

2022 VOL. 4

TRIO—THE NEXT FORTY YEARS

Opportunity Matters:
Journal of Access and
Opportunity in Education

Opportunity Matters Journal

Editor

Terry Vaughan III

Associate Editor

Erick Montenegro

Editorial Assistant

Alysia Genao

Editorial Assistant

Marisha Addison

Editorial Assistant

Nicole Brunt

Opportunity Matters: Journal of Access and Opportunity in Education (ISSN 2770-1255) is an annual publication owned and produced by the Council for Opportunity in Education. Editorial offices are located at 1025 Vermont Avenue N.W., Suite 400; Washington, D.C. 20005-3516; Phone 202-347-7430; E-mail: pell@pellinstitute.org; Website: opportunitymatters.pellinstitute.org.

Copyright 2022 by Council for Opportunity in Education.

All Rights Reserved. No part of this journal may be reproduced or used in any manner without written permission from the Council for Opportunity in Education except for the use of quotations for academic and educational material.

Disclaimer: The Council for Opportunity in Education and Editor(s) cannot be held responsible for errors or any consequences arising from the use of the information contained in this journal. The views and opinions expressed do not necessarily reflect those of the Council for Opportunity in Education or Editor(s), nor does the publication of advertisements constitute any endorsement by the Council and Editors of the products advertised.

ISSN 2770-1255 (Online)

ISSN 2770-1247 (Print)

Printed in the USA (Washington, DC) by the Council for Opportunity in Education.

Table of Contents

Investigating Gender and Racial/Ethnic Differences in Graduate School Enrollment Rates among McNair Scholars Stephaine M. Breen and Antoinette Newsome	02
Representation has changed: The need to update graduate student development theory to reflect marginalized populations' experiences in the PhD Rachel Renbarger, David Rehfeld, Terrill Saxon, and Ariel Steele	20
"I Feel I matter a Little Less to the School": Implications of COVID-19 Pandemic Through the Lens of Latinx, Low-Income, and First-Generation Students in Washington State Christina Torress García, Lizeth Bañuelos, and Alexandria Coronado	36
Entering the Unknown: What Are Possible Futures for TRIO? John Groutt	52
The Unheard: What College Readiness Means to TRIO Parents Kevin D. Todd and Reman S. Jabar	70
STEMTank – Implementing an Online Engineering Summer Camp for Underprivileged High School Students in Response to COVID-19 Matthew J. Traum, Adrienne L. Provost, and Jodi Doher	86
TRIO Works: The Impact of Student Support Services on the Career Self Efficacy of First-Generation Students James K. Winfield	102
The Needs of Students Navigating College While Homeless: How the Federal TRIO Program Can Support Them Bertha Fountain	126
First Gen/Gen Z: Reimagining Secondary Education Supports through Literacy Partnerships Libby Adjei and Sarah J. Donovan	142

Investigating Gender and Racial/Ethnic Differences in Graduate School Enrollment Rates Among McNair Scholars

Authors:

Stephanie M. Breen

University of Maryland
smbreen@umd.edu

Antoinette Newsome

University of Maryland Baltimore County
acnews@umbc.edu

Abstract

The McNair Scholars Program aims to increase graduate school enrollment for low-income, first-generation, and underrepresented minority students with the goal of Ph.D. attainment. This study explores graduate school enrollment rates among University of Maryland, Baltimore County (UMBC) McNair Scholars using Astin's (1993) IEO Model. Utilizing UMBC McNair Program's Annual Performance Reporting (APR) datasets from 2010-2020, we conduct cross-tabulations and logistic regression to examine what input and environmental factors contribute to graduate school enrollment for 117 UMBC McNair Scholars. While findings reveal no statistical significance in input and environmental factors, we found differences in enrollment rates across some racial/ethnic and gender groups. Implications of this study suggest that provisions for data collection and self-reporting practices must become standardized to increase program and evaluation effectiveness.

Keywords: gender, graduate school enrollment, McNair scholars, outcomes, race

Introduction

There is a greater need to increase graduate students to meet workforce demands and to remain competitive in the new global economy (Council of Graduate Schools, 2008). Graduate students participate in groundbreaking research, increase the competitiveness of the American workforce, become the future leaders and innovators of education, non-profit, and government sector spaces, and enhance society with their skills and training (Council of Graduate Schools, 2008). Notably, there has been a significant push from higher education institutions to increase the number of graduate Students of Color with hopes of diversifying the professoriate (Martinez, 2019). By doing so, there is a higher chance of more diverse ideas and work contributions reflective of the people they serve. Additionally, this push will increase the representation of role models and mentors who share the racial/ethnic identities of Students of Color in higher education spaces. Increased representation can contribute to an individual's self-concept of pursuing similar careers or retention in higher education (Hagedorn et al., 2007).

