounters with adversity may have cultivated skills that served as a protective mechanism for coping with the pandemic, or perhaps made them more vulnerable.

Exhibit 2.4

The Changing Influence of Adversities Experienced During High School Over Four Years of College



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

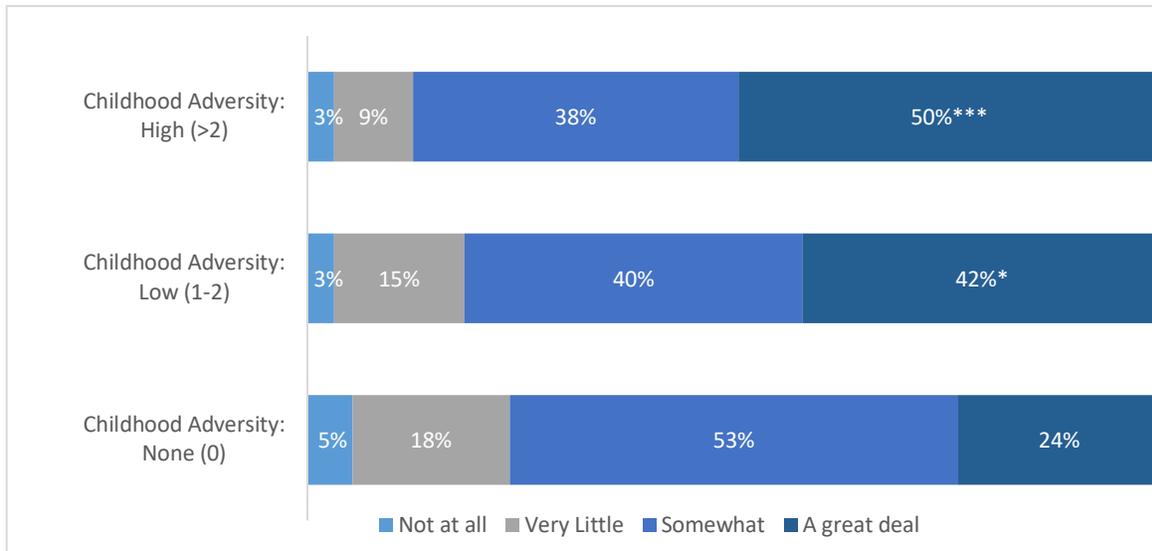
Notes. The influence of prior adversity measure is based on possible values ranging from 1=Not at all to 4=A great deal. *** First Year to Fourth Year differences in the influence of critical financial need and physical or mental disability were statistically significant, with 99% confidence ($p < .01$).

Roughly one year after the onset of the COVID-19 pandemic, and having experienced nearly a full year of college following the widespread disruption that led campuses to close to most in-person activities and pivoting to online or hybrid learning modes, we asked Scholars to report on the extent to which the COVID-19 pandemic increased their overall levels of stress or anxiety. On a scale of 1 (Not at all) to 4 (A great deal), Scholars on average reported sizable increases in stress or anxiety attributed to the pandemic: mean values for all Scholars was 3.2, which was consistent across National and State/Other Scholars.

Notably, when evaluating these pandemic effects based on Scholars' prior adversity, those who had relatively high levels of prior adversity appeared particularly vulnerable. As highlighted in Exhibit 2.5, the percentages of Scholars indicating the pandemic increased their stress or anxiety "a great deal" was significantly greater for those with higher levels of exposure to prior adversity. Fifty percent of Scholars with more than two prior adversities reported a great deal of increased stress or anxiety brought on by the pandemic, compared to 42% and 24% of Scholars who reported lower (1-2) or no prior adversities, respectively. In other words, greater exposure to prior childhood adversity aggravated the levels of overall stress and anxiety brought on by this new global adversity.

Exhibit 2.5

Increased Feelings of Overall Stress and Anxiety from the COVID-19 Pandemic by Level of Prior Adversity



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values are based on the question asked in the fourth year of college: “To what extent has the COVID-19 pandemic increased the overall stress or anxiety you feel in life”. *Relative to Scholars with no childhood adversity, percentages differ at a statistically significant level, with 90% confidence ($p < .10$). ***Relative to Scholars with no childhood adversity, percentages differ at a statistically significant level, with 99% confidence ($p < .01$).

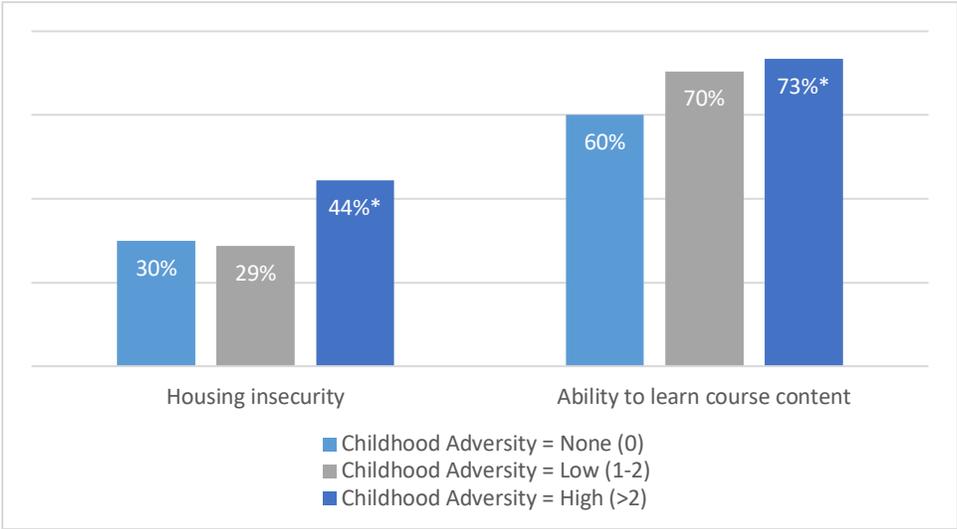
Looking more closely at specific challenges that may have contributed to Scholars’ increased stress or anxiety, Scholars were also asked to identify which aspects of life were most impacted by COVID-19 during the 2020-21 school year. Eighty-two percent, a concerning and sizable share, agreed (moderately or strongly) that their mental health was impacted by COVID-19¹⁴. Majorities also agreed that the pandemic impacted their ability to learn course content (72%), their feeling of being connected to their campus community (68%), their grades (52%), and their physical health (51%). Smaller, though still notable, shares agreed that the pandemic impacted their ability to secure stable housing (35%) and food (34%). These COVID impacts were consistent across National and State/Other Scholars.

When examined against varied levels of prior adversity, important differences appeared in two domains: access to stable housing, and the ability to learn course content. In both of these areas, the challenges brought on by the COVID-19 pandemic were more severe for Scholars with high levels of prior exposure to adversity (see Exhibit 2.6).

Together, these findings indicate that the negative effects of the pandemic were exacerbated by the amount of adversity encountered in childhood. In other words, greater exposure to prior childhood adversity aggravated the levels of overall stress and anxiety brought on by this new

global adversity. Access to stable housing (i.e., housing insecurity), and Scholars’ ability to learn content in their courses, were particular challenges for Scholars with greater prior exposure to adversity.

Exhibit 2.6
*Varied Challenges from the COVID-19 Pandemic
 by Level of Prior Adversity*



Source. 2017-21 Horatio Alger Association Longitudinal Survey.
Notes. The values are based on the question asked in the fourth year of college: “To what extent have the following been impacted by COVID-19 during the 2020-21 school year?” Percentages indicate Scholars who “moderately agree” or “strongly agree”. *Relative to Scholars with no childhood adversity, percentages differ at a statistically significant level, with 90% confidence ($p < .10$).

Adversarial Growth

While Scholars’ prior encounters with adversity introduced new vulnerabilities to some of the negative impacts of the COVID-19 pandemic, prior adversity also serves as a strong motivator, highlighting adversarial growth, and the related concept of resilience. The concept of adversarial growth captures a strengthening of one’s appreciation for life, relationships, and dedication to contribute to positive change following adversity¹⁵. Three particularly compelling sets of findings demonstrate adversarial growth among the 2017 Scholars, including: motivations to succeed and help others; the desire for careers working for social change and giving back to society; and academic motivation.

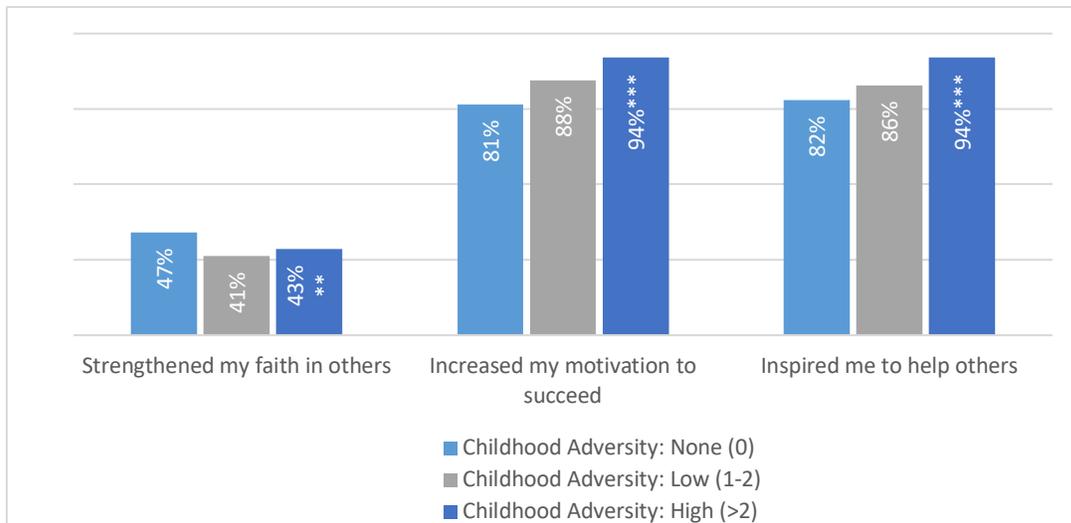
Adversity as motivation

On average over four years of college, the overwhelming majority of Scholars agreed, either moderately or strongly, that adversity has inspired them to help others (87% among both National and State/Other Scholars), and increased their motivation to succeed (94% and 87% of National and State/Other Scholars, respectively). However, roughly half as many Scholars agreed that prior adversity had strengthened their faith in others (45% and 43% of National and State/Other Scholars, respectively), possibly reflecting the interpersonal nature of many of Scholars' childhood adversities. These percentages held steady over four years of college, illustrating a remarkable stability of the influence of childhood adversity.

What's more, we see important differences based on the amount of exposure to prior adversity. As shown in Exhibit 2.7, on average over four years of college, Scholars who had greater exposure to prior adversity expressed stronger agreement that prior adversity served as motivation to help others and to succeed in general. Alternatively, though less pronounced, exposure to more adversity somewhat eroded Scholars' view that adversity has strengthened their faith in others.

Exhibit 2.7

The Motivational Influence of Prior Adversity



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

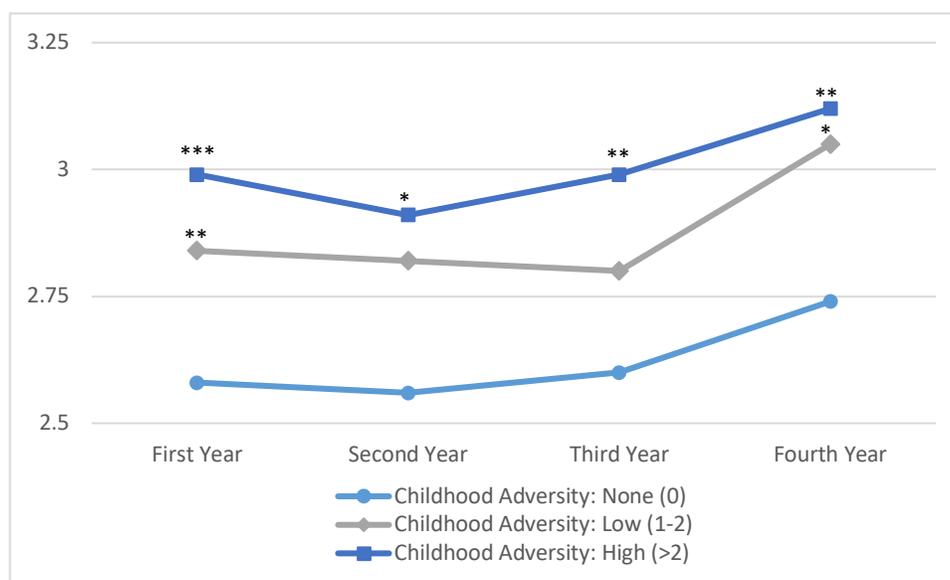
Notes. The values are based on questions asking Scholars their level of agreement that: "My experiences with adversity have [...]." Percentages indicate four year averages of Scholars who "moderately agree" or "strongly agree" with the question. **Relative to Scholars with no childhood adversity, percentages differ at a statistically significant level, with 95% confidence ($p < .05$). ***Relative to Scholars with no childhood adversity, percentages differ at a statistically significant level, with 99% confidence ($p < .01$).

Working for social change and giving back

Complementing the previous findings, Scholars demonstrated adversarial growth when reflecting on their desired career path. During each of their four years of college, Scholars were asked about the importance they placed on working for social change in the context of their careers, with response options ranging from 1 (Not important) to 4 (Essential). A clear pattern emerged: at each time point, Scholars with more exposure to prior adversity assigned greater importance to careers working for social change (see Exhibit 2.8). Furthermore, the value for social change grew stronger over four years in college. While not shown in the exhibit, it is notable that National Scholars placed, on average, even greater importance on working for social change than their State/Other counterparts.

Exhibit 2.8

Importance of a Career Dedicated to Working for Social Change by Level of Prior Adversity



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

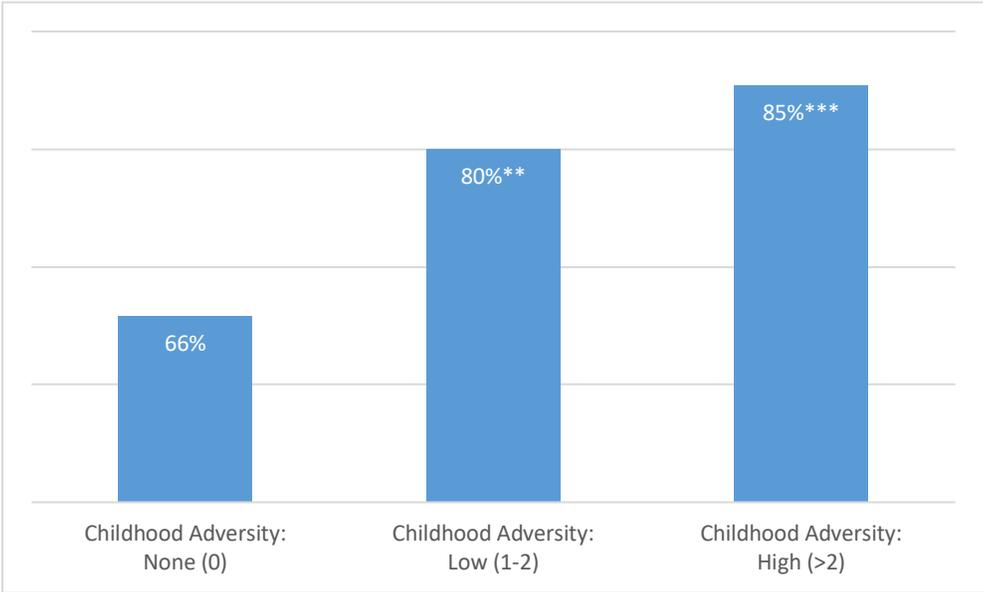
Notes. The values are based on the question asking Scholars: “When thinking about your career path, how important is working for social change?” Response options ranged from 1=Not important to 4=Essential. *Relative to Scholars with no childhood adversity, values differ at a statistically significant level, with 90% confidence ($p < .10$). **Relative to Scholars with no childhood adversity, values differ at a statistically significant level, with 95% confidence ($p < .05$). ***Relative to Scholars with no childhood adversity, values differ at a statistically significant level, with 99% confidence ($p < .01$).

Working for social change was not the only way that Scholars seek to leave their mark. Scholars also reported on how best to “give back,” illustrating the high value placed on generativity. By

the end of their fourth year of college, an impressive 93% of all Scholars agreed (moderately or strongly) that volunteering is the best way to give back, with 89% and 81% pointing to public service and mentoring, respectively. At 67%, a smaller share of Scholars, though still a strong majority, indicated that financial contributions or donations are the best way to give back.

In taking a closer look at Scholars’ views towards giving back, mentoring stood out for being positively associated with prior adversity. At the end of the fourth year of college, percentages of Scholars who agreed that mentoring is the best way to give back was greater for those who experienced more adversity in childhood (see Exhibit 2.9). This may signal a reproductive process whereby Scholars who encountered greater challenges during adolescence may have uniquely benefited from the assistance of mentors, thereby motivating them, years later, to similarly help others in need by offering their own mentorship.

Exhibit 2.9
*Belief that Mentoring is the Best Way to Give Back
by Level of Prior Adversity*



Source. 2017-21 Horatio Alger Association Longitudinal Survey.
Notes. The values are based on the question asked in the fourth year of college: “The best way to give back is through mentoring”. Percentages indicate Scholars who “moderately agree” or “strongly agree”. ** Relative to Scholars with no childhood adversity, percentages differ at a statistically significant level, with 95% confidence ($p < .05$). ***Relative to Scholars with no childhood adversity, percentages differ at a statistically significant level, with 99% confidence ($p < .01$).

Academic motivation

A third area where adversarial growth appeared among the 2017 Scholars was in terms of their college experience in general, and particularly in their motivation to work hard and do well academically. The evidence that emerged is both subtle and encouraging.

The subtle finding stemmed from examining associations between levels of adversity experience prior to college and several markers of academic success: findings indicate a *lack* of differences based on prior adversity in Scholars' academic progress (in terms of taking a leave of absence or "stopping out"), involvement in clubs or activities, feeling a sense of belonging to their campus community, or in their confidence in their academic ability (e.g., academic self-efficacy). In other words, Scholars were not differentiated across these important academic indicators based on their level of exposure to prior adversity, suggesting that prior adversity may not serve as a substantial academic impediment in college.

A more direct and encouraging finding appeared with respect to Scholars academic motivation. Academic motivation represents a willingness to work hard in courses to learn the material, attributing success to preparation, assigning importance to getting the best possible grades, and overall enjoyment of learning. Based on a combined measure of four different survey questions (with a range of possible values from 4 to 20), by the end of their fourth year of college, Scholars with higher levels of prior adversity demonstrated stronger academic motivations (see Exhibit 2.10). What's more, these adversity-based differences in academic motivation emerged over four years in college: no such differences existed at the beginning of college.

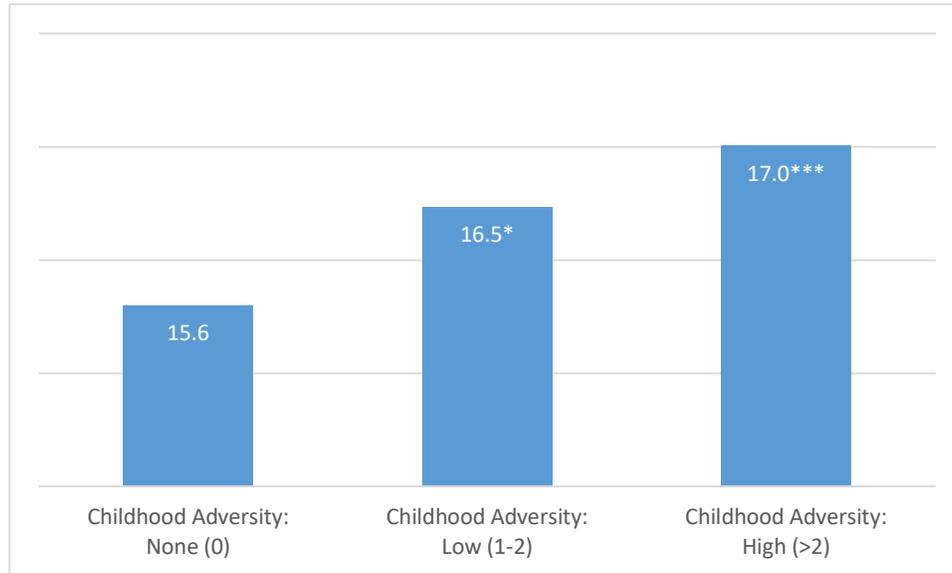
Ultimately, across a number of college experiences, attitudes, and indicators of academic progress, prior adversity did not appear to be a lasting impediment. In fact, as they spent more time in college, Scholars' past experiences with adversity facilitated their motivation to work hard, strive to achieve, and enjoy academics, offering more compelling evidence of adversarial growth in Scholars.

Supporting Students with Prior Adversities

A core mission of the Horatio Alger Association's Scholarship Program is to provide meaningful support to promising college students to enable them to overcome significant challenges and pursue the American Dream. Through their encounters with adverse childhood experiences, Horatio Alger Scholars are distinguished by their resilience in the years leading into college. By examining data on the 2017 Scholars over four years of college, with specific attention on ways in which Scholars' prior adversities have shaped their college experience and orientations towards academic and career success, the evidence presented above offers new information to inform and advance the Association's support of its Scholars.

Exhibit 2.10

Academic Motivation at the End of the 4th Year of College by Level of Prior Adversity



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on a 4-item Academic Motivation scale, with possible values range of 4-20. *Relative to Scholars with no childhood adversity, values differ at a statistically significant level, with 90% confidence ($p < .10$). ***Relative to Scholars with no childhood adversity, values differ at a statistically significant level, with 99% confidence ($p < .01$).

