What Predicts Successful Career Entry? An Evolving Understanding of Thrive Scholars' Graduates

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Abstract

This follow-up study of the career success of scholars in Thrive Scholars, a six-year program for high-achieving students from low-income backgrounds, including new data from a second graduation class. We conducted regression analyses to determine predictors of placement in a meaningful first destination, starting salary, and sense of control. Our first analysis using only one class' data showed that graduating with STEM degree positively predicted salary earnings, and having three or more professional connections nearly predicted attaining a meaningful first-destination placement. The new results indicate that STEM degree continues to be predictive of salary earnings, but having a STEM degree and a higher college GPA is predictive of placement. Results underscore the importance of overall academic success—particularly STEM—for career placement and earning potential.

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Purpose

Thrive Scholars, a six-year program for high-achieving students from economically underresourced backgrounds (i.e., low-income students of color and first-generation college students), provides academic preparation, socio-emotional support, industry-specific career coaching, and financial scholarships to advance their economic mobility through admission to top colleges, college graduation, and successful career entry.

We have seen our Scholars succeed in successful career entry—almost 80% land a meaningful first-destination placement, full-time employees make over $70,000, and they have a high sense of control over their lives—but what we wanted to know more about was: what about their college experience predicted that success? One year ago, we analyzed data from our College Class of 2022 and found some initial findings that graduating with a STEM degree positively predicted salary earnings and having three or more professional connections nearly predicted attaining a meaningful first-destination placement (Parrott & Skinner-Roy, 2024). Now that we have data from the College Class of 2023, we have updated our analysis for a higher sample size and power level to draw further conclusions. The new data show additional findings—although STEM major continues to predict salary earnings, STEM major and college GPA also predicted meaningful first-destination placement. We discuss the follow-up study in this paper.

Underresourced Students and Career Development

Underresourced students (e.g., low-income students, first-generation students, and students of color) have been disadvantaged by the current system in the US, simultaneously making these groups less likely to consider, apply to, and enroll in selective colleges (Hoxby & Avery, 2012) and giving them added benefits in terms of their own social and economic mobility when they do (Chetty et al., 2019, 2023).

Despite notable efforts to dismantle racial injustice and improve access for underresourced communities over the years, the stratification in higher education matriculation and graduation remains the same (Bastedo & Jaquette, 2011; Posselt et al., 2012), and disparities are particularly wide in STEM access and success (Morgan et al., 2022; Toven-Lindsey et al., 2015), which are the majors that garner the highest salaries for graduates (NCES, 2020).

In terms of career attainment, researchers have identified several developmental outcomes between college entry and career entry—both academic (including, but not limited to, STEM persistence), and

career (including, but not limited to, social capital)—which have been identified as important for students to land meaningful career first destinations that boost personal upward mobility as well as diversify top leadership in the US (Galbraith & Mondal, 2020; Parks-Yancy, 2005; Salticoff, 2017; Townsley et al., 2017).

The current research study evaluates how our program may support underresourced students' successful career entry and upward economic mobility by providing support before, during, and after college. The program focuses primarily on academic preparation (e.g., students attend two six-week academically intensive summer sessions before their senior year in high school and first-year in college) and career development (e.g., early exposure to careers that provide economic mobility for students in high school and industry-specific coaching and networking throughout their time in college). Together, academic preparation and career development support the development of knowledge, skills, and attainment of relevant high-impact career experience in college.

This follow-up study seeks to better understand the impacts of these two foci of programming on these three career success outcomes: 1) landing a meaningful first destination within six months of graduation (defined as having full-time employment, enrollment in graduate school, or a purposeful gap year that leads to full-time employment or graduate school enrollment), 2) attaining a first salary that is comparable to their peers from other top colleges, and 3) having a sense of control over their life trajectory as they are leaving college.

Methods

To explore the success of Thrive in supporting students to attain career success, we used regression analysis to answer the following question: *What aspects of Thrive Scholars' programming predicts career success for students in the program?*

Data Sources

Data come from two sets of surveys administered at graduation and six months post-graduation as well as other data supplied by students throughout their college career. Data were collected from 79 members of the College Class of 2022 (N=89; response rate=89%) and 77 members of the Class of 2023 (N=83; response rate 93%).

The surveys focus on collecting information on first-destination outcomes, including employment details (i.e., role, organization, location, salary), graduate school enrollment (i.e., school, program, expected graduation year), professional network size, and sense of control. The survey was developed internally by staff using best practices from the field.