The data indicate the lasting effects of prior adversity differs by the nature or type of adversity encountered. For example, the effects Scholars reported on their current lives from experiencing severe financial adversity and from exposure to the foster care system diminished as more time elapsed from their youth. Alternatively, Scholars whose adversity involved a physical or mental disability reported increasing influence over the four college years. It may be that living with a disability represents an ongoing challenge that is exacerbated by the added responsibilities and challenges that accompany the college years. This knowledge suggests the Association may target Scholars who enter college with a physical or mental disability with supports tailored to mitigating these Scholars' unique challenges, and concentrate particular attention across four years of college. For these students, the challenges of their disability appear to increase over the college experiences and warrants sustained outreach and assistance.

In addition, exposure to greater numbers of prior adversities, particularly more than two adversities, differentiates Scholars in several important ways. These include greater challenges brought on by the COVID-19 pandemic, in terms of feelings of stress and anxiety, accessing secure housing, and learning content offered in their college courses. Greater exposure to prior adversity may also impair Scholars' faith in others. The Association may use this information to

concentrate its support, particularly in times of national crisis, on Scholars with more than two adverse childhood experiences.

While exposure to more adversity prior to college introduces vulnerability, it also drives resilience, offering compelling evidence of adversarial growth. Scholars with more exposure to prior adversity demonstrated greater motivation to succeed and help others as a result of their adversity. Scholars with more exposure to prior adversity were also differentiated by more fervent desire to work for social change, to give back through mentoring others, and to achieve academically. These Scholars are uniquely well suited to take on leadership roles in mentoring and other generative activities within the Horatio Alger Association during college and as Alumni.

To date, research on how to best serve college students with histories of childhood adversity is remarkably scarce, particularly in light of the prevalence of childhood adversity in the U.S. As a result, while there are clear needs to support students who have histories of certain types of exposure to childhood adversity, there is a pressing, tangible need to better understand *how* to better support these students. The Horatio Alger Association's support of the 2017-21 Horatio Alger Association Longitudinal Survey fills a critical need which promises to unearth practical interventions and supports for students with adverse histories. Subsequent analyses and research drawing on these data has the potential to have profound impact on the trajectories of individuals with adverse childhood experiences.

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CHAPTER 3

CULTIVATING LEADERSHIP IN COLLEGE AND BEYOND

Leadership is central to the Horatio Alger Association's work. Perhaps nowhere is this more clearly exemplified than through the exceptional achievements of its Members, who have risen to become leaders on both national and international stages.

At the heart of the Association's efforts is a longstanding commitment to the development of future potential leaders, supporting them directly through scholarships, mentoring services, and programs specifically targeting their professional development. This is critical support.

It is well documented that individuals of minoritized racial/ethnic identities and women have long been underrepresented in leadership roles, suggesting persistent problems in the pipeline to leadership^{1,2}. This creates problems for organizations, resulting in leaders who do not represent those that they lead, not to mention those they govern, teach, or sell products or services to. Equally concerning, broken leadership pipelines result in inequitable access to leadership and leadership development opportunities. For example, only 27% of the 117th Congress identifies as female, 30% of college presidents were women (as of 2016), and only 23 women were running Fortune Global 500 businesses in 2021^{3,4,5}. Yet, collectively, we do not know a great deal about how leadership develops, especially amongst students from diverse backgrounds, and all the more so for those who have histories of adversity prior to college.

Quite possibly no one understands better than Horatio Alger Members the value of ambitions and hope in the pursuit of becoming a leader. For many, leadership aspirations are a critical force motivating an individual to pursue leadership and leadership development opportunities, and therefore is an important piece of the leadership pipeline puzzle.

A better understanding of leadership aspirations amongst college students, as well as the factors and interventions that enable the development of leadership aspirations, is particularly meaningful for the Horatio Alger Association and its Scholars. Examining the leadership development and leadership opportunities of Horatio Alger Scholars holds the promise of enhancing our ability to expand access to leadership positions, and ultimately begin to address the leadership pipeline problem.

Chapter Aims

This chapter aims to shed light on the following questions:

- To what extent do Horatio Alger Scholars have leadership aspirations when they first enter college?
- In what ways do Horatio Alger Scholars' leadership aspirations change during their time in college, and what experiences influence that change?

By addressing these questions, we offer a robust perspective on the challenges and opportunities Horatio Alger Scholars are presented with as they consider their ambitions for future leadership positions, the important role of belonging in nurturing these aspirations, and the evidence suggesting that what happens before college is critical to the development of leadership aspirations. In the sections that follow, we offer insight into research on leadership, including conflicting definitions of leadership and findings on the development of leadership. We next present data about Horatio Alger Scholars' leadership aspirations, both at the beginning of college, and through four years of their studies. Finally, we share findings about the development of leadership aspirations, and how the Horatio Alger Association and its supporters might be uniquely well positioned to support the growth of Scholars' ambitions to lead.

What is “Leadership?”

A fundamental challenge to cultivating or developing leaders and leadership tendencies is that multiple definitions and approaches to leadership abound. Well-known among these are concepts like transformational leadership^{6,7} and servant leadership⁸, which center on a single leader and focus on the role that an individual plays in motivating or leading other individuals or groups. In addition, other models, including distributed leadership⁹ and the social change model of leadership^{10,11} portray leadership as a collective process¹¹. To add to the complexity of prior investigations into the nature of leadership is the concept of a “positional leader.” When we think of leaders, it is often these people we think of: people in roles commonly recognized as “leadership” roles within companies, governments, nonprofits, and other kinds of organizations, who often manage other people, direct activities, or are promoted to the top.

One helpful way to think about the development of leaders was proposed by a research psychologist, David Day, whose scholarship is largely focused on leadership. Day distinguished between *leaders* and *leadership*, noting that *leader* development refers to the development of individuals who will ultimately lead^{12,13}. This matters because often when people refer to leadership development in everyday conversation, they are imagining the development of a single person, whereas researchers who study leadership frequently refer to a process that has more than a single individual involved, adding confusion about what specifically is being developed. These discrepancies in what “leadership” means are compounded by concerns that some definitions of leadership have a particularly “masculine” orientation¹⁴, which may be disadvantaging or alienating future generations of female leaders.

How is Leadership Developed?

Formal, institutional efforts to develop leaders and leadership are prevalent in colleges and universities. In fact, proliferation of leadership-related undergraduate degree programs was

documented as early as the mid-2000s¹⁵. Existing evidence suggests formal leadership development programs, both within and beyond college, play a valuable role in cultivating leadership. In fact, researchers have found connections between leadership development and formal certificate programs¹⁶, between self-confidence and interpersonal skills and formal leadership programming¹⁷, and between increased leadership behavior and college leadership programming¹⁸. Yet, formal leadership programs are not the only aspects of college that influence students' leadership development. Leadership seems to develop differently dependent on choices like college major¹⁹, and experiences like faculty and peer interactions²⁰.

Despite the proliferation of leadership focused education, and some evidence suggesting its effectiveness, concerns remain that these formal efforts are not well understood from a scientific standpoint, and may not be adequately serving all potential leaders. This is a particular worry when it comes to college women²¹, and those not from privileged backgrounds²². This concern is especially acute for Horatio Alger Scholars, who largely arrive on campus without many of the resource advantages of their peers from across the nation.

It may be that one understudied aspect of leadership development—leadership aspirations—offers critical clues to better understanding the inequalities that plague the leadership pipeline. It seems entirely possible that differences in who becomes a positional leader may be the result of the ambitions related to taking on such a role. In fact, there is evidence that inequalities exist even in aspirations for leadership. For example, gender differences in leadership aspirations have been observed for decades^{23, 24, 25, 26, 27}. One team of researchers who study girls' and women's leader development have proposed that “socialization around gender and leadership may also affect girls' and young women's aspirations for leadership”²¹ (pp. 36-7).

To better understand the leadership aspirations of Scholars, we have been collecting data about their leadership ambitions over the course of four years of college. Specifically, we collected data on Scholars' interest in positional leadership within a career path²⁸, addressing questions such as the degree to which, for example, Scholars are interested in managing teams. In the following sections, we present and discuss compelling findings from these data, offering insight into the influence of personal characteristics and experiences on leadership aspirations and their development.

Horatio Alger Scholars' Leadership Aspirations at the Start of College

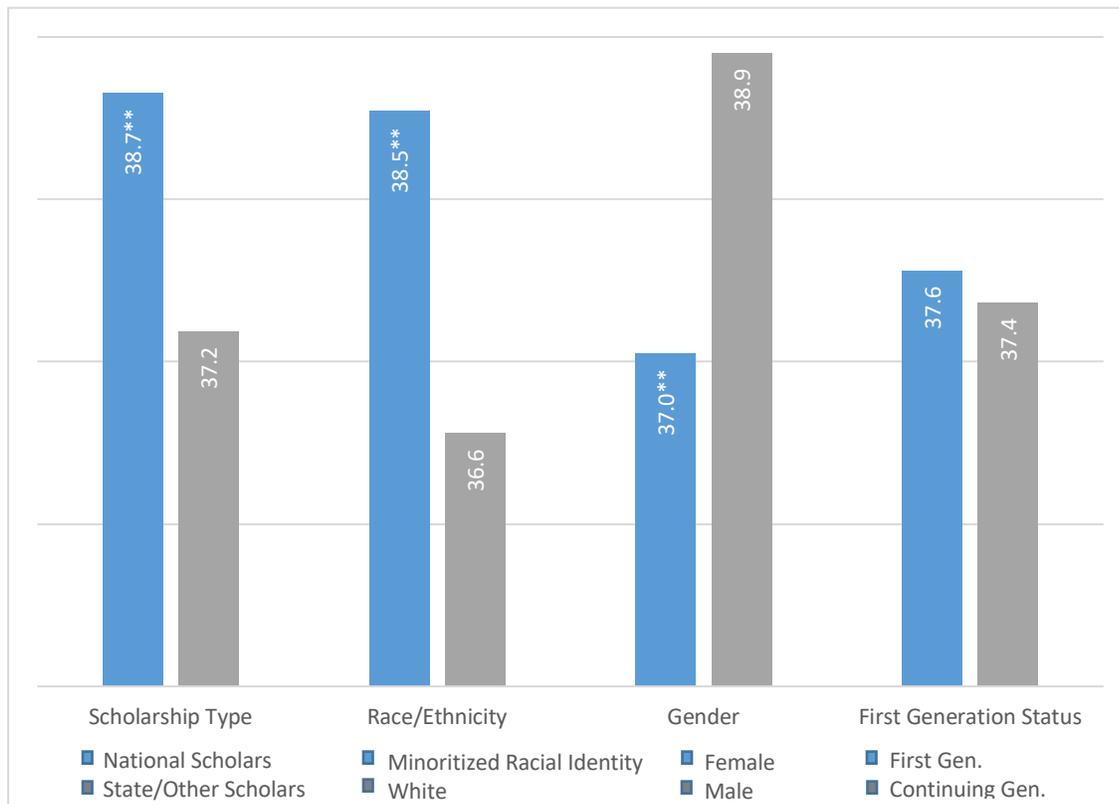
When examining the Horatio Alger Scholars at the start of college, before their exposure to higher education would have exerted influence, we uncovered several notable differences in the leadership aspirations among Scholars. Exhibit 3.1 presents several such differences.

There were noticeable differences in the leadership aspirations of recipients of the Horatio Alger National Scholarship when compared to State/Other Scholars, in which the leadership aspirations of National Scholars at the beginning of college were much higher than those of the other Scholars. This may reflect the Association’s award selection process that favorably evaluates forms of engagement during high school, which likely help to cultivate leadership aspirations among those who ultimately were awarded the National Scholarship relative to State/Other Scholars.

In addition, on average, Scholars with minoritized racial identities expressed leadership aspirations that exceed those of their White peers. Furthermore, female Scholars started college with lower leadership aspirations than their male counterparts, while leadership aspirations of first-generation college students were similar to those of their continuing-generation peers.

Exhibit 3.1

Leadership Aspirations at Start of College



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on a 9-item Leadership Aspirations scale, with possible values range of 9-45.

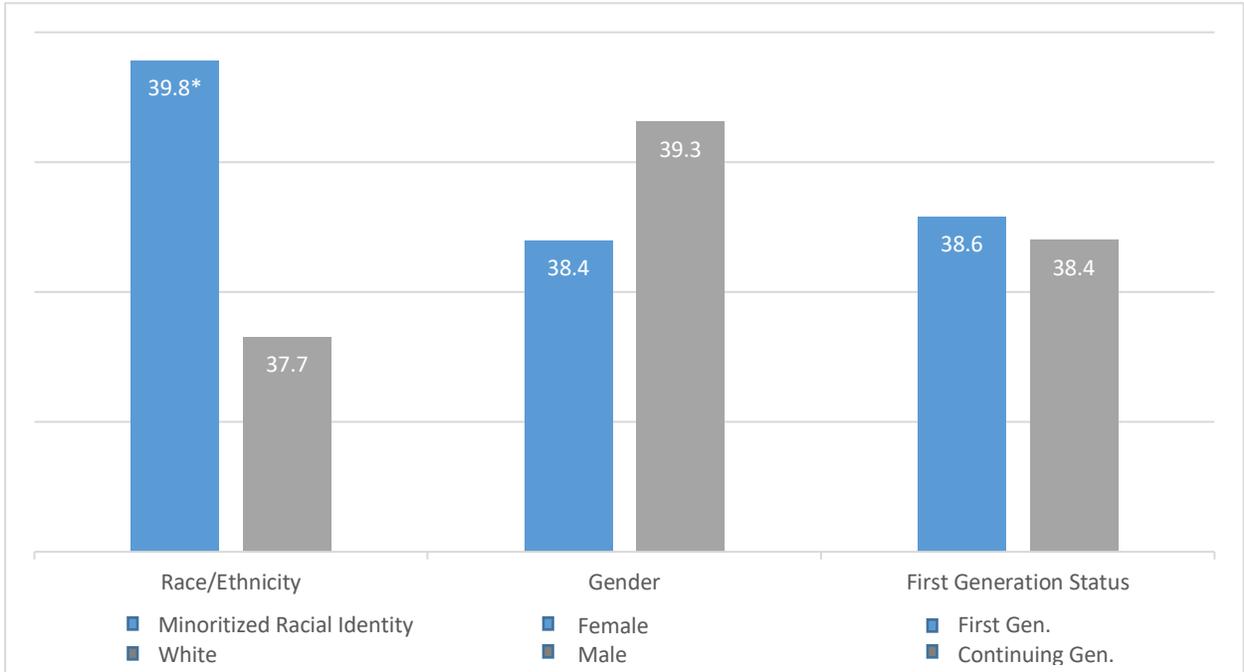
**Groups differ at a statistically significant level, with 95% confidence ($p < .05$).

A Closer Look at National Scholars’ Leadership Aspirations at the Start of College

While National Scholars had higher leadership aspirations at the start of college than other Horatio Alger Scholars, a closer comparison of the leadership aspirations among National Scholars indicated differences in leadership aspirations within this group. As is shown in Exhibit 3.2, among National Scholars there was a difference in leadership aspirations of racially minoritized Scholars and White Scholars, indicating relatively strong leadership aspirations among Scholars who identify as belonging to a minoritized racial group. We uncovered no statistical evidence of gender- or first-generation-based differences among National Scholars.

Exhibit 3.2

National Scholars: Leadership Aspirations at Start of College



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on a 9-item Leadership Aspirations scale, with possible values range of 9-45.

*Groups differ at a statistically significant level, with 90% confidence ($p < .10$).

Importantly, these differences in leadership aspirations at the beginning of college suggest the need to better understand what is happening before this promising group of students arrives on their college campuses. Findings from prior research point to high school experiences, academic performance, and pre-college family dynamics as influential factors in leadership development^{29,30,31}. Furthermore, new emerging research suggests that adolescence, with all of its potential for individual change and exploration, is a moment particularly ripe for the development of leadership³², indicating opportunities for mentoring and leadership programming

that helps high school students with histories of adversity better understand their own potential for leadership. In fact, the Horatio Alger Association has long understood the importance of supporting Scholars even before they step foot on a college campus, offering valuable support in the college selection process, and programs to set Scholars up for success once they enter college.

Differences in Horatio Alger Scholars’ Leadership Aspirations over the College Years

While there were notable differences in leadership aspirations among Scholars at the beginning of college, many of those differences persist throughout the college years. In other words, exposure to college, in many cases, did little to counteract differences that existed at the start of college. For example, the entering college advantages in leadership aspirations between National Scholars and State/Other Scholars remained largely consistent over four years of college (see Exhibit 3.3). Here again, this may reflect the efficacy of the Scholarship program’s selection criteria.

Exhibit 3.3

Differences in Leadership Aspirations over Time, by Scholarship Type



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

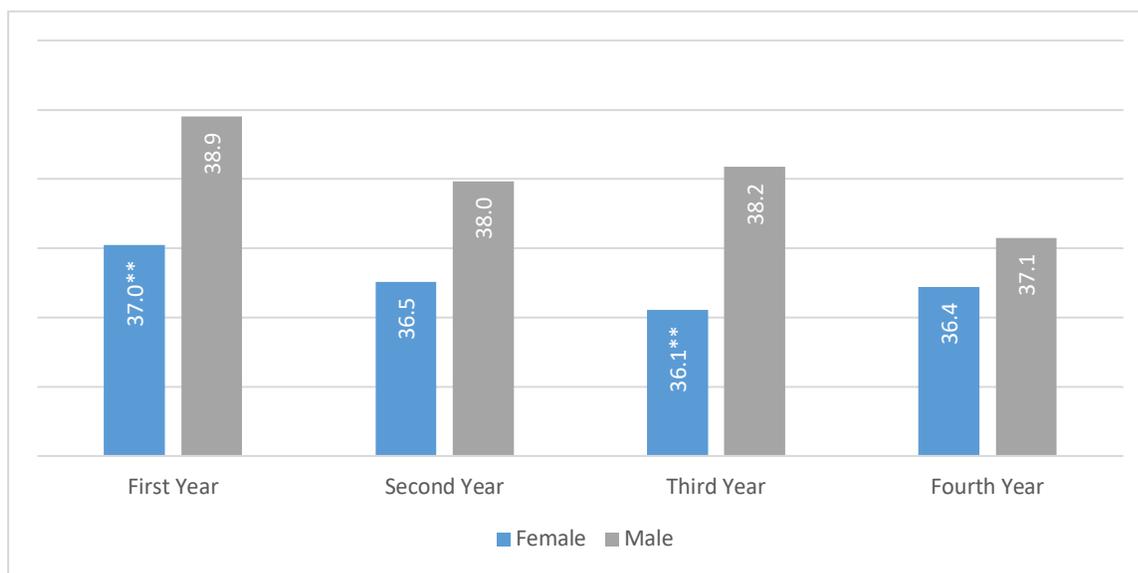
Notes. The values shown are based on a 9-item Leadership Aspirations scale, with possible values range of 9-45.

*Groups differ at a statistically significant level, with 90% confidence ($p < .10$). **Groups differ at a statistically significant level, with 95% confidence ($p < .05$).

Additionally, Exhibit 3.4 portrays the continued differences between female and male Scholars in leadership aspirations, which were most pronounced in the first and third year of college. The leadership aspirations of female Scholars continued to lag those of their male peers in the third year of college, suggesting the possibility that post-secondary institutions were not addressing the lag in leadership aspirations amongst their entering female students. This highlights a significant opportunity to better cultivate the ambitions of this group of students.

Exhibit 3.4

Differences in Leadership Aspirations over Time, by Gender



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on a 9-item Leadership Aspirations scale, with possible values range of 9-45.

**Groups differ at a statistically significant level, with 95% confidence ($p < .05$).

Similarly, the differences in Scholars’ leadership aspirations based on racial/ethnic identity also appeared to persist over time. Importantly, we saw evidence that higher leadership aspirations of Scholars who identified as coming from a racially minoritized background exceeded those of their White peers at the start of college, and those differences did not notably change over four years of college.

When focusing solely on National Scholars we saw a somewhat different pattern, including no evidence of differences in leadership aspirations based on first-generation status or gender, and no evidence that the racial/ethnic difference in leadership aspirations among National Scholars beyond the first year. This suggests that the relatively high levels of leadership aspirations among National Scholars was robust, with little variation across sociodemographic characteristics like gender, race/ethnicity, and first-generation status.

In summary, the groups that had the most persistent difference in leadership aspirations across all four years of college are National Scholars as compared to all other Horatio Alger scholarship recipients. The differences in leadership aspirations between male and female Scholars, as well as differences in aspirations of White Scholars and those identifying as racially minoritized, were apparent as college progressed, primarily when all Scholars were examined as a single group. However, when examining trends among National Scholars, these differences were not apparent. The selection criteria for the National Scholarship seems likely to have played a role in these findings.

Factors that Influence Horatio Alger Scholars' Leadership Aspirations during College

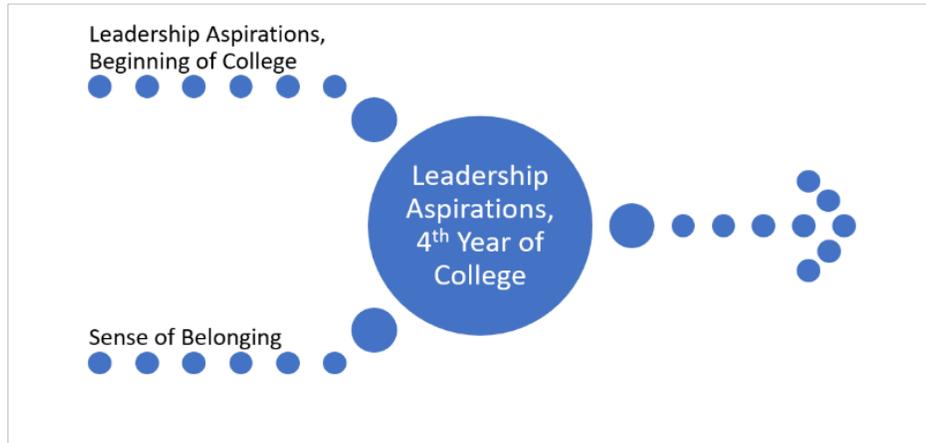
While the differences in leadership aspirations for Scholars offer some insight into what happens over four years of college, important questions remain in terms of what aspects of the college experience might promote—or discourage—the development of leadership aspirations. College, after all, is often understood to be an important period of growth and change for students. What might help with the development of these important aspirations and ambitions? What, if any aspects of the college experience might play a helpful role in leadership aspiration development?

Certain experiences or elements of the college environment may influence the development of leadership aspirations. We investigated this possibility by examining factors including major, feelings of campus belonging, institutional selectivity, and whether the institution was public or private. We also included experiences that were plausibly connected with leadership development, including holding internships, employment while in college, and serving as a mentor.

From these analyses one critical factor stood out: the more Scholars felt a sense of belonging on their campus, the more they developed leadership aspirations over four years of college. This finding suggests an important role that feeling a part of a community plays in motivation, forming aspirations, and cultivating hope. And it offers compelling insight into programming and interventions that could support Scholars' ongoing success. In other words, what matters most to the development of Horatio Alger Scholars' leadership aspirations is their leadership aspirations when they arrived at college, and their sense of belonging on the college campus. This notion is visually represented in Exhibit 3.5.

Exhibit 3.5

Factors that Influence the Development of Leadership Aspirations (All Scholars)



Development of National Scholars' Leadership Aspirations during College

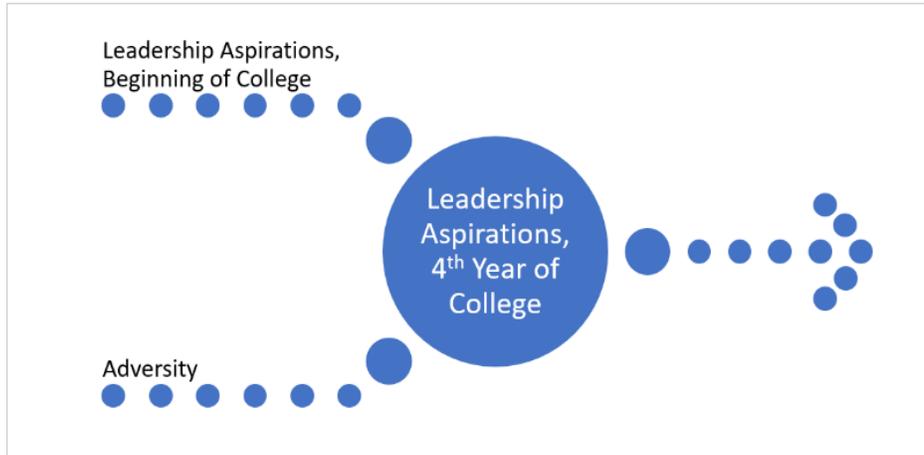
Taking a closer look at the factors that play a role in the development of leadership aspirations among only National Scholars yielded slightly different results from those previously discussed among all Scholars. We examined the personal characteristics of National Scholars that were linked to the development of leadership aspirations, and found that along with their leadership aspirations at the beginning of college, the number of adverse childhood events that National Scholars were exposed to was also connected to the development of their leadership aspirations. Specifically, the more adverse events National Scholars were exposed to in childhood, the less their leadership aspirations developed during college (as depicted in Exhibit 3.6). This is a disheartening finding, pointing to the long-lasting negative repercussions of childhood adversity. The fact that this factor was influential for National Scholars, but not Scholars as a whole, merits further examination as to *why* this may be occurring. Yet regardless of cause, it suggests that there may be an opportunity to offer additional support or leadership-based programming for those National Scholars who were faced with greater numbers of adversities in their childhood, offering actionable insight into programming to support this high-potential group of Scholars.

Finally, it is important to note that the college experiences of the Scholars we studied were marked by the COVID-19 pandemic, related campus closures, and use of emergency remote teaching that initially occurred in the spring semester of Scholars' third year of college³³. This seems likely to have had a meaningful effect on students as individuals, with additional ramifications for the perceptions of belonging within the college environment and experiences which may have otherwise led to growing aspirations for leadership roles, such as opportunities

for internships, employment, and mentoring others. These data offer timely and salient insight into the development of leadership aspirations among Scholars.

Exhibit 3.6

Personal Characteristics that Influence the Development of Leadership Aspirations (National Scholars)



Supporting the Development of Horatio Alger Scholars' Leadership Aspirations

In the formative moment of a Scholar's college years, development of leadership aspirations can be an important factor that can change the trajectory of their future careers and lives. We know, for example, that differences in leadership identity, a related concept, have implications for women's career outcomes later in life³⁴, and that teenage ambition is linked to later earnings²³.

As a community of leaders who dedicate their time, resources, and energy to supporting these high potential youth, the Horatio Alger Association is in an excellent position to ask: what can be done to encourage the development of Scholars' leadership aspirations? Several important findings from research supported by the Horatio Alger Association offer valuable information for how to best focus efforts.

First, when Scholars arrive at college, there were already noticeable differences in leadership aspirations between groups, including between National Scholars and all other Scholars, between racial/ethnic groups, and between genders. These differences persisted throughout college to varying degrees.

Second, the development of leadership aspirations during college was influenced by a single factor above all others: the sense of belonging that the students experience once at college.

These findings have several implications for how to best refine programming to ensure resources are being spent as strategically as possible, as follows:

(1) Target programming to female Scholars

The leadership aspirations of female Scholars lagged those of their male peers. What is perhaps worse, these differences persisted as college progressed. This is particularly concerning in light of the dearth of female leaders in organizations ranging from government³ to post-secondary institutions⁴, to businesses⁵. If this is a leadership pipeline problem, then the Horatio Alger Association and its Members have the unique opportunity to act, with programming that focuses on developing leadership aspirations targeted to female Scholars. In fact, many of Horatio Alger's Scholar Services that are already in place have the potential to serve this purpose.

(2) Support future potential Scholars before they even arrive on campus

One of the most influential factors in the development of leadership aspirations during college was the Scholars' leadership aspirations before they get to the college campus. This suggests a need for programming that targets Scholars before they even arrive at college. Recent changes to the Association's Scholar selection, in which Scholars are selected in their junior rather than senior year of high school, positions the Association particularly well to respond to our findings. Outreach already offered to this group of future Scholars through pre-college success seminars would open the doors to future opportunities to include programming focused on leadership.

In fact, prior research highlights the malleability of personal identity during adolescence, making it a potentially pivotal moment in an individual's life to identify or develop leadership: adolescents may be more receptive to conceiving of themselves as leaders than later in life³². Because adolescence represents a critical developmental period for leadership development, it has enormous implications for early identification of youth with early leadership potential (i.e., selection) and facilitation or development of leadership capacity (i.e., intervention). Current efforts to develop early entrepreneurial leaders led by Northwestern University's Dr. Jennifer Tackett highlight the potential that is unlocked by enhancing self-knowledge earlier in life. A better (and scientifically informed) understanding of one's own personality offers early opportunity to strategically leverage one's inherent strengths and problem solve around areas that are likely to be more challenging. Moreover, such approaches are fully individualized and contextualized, which facilitates overcoming barriers that have thus far inhibited diversification of the leadership pipeline. This reinforces the notion that leadership—and orientations to lead—are available to and can be cultivated in everyone. The findings we have presented in this chapter suggests that Horatio Alger Association may wish to offer a leadership intervention similar to that being led by Dr. Tackett, to further enhance the leadership capacities of Scholars before they arrive on campus, as subsequent moments during their college years.

(3) Once in college, nurture Scholars' sense of belonging on campus

The single most important influence on the development of leadership aspirations in the college environment was the Scholars' sense of belonging on campus. Yet for many college students, sense of campus belonging can be a struggle, one which is conceivably exacerbated for students surrounded by more advantaged peers. Scholar Services offered by the Horatio Alger Association, like HAA Connect, the Alumni Association, and mentorship, offer important complements to what is happening on college campuses, enhancing sense of belonging for Horatio Alger Scholars. Yet questions remain about sense of belonging, how it develops and the types of targeted interventions that might support its growth and development. There is more need to understand this important influential factor, and to build programs that ensure Horatio Alger Scholars feel that they belong on their college campuses. Emerging findings from additional research of these same longitudinal data suggest that Scholars who are more engaged in college through curricular and co-curricular activities, having a mentor, and on-campus employment experience an enhanced sense of campus belonging. Encouraging Scholars to engage in these ways holds promise for increasing sense of belonging, thereby creating the conditions through which leadership aspirations are more likely to increase over the college years.

The worthy efforts of the Horatio Alger Association and its Members play a critical part in the development of generations of young leaders. Out of all of the initiatives that the Horatio Alger Association engages in to support leadership development, their forward-thinking support of research, and research-based initiatives and programming, may yet yield some of the most efficient and effective efforts to ensure Scholars meet their high potential. Targeting programs to female Scholars, to potential Scholars before they get to college, and to all Scholars focusing on enhancing their sense of belonging all have the potential to impact the development of Horatio Alger Scholars' leadership aspirations. Together these efforts put the Horatio Alger Association in an ideal position to take on an important role in efforts to diversify the leadership pipeline.

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CHAPTER 4

FINANCING COLLEGE AND ECONOMIC PROSPECTS

In recent decades, the steady and dramatic rise in the costs of attending college has become particularly challenging. Over the past 30 years, amidst declining public appropriations for higher education, increasing operating costs, stagnant financial aid, and an ever-growing competitive educational marketplace, the average price (i.e., tuition and fees, in inflation-adjusted dollars) of attending a four-year college or university has increased by more than 250% among public institutions, and by more than 190% among private nonprofit institutions¹. For today's college students, even after accounting for grants, scholarships, and tax benefits, a four-year degree will, on average, cost roughly \$77,000 at a public in-state institution and nearly \$130,000 at a private nonprofit institution.

With students aware of the importance of a college degree for achieving socioeconomic success, the demand for higher education has remained high, despite substantial and increasing financial costs. As a result, we now face a crisis in educational debt accumulation, as young people often must rely on student loans to cope with rising costs that outpace the resources they and their families have available to pay for college. According to a February 2022 report from the Federal Reserve Bank of New York, student loan debt is the second largest source of debt in the United States, exceeded only by mortgage debt². This reality is fueling apprehension among today's college students and families. As highlighted in the Horatio Alger Association's 2016-2017 *State of Our Nation's Youth* Report, more than two-thirds of U.S. high school students report feeling concerned about their ability to pay for college³. Among high school graduates who did not enroll in college, the cost of college was the most pivotal factor affecting their decision⁴.

College debt is a salient topic at the forefront of recent and ongoing U.S. policy discussions. In an attempt to reduce financial strain on the middle class and particularly those students who received Pell Grants while in college (federal grants provided to the lowest income students), plans were proposed by the Biden Administration to provide some degree of debt forgiveness for Pell Grant recipients and those who fall within a certain income limits, and student loan repayments were paused during, and for several years following, the emergence of the COVID-19 pandemic. Additionally, the administration has put forth plans to make the student loan system more manageable, as well as hold institutions accountable when they raise prices⁵. While these policies are undergoing serious debate across legislative, executive, and judicial branches, they provide examples of the efforts being put forth at the national level, aimed to help reduce some of the burdens associated with student loan debt for students who share many of the same characteristics as the Horatio Alger Scholars.

Horatio Alger Scholars occupy a particularly vulnerable space among today's college students. With their precarious financial circumstances during childhood and exposure to other forms of severe adversity prior to college, coupled with the fact that many are the first in their families to attend college, Scholars have confronted more barriers to accessing and completing a postsecondary education than many of their peers nationwide. Through its multifaceted

scholarship and support program, the Horatio Alger Association strives to mitigate many of the barriers Scholars confront in order to enhance their opportunities to achieve a postsecondary degree.

Reducing barriers through financial support is at the root of Horatio Alger Association philanthropy. The support provided by the Association through its financial scholarships enhances Scholars' ability to achieve the educational and occupational goals in ways that otherwise may not have been possible. This support provides sustained assistance to Scholars; in 2017, National Scholars were awarded \$25,000 and State/Other Scholars were awarded \$10,000, dispersed evenly over one's time in college, provided that recipients maintain good academic standing (i.e., a grade point average of at least 2.0). Recipients were able to apply the funds to cover the cost of attendance at the institution of their choosing.

Chapter Aims

This chapter provides an in-depth view of various financial circumstances experienced by Scholars, addressing the ways these circumstances have contributed to their preparation for careers, and the importance of the Association's financial support. With the information that follows, we address the following questions:

- How much are Horatio Alger Scholars paying for their college education and what sources of financial aid are Scholars utilizing?
- To what extent are Scholars concerned about their ability to finance their college education and the associated debt?
- How do Scholars anticipate their financial and career futures following college?

In addition to addressing these important questions, we also discuss the influence of the Horatio Alger Scholarship from the perspective of Scholars themselves. Ultimately, the following information portrays sources of financial strain Scholars face and the critical importance of the aid received from the Horatio Alger Association and other sources in supporting Scholars' opportunities to attend college and secure the many career and financial benefits that accompany a postsecondary degree.

How Much are Scholars Paying for College?

Yearly Cost

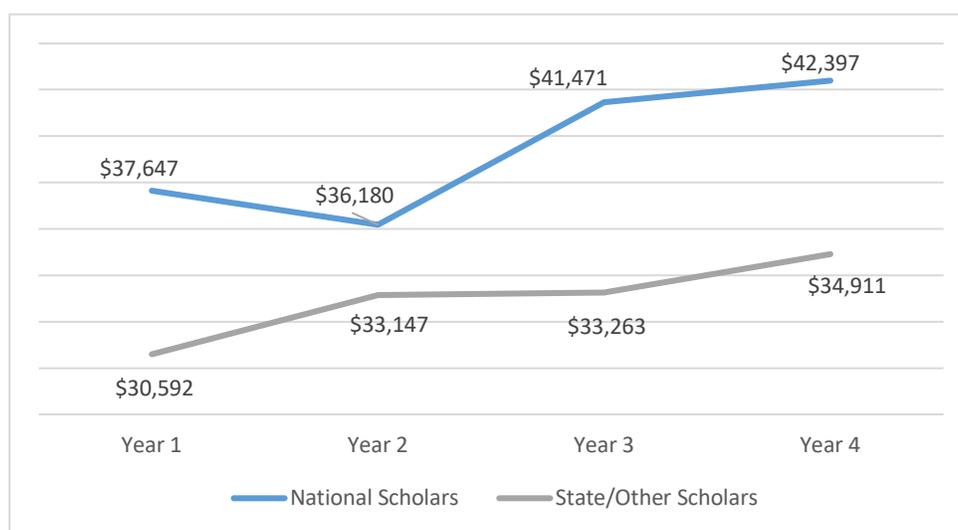
Among all 2017 Scholars, their anticipated cost of college increased an average of \$4,418 over four years. This anticipated cost included tuition, room and board, fees, and books. In their first

year (2017), Scholars anticipated paying an average of \$32,337 per year, which rose to \$36,755 in their fourth year of college. This estimate is in line with average costs in college pricing¹.

When looking across four years of college, differences were uncovered in anticipated cost of attendance based on which of the Association’s scholarship Scholars received. The data indicate that National Scholars expected significantly greater costs than State/Other Scholars across all four years. As shown in Exhibit 4.1, in their first year, National Scholars anticipated a yearly cost of \$37,647, while State/Other Scholars anticipated paying \$30,592; a difference of \$7,054. By their third and fourth years, this gap grew even larger. This finding may be partially due to National Scholars’ distinct academic achievements prior to college, which provided them access to more selective, and therefore more expensive, institutions than their State/Other Scholar counterparts. Notably, these reported cost differences are less than the difference in Association scholarship amounts received among National and State/Other Scholars, and do not factor in additional aid funding from other sources.

Exhibit 4.1

Scholar Reported Annual Cost of Attendance, by Scholar Type



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

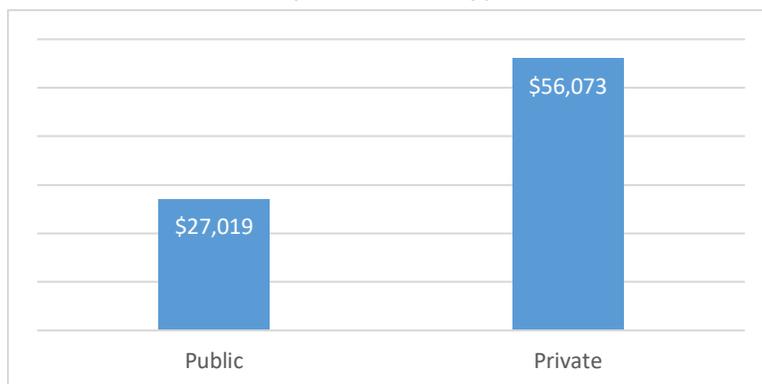
Notes. The values shown are based on the question: “Approximately what is the annual cost of attendance at your current school (including tuition, room and board, fees, and books)?”

Yearly Costs by Institutional Type. Tuition differences between public and private higher education institutions are well-documented¹ and are clearly reflected in Scholars’ reported yearly costs. For example, in their fourth year of college, Scholars who attended public institutions reported an anticipated yearly cost of \$27,019, whereas Scholars who attended private institutions anticipated paying more than twice that amount, or \$56,073 (see Exhibit 4.2). It is important to note that most Scholars who participated in this study attended public institutions:

roughly 66% of Scholars attend public institutions compared to 34% who attended private institutions. Among National Scholars, there was a more even split, with 57% attending public institutions and 43% attending private institutions.

Exhibit 4.2

*Scholar Reported Annual Cost of Attendance,
by Institution Type*



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on the question: "Approximately what is the annual cost of attendance at your current school (including tuition, room and board, fees, and books)?"

In addition to the differences in costs of attending public versus private institutions, cost varied substantially by the admissions selectivity of institution attended. In fact, as shown in Exhibit 4.3, Scholars who attended an institution in the top quartile of institutional selectivity (i.e., the most selective institutions and labeled as "Q4" in the exhibit) reported an average anticipated attendance costs exceeding \$58,000 in their fourth year of college. At the other end of the distribution, Scholars who attended an institution in the bottom selectivity quartile (i.e., the least selective institutions) reported yearly costs of just over \$26,000.

Concerns about Financing Higher Education

Across the U.S., many prospective postsecondary students and their families are concerned about their ability to pay for higher education⁶. The above portrait of costs confronted by Scholars sets the groundwork for considering the most effective ways the Horatio Alger Association can continue to financially support its Scholars. Given that Scholars experience high levels of financial adversity prior to college, it stands to reason that they might have significant concerns about how to finance their postsecondary education throughout their time in college. To confront these concerns, Scholars, like so many U.S. college students, are dependent on financial aid, most often

in the forms of grants and loans. In this section, we discuss the concerns expressed by Scholars in relation to financing their education and the sources Scholars utilize to cover their costs.

Exhibit 4.3

*Scholar Reported Annual Cost of Attendance,
by Institutional Selectivity*



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

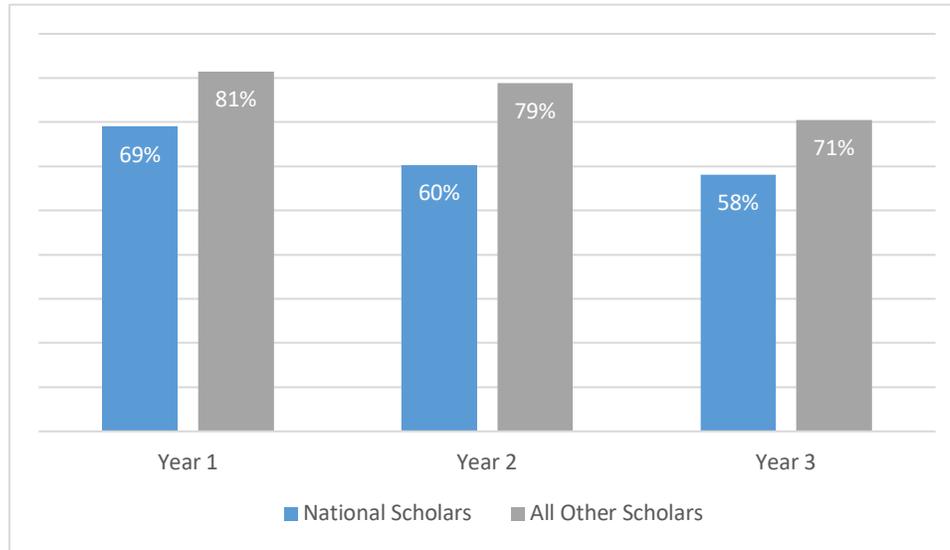
Notes. The values shown are based on the selectivity of institution attended by Scholar survey respondents, measured according to the 75th percentile SAT score, or converted ACT score, among enrolled undergraduate students at the institution, where: Q1 = the lowest quartile, or SAT (converted ACT) of < 1242; Q2 = 1242 to 1340; Q3 = 1341 to 1470; Q4 > 1470.

When Scholars were asked about their level of concern regarding their ability to finance their college education, nearly 68% overall indicated ‘some’ or ‘major’ concern in their third year, which is a decrease from the more than 78% who indicated concern in their first year of college. Exhibit 4.4 breaks down these percentages by Scholar type, showing that, in their third year, 58% of National Scholars indicated this concern, a notably smaller share than the 71% of State/Other Scholars who did so. These differences may reflect that the higher scholarship amounts the Association awards to National versus State/Other Scholars.

Scholars No Longer Enrolled in College. Additionally, there were 54 Scholars who took the survey in the final year who were no longer enrolled in college in the spring of 2021. Of those 54 Scholars, 25, or 46% (comprised of 7 National and 18 State/Other Scholars) cited financial concerns as one reason they did not enroll in their college or university that year. Furthermore, 27 Scholars who indicated they took a leave during their college careers; roughly half did so because of financial stressors.

Exhibit 4.4

Percentage of Scholars Concerned about Financing Their College Education, by Scholar Type



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on the question: “Do you have any concern about your ability to finance your college education?” Percentages indicate Scholars who reported “some concern” or “major concern”.