Background, predictor, and dependent variables statistics are available in Table 1.

Table 1. Background, Predictor, and Dependent Variable Statistics.

Background Variables	Frequency	Percent	mean	sd	min	max
Race/Ethnicity (n=172)						
Asian	30	17.4%				
Black/African American	46	26.7%				
Hispanic/Latino	93	54.1%				
Multiracial	30	17.4%				
White	3	1.7%				
Gender (n=172)						
Man	65	37.8%				
Nonbinary	5	2.9%				
Woman	102	59.3%				
Family Background Income (n=179)			$32,834	(not included in analysis)		
High School GPA (n=179)			3.82	(not included in analysis)		
Predictor Variables						
College GPA (n=163)			3.45	0.39	2.18	4.4
STEM Major (n=167)						
No	84	50.3%				
Yes	83	49.7%				
Professional Network (n=149)						
Three or More Connections	99	66.4%				
Fewer than Three Connections	50	33.6%				
Dependent Variables						
Meaningful First Destination* (n=156)						
No	35	22.4%				
Yes	120	77.6%				
Sense of Control (n=148)						
1 - Not Confident	4	2.7%				
2 - Somewhat Confident	25	16.9%				
3 - Moderately Confident	39	26.4%				
4 - Very Confident	57	38.5%				
5 - Extremely Confident	23	15.5%				
Starting Salary** (n=80)			$72,901	34,116	21,600	200,000

**Meaningful First Destination includes full-time employment, graduate school enrollment, or a purposeful gap year to attain full-time employment or graduate school enrollment.*
***Starting salary for full-time employees.*

Dependent Variables

Career Success. We defined three career success variables, aligned to the program's outcomes: self-reported attainment of a meaningful first destination within six months of graduation (i.e., full-time employment, graduate school enrollment, or a purposeful gap year to attain full-time employment or graduate school enrollment; N=156; 78% attained); self-reported starting salary (full-time employees, N=80; mean=$72,901); self-reported sense of control (i.e., students reported confidence from 1 "not at all confident" to 5 "extremely confident" to the following modified sense of control scale: "Given the first job or opportunity you are entering now, how confident are you that you are on a path for success so that in the next decade, you will be in control of your own life" (N=148; mean=3.5).

Background Variables

Race. Students self-identified their race/ethnicity, which were dummy coded as the following: Hispanic/Latino if they identified as Hispanic/Latino alone or along with other racial and ethnic identities (54%), Black if they identify as Black alone or along with other racial/ethnic categories except Latino (27%), Asian if they identify as Asian alone or along with other racial/ethnic categories except Latino or Black (17%), or white (2%).

Gender. Students self-reported their gender identity, they were 60% women, 38% men, and 2% nonbinary.

We did not include certain background variables given that the program selects for these characteristics and the vast majority of our students are first-generation, low-income, and have high GPAs (though they are available in Table 1).

Academic Predictor Variables

College GPA at graduation. Students reported their College GPA at graduation (and provided their transcripts to be audited internally by staff); GPA was reported on a 0.0-4.0 scale, and the mean GPA for the cohort was 3.45.

STEM major at graduation. Students self-reported their major at graduation (and provided their transcripts to be audited internally by staff); 50% of students graduated with a major in STEM.

Career Development Predictor Variables

Professional network size at graduation. Students self-reported their number of professional connections at graduation from "1" to "6 or more" by responding to the following question: "Consider people in your network who can support your professional growth (for example, who would meet with you for lunch to discuss your career goals, or would write a letter of recommendation for you, etc.). Can you think of people in this category? If so, how many come to mind?" In total, 66% reported three or more people, 34% reported fewer than three.

Regression Results

We ran three regression analyses, one for each dependent variable using all five independent variables (OLS regression for meaningful first destination, a binary variable, and sense of control, an ordinal variable; linear regression for starting salary, a continuous variable; Table 2). Two major findings became clear: First, accounting for all other variables, having a STEM degree was a significant predictor of starting salary (p=.045); having a STEM degree added a mean of $15,989 to the salary of a graduate, holding all other variables constant. Second, accounting for all other variables, having a STEM degree and college gpa were significant predictors for landing a meaningful postgraduate first destination (p=.026; p=p023). This means that STEM graduates were an average of 16% more likely to have attained a meaningful first destination, holding all other variables constant, and each one point increase of college GPA accounts for 23% increase in likelihood of attaining a meaningful first-destination (or, more relevantly, each 0.1 increase in GPA accounts for a 2.3% increase in likelihood of attaining a meaningful first-destination).