Rates of Utilizing Financial Aid by Source

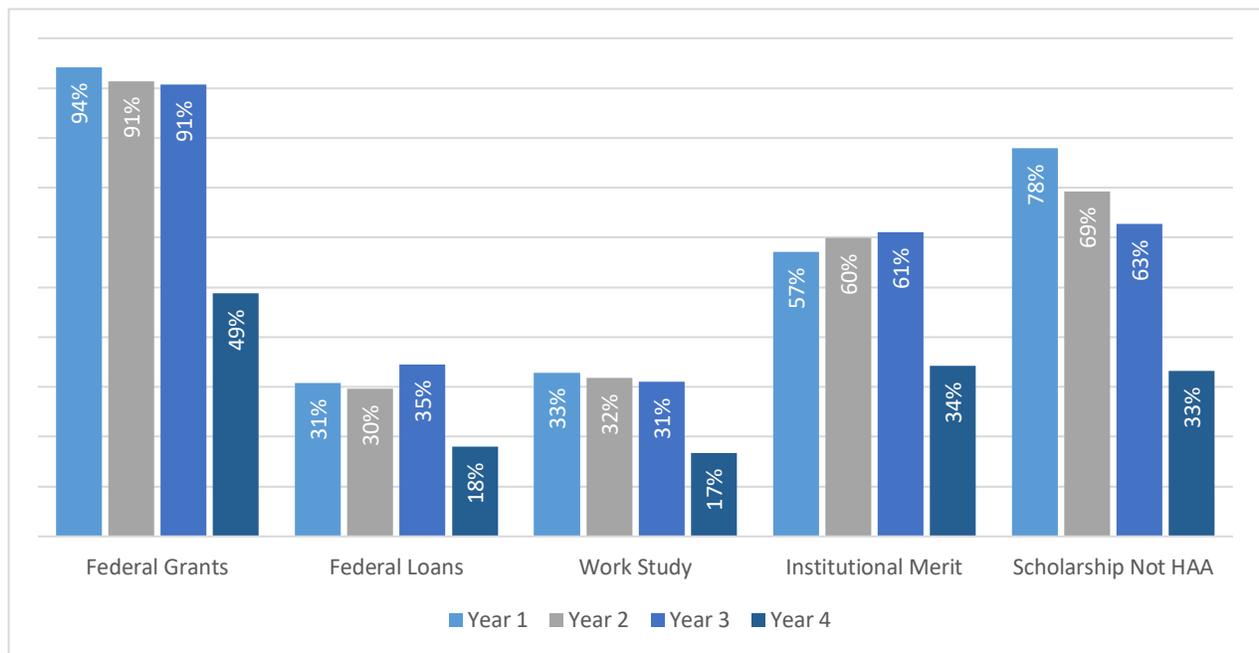
Financial aid has long been the primary mechanism by which college students seek to overcome the financial barriers to postsecondary enrollment⁷. There are multiple types of resources for financial support that Scholars utilize, in addition to their scholarship award from the Association. The most common among these are grants and scholarships—financial aid that does not need to be repaid—as well as loans—which require repayment over time and may extend the burden of paying for college many years into the future.

Among the 2017 Scholars who participated in this study, large shares indicated that they rely on additional forms of aid to finance their postsecondary education, including federal grants, federal loans, work study, institutional merit scholarship, and other scholarships that exist outside of the Horatio Alger Association. While most Scholars received federal grants to pay for college (an overall average of 81% of Scholars across four years of college), sizable shares also used non-HAA Scholarships (61%) and institutional merit scholarships (53%). Federal loans (28%) and work study (28%) were utilized less often as a means of covering college costs. Athletic Scholarships, private loans, and other aid not specified were received by less than 8% of the Scholars who participated in this study.

Looking beyond four year averages, an interesting trend appeared in Scholars’ year-by-year reliance on different sources of financial aid. As shown in Exhibit 4.5, while roughly the same percentage of Scholars indicated needing various forms of aid across the first three years of college, the percentages drop considerably in their fourth year of college, as many Scholars were wrapping up their undergraduate degrees. Clearly, across various forms of financial aid, the initial years of college are most crucial for accessing aid.

Exhibit 4.5

Forms of Financial Aid Assistance Reported among Scholars



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on the question: “Did you receive any additional form(s) of financial aid for school this year?” Percentages indicate Scholars who reported they received “Federal Grants (e.g., Pell, TEACH, SMART, ACG grants)”; “Federal loans (e.g., Stafford or Perkins loans)”; “Work study”; “Institutional merit scholarships or grants”; and “Scholarships or sponsored awards (other than Horatio Alger Scholarship)”, respectively.

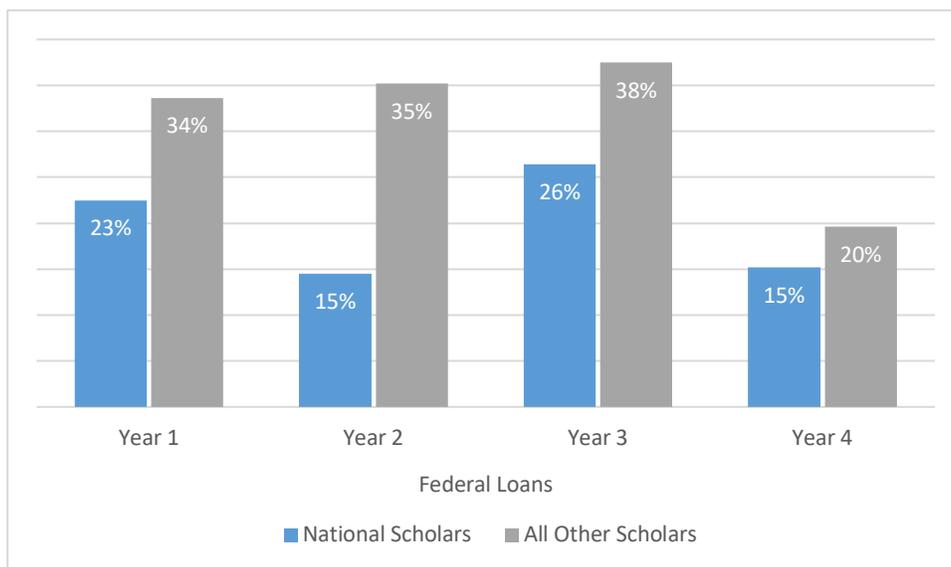
We also sought to ascertain if Scholars’ reliance on financial aid differed based on Scholars’ demographics or socioeconomic status. In doing so, we found only marginal differences by gender and race. However, first-generation Scholars were more reliant on federal grants, federal loans, and institutional merit aid than their continuing-generation counterparts; a trend that appeared across all four years.

Additionally, differences appeared when examining financial aid usage among National Scholars relative to State/Other Scholars. For the most part, similar percentages of National and State/Other Scholars received aid from across the various sources examined, such as federal

grants, and non-HAA scholarships. However, in terms of federal loans—the only type of aid we examined that requires re-payment over time, and thus is a potential source of long term financial burden for Scholars—we uncovered a sizable difference across groups. National Scholars appeared less reliant on federal loans than State/Other Scholars, which remained across all four years, though to varying degrees (see Exhibit 4.6). This bodes well for National Scholars while highlighting the possibility that State/Other Scholars would benefit from greater access to non-loan sources of financial aid.

Exhibit 4.6

Percentages of Scholars Receiving Federal Loans, by Scholar Type



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on the question: “Did you receive any additional form(s) of financial aid for school this year?” Percentages indicate Scholars who reported they received “Federal loans (e.g., Stafford or Perkins loans)”.

Amount of Financial Aid

As discussed in the prior section, most of the Horatio Alger Scholars were utilizing financial aid resources to help pay for their college education, in addition to the Scholarship funds received from the Horatio Alger Association. Whereas the previous section focused on rates of accessing different sources of aid, this section provides additional detail on the specific amounts of grant and loan aid accessed by Scholars during their time in college.

Exhibit 4.7 presents the average amounts of grants and scholarships, as well as loans, that Scholars received across four years of college, in addition to the Horatio Alger Scholarship. To interpret the exhibit, it is important to note that data were collected as dollar-amount ranges,

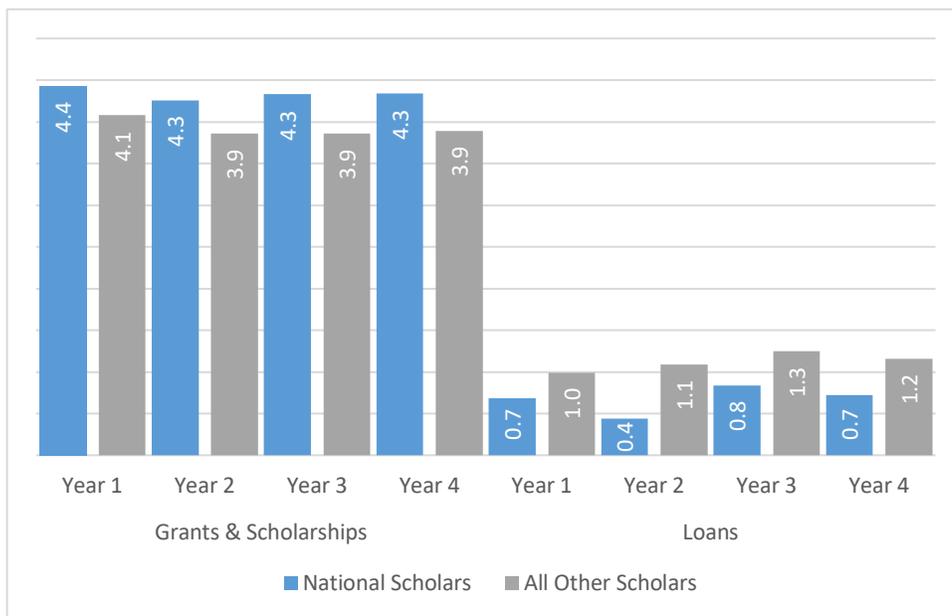
where 1=\$1-\$2,999, 2=\$3,000-\$5,999, 3=\$6,000-\$9,999, 4=\$10,000-\$14,999, and 5=\$15,000 or more. On average, each year, Scholars are utilizing less than \$14,999 worth of additional aid from grants and scholarships, and less than \$3,000 per year on average in loans.

Furthermore, there were differences between National Scholars and State/Other Scholars when looking at financial resources. In terms of grants and scholarships, National Scholars were utilizing between \$10,000 and \$14,999 per year, while State/Other Scholars were utilizing slightly less.

Importantly, all Scholars were relying considerably more on grants and scholarships to finance their college costs than loans that need to be repaid. What’s more, while National Scholars were utilizing more aid in the form of grants and scholarships, State/Other Scholars were more reliant on loans. This may reflect that National Scholars receive more in federal grants in terms of academic scholarships and merit-based aid, or other federal funding such as Pell Grants, reducing their need to obtain loans.

Exhibit 4.7

Scholar Reported Educational Expenses Covered by Grants & Scholarships versus Loans



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on survey responses, where: 0=\$0; 1=\$1-\$2,999; 3=\$6,000-\$9,999; 4=\$10,000-\$14,999; 5=\$15,000 or more.

While not shown in the exhibits, family resources were also an important and critical way in which many students cover the costs of college^{1,7}. However, for the Horatio Alger Scholars, at less than

\$3,000 on average per year, very little aid came from family resources, reflecting the financial challenges Scholars confronted at home.

In summary, the largest source of aid Scholars utilized to pay for college, on average over four years of college, came from grants and scholarship, while loans were being relied upon less often. What's more, Scholars did not have the benefit of drawing on family resources or their own resources to cover their higher education costs. Altogether, it is a promising finding that grants and scholarships comprise the largest source of financial aid among Scholars and that loans are far less relied upon. Nevertheless, the more that can be done to reduce or eliminate Scholars' need for educational loans, the more financially secure they will be in the long run, and less burdened by lingering debt, which we address next.

Concerns about Debt

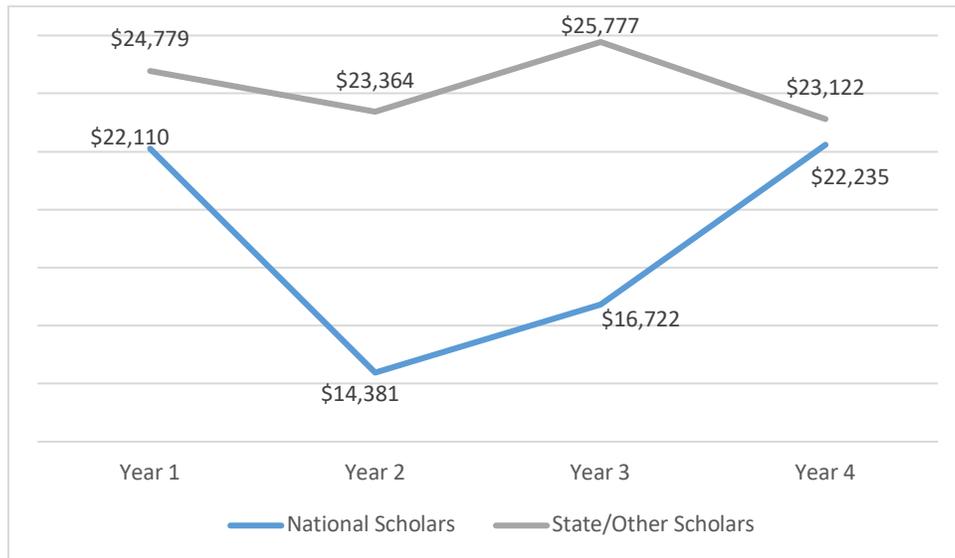
Even though Scholars found ways to finance their postsecondary education, concerns remain about the burdens students' assumed in order to attend college and the long-term implications of financing a college degree. Chief among these concerns include the amount of debt students are accumulating. Overall, there is a combined \$1.7 trillion in debt in the United States⁸. Because the college debt crisis continues to grow, we can learn from the Horatio Alger Association Scholars' experiences financing their college education, particularly the ways in which accumulated debt may impacts future career decision-making and outcomes. It is worth noting that roughly 75% of Scholars indicated that they were employed at some point during their college careers, highlighting the importance Scholars place on doing their part to earn an income to offset additional costs of college. Against this backdrop, we highlight aspects of Scholars' debt accumulation and the extent to which it was influencing career expectations.

Anticipated Debt

By the end of their college journeys, the 2017 cohort of Scholars anticipated an average of \$23,077 in accumulated educational debt, with National Scholars anticipating less debt than State/Other Scholars. As shown in Exhibit 4.8, National Scholars anticipated having \$22,110 in debt their first year compared to \$24,780 among State/Other Scholars. In their second and third years, the gap widens, with National Scholars consistently reporting lower levels of overall anticipated debt. Interestingly, by the end of their fourth year of college, at which time Scholars had the most accurate information about their financial circumstances at the end of college, both National and State/Other Scholars anticipated very similar levels of debt (\$22,235 and \$23,121, respectively).

Exhibit 4.8

Scholar Reported Anticipated Debt, by Scholar Type



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on the question: "By the time you complete your undergraduate degree, how much school debt do you anticipate you will have?"

Anticipated Debt by College Major. School debt is best understood in the context of future economic returns, and few aspects of one's postsecondary education determine future earnings more than major field of study⁹. Therefore, it is important to assess anticipated debt by college major. This information is presented in Exhibit 4.9, clearly indicating that Scholars' anticipated debt varies by major.

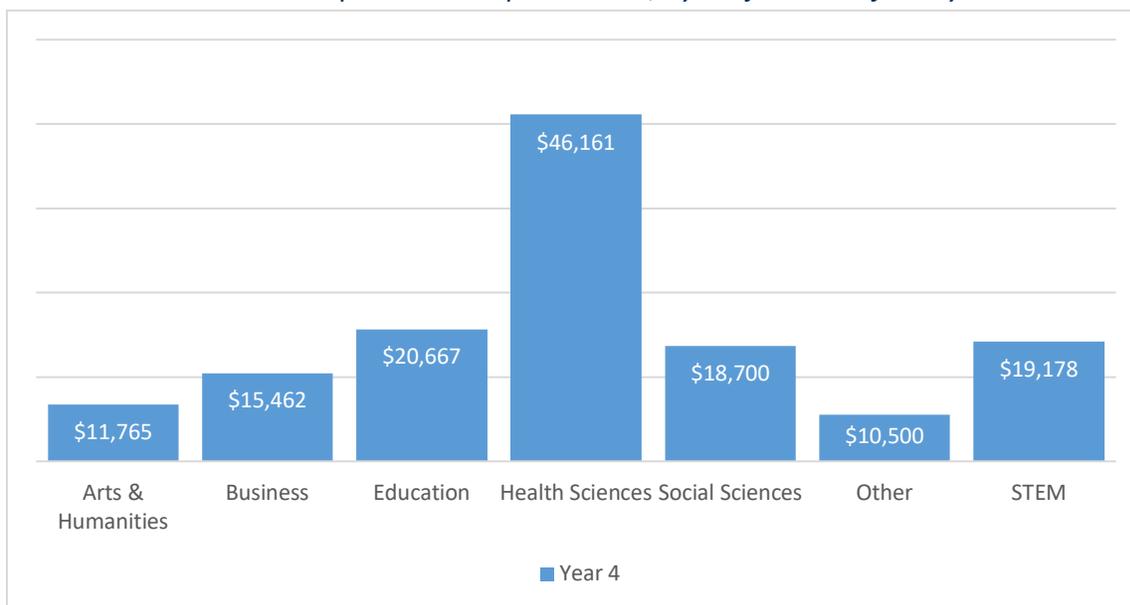
In their final year, Scholars pursuing Arts and Humanities anticipated \$11,765 of debt by degree completion, while Business majors anticipated just over \$15,000 in debt. Education majors anticipated even higher levels of debt, at \$20,667. Perhaps most notable is Health Sciences majors, who anticipated the most debt by degree completion, at \$46,161. Social Sciences majors' anticipated debt was \$18,700 by degree completion, and STEM majors had the third highest level of anticipated debt, at \$19,178.

These differences should be viewed with the knowledge that, traditionally, Arts and Humanities and Education majors earn the least once they are employed in the labor market, while Business, STEM, and increasingly the Health Sciences, earn higher incomes^{9, 10}. Therefore, we must contextualize anticipated debt in terms of its potential impact on Scholars' lives, where college debt will be less difficult to manage for those who are in higher earning majors versus those who graduate with degrees in low earnings fields. The combination of college debt, major field of

study, and likely labor market earnings are at the heart of the financial strain Scholars face as they transition beyond college.

Exhibit 4.9

Scholar Reported Anticipated Debt, by Major Field of Study



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on the question: “By the time you complete your undergraduate degree, how much school debt do you anticipate you will have?”

Anticipated Debt by Institutional Type. In addition to the well-documented earnings differences by college major, one’s college or university was also associated with differentiated earnings among college graduates, though to a lesser extent than college major^{9, 10, 11}. In terms of debt, when looking at institutional selectivity, Scholars in their fourth year college who were attending the least selective institutions (i.e., the bottom quartile among Scholars who participated in our study) anticipated an average of \$31,906 in debt upon graduating, compared to Scholars attending most selective (i.e., top quartile) institutions who, on average, anticipated levels of debt at \$24,967. This finding likely reflects the fact that more selective institutions tend to have more resources for offering students institutional grants and scholarships.

Debt as a Limiting Factor

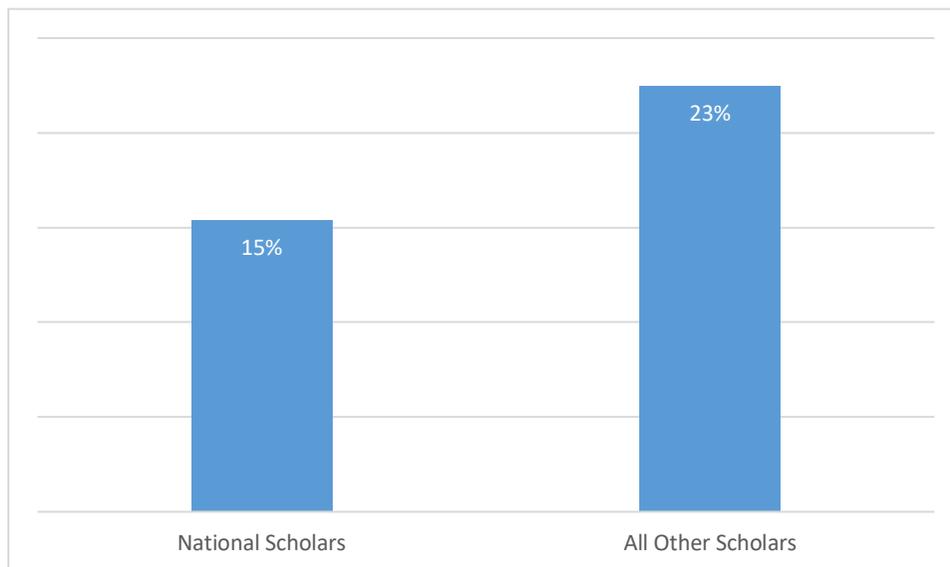
Some of the greatest concerns about educational debt extended beyond financial liability, to the ways it may limit future opportunities or influence career decision making^{12,13}. To gauge these issues, Scholars were asked a series of questions related to impact of debt across aspects of their lives.

When Scholars were asked to state the extent to which they agree or disagree with the statement “my college debt will prevent me from pursuing my dream, because I will need to repay loans,” most Scholars either strongly disagreed or moderately disagreed with the statement. Towards the end of their fourth year of college, only 15% of National Scholars and 23% of State/Other Scholars believed their debt would hold them back (see Exhibit 4.10). The differences between National and State/Other Scholars may be attributed to the different amounts of Scholarship money received and lower levels of debt accumulated by National Scholars.

Importantly, across all Scholars, considerably larger shares of first-generation Scholars had concerns about their debt holding them back than continuing-generation Scholars (26% vs. 12%, respectively). This finding reinforces the vulnerability of first-generation Scholars.

Exhibit 4.10

Percentage of Scholars Reporting Their College Debt is a Limiting Factor, by Scholar Type



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

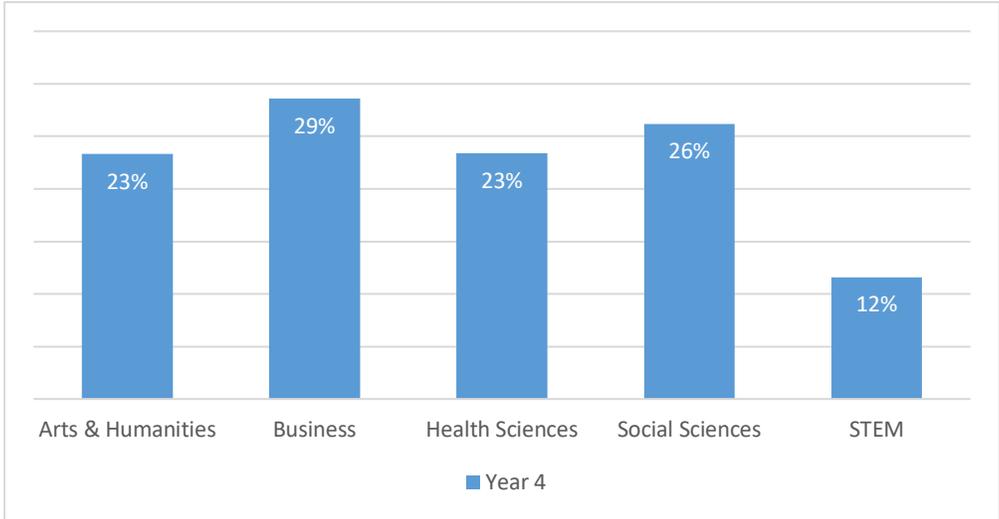
Notes. The values shown are based on the question: “My college debt will prevent me from pursuing my dream, because I will need to repay loans.” Percentages indicate Scholars who reported they “agree” or “strongly agree”.

Differences by Major. Building on the previous section where we discussed differences in debt levels across majors, we further considered how attitudes towards debt as a limiting factor may also vary by major field of study. Focusing on Scholars’ attitudes at the end of their fourth college year (see Exhibit 4.11), at 12%, STEM majors were the least likely to report the belief that their college debt and loan repayment would hold them back. This is possibly because STEM majors anticipated making more money post-graduation, rendering educational debt less of a limiting factor. Scholars in each of the remaining major fields of study had somewhat similar levels of

concern about their debt, ranging from 23% to 29%. Note that Education majors and Scholars whose majors were listed in the “other” category are not shown in this data due to lack of sufficient observations.

Exhibit 4.11

Percentage of Scholars Reporting Their College Debt is a Limiting Factor, by Major Field of Study



Source. 2017-21 Horatio Alger Association Longitudinal Survey.
Notes. The values shown are based on the question: “My college debt will prevent me from pursuing my dream, because I will need to repay loans.” Percentages indicate Scholars who reported they “agree” or “strongly agree”.

Looking Towards the Future: Finances and Careers

Considering that a college education is an investment in one’s own human capital, the educational debt previously discussed should be viewed against the benefits that accompany a college degree. Therefore, the following section provides important information on Scholars’ perspectives regarding their anticipated yearly salary and whether they believe their undergraduate educations will be enough to attain their career goals.

When Scholars were asked whether their undergraduate degree would be enough to earn a desirable salary, at the beginning of the first year of college, 55% of Scholars indicated they “agree” or “strongly agree”. However, this percentage dropped somewhat to 51% towards the end of their fourth year of college as post-college careers became more imminent. While this is a modest decline, it reflects a larger trend of Scholars adjusting their career expectations as they approached the end of their college experience, likely informed by the culmination of internships,

work experiences, and perhaps the new economic realities brought on by the COVID-19 pandemic.

Looking more closely at this trend, we found a similar pattern among National and State/Other Scholars. In the first year of college, 61% of National Scholars indicated that their undergraduate degrees would be enough to earn them a desirable salary, compared to 54% in the fourth year of college. For State/Other Scholars in their first year of college, 55% indicated their undergraduate degrees would be enough to earn a desirable salary, which declined to 51% during their fourth year.

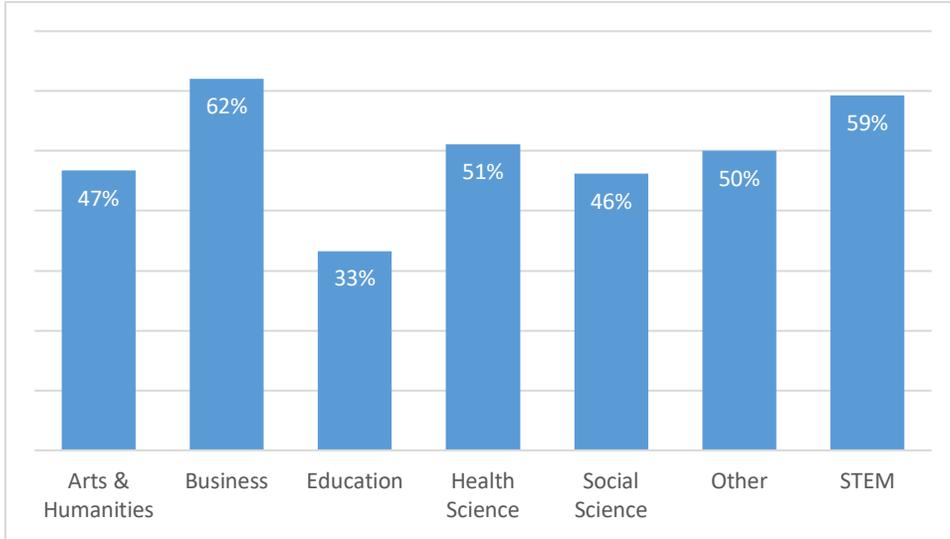
Differences by Major. In addition, based on long-standing evidence of substantial earnings differences that result from students' major field of study, we examined Scholars' views at the end of their fourth year of college about their undergraduate degree being enough to earn their desired salary across major categories (see Exhibit 4.12). The largest shares of Business majors believed their undergraduate degree would be enough to earn the salary they desired; 62% of Scholars agreed with this statement. STEM majors were a close second, at 59%, followed by Health Science (51%) and "other" (50%) majors. Just under half of Arts and Humanities (47%) and Social Science (46%) majors agreed that their undergraduate degrees would be enough. And only 33% of Education majors believed their undergraduate degrees would earn them the salary they desired, clearly reflecting the challenges that accompany the historically low pay that accompanies teaching careers.

Salary Expectations

Scholars' salary expectations following graduation provide important context for interpreting the previous sections. As noted above, as Scholars progressed through college, their awareness about the economy appeared to sharpen. This was apparent in the declining salaries Scholars' anticipated earning post-college across the years two through four of college. For example, when broken down by scholarship type (see Exhibit 4.13), National Scholars anticipated earning more money than State/Other Scholars across years, where, for both groups, anticipated salaries decreased over time. On average, in their second year, National Scholars anticipated an annual salary of \$77,750, while State/Other Scholars anticipated \$64,255. By their fourth years, National Scholars anticipated an annual salary of \$62,508 compared to State/Other Scholars' anticipated annual salary at \$58,521. Clearly, the salaries anticipated among National and State/Other Scholars markedly declined for both groups as they progressed through their postsecondary education, while the gap narrowed.

Exhibit 4.12

Percentage of Scholars Reporting Their Undergraduate Degree Will Earn a Desirable Salary, by Major

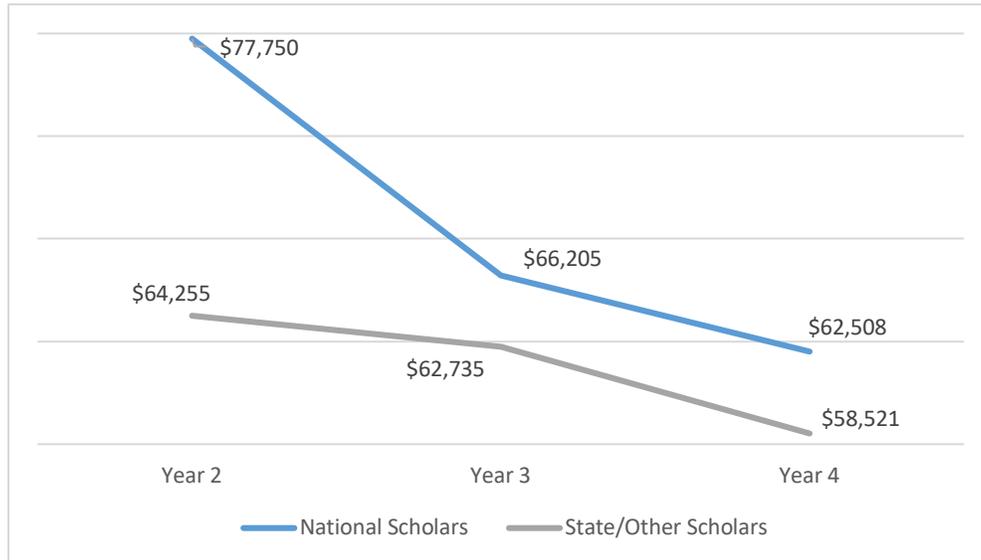


Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on the statement: “Graduating with an undergraduate degree will allow me to earn a desirable salary,” collected towards the end of the fourth year of college. Percentages indicate Scholars who reported they “agree” or “strongly agree”.

Exhibit 4.13

Scholars’ Anticipated Annual Salary in First Job, by Scholar Type



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

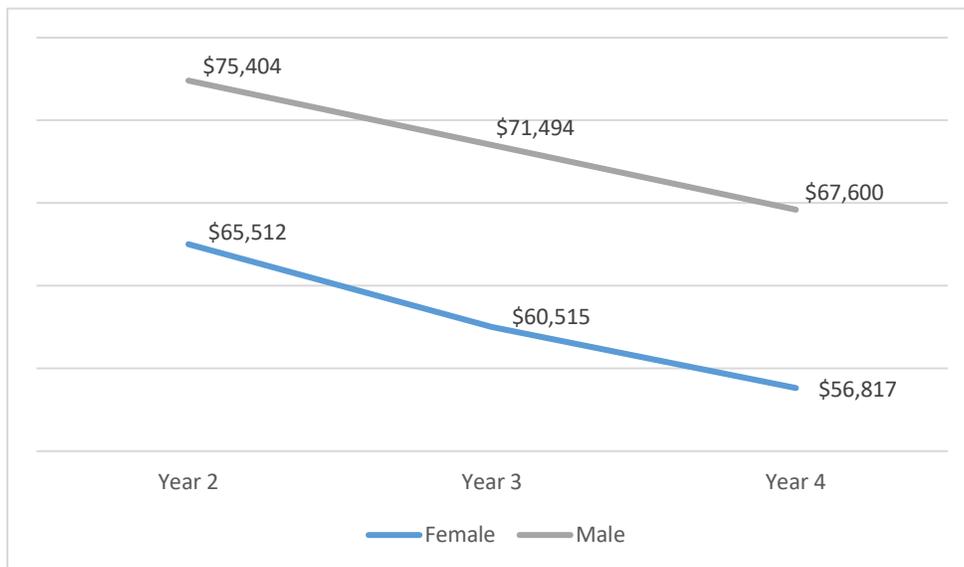
Notes. The values shown are based on responses to the question: “Based on what you currently know about your field, approximately what annual salary do you expect to make in your first job after college?”

Differences by Gender and Race. Furthermore, this downward trend in anticipated salaries occurred for both female and male Scholars, while the gaps remained substantial; male Scholars anticipated making roughly \$10,000 more per year than female Scholars after college, and these expectations held steady throughout college (see Exhibit 4.14).

What’s more, Scholars with racially marginalized identities expected a higher salary after graduation than White Scholars, which decreased by the end of their fourth year (to \$62,000 and nearly \$56,000, respectively). Expected salaries did not differ between first-generation and continuing generation Scholars.

Exhibit 4.14

Scholars’ Anticipated Annual Salary in First Job, by Gender



Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on responses to the question: “Based on what you currently know about your field, approximately what annual salary do you expect to make in your first job after college?”

Differences by Major. The same trend of decreasing salary expectations was visible across majors. The largest decline was found among STEM majors, who expected a yearly salary of \$78,044 at the beginning of their second year, which significantly decreased to an expected yearly salary of \$67,743 by the end of year four. By comparison, Arts and Humanities majors had a smaller decrease, from \$51,810 to \$46,818, and Education majors had a decreased annual salary expectation from \$48,333 to \$41,733 over the same time period.

The Influence of COVID-19. Given the economic disruptions brought on by the COVID-19 pandemic, Scholars also reported the extent to which they anticipated the pandemic would affect

their eventual salaries following college. Somewhat surprisingly, only 14% of Scholars indicated the pandemic impacted their expected salaries. Even though Scholars appeared to have developed heightened awareness about what the job market truly looks like closer to graduation, it seems the overall trend in Scholars' labor market expectations were not largely influenced by the pandemic.

Securing Employment after College Graduation

To further understand attitudes about future employment prospects, Scholars were also asked how long they expected it would take to secure employment. In their fourth year, 59% of Scholars anticipated having a job within six months of graduation. Comparatively, 11% of Scholars anticipated that within a year of graduation they would secure a job, and 12% of Scholars planned to head straight to graduate school. And 41% of Scholars believed that the pandemic would impact the timing of future employment.

Factors Most Important to Future Careers

Scholars were also asked about the importance of various goals for their future career paths across several important dimensions, including: high income potential; working for social change; status recognition; stability; creative outlets in their careers; expressions of personal values in jobs; job availability; leadership opportunities; work-life balance; and the ability to pay off debt. Exhibit 4.15 shows percentages of Scholars across all four years of college who indicated these factors are very important or essential to their futures. Across all four years, achieving a stable, secure future was consistently the highest priority in thinking about their careers, for more than nine out of 10 Scholars across all four years of college. Work/life balance was the next highest priority, reaching nearly 91% in the fourth year of college. With one exception, all other career considerations were important or essential among the majority of Scholars. The exception is social status or recognition, which only about one in four Scholars indicated as a priority, highlighting Scholars' tendency to not be driven by individual or selfish motives in their career decision-making.

Interestingly, Scholars' desire to work for social change increased more than the other career considerations across the years spent in college, climbing by more than 10% between the first and fourth year of college (from 62% to 74%). It appears that time in college instills in Scholars the desire to cultivate careers that make the world a better place, not through a recognition of one's self or achieving individual status, but in terms of the larger society. Given the adverse backgrounds shared among Scholars, this finding suggests that, for Scholars, time spent in college

cultivates a form of resilience focused on society and notions of generativity, or, contributing to a better world through one’s career endeavors.

Exhibit 4.15

Percentage of Scholars Indicating Career Considerations to be “Important” or “Essential”

<i>How important are each of the following considerations? (% of Scholars indicating “very important” or “essential”</i>	Year 1	Year 2	Year 3	Year 4
Stable, secure future	92%	95%	94%	96%
Work/life balance	87%	85%	86%	91%
Availability of jobs	83%	84%	85%	81%
Expression of personal values	75%	72%	73%	76%
Working for social change	62%	64%	65%	74%
Ability to pay off debt	74%	70%	70%	71%
Creativity and initiative	70%	65%	64%	66%
High income potential	65%	65%	65%	64%
Leadership potential	67%	67%	59%	56%
Social recognition or status	29%	29%	26%	29%

Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. The values shown are based on responses to the question “When thinking about your career path, how important are each of the following considerations?” Percentages include respondents who indicated the consideration was “very important” or “essential.”

The Influence of the Horatio Alger Association Scholarship

In this final section we examine how Scholars felt about receiving their Scholarship from the Horatio Alger Association. Across all four years, an overwhelming 98% of Scholars believed their scholarship money had been “somewhat” or “a great deal” influential toward their lives by financing their postsecondary education, with similar shares of National and State/Other Scholars expressing this belief (99% and 98%, respectively). These percentages were similarly robust across gender, first generation, and racial/ethnic groups, providing important evidence of the consistently high value Scholars attribute to their scholarship award and the Association.

Scholars also “agreed” or “strongly agreed” that the Horatio Alger Association Scholarship had reduced the amount of loans needed to finance college. Across all four years, an average of 93% of Scholars indicated they benefited from the Horatio Alger Association Scholarship by needing to take fewer loans. These same trends exist regardless of Scholar type, gender, race, and first-generation status, with the overwhelming majority indicating that fewer loans were needed to be

due to the Horatio Alger Association's financial support. Reinforcing this finding, most Scholars also indicated that an additional benefit from receiving scholarship funding was a reduced amount of incurred debt. Across four years of college, roughly 93% of National Scholars and 94% of State/Other Scholars reported a benefit of reduced debt due to the Scholarship. Overall, the Horatio Alger Scholarship is making a difference in the educational trajectories of Scholars.

Importantly, overall national trends in debt burden of college students and Scholars' declining earnings expectations—or, perhaps, Scholars' adjusting their expectations as the conditions of the labor market come into clearer view—suggest that front-loading the scholarship disbursements may be an effective way for the Horatio Alger Association to heighten its influence.

Additionally, based on findings within the data, it appears that Scholars' awareness of early career salaries and the financial landscape post-graduation sharpens over four years of college. This suggests that Scholars could possibly benefit from additional financial literacy programs or informational programming focused on such things as the impacts of loans, debt burden, and information about market outcomes across different major fields of study.

The critical and nearly universal value Scholars placed on the Horatio Alger Association's financial support is a clear and notable finding. The Association and its financial support provide pathways to the American dream, enhancing Scholars' ability to attend college, and providing them an opportunity for both financial growth, and cultivating social motivations.

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CHAPTER 5

SUCCESS IN CAREERS AND LIFE BEYOND COLLEGE

The Horatio Alger Association has a longstanding commitment to lifelong individual success. This commitment has its roots in the convictions of the Association’s founder, Dr. Kenneth Beebe, who held a fundamental belief that individual success leads to broad societal benefits¹.

College is a critically important pathway to this success, and the Horatio Alger Association recognizes the important role of college in personal achievement. In fact, this recognition is the backdrop to the Association’s focus on supporting Scholars, financially and otherwise, in their pursuit of higher education¹.

The post-college impact of college is also a major topic of interest to researchers, policymakers, students, and their families. One notable example from the research literature is Richard Arum and Josipa Roska’s *Aspiring Adults Adrift*², which examined students’ employment, civic participation, and relationships following college. Arum and Roksa’s work argues, in part, that there is a positive connection between a college degree and post-college career outcomes, but that “college increasingly is focused on personal exploration and the development of young adults who are socially acclimated for middle-class societal roles” (p. 14), at the expense of focusing on student learning.

Arum and Roksa’s work is just one of many which consider the relationship between college and post-college outcomes. In fact, the third edition of *How College Affects Students*³ dedicates roughly 100 pages to summarizing existing evidence in this domain. The broad conclusions stemming from the literature point to the overall positive influence of college attainment on important outcomes related to careers, quality of life, and especially health, while also indicating that not all students experience the same benefits from a college education.

While there is a rich tradition of examining post-college career outcomes, and growing interest in researching other long-term outcomes like quality of life and civic involvement, there are many questions that remain unanswered—or not well understood—about the link between college and life after college. The benefits of a college education is now being questioned by the public with new fervor^{4,5}, and colleges and universities face increased scrutiny and accountability regarding the career success of their graduates. It is therefore important and timely to examine the long-term influences of a college education, particularly among unique—and often understudied—populations of college students from adverse backgrounds, such as the Horatio Alger Association’s Alumni Scholars.

The Horatio Alger Association not only supports Scholars during college, but also cultivates lasting relationships, clearly visible through events like the Alumni Summit. Among the many benefits of these relationships to both Scholars and the Association is an opportunity to stay connected and,

in the process, to better understand the lasting impacts of the Horatio Alger Association on Scholars' lives after college.

In 2018, all Alumni who had received scholarships from the Horatio Alger Association were invited to participate in a survey about their careers and a host of other post-college outcomes. That effort led to new insights on the role Scholars' college education has played in enriching life beyond graduation. In combination with the previous chapters of this report, which focus on enrolled Scholars over four years of college, the Alumni data extend our understanding of *how* and *for whom* Scholars' undergraduate education has influenced success and well-being years after completing college.

Chapter Aims

This chapter offers insight into two broad questions:

- How are Horatio Alger Scholars experiencing life after college in terms of careers, community and civic engagement, and quality of life?
- To what extent are Scholars' experiences in college and histories of childhood adversity associated with post-college outcomes related to careers, community and civic engagement, and quality of life?

Addressing these questions sheds important light on Scholars' post-college outcomes, and may inform the Association's ongoing support of Scholars during and after college. We address these questions by first presenting overall averages (mean scores) across numerous post-college measures for all Horatio Alger Alumni who participated in the 2018 survey. In addition, we investigated if there were discernable differences across important Alumni characteristics, including: whether they received a National or State/Other Scholarship; whether or not they were the first generation of their family to go to college; whether they identify as male or female; and whether they identify as White or belonging to a racially minoritized group. We also explored the extent to which Alumni experiences while in college (such as participation in study abroad, internships, and activities, as well as working and having a mentor) and exposure to childhood adversity, among other factors, have influenced their careers, community and civic engagement, and quality of life. This last approach enabled us to isolate the influence of, for example, major field of study or attending a more selective college or university (among other college experiences), independent of other influences (such as receiving the National versus State/Other Scholarship, gender, etc.). Together, these analyses paint a robust picture of Horatio Alger Alumni, how they are faring after college, and the factors that have influenced their post-college lives.