Table 2. Regression Results.

	Dependent Variable		
Independent Variables	Post Grad Plans	Starting Salary	Sense of Control
Race/Ethnicity			
Hispanic/Latino	.035 (.083)	-22,883** (8,679)	-.118 (.212)
Asian	-.181 (.104)	-21,566 (12,550)	-452 (.264)
White	.252 (.253)	-12,298 (25,200)	.260 (.648)
Gender	.073 (.073)	-9,154 (7,984)	-0.215 (.188)
Reported GPA	0.234* (.104)	22,626 (11,786)	-.178 (.265)
Current Major STEM	.160* (.069)	15,989* (7,848)	-.061 (.265)
Professional Network	.113 (076)	-1,869 (8,244)	.256 (.195)
Constant	-.229 (.361)	9,799 (41,479)	4.235 (.922)
Observations	147	80	148
R2	0.15	0.2	0.06

Note: Standard errors in parentheses; small n for white students.
*p<0.05; ** p<.01; ***p<.001

Finally, the results of this study are important because of what we did not find. With the addition of the second college class, the number of professional connections was no longer predictive of attaining a meaningful first-destination placement, which was surprising given its importance in attaining a career placement (Parks-Yancy, 2005; 2012; Petersen et al., 2000; Reeves & Deng, 2022). We expect that with further research, or more investigation of trends within this data, this may be more important than this regression analysis shows.

There were no significant predictors in the regression analysis for sense of control, which is an important goal for programming as agency influences students' economic and social well-being post-college as they navigate upward mobility and a new social and economic class (Killingsworth, 2021). We will continue measuring sense of control and its potential impact on career success.

Limitations

There are, of course, several limitations to this work. The first of which is the sample itself, because we explore these outcomes within the program's graduating class but lack a comparison group and because we recruit such high-achieving high school students who many believe are already equipped to succeed academically in college. Though we cannot address the first concern, we know that the second is critical to dispel—there is significant research that shows that high-achieving students who come from economically underresourced backgrounds are more likely to undermatch and underperform in college compared to their peers (Hoxby & Avery, 2013; Wyner, Bridgeland, & Diluilio, 2009). In addition, the R-squared values are low, though the trends are useful to examine.

Significance

These results underscore one of the main goals of the program: supporting students to succeed academically in STEM, by providing rigorous academic support before and throughout college, which boosts economic outcomes for college graduates. The program's main goal is to support students to achieve high college GPAs by preparing academically for two six-week summer sessions prior to college—and given the high GPAs of students, the program has garnered much success and attention. That college GPA is a predictor of attaining a first-destination placement is also critical, given that underresourced students like those served by this program have systematically been disadvantaged and have tended to have lower GPAs in college and thus get auto-rejected from job applications due to GPA requirements more quickly (Maurer, 2020).

Given the disparities in STEM equity (Morgan et al., 2022; Toven-Lindsey et al., 2015), supporting students to access and succeed in STEM is critical as it relates to salary outcomes for graduates (Zhang, Liu, & Hu, 2024). In addition to academic support, we are also exploring how to better provide opportunities for Scholars to build STEM-specific technical skills (e.g., coding and lab skills) in addition to the academic programming they receive in the summers prior to college. These technical skills will support both their academic achievement and their success in the job market. As a field, we think it is incumbent upon K12 institutions, universities, and nonprofits to mitigate or eliminate the barriers that underresourced students face in gaining access to and success in STEM well before and during college.

Additionally, we found that women continued to attain meaningful first destinations at higher rates as men (81% compared to 71% of men) but were significantly less likely to graduate with a STEM degree (42% compared to 62% of men), which was a significant predictor of starting salary. Because of this, we are exploring additional ways to support women to enter into high-salary roles, in part by providing support to enter into and succeed in STEM majors and careers. This trend mirrors a particularly persistent national gender gap in the field that starts early and persists long-term (Palacios et al., 2022), and we encourage other programs and K12 institutions to continue to boost equity in STEM for women. This is especially important for women of color and those from economically underresourced backgrounds who stand to uplift families and communities.

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