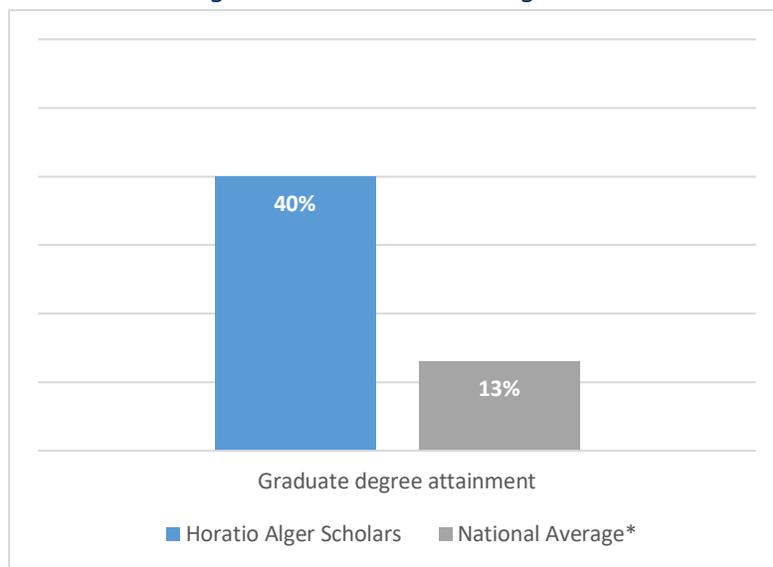
Educational Backgrounds of Horatio Alger Alumni Survey Respondents

Success in Higher Education

Horatio Alger Scholars have a proud history of success in higher education. While Bachelor’s degree completion was nearly universal among Alumni Scholars, an impressive share of survey respondents—at nearly 40%—earned a graduate degree (Masters or Doctorate). This is over three times the rates found among the U.S. population, 13% of whom had an advanced degree in 2018⁶. Exhibit 5.1 displays these population distinctions. Importantly, national graduation rates are considerably lower among U.S. college students from similarly challenging backgrounds as those experienced by the Horatio Alger Scholars, reinforcing the distinct levels of postsecondary success achieved among Scholars.

Exhibit 5.1

Horatio Alger Alumni Success in Higher Education



Sources: 2018 Horatio Alger Association Alumni Survey, U.S. Census Bureau⁶.

*13% of U.S. population held an advanced degree in 2018⁶.

High levels of success in graduate degree attainment were consistent across Alumni respondents, regardless of the type of scholarship received or personal characteristics. For example, there were only marginal differences in graduate degree attainment between National Scholars (43%) and State/Other Scholars (38%). In addition, looking across racial identities, it appears that the average graduate degree attainment of racially minoritized Scholars was nearly five percentage points higher than that of White Scholars. In this regard, the Horatio Alger Scholar Alumni are overcoming the well-documented and longstanding disadvantages in higher education experienced among racially minoritized college students.

Student Loan Debt

While the Horatio Alger Association provided critical financial support during Scholars' undergraduate education, Alumni respondents still reported substantial levels of accumulated undergraduate student loan debt. On average, Horatio Alger Alumni respondents had \$27,716 in undergraduate student loan debt, a figure that includes federal student loans and all other sources of undergraduate debt, such as private loans. While this level of reported debt is substantial, Horatio Alger Alumni still compare favorably to national averages. For example, based only on federal student loan debt (rather than the combined federal and other sources of loan debt reported by Horatio Alger Alumni), the national average among 2015-16 graduates was \$27,400⁷.

In terms of total debt accumulated across both undergraduate and graduate education, Horatio Alger Alumni respondents reported an average amount of \$53,925. This amount is reflective of the exceptionally high rates of graduate and professional degree attainment among Alumni, and should be viewed in the context of the earning gains that accompany graduate and professional degree attainment.

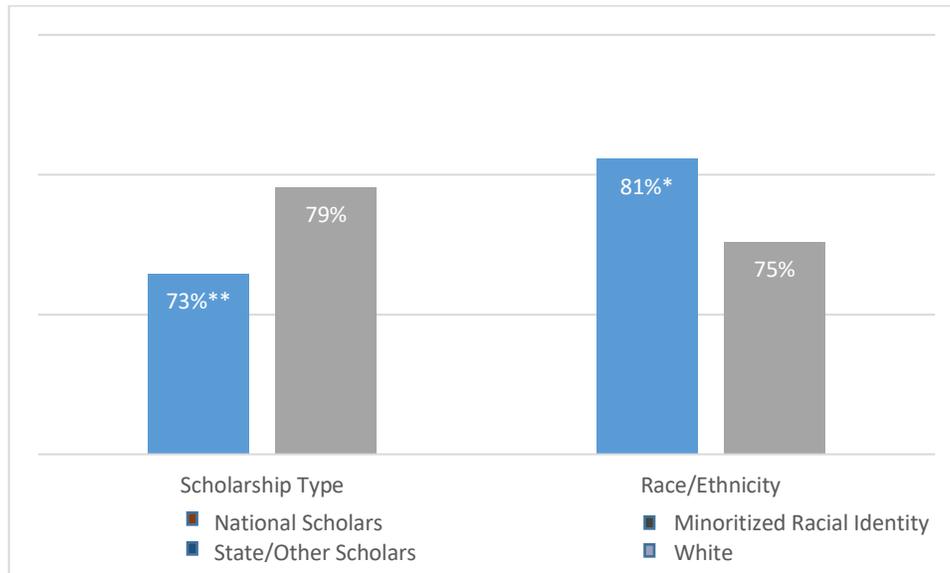
In taking a closer look at total amounts of student loan debt among Horatio Alger Scholars, we found significant differences between students with racially minoritized identities and White students, in which average total student loan debt was substantially higher for students with racially minoritized identities (\$67,768 vs. \$47,025). These differences potentially reflect disparities in other financial resources that may offset the need to rely on loans.

Given these levels of loan debt, it is important to ascertain if, or to what extent, Alumni debt may affect Alumni Scholars' career decisions and quality of life. Here we found 77% of Horatio Alger Alumni respondents reporting that the ability to pay off debt was a "moderately" or "very important" consideration as they thought about their career paths, indicating that debt affected their career choices. This proportion was higher for Alumni respondents who were State/Other Scholars (as compared to National Scholars), and higher for Scholars with minoritized racial identities (relative to White Scholars). These data are shown in Exhibit 5.2.

Furthermore, just over half (50.4%) of Alumni respondents indicated that they considered their student debt to be obstacles for achieving a more fulfilled and happy life. And a greater proportion of racially minoritized Alumni (54%) and first-generation (54%) Alumni reported this to be true for them, relative to White (48%) and continuing generation (44%) Alumni, respectively; the differences between racially minoritized and White Alumni were marginally significant.

Exhibit 5.2

Importance of Paying off Debt to Career Planning



Source: 2018 Horatio Alger Association Alumni Survey.

Notes: Percentages indicate Horatio Alger Alumni respondents in each category who reported that the ability to pay off debt was a “moderately” or “very important” consideration as they thought about their career paths. *Groups differ at a statistically significant level, with 90% confidence ($p < .10$). **Groups differ at a statistically significant level, with 95% confidence ($p < .05$).

Though Alumni debt levels are a notable concern, data also indicate that the Horatio Alger Association has mitigated Alumni debt: at 88%, a large majority of Alumni respondents agreed (either moderately or strongly) that receiving the Horatio Alger scholarship award reduced their debt level. However, critical differences appear among racially minoritized Alumni relative to their White counterparts, evident in lower rates of agreement (83% vs. 92%).

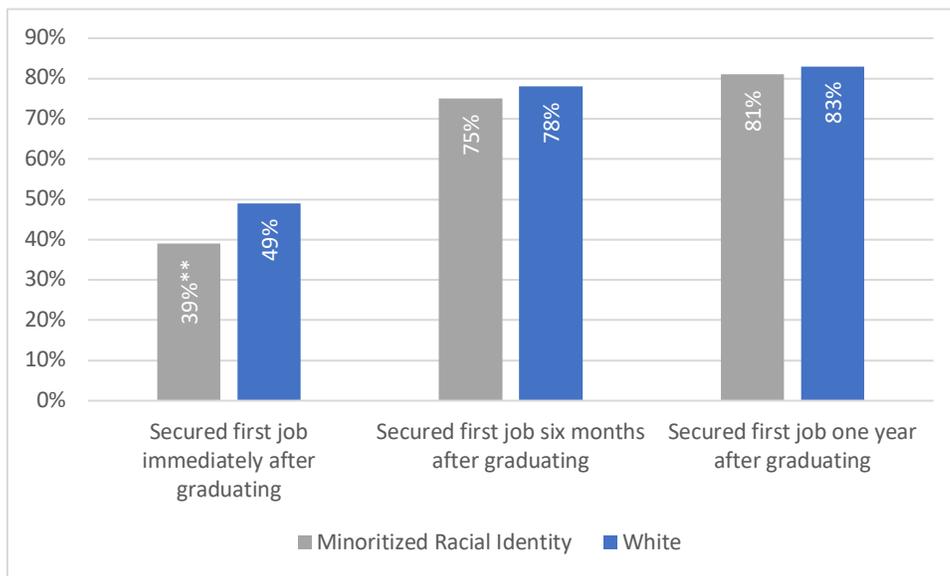
Career Outcomes

Initial Success

Horatio Alger Alumni reported early success in the job market upon completing college. In fact, at 45%, nearly one-half of Alumni respondents reported having a job immediately after graduating, with 76% of respondents indicating they had a job within six months after graduating, and more than four out of five (82%) reporting they had secured a job within one year after college graduation.

Group Differences. The above rates of initial job attainment appeared consistent among Scholars across type of scholarship received. Additionally, while these rates of initial job attainment appeared consistent among Scholars across gender and first-generation status, one concerning exception appeared. As illustrated in Exhibit 5.3, a lower percentage of Alumni with racially minoritized identities reported having secured a job immediately after graduation relative to White identified Alumni (39% vs. 49%). This evidence of a racial gap points to an opportunity for the Horatio Alger Association to consider reimagining forms of support for the professional development and career transitions of graduating Scholars, with heightened awareness of the racial inequity Alumni may confront when entering the labor market. The Horatio Alger Association is well positioned to effect meaningful change in the lives of its Scholars and Alumni at this critical juncture.

Exhibit 5.3
Alumni Early Success in Job Market



Source: 2018 Horatio Alger Association Alumni Survey.

Notes: **Groups differ at a statistically significant level, with 95% confidence ($p < .05$).

College Experiences Associated with Initial Career Success. To better understand the above trends, we also examined what college experiences may be most deterministic of Alumni initial career success. These findings are presented in Exhibit 5.4, showing four factors linked to securing a job immediately after graduation. The first was institutional selectivity, where Scholars who attended more selective institutions were more likely to secure jobs upon graduating. This finding could reflect differences in the quality of their training, as well as the strong networks, industry contacts, and placement services accessed by attending institutions that are more selective.

A second factor linked to Alumni having secured a job immediately after graduation was college major. Our analysis suggested that, compared to those who majored in business, those who concentrated their studies in the arts and humanities, the social sciences, STEM, and fields reported as “other” were less likely to secure a job immediately after graduation.

Two additional factors were positively linked to securing a job immediately after college, including holding an internship or related position during college (like a co-op, field placement, or clinical position), as well as working during college. This finding highlights the value of these college endeavors. However, it remains unknown if respondents who held an internship or who had worked during college ended up securing a job with the same company or business, or if there were underlying personal characteristics (such as motivation to work) that might have both driven respondents to engage in work-related activities during college, and also led to their early success in the post-college labor market.

Exhibit 5.4

College Experience and Environment Factors that Influence Initial Career Success of Alumni

<i>College Experiences and Environment</i>	Secured Job Immediately After Graduation
Institutional Selectivity	+/**
Major	** ¹
Participated in a study-abroad program	
Held a work-related internship, co-op placement, field placement, or clinical assignment	+/**
Had a mentor	
Employed / working for pay	+/**
Number of different types of activities participated in	

Source: 2018 Horatio Alger Association Alumni Survey.

Notes: In addition to the variables shown in the table, the analyses included measures of sociodemographic characteristics, including gender, race/ethnicity, and whether respondent was a first-generation student, as well as a variable representing type of Horatio Alger Scholarship. “+” and “-” indicate positive and negative relationships, respectively; Blank cells indicate a non-statistically significant relationship; “*” and “**” indicate the relationship is statistically significant with 90% confidence ($p < .10$) and 95% confidence ($p < .05$), respectively. ¹Compared to majoring in business, majoring in the arts and humanities, social sciences, STEM, or majors reported as “Other” had a negative relationship to securing a job immediately after graduation.

In short, while Horatio Alger Alumni respondents reported early labor market success, that success was not available to all respondents equally, with notable differences between respondents based on their race/ethnicity. Additionally, aspects of the college experience linked to initial success in attaining a job include attending a more selective institution, majoring in business, and working or interning during college. Scholars who attend less selective institutions,

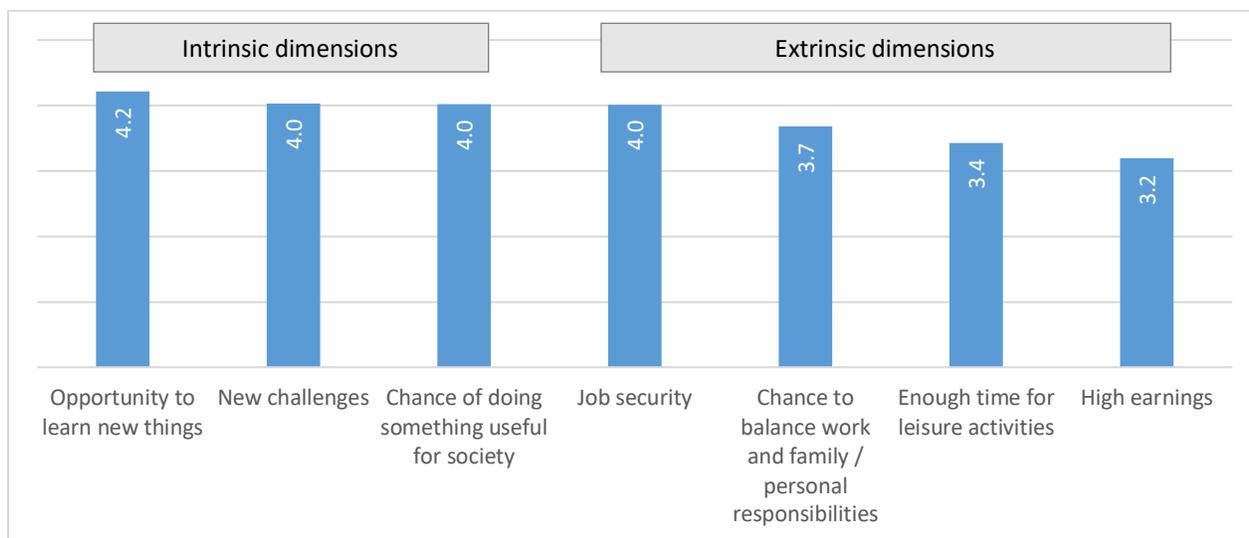
those who major in non-business fields, and those who lack opportunity to engage in work-related activities appear ripe for additional support in their transitions from college to careers.

Job Quality

Looking beyond general markers of employment, Horatio Alger Alumni were also asked about the quality of their current or most recent job. Specifically, Alumni were asked about important facets of their jobs, like the opportunity to learn new things or the chance of doing something useful for society—we categorize these as *intrinsic* benefits. We also asked Alumni if their positions brought sufficiently high earnings, leisure time, or job security—we consider these to be markers of *extrinsic* benefits. Each of these facets were measured on a scale of “one” to “five”, corresponding to “definitely not an aspect of the job” to “very much an aspect of the job.”

The results (see Exhibit 5.5) show that overall average scores for intrinsic benefits of jobs were generally higher than for extrinsic job benefits. In particular, the opportunity to learn new things was the most highly rated job quality (yielding an average rating of 4.2), with high earnings proving to be the least highly rated job quality (average rating of 3.2).

Exhibit 5.5
Alumni Ratings of Job Quality



Source: 2018 Horatio Alger Association Alumni Survey.

Notes: Alumni ratings measured on a scale of one to five, where: 1=“definitely not an aspect of the job” and 5=“very much an aspect of the job.”

Group Differences. There were some small but statistically significant differences among Scholars in their ratings of perceived job quality. When asked to report on whether sufficiently high earnings was an aspect of their job, the average score of former National Scholars exceeded that

of former State/Other Scholars (3.3 vs. 3.1). In contrast, when asked if they had enough time for leisure activities, the average score of respondents was lower among former National Scholars than for State/Other Scholars (3.3 vs. 3.5). Finally, former National Scholars had lower ratings when asked about the chance to balance work and family/personal responsibilities than former State/Other Scholars (3.6 vs. 3.7).

Additionally, when asked to report whether sufficiently high earnings is an aspect of their job, the average score of male respondents exceeded that of female respondents (3.4 vs. 3.1). However, relative to their male counterparts, females on average gave higher ratings of their jobs in terms of chances to balance work and family/personal responsibilities (3.7 vs. 3.6) and marginally higher ratings in terms of job security (4.1 vs. 3.9). Furthermore, White respondents rated their jobs as offering “new challenges” as an aspect of their current job marginally higher than their minoritized racial counterparts (4.1 vs. 4.0). Though these group differences are very small in magnitude, they highlight potential areas of concern regarding Scholars’ ability to secure equitable outcomes in job quality.

College Experiences Associated with Job Quality. In examining the relationships between measures of Alumni college experiences and aspects of perceived job quality, one of the most remarkable findings was the extent to which aspects of job quality differed based on Scholars’ majors while in college, as detailed in Exhibit 5.6. For example, Alumni who majored in business reported lower values relative to Alumni who majored in other fields (documented in the exhibit notes) across each of the intrinsic dimensions of job quality (Opportunity to learn new things; New challenges; and Chance of doing something useful for society). In fact, differences were most striking with respect to Alumni perspectives on their jobs’ providing opportunities to do something useful for society, where business majors reported lower values than each of the other major fields.

However, a different story emerged with respect to the extrinsic dimensions of job quality. With the exception of job security, Alumni who majored in business reported higher values than Alumni who majored in other fields in terms of having the chance to balance work and family or personal responsibilities, having enough time for leisure activities, as well as having high earnings. Ultimately, college major had a profound and lasting influence on the dimensions of quality associated with the post-college jobs of Alumni.

Another intriguing finding emerged with respect to having had a mentor while in college. Alumni who reported having had a college mentor (versus those who did not) also reported higher levels for each of the intrinsic dimensions of job quality. The same pattern appeared, though not as pronounced, in terms of participating in different activities in college, where Alumni who were

more engaged in college activities reported higher levels of job quality across intrinsic dimensions, particularly opportunities for new challenges.

Adding to these findings is that Alumni who attended a more selective college or university reported higher levels of job security and, particularly, whether they had sufficiently high earnings. And a somewhat counterintuitive result appeared in that Alumni who studied abroad during college reported lower values of both job security and earnings, relative to those Alumni who did not study abroad; a finding that warrants additional investigation.

Exhibit 5.6

College Experience and Environment Factors that Influence Alumni Perceived Job Quality

<i>College Experiences and Environment</i>	Intrinsic Dimensions			Extrinsic Dimensions			
	Opportunity to Learn New Things	New Challenges	Chance of doing something useful for society	Job security	Chance to balance work and family / personal responsibilities	Enough time for leisure activities	High earnings
Institutional Selectivity				+/*			+/**
Major	**1	**1	**2	**3	**4	**5	**6
Participated in a study-abroad program				-/**			-/**
Held a work-related internship, co-op placement, field placement, or clinical assignment							
Had a mentor	+/**	+/**	+/**				
Employed / working for pay	+/*						
Number of different types of extracurricular activities	+/*	+/**	+/*				

Source: 2018 Horatio Alger Association Alumni Survey.

Notes: In addition to the variables shown in the table, the analyses included measures of sociodemographic characteristics, including gender, race/ethnicity, and whether respondent was a first-generation student, as well as a variable representing type of Horatio Alger Scholarship. “+” and “-” indicate positive and negative relationships, respectively; Blank cells indicate a non-statistically significant relationship; “*” and “**” indicate the relationship is statistically significant with 90% confidence ($p < .10$) and 95% confidence ($p < .05$), respectively. ¹Health professions majors reported higher values than those who majored in business; ²Business majors reported lower values compared to those who majored in arts and humanities, education, health professions, social science, STEM, or an “Other” field”; ³Business majors reported lower values compared to those who majored in education or the health professions; ⁴Business majors reported higher values than arts and humanities majors, and marginally higher values than social science majors; ⁵Business majors reported higher values than arts and humanities and STEM majors, and marginally higher values than social science majors; ⁶Business majors reported higher values than those who majored in arts and humanities, education, or social sciences.

Goals and Ambitions

Horatio Alger Alumni respondents were asked to reflect on a series of ten areas that may be important to their career paths (such as social recognition or status, expression of personal values, and ability to pay off debt), rating them on a one- to five-point scale, from “Not at all important” to “Very important”.

As shown in Exhibit 5.7, the two factors most important to Alumni respondents were having a stable, secure future (94% of respondents indicated this was a “moderately” or “very important” consideration) and work/life balance (93% of respondents indicated this was “moderately” or “very important”). These factors were followed by high income potential (80% of respondents), availability of jobs (78%), and leadership potential (78%). Also notable, nearly three out of four respondents (72%) indicated that working for social change was a “moderately” or “very important” consideration with respect to their career paths.

Across the full set of career considerations, social recognition or status was the least important to Horatio Alger Alumni respondents: at 39%, far fewer respondents reported this to be a moderately or very important consideration. In other words, while Horatio Alger Alumni may consider things like stability and high income to be among their most important career considerations, they are far less motivated by securing status for themselves. Indeed, the importance of income potential may be viewed as a means towards the stable, secure, and balanced life that likely differs in critical ways from the conditions of many Scholars’ childhoods.

Exhibit 5.7

Important Career Considerations among Alumni

<i>How important are the following considerations? (% of Scholars indicating “moderately important” or “very important”</i>	Percentage of respondents indicating “moderately” or “very” important
Stable, secure future	94%
Work/life balance	93%
High income potential	80%
Availability of jobs	78%
Leadership potential	78%
Creativity and initiative	78%
Ability to pay off debt	77%
Expression of personal values	75%
Working for social change	72%
Social recognition or status	39%

Source: 2018 Horatio Alger Association Alumni Survey.

Entrepreneurial Ambition and Achievement

Entrepreneurial ambition also emerged as an important consideration among Horatio Alger Alumni. While nearly 15% of currently employed Alumni reported that they had been involved at some point in starting a business, this is eclipsed by the 43% of employed Alumni respondents who hoped to start their own business in the future. In other words, there is a sizable gap between those employed Alumni respondents with entrepreneurial ambition and those with entrepreneurial experience. This gap points to a potential opportunity for the Horatio Alger Association to tailor mentoring or other developmental programming towards Scholars and Alumni with entrepreneurial inclinations. It is also worth noting that the vast majority (93%) of the currently employed Alumni surveyed did not own their own business.

Leadership Aspirations

Among the most interesting of goals and ambitions is aspirations for leadership. Building on the data discussed in Chapter 3, which focused on Scholars during the undergraduate years, we also asked Alumni respondents to evaluate how much each of a series of items related to their aspirations for positional leadership applied to them, including:

- I hope to become a leader in my career field
- When I am established in my career, I would like to manage other employees
- I want to have responsibility for the future direction of my organization or business
- I hope to move up to a leadership position in my organization or business.

Each item was assessed by the respondent on a one- to five-point scale, ranging from “Not at all true of me” to “Very true of me”. Out of a possible maximum score of 20 (for those who reported a value of five, “Very true of me,” across all four items), the average score of all Alumni respondents was 14.5. This roughly equates to an overall leadership aspirations score between “Moderately true of me” and “Quite a bit true of me.” In other words, on average, Horatio Alger Alumni respondents expressed clear aspirations for positional leadership.

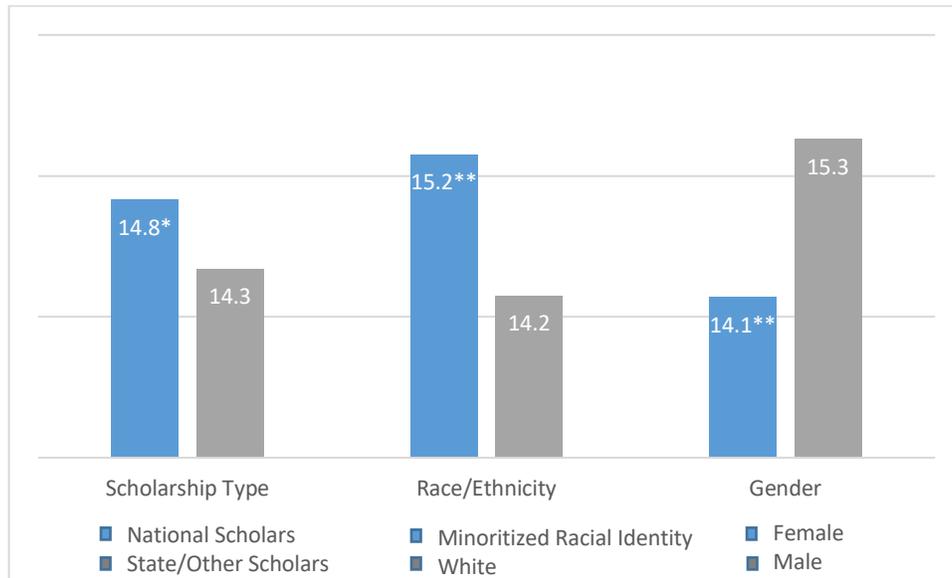
Group Differences. In Chapter 3 we learned from the enrolled undergraduate Scholars that there were persistent differences between those who received HAA’s National Scholarship versus those who received a State/Other Scholarship, between male and female Scholars, and between Scholars with minoritized racial identities versus White Scholars. Among undergraduate Scholars, aspirations for leadership positions were greatest for National Scholars, male Scholars, and Scholars with minoritized racial identities.

As we now focus attention on Alumni Scholars, we find similar trends, as illustrated in Exhibit 5.8. Specifically, the leadership aspirations of National Scholar Alumni were marginally higher than

those of State/Other Scholars (14.8 vs. 14.3). In addition, on average, the leadership aspirations of male Alumni were greater than their female counterparts (15.3 vs. 14.1), and those of racially minoritized Alumni were greater than their White counterparts (15.2 vs. 14.2).

Exhibit 5.8

Alumni Leadership Aspirations



Source: 2018 Horatio Alger Association Alumni Survey.

Notes. The values shown are based on a 4-item Leadership Aspirations scale, with possible values range of 5-20. *Groups differ at a statistically significant level, with 90% confidence ($p < .10$).

**Groups differ at a statistically significant level, with 95% confidence ($p < .05$).

College Experiences Associated with Leadership Aspirations. We identified several factors that clearly related to Alumni aspirations for leadership, as shown in Exhibit 5.9. The first of these factors was college major. Perhaps unsurprisingly, former business majors indicated higher levels of leadership aspirations than respondents who had majored in almost every other major. This finding may reflect underlying motivations among business majors to hold leadership positions in companies and other organizations in their post-college careers.

Interestingly, unlike previous findings discussed in this chapter, the selectivity of one’s undergraduate college or university was not associated with Alumni leadership aspirations. In other words, aspirations to hold leadership positions was not uniquely restricted to those who attended more selective institutions. This is an important finding, as diversifying the pipeline to leadership positions remains a critically important goal for society.

Additionally, three college experiences appeared as positively associated with Alumni leadership aspirations. Alumni who held an internship or similar placement, worked during college, and were more engaged during college (based on the number of activities reported), expressed greater aspirations for leadership positions following college. It is important to note that college experiences such as internships and clubs, for example, are not always accessible for all college students given constraints on resources, like time and money. These constraints might make internships and other valuable college activities difficult to access. The positive relationships such experiences have with post-college leadership aspirations render them another important area where the Horatio Alger Association may play a supportive role through targeted financial support and other forms of encouragement given to Scholars to help reduce barriers in accessing these influential college experiences.

Exhibit 5.9

College Experience and Environment Factors that Influence Alumni Leadership Aspirations

<i>College Experiences and Environment</i>	<i>Leadership Aspirations</i>
Institutional Selectivity	
Major	** ¹
Participated in a study-abroad program	
Held a work-related internship, co-op placement, field placement, or clinical assignment	+/**
Had a mentor	
Employed / working for pay	+/**
Number of different types of extracurricular activities	+/**

Source: 2018 Horatio Alger Association Alumni Survey

Notes: In addition to the variables shown in the table, the analyses included measures of sociodemographic characteristics, including gender, race/ethnicity, and whether respondent was a first-generation student, as well as a variable representing type of Horatio Alger Scholarship. “+” and “-” indicate positive and negative relationships, respectively; Blank cells indicate a non-statistically significant relationship; “**” indicates the relationship is statistically significant with 95% confidence ($p < .05$).

¹Business majors reported higher values compared to those majoring in the arts and humanities, education, health professions, social sciences, or STEM.

Civic Engagement

Civic engagement remains an important outcome of college, rooted in the democratic ideals of education. It is therefore important to understand the extent to which Alumni engage in civic activities, and how Scholars’ experiences in college, may connect to civic involvement beyond graduation.

Alumni respondents overall exhibited a strong tendency to exercise their responsibilities as citizens, most clearly observed through voting. Almost 95% of Horatio Alger Alumni respondents reported that they were registered to vote, with nearly 85% reporting they had voted in the 2016 Presidential election (the most recent Presidential election that occurred prior to data collection). These data highlight the value Horatio Alger Alumni place on this important aspect of civic life.

Turning attention to other forms of civic engagement, at 67%, more than two out of every three Horatio Alger Alumni survey participants indicated they contributed financially to causes they believe in (occasionally, often, or always). Forty-two percent also reported volunteering at least once a month, and nearly 32% indicated they were currently mentoring someone. Ultimately, Horatio Alger Alumni are active participants in their communities, contributing their expertise, time, and money to support those around them.

Group Differences. Reflecting on the fact that National Scholars are carefully selected from other scholarship applicants based, in part, on their commitment to co-curricular and community service activities, it is perhaps not surprising that a greater proportion of Horatio Alger Alumni respondents who were National Scholars reported participation in civic engagement than State/Other Scholars (see Exhibit 5.10).

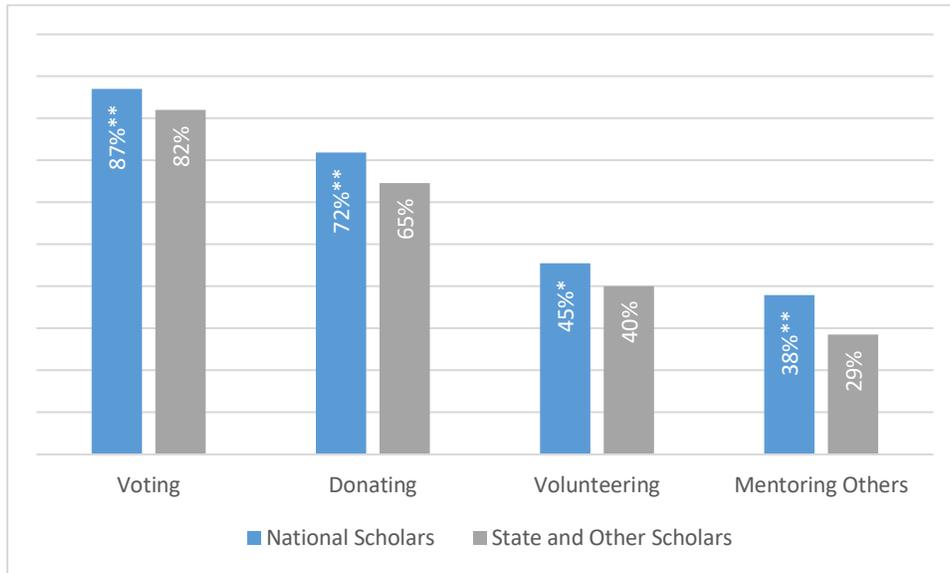
In terms of voting, a greater share of National Scholar Alumni respondents reported voting (occasionally, usually, or always) than State/Other Scholar Alumni (87% vs. 82%). Additionally, a greater percentage of National Scholar Alumni donated (72% vs. 65%), and a marginally greater percentage reported volunteering as compared to their State/Other Scholar counterparts (45% vs. 40%). Though less frequent, a greater percentage of National Scholar Alumni also indicated they were currently serving as a mentor to someone (38% vs. 29%).

In terms of other group differences among Alumni respondents, we found several notable trends in civic engagement. Specifically, a smaller proportion of female respondents reporting voting (occasionally, usually, or always) than their male counterparts (81% vs. 88%), and a smaller proportion of first-generation Alumni respondents reported doing so when compared to continuing generation respondents (82% vs. 87%).

With respect to donating, a smaller share of first-generation Alumni donated than their continuing generation counterparts (65% vs. 71%). Furthermore, a smaller percentage of racially minoritized Alumni reported currently mentoring someone relative to their White counterparts (29% vs. 36%), and proportionally fewer female Alumnae reported serving as a mentor when compared to male Alumni (29% vs. 38%).

Exhibit 5.10

Civic Engagement of National Scholar Alumni Compared to State/Other Scholar Alumni



Source: 2018 Horatio Alger Association Alumni Survey.

Notes: *Groups differ at a statistically significant level, with 90% confidence ($p < .10$). **Groups differ at a statistically significant level, with 95% confidence ($p < .05$).

College Experiences Associated with Civic Engagement. We also examined the combination of college experiences that may have influenced voting, donating, volunteerism and mentoring among Alumni survey respondents, while taking into account differences in sociodemographics and scholarship types. These results are presented in Exhibit 5.11.

Several trends emerged from our analyses, including, most notably, that engaging in extracurricular activities during college was associated with subsequent voting, donating, volunteerism, and mentoring after college. This indicates that the more Scholars engaged in their communities during college, the more they did so beyond the college years.

Similarly, having a mentor in college was associated with increased Alumni tendencies to mentor others following college, as well as to volunteer. This connection demonstrates the important role of Horatio Alger’s efforts in supporting the mentorship of Scholars during their undergraduate education. Such efforts situate Alumni for continued civic involvement for years to come.

Additionally, Alumni major in college had an interesting connection to several markers of civic engagement. Specifically, relative to business majors, Alumni who majored in the arts and humanities were more likely to engage in voting behavior after college, while those who majored in social science or STEM were less likely than business majors to report donating behaviors after

college. In addition, working for pay during one’s time in college increased their likelihood to make financial donations after college. Together, these findings highlight the role college factors play in cultivating civic engagement beyond college.

Exhibit 5.11

College Experience and Environment Factors that Influence Alumni Civic Engagement

<i>College Experiences and Environment</i>	Voting ¹	Donating ¹	Volunteering ²	Mentoring Others ³
Institutional Selectivity				
Major	**4	**5		
Participated in a study-abroad program				
Held a work-related internship, co-op placement, field placement, or clinical assignment				
Had a mentor			+/**	+/**
Employed / working for pay		+/**		
Number of different types of extracurricular activities	+/*	+/*	+/**	+/**

Source: 2018 Horatio Alger Association Alumni Survey.

Notes: In addition to the variables shown in the table, the analyses included measures of sociodemographic characteristics, including gender, race/ethnicity, and whether respondent was a first-generation student, as well as a variable representing type of Horatio Alger Scholarship. “+” and “-” indicate positive and negative relationships, respectively; Blank cells indicate a non-statistically significant relationship; “*” and “**” indicate the relationship is statistically significant with 90% confidence ($p < .10$) and 95% confidence ($p < .05$), respectively. ¹Based on percentages of Alumni respondents who stated engaging occasionally, usually/often, or always in the behavior. ²Based on percentages of Alumni respondents who stated engaging in the behavior once a month or more frequently. ³Based on percentages of Alumni respondents who stated engaging in the behavior. ⁴ Arts and humanities majors reported higher values than those who majored in business. ⁵ Social science, STEM, and health professions majors reported lower values than those who majored in business; the health professions finding was statistically significant with 90% confidence.

Quality of Life

While careers and community engagement are vital outcomes demonstrating the importance of a college education for the good of the greater society, equally important are aspects of one’s own quality of life. Specifically, we focus on financial stability and financial stress, offering valuable perspective on the achievements and challenges of Horatio Alger Alumni in the years after college.

Financial Stability and Stress

Nearly 35% of Horatio Alger Alumni surveyed reported paying mortgage towards or owning their own homes, suggesting that a substantial amount of Alumni respondents are experiencing some degree of financial stability in the form of home ownership. This figure is comparable to the national home ownership rates. In 2018 (fourth quarter average), the home ownership rate was 36.5% for individuals under the age of 35; an age group similar to the average age of survey respondents at the time of data collection⁸.

The most direct measure of financial stress was based on whether Alumni respondents had received public assistance benefits in the past year. Eleven percent of survey respondents indicated they had received public assistance, based on the question: “In the past year, have you received benefits from any public assistance programs, such as SNAP (the Food Stamp Program), TANF (the Temporary Assistance for Needy Families Program), the Free and Reduced Price School Lunch Program, or WIC (the Special Supplemental Nutrition Program for Women, Infants, and Children)?”. As a point of comparison, a similar 11.5% of the U.S. population received SNAP in 2020⁹. While 11% is a small percentage of respondents, it translates to 140 Alumni survey respondents who lack the resources to support themselves and their families.

Group Differences. Former National Scholars fared well in terms of financial stability and stress relative to former State/Other Scholars. A greater percentage of National Scholar Alumni reported home ownership relative to State/Other Scholar Alumni (44% vs. 30%), and a smaller share reported receiving public assistance (7% vs. 12%).

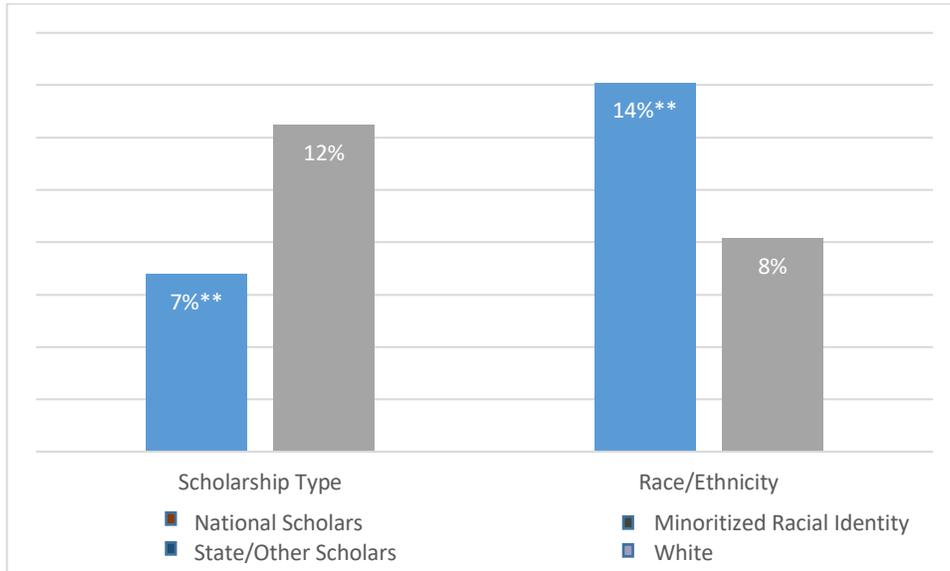
In addition, a large gap appeared in the percentage of White Alumni reporting home ownership relative to their racially minoritized counterparts (41% vs. 29%), while a greater percentage of racially minoritized Alumni reported receiving public assistance benefits than White Alumni (14% vs. 8%). Together, these differences offer additional evidence of inequitable outcomes, and highlight areas ripe for targeted support by the Horatio Alger Association, particularly for racially minoritized Alumni. These results are illustrated in Exhibit 5.12.

College Experiences Associated with Financial Stability and Stress. Upon examining the combination of college experiences that influence measures of financial stability and stress among Alumni survey respondents, while taking into account sociodemographic factors and scholarship types, several key findings emerged (see Exhibit 5.13). Among the most notable of these were the relationships between respondents who had majored in certain fields and markers of financial stability and stress. The consistent pattern shows business majors reporting the greatest amounts of financial stability (i.e., home ownership) and the least amount of financial stress (i.e., receiving public assistance) relative to Alumni who majored in non-business fields during college. Alumni who attended institutions that are more selective also reported experiencing less financial stress following college.

In addition, participating in a study abroad program in college, as well as having a mentor during college, were both associated with lower levels of home ownership following college. While these findings may indicate different career and regional choices (such as pursuing career paths in larger cities where home ownership is more difficult to achieve), they merit further exploration.

Exhibit 5.12

Differences in Receiving Public Assistance Benefits among Alumni



Source: 2018 Horatio Alger Association Alumni Survey.

Notes: **Groups differ at a statistically significant level, with 95% confidence ($p < .05$).

Exhibit 5.13

College Experience and Environment Factors that Influence Alumni Financial Stability and Stress

College Experiences and Environment	Home Ownership	Reported Stress	Received Public Assistance
Institutional Selectivity		-/**	
Major	**1	*2	*3
Participated in a study-abroad program	-/**	-/**	
Held a work-related internship, co-op placement, field placement, or clinical assignment			
Had a mentor	-/**		
Employed / working for pay			
Number of different types of extracurricular activities			

Source: 2018 Horatio Alger Association Alumni Survey.

Notes: In addition to the variables shown in the table, the analyses included measures of sociodemographic characteristics, including gender, race/ethnicity, and whether respondent was a first-generation student, as well as a variable representing type of Horatio Alger Scholarship. “+” and “-” indicate positive and negative relationships, respectively; Blank cells indicate a non-statistically significant relationship; “*” and “**” indicate the relationship is statistically significant with 90% confidence ($p < .10$) and 95% confidence ($p < .05$), respectively. ¹Arts and humanities, social science, and STEM majors reported lower home ownership rates than those who majored in business; the STEM finding was statistically significant with 90% confidence. ²Arts and humanities, social science, and “Other” majors reported higher values than those who majored in business. ³ Arts and humanities “Other”, and social science majors reported greater values than those who majored in business; the social science finding was statistically significant with 95% confidence.

The Role of Childhood Adversity

Given that varying exposure to childhood adversity is a point of connection across Horatio Alger Scholars, we also examined if differing levels of childhood adversity had a lasting influence on Alumni post-college outcomes discussed in this chapter, above and beyond the influence of type of Scholarship received, first-generation status, gender, and racial/ethnic identity. This analysis builds on the information contained in Chapter 2 and yields several notable findings.

First, when we assessed the potential link between level of exposure to childhood adversity and Alumni leadership aspirations, we found there to be a marginal connection between high levels of exposure to childhood adversity as compared to no exposure to childhood adversity when controlling for sociodemographic characteristics, like race/ethnicity and gender. Importantly, this link was positive. In other words, there was some evidence that high exposure to childhood adversity led to greater aspirations to hold leadership positions. We also observed that Alumni who had experienced a high level of childhood adversity (versus no childhood adversity) were more likely to report mentoring others after college. These findings are suggestive of the phenomenon of adversarial growth addressed in psychological research and discussed in emerging research that similarly draws on Horatio Alger findings^{10,11,12}.

In addition, we examined housing stability, to assess if there were connections between respondents' living situations and their levels of exposure to childhood adversity. First, we found positive links between exposure to childhood adversity and renting from a non-relative. In other words, compared to Alumni who reported no history of childhood adversity, those with histories of adversity were more likely to rent their home from a non-relative, but were less likely to rent from a relative. There was also evidence of a negative connection between having experienced a high level of adversity in childhood and paying mortgage, which became evident only after accounting for the influence of Alumni sociodemographic factors and type of scholarship received.

Finally, we also uncovered evidence suggesting that exposure to childhood adversity influences subsequent perceptions of job security, work/life balance, financial stress, receiving public assistance, and overall life satisfaction. Across all measures, exposure to high levels of childhood adversity had a harmful influence in the years following college, although the connection between receiving public assistance and high levels of adversity was marginal. For example, when compared to Alumni who reported no adverse childhood experiences, we uncovered a negative link between a high amount of childhood adversity and perceptions of job security, work/life balance, and overall life satisfaction. Furthermore, experiencing a high number of adversities during childhood (versus experiencing no childhood adversity) was positively associated with Alumni reports of feeling financial stress. Given that severe financial hardship was among the

most common childhood adversity experienced by Alumni, these findings highlight its lasting implications in adulthood and one that is not fully ameliorated by attaining a college degree, suggesting some negative lifelong repercussions of experiencing adversity in childhood^{13,14}.

Overall, these findings offer both encouragement and a warning regarding the lasting influence of adverse childhood experiences for Alumni Scholars. The well-documented strength and resilience of Horatio Alger Scholars may serve to protect them from many long-term, negative implications of their childhood adversity. However, our data also indicate long-term negative associations between childhood adversities—particularly high levels of adversity—and aspects of one’s job quality, financial stability, and life satisfaction. These challenging associations make it all the more impressive to find evidence that adversity drives Alumni aspirations to lead and commitment to mentoring others.

Conclusions

Horatio Alger Scholars are among the most high-potential young people in the nation. This potential is nurtured by the Horatio Alger Association, which supports Scholars with financial and other resources during their college years. As Alumni, following their undergraduate years as Horatio Alger Scholars, we found evidence of remarkable academic achievement, success in the workplace, and significant contribution to communities across America. Altogether, the evidence discussed in this chapter provides a glimpse into the value of the Association’s investment into the lives of its Scholars. However, the findings also point to the persistent inequities Scholars face in today’s society. These inequities often resulted in unequal outcomes based on race/ethnicity, gender, and first-generation college student status. Furthermore, the unique nature of Horatio Alger Scholars, whose backgrounds so often include substantial adversity in childhood, offer important insight into the long-term influence of childhood adversity in adulthood. By continuing and expanding on its important work, the Horatio Alger Association is uniquely well-positioned to help level the playing field for Scholars and, in so doing, contribute to broad societal solutions.

Key findings

This chapter aimed to provide insight into the lives of Horatio Scholars after college, and in doing so, to address two broad questions. The first question investigated how Horatio Alger Scholars experience life after college across important career, community, and quality of life dimensions, while identifying differences by type of Scholarship received, first-generation status, as well as Scholars’ gender and racial identities. The second question focused on the extent to which specific experiences in college and exposure to childhood adversity may have contributed to career, community, and quality of life outcomes following college.

What is clear from these data is that Horatio Alger Scholars are well worth investing in. As Alumni, Horatio Alger Scholars proved to be active participants in their communities, and through mentoring, volunteering, donating, and voting, they offered meaningful contributions to society. This is both remarkable and indicative of the broader societal impact of the work of the Horatio Alger Association.

There are encouraging signs that specific college experiences can play an important role in driving positive outcomes beyond college. Major, participating in extracurricular activities in college, and working during college, all had persistent and positive influences on post-college outcomes. In addition, mentorship in college had a powerful influence on a number of Alumni outcomes, including mentoring others, volunteering, and all perceived intrinsic aspects of job quality, such as doing something useful for society. This insight may be particularly valuable to the Horatio Alger Association, given its existing programming designed to enable mentorship of its Scholars; there is long-term value in such an investment.

Furthermore, National Scholars often engaged more in mentoring, volunteering, donating, and voting than recipients of other scholarship types. These were among the positive outcomes observed among National Scholars that exceeded those of recipients of other scholarship types. Two other important differences were found in levels of homeownership (in which rates of homeownership of National Scholars were higher than their counterparts), and levels of accessing public assistance (in which rates of receiving public assistance were lower among National Scholars than recipients of other Scholarship types). Together, these findings point to the relatively positive post-college positions of National Scholarship recipients as compared to State/Other Scholars.

Across a host of career outcomes, Horatio Alger Alumni are achieving success in their careers. However, success was not equally available to all Alumni, with inequities found by gender, and particularly by race/ethnicity. The racial/ethnic differences we identified in securing initial jobs out of college highlight some of the challenges that racially minoritized Alumni confront in the job market immediately after college.

In fact, racial differences were among the most persistent group differences that emerged from our analyses. In addition to career outcomes, they were also apparent in other domains. For example, quality of life data suggest racial/ethnic inequities with respect to both home ownership and receiving public assistance. It is possible that these differences might be connected, where, for example, early job attainment could plausibly be linked to home ownership, though our analyses did not address this particular explanation. Additionally, there were noticeable differences with respect to student loan debt, where the debt of Alumni with racially minoritized

identities exceeded those of their White counterparts. Racially minoritized Alumni respondents also more often reported that their student debt was an obstacle for achieving a more fulfilled and happy life.

However, our findings also point to unique strength among racially minoritized Alumni. For instance, leadership aspirations of racially minoritized Alumni were greater than those of their White counterparts, which mirrors the findings from our parallel examination of the undergraduate Scholars over four years of college (see Chapter 3). Additionally, a marginally significant finding indicated average graduate degree attainment of racially minoritized participants was almost five percentage points higher than that of White participants. Paired with the high leadership aspirations of racially minoritized Alumni relative to their White counterparts, we interpret this as a call to action, in which the Horatio Alger Association is in a unique position to target and tailor programming in a way that maximizes the impacts of its investments in the future of all Scholars, and begins to chip away at systemic barriers they confront after college.

Implications for support

Findings from this chapter suggest several possibilities that the Horatio Alger Association can pursue to enhance the impact of its important work. One notable finding demonstrates the gap between Alumni respondents with entrepreneurial ambition and those with entrepreneurial experience, which suggested an opportunity for mentoring or other programming focused on Scholars and Alumni with entrepreneurial inclinations. Additionally, the gap in leadership aspirations between female and male respondents suggests opportunity for interventions focused on enhancing leadership aspirations of female Horatio Alger Scholars. Furthermore, by targeting support to racially minoritized Scholars as they finish college and enter the job market, the Horatio Alger Association may be able to close the racial gap in job attainment upon graduation. As a final example, the positive links between experiences like internships and post-college leadership aspirations suggest an opportunity for the Horatio Alger Association to offer financial support for students interested in, but financially unable to, pursue internship opportunities, as an additional form of support to complement the work the Association already puts into enhancing Scholars' internship participation. By offering targeted supports that focus on addressing existing inequities Alumni confront in the labor market and in life after college, the Association may be able to further enhance the long-term life success and well-being of its Alumni.

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CHAPTER 6

LESSONS LEARNED AND FUTURE DIRECTIONS

The data make it clear that the Horatio Alger Scholars are strivers; striving upwards and beyond the conditions of their youth, towards greater stability, security, and opportunities to thrive. By providing critical support to Scholars, and through its forward-looking, rigorous research program, the Association similarly embodies the spirit of striving upwards.

The research presented in this report highlights the ways in which the Association is advancing data-driven, empirical evidence to inform its support of Scholars, while also contributing new knowledge to research and policy communities. Most importantly, the project is providing new knowledge from which the Association may wish to extend, and perhaps reimagine, the supports it offers Scholars throughout their college years, and in transition to the workforce and life beyond college.

Based on myriad findings offered in this report, and with an eye towards the future, this final chapter highlights lessons learned and future directions for the Association to consider. We ultimately conclude the report by returning attention to the data, where the 2017 Scholars were given the opportunity at the end of their fourth year of college to share how they define success in life, in their own words. Answers to this key question offer a compelling glimpse into Scholars' values and priorities, and effectively summarize many of the findings contained elsewhere in this report, providing a launch pad for the next phase of the Horatio Alger Association Scholarship Program.

Supporting Students with Prior Adversities

Through their encounters with adverse childhood experiences, Horatio Alger Scholars are distinguished by their resilience in the years leading into college. We have learned that exposure to greater numbers of prior adversities, particularly more than two adversities, differentiates Scholars in several important ways.

Scholars with more than two prior adversities before entering college, while exhibiting impressive and inspirational resilience, may nevertheless represent an important group on which to focus new outreach and support. The data suggest that Scholars who have childhood histories of physical or mental disability will benefit from additional tailored supports during their college years. Unfortunately, existing research offers little insight into how best to support these individuals, highlighting an important area for continued inquiry. However, the research and analyses conducted for the present study yield important findings for better understanding how best to support college students with histories of childhood adversity during their college years.

Expanding the Leadership Pipeline

One of the most influential factors in the development of leadership aspirations during college is Scholars' leadership aspirations before they get to college. This finding highlights value in targeted support—such as leadership interventions known to be effective in adolescent and college-aged populations—for Scholars *prior to* the start of their first year of college, and particularly for female Scholars who lagged behind their male counterparts upon entering college. What's more, these differences persisted as college progressed. This is particularly concerning in light of the dearth of female leaders in organizations ranging from government, to post-secondary institutions, to businesses.

To address leadership pipeline challenges, the Horatio Alger Association and its Members have the unique opportunity to act, with programming that focuses on developing leadership aspirations targeted to female Scholars. In fact, many of the Horatio Alger Association's Scholar Services that are already in place have the potential to serve this purpose, as do existing leadership interventions found to be effective in adolescent populations. Recent changes to the Association's Scholar selection process, in which Scholars are selected in their junior rather than senior year of high school, positions the Association particularly well to respond to these findings.

Once in college, the single most important influence on the development of leadership aspirations was Scholars' sense of belonging on campus. Yet for many college students, sense of campus belonging can be a struggle, one which is conceivably exacerbated for students surrounded by more advantaged peers. Services offered by the Horatio Alger Association, like HAA Connect, the Alumni Association, and mentorship, offer important complements to what is happening on college campuses, and can enhance sense of belonging for Horatio Alger Scholars. Yet questions remain about sense of belonging, how it develops and the types of targeted interventions that might further support its growth and development. There is more need to understand this important and influential factor, and to build programs that ensure Horatio Alger Scholars feel that they belong—and matter—to their college campuses. Emerging findings from additional research of these same longitudinal data suggest that Scholars who are more engaged in college—through curricular and co-curricular activities, having a mentor, and on-campus employment—experience enhanced sense of campus belonging. Encouraging Scholars to engage in these ways holds promise for increasing sense of belonging, thereby creating the conditions through which leadership aspirations are more likely to increase over the college years.

Financial Support in College and Career Awareness

There is a striking, near universal agreement among Scholars that the Horatio Alger Scholarship money has been influential in their ability to attain a postsecondary education, reduced their

need to rely on loans to finance college, and reduced their levels of debt. And these findings are consistent across all segments of the Scholar population. Overall, the Horatio Alger Scholarship is making a difference in the educational trajectories of Scholars by providing critical financial assistance.

The data present promising areas for renewed attention. With trends indicating that Scholars' awareness of early career salaries and the financial landscape post-graduation sharpens—coming into more realistic and clearer focus—over four years of college, Scholars would likely benefit from additional financial literacy training and access to career-focused information across different industries that align with their major fields of study. A clearer understanding of the employment and earnings prospects associated with different degree programs, and degree programs with stable, secure job prospects in today's economy—particularly those leading to positive change in society—could arm Scholars with the kind of information to further enhance their educational decision-making surrounding financing college and the economic prospects that await them following college.

Careers and Community Engagement Beyond College

Horatio Alger Scholars are among the most high-potential young people in the nation. This potential is nurtured by the Horatio Alger Association during Scholars' years in college, and extends beyond college. Drawing on Scholar Alumni data, following the undergraduate years as Horatio Alger Scholars, we find evidence of remarkable academic achievement, success in the workplace, and significant contribution to communities across America. Through mentoring, volunteering, donating, and voting, Horatio Alger Scholar Alumni make many meaningful contributions to society. This is both remarkable and indicative of the broader societal impact of the work of the Horatio Alger Association.

Across a host of career outcomes, Horatio Alger Alumni are achieving success in their careers. However, success was not equally available to all Alumni, with inequities found by gender, and particularly by race/ethnicity. The racial/ethnic differences we identified in securing initial jobs after college highlight some of the challenges that racially minoritized Alumni confront in the job market immediately following college.

Critically, racial/ethnic differences were among the most persistent group differences that emerged from our analyses. In addition to career outcomes, they are also apparent in other domains, such as life stability, as indicated through home ownership and receiving public assistance. Additionally, there were noticeable differences with respect to student loan debt, where the debt of Alumni with racially minoritized identities exceeded those of their White

counterparts. Racially minoritized Alumni more often reported that their student debt was an obstacle for achieving a more fulfilled and happy life.

The data also highlight the unique strength among racially minoritized Alumni. For instance, leadership aspirations of racially minoritized Alumni were greater than those of their White counterparts, which mirrors the findings from our parallel examination of the undergraduate Scholars over four years of college. What's more, graduate degree attainment of racially minoritized participants was almost five percentage points higher than that of White participants. Paired with the high leadership aspirations of racially minoritized Alumni relative to their White counterparts, the Horatio Alger Association is in a unique position to target and tailor programming in a way that maximize the impacts of its investments in the future of all Scholars, and begins to chip away at systemic barriers they confront after college.

The data suggest several strategies the Horatio Alger Association may pursue to enhance the impact of its important work. One notable finding demonstrated the gap between Alumni respondents with entrepreneurial ambition and those with entrepreneurial experience, which suggests an opportunity for mentoring or other programming focused on Scholars and Alumni with entrepreneurial inclinations. By targeting support to racially minoritized Scholars as they finish college and enter the job market, the Horatio Alger Association may be able to close the racial gap in job attainment upon graduation. Furthermore, the positive links between experiences like internships and post-college leadership aspirations suggest an opportunity for the Horatio Alger Association to offer financial support for students interested in, but financially unable to, pursue internship opportunities, as an additional form of support to complement the work the Association already puts into enhancing Scholars' internship participation.

Striving Upwards

Through this groundbreaking study and its many important findings, the Horatio Alger Association is armed with empirical evidence to expand and sharpen its critical support of Scholars, as the Association, itself, continues to *strive upwards*. Horatio Alger Association Scholarship program is achieving its central mission of ensuring the American Dream for future generations by assisting Scholars in their own *striving upwards* journey in overcoming challenges, completing higher education, launching careers, and achieving success in life.

A fundamental reason for the Horatio Alger Association's achievements in supporting Scholars is through its thoughtful, well-administered, and multifaceted forms of assistance, as well as its steadfast commitment to meeting Scholars where they are, by centering attention on young peoples' individual needs and unique aspirations. To punctuate the vast information contained

within this report, we offer a final piece of data that illuminate Scholars' definitions of success. Scholars were asked the simple yet profound question: *what does a successful life look like to you?* Answers to this key question provided at the end of the fourth year of college offer an important view of Scholars' values and priorities, in their own words.

Across the responses of nearly 300 Scholars, recurring themes emerged, highlighting notions of success rooted in:

- Achieving and maintaining a stable life emotionally, interpersonally, mentally/physically, and financially;
- Financial security;
- Generativity through giving back, helping others, serving one's community, aspiring for careers that contribute to positive social change, and providing a better life to one's children;
- Career achievement and the opportunity to pursue career goals;
- Satisfaction in careers, relationships, and with one's self;
- Setting, pursuing, and accomplishing goals; and
- Lifelong learning.

In the words of Scholars at the end of their fourth year of college, the following represent a small handful of particularly powerful reflections capturing these broad themes:

"Success is not a destination. It is the active ability to do the work I love while being in community with other passionate individuals. A successful life is where I am able to influence progress, take care of my needs, and support those who have made me who I am today."

"A successful life to me is where I can make a difference in the world. This can be related to social justice, change, and innovation but I really want to do something worthwhile for my local and global community."

"A successful life is a life where I do not have to worry about survival and where I am at a position to assist others without sacrificing my ability to survive."

Indeed, Scholars are striving upwards to successful lives marked by stability and security, making positive contributions to society and the next generation, embracing opportunities to pursue goals, and through a commitment to lifelong learning and personal growth.

As the Association embarks on its next rich chapter of supporting Scholars in an ever-dynamic and evolving nation, there remains much still to learn. While this report captures Scholar

outcomes and developmental trends through four years of college, the research does not end here. In fact, in summer 2023, additional data were collected on the post-college outcomes and career transitions of these same Horatio Alger Scholars who began college in the fall of 2017, and who were followed longitudinally throughout their time in college. By linking data presented in this report to new data that reaches beyond the college years among the same group of Scholars, the Horatio Alger Association will gain an even richer perspective on how to best support Scholars through their college education and into critical transitions to careers and life beyond college. In these and many more ways, the Horatio Alger Association and its resilient Scholars continue to *strive upwards*.

APPENDIX

SCALED MEASURES AND CONSTITUENT ITEMS

Leadership Aspirations: College Student Sample

Survey items (Year 1 = .88, Year 2 = .88., Year 3 = .90, Year 4 = .90) ^{a,b}
1. I want to be among the very best in my field
2. I want my work to have a lasting impact on my field
3. I aspire to have my contributions at work recognized by my employer
4. Being outstanding at what I do at my job is important to me
5. I plan to obtain many promotions in my organization or business
6. I hope to become a leader in my career field
7. When I am established in my career, I would like to manage other employees
8. I want to have responsibility for the future direction of my organization or company
9. I hope to move up to a leadership position in my organization or business

Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. Inter-item (*alpha*) reliabilities are shown in parentheses. The measure is adapted from Gregor and O'Brien's (2016) CAS-R: Leadership subscale¹. Survey questions were phrased as "Please indicate the extent to which you agree or disagree with the following statements," with response options 1 ("Strongly disagree") to 5 ("Strongly agree").

Leadership Aspirations: Alumni Sample

Survey items (.88) ^{a,b}
1. I hope to become a leader in my career field
2. When I am established in my career, I would like to manage other employees
3. I want to have responsibility for the future direction of my organization or compass
4. I hope to move up to a leadership position in my organization or business

Source. 2018 Horatio Alger Association Alumni Survey.

Notes. Inter-item (*alpha*) reliability is shown in parentheses. The measure is adapted from Gregor and O'Brien's (2016) CAS-R: Leadership subscale¹. Survey questions were phrased as "Please indicate how much each of the following statements applies to you," with response options 1 ("Not at all true of me") to 5 ("Very true of me").

Sense of Campus Belonging

Survey items (Year 2 = .89, Year 3 = .90, Year 4 = .87) ^{a,b}
1. I feel comfortable on campus
2. I am a part of my campus community
3. I am committed to my campus community
4. I am supported in my campus community
5. I am accepted by my campus community

Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. Inter-item (*alpha*) reliabilities are shown in parentheses. The measure is adapted from Mayhew et al. (2018)². Survey questions were phrased as "Please indicate the extent to which you agree or disagree with the following statements," with response options 1 ("Strongly disagree") to 5 ("Strongly agree").

Academic Motivation

Survey items (Year 1 = .75, Year 2 = .66, Year 3 = .69, Year 4 = .73)^{a,b}

1. I am willing to work hard in a course to learn the material even if it won't lead to a higher grade
2. When I do well on a test, it is usually because I am well prepared, not because the test is easy
3. Getting the best grades I can is very important to me
4. I enjoy the challenge of learning complicated material or concepts

Source. 2017-21 Horatio Alger Association Longitudinal Survey.

Notes. Inter-item (*alpha*) reliabilities are shown in parentheses. The measure is adapted from Pascarella and Colleagues (2007)³. Survey questions were phrased as “To what extent do you agree with the following statements,” with response options: 1 (“Strongly disagree”) to 5 (“Strongly agree”).

ABOUT THE AUTHORS

Gregory C. Wolniak

Dr. Gregory Wolniak is Professor of Higher Education at the University of Georgia's Louise McBee Institute of Higher Education, where he conducts interdisciplinary research on the socioeconomic effects of college. His expertise centers on how individuals' socioeconomic trajectories are affected by their experiences in college, educational choices, and institutional environments, and the degree to which learning and developmental gains made during college translate to post-college outcomes. Wolniak has published extensively on the career and economic influences of the college experience, helped launch the Affordability and Transparency Initiative aimed at improving the ways institutions communicate their tuition and cost information to the public, and co-authored the 3rd volume of *How College Affects Students: 21st Century Evidence that Higher Education Works* (2016, Wiley/Jossey-Bass). His work has been widely featured in popular media outlets, such as *Psychology Today*, *The Atlantic*, *The Chronicle of Higher Education*, *Inside Higher Education* and *MarketWatch*, in addition to producing more than 50 scientific publications. Since 2011, Wolniak has collaborated closely with the Horatio Alger Association to expand the scope and rigor of their research program, and the longitudinal study he helped launch in 2017 ranks among Wolniak's most proud research accomplishments.

Emily C. Chen-Bendle

Emily Chen-Bendle is a doctoral candidate at the Louise McBee Institute of Higher Education, University of Georgia, and holds a BA in English from Columbia University, an MBA from the Darden School at the University of Virginia, and an EdD from Western University (formerly the University of Western Ontario, Canada), with a focus on leadership-based solutions to improve online student engagement in a university context. Her research interests include the development of leadership and noncognitive (or "soft") skills during college, their relationship to career outcomes, and identifying empirically supported strategies for reducing gender disparities. Chen-Bendle's dissertation focuses on the relationship between the development of leadership aspirations during college and post-college career outcomes, for which she draws on data from the 2017-21 Horatio Alger Association Longitudinal Survey, as well as data recently collected on Scholars' post-college attitudes and experiences. In addition to scientific publications in the *Journal of Higher Education*, *AERA Open*, and the *Journal of Continuing Higher Education*, she has co-authored six of the Horatio Alger Association's *Investment in America's*

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Dr. Sarah C. Burman received her Ph.D. in 2023 from the Louise McBee Institute of Higher Education at the University of Georgia, and currently serves as the Outreach and Transition Coordinator for Student Disability Services at Kennesaw State University. Her research centers the voices and experiences of disabled students in higher education and her work aims to reduce the barriers to college access and success for these students. Prior to serving in her current position, Dr. Burman was a research assistant working for Dr. Gregory Wolniak and with Emily Chen-Bendle, and held lead roles collecting data for the third (2020) and fourth-(2021) year follow-ups of the Longitudinal Study of 2017 Scholars. Burman has co-authored numerous reports based on the Horatio Alger Association's Longitudinal Data, including two *Investment in America's Future* reports and a 2022 peer-reviewed article in the *Journal of College Student Development*.

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