Despite the desire to increase graduate student diversity, there are significant disparities in attaining graduate degrees when race/ethnicity is considered. According to the Council of Graduate Schools, only 24.1% of the graduate student population identifies as domestic Students of Color (Espinosa et al., 2019; Walsh et al., 2021). In fact, Students of Color are disproportionately underrepresented in STEM graduate programs and fields of study associated with the most lucrative job prospects and earning potentials (Espinosa et al., 2019; Walsh et al., 2021; Zhou & Gao, 2021). Of those who enter higher education, 40% of first-generation students are African American, Hispanic, or American Indian (Roksa et al., 2016). These facts point out a gap in graduate school attainment and enrollment for first-generation Students of Color.

To engage this population in graduate pursuits, institutions have developed outreach and pipeline programs to increase enrollment into graduate school. For example, The Ronald E. McNair Scholars Program is designed to prepare underrepresented and minoritized students for doctoral studies through research and scholarly activities (McNair Scholars, 2020). The McNair Scholars Program is a federally funded TRIO program supporting 151 institutions across the United States and Puerto Rico (McNair Scholars, 2020). McNair Scholars are participants who demonstrate significant academic potential and identify as low-income, first-generation, and/or traditionally underrepresented in graduate education. While pipeline programs such as McNair widen the pathway to graduate school and increase diversity in the professoriate, we do not know enough about what program factors influence graduate school enrollment rates.

Much of the extant research on graduate school enrollment and attainment has exposed how personal and environmental factors shape people's career choices (Finkelstein, 1984; Gustad, 1960; Kirk & Todd-Mancillas, 1996; Lindholm, 2004). However, very little research has focused exclusively on the factors that shape individuals' decisions to pursue graduate school for the general population (Lindholm, 2004). Scholarship of graduate degree aspirations, choice, and enrollment for underrepresented minorities is rarer (Cuellar & Gonzalez, 2019; Lindholm, 2004; Ramirez, 2013; Strayhorn, 2010). Additionally, many of the McNair Program studies do not consider their participants' differential experiences across race and ethnicity. Instead, researchers have grouped students into larger demographic categories (i.e., first-generation, low-income, and Students of Color) when conducting data collection and/or analysis.

Thus, this study aims to examine what programmatic factors influence graduate school enrollment for McNair scholars considering race/ethnicity and gender. Using cross-tabulations and logistic regression analysis, this study will utilize APR data from the McNair Program at the University of Maryland, Baltimore County (UMBC) to answer the following research questions:

1. Among McNair Scholars, are there differences in graduate school enrollment across gender & race/ethnicity?
2. What input and environmental factors influence graduate school enrollment for McNair Scholars from the graduating classes of 2010-2020?

The findings of this study will inform McNair Program practitioners and stakeholders' understanding of what environmental factors and programmatic practices influence graduate school enrollment rates of Students of Color. Additionally, increasing discourse and research around the intersection of graduate-level education, race/ethnicity, and gender is timely as the call to diversify the workforce and equalize employment outcomes for People of Color has been documented in recent literature (Chamorro-Premuzic, 2020; Council of Graduate Schools, 2008; English & Umbach, 2016; Perna, 2006; Posselt & Grodsky, 2017; Williams, 2020; Zhou & Gao, 2021)

Demographic Information for First-Generation Students of Color

This section describes the undergraduate experiences and outcomes of first-generation Students of Color as they are becoming an increasingly large population on college campuses. During the 2015-2016 academic year, 56% of undergraduate students were first-generation (RTI International, 2019). In 2018, 30% of first-year students identified themselves as first-generation (Forrest Cataldi et al., 2018). A large proportion of first-generation students consists of underrepresented minorities. About 40% of traditional first-generation students attending a four-year institution identify as African American, Hispanic, or American Indian (Roksa et al., 2016).

First-generation students experience many difficulties while attending college, including poor academic performance, problems integrating into the campus community, lack of family support, and low graduation rates (Mehta et al., 2011). The experiences of first-generation students become exacerbated when you view their outcomes using a racial/ethnic lens. When disaggregating data and examining outcomes by race, you get more significant retention gaps (Malcom-Piqueux & Bensimon, 2017). The Race and Ethnicity in Higher Education Report found that Black students have the lowest undergraduate completion rate, followed by Hispanics (Espinoza et al., 2019). More specifically, at four-year public institutions, the completion rate for Black students is 46%, and 55.7 % for Hispanics compared to 71.1% of their white counterparts (Espinoza et al., 2019). While these statistics are not exclusive to first-generation students, many scholars found that low-income, first-generation college students are disproportionately Students of Color (Hébert, 2018; Woosley & Shepler, 2011). The following section describes necessary collegiate experiences impacting graduate school aspirations and enrollment for first-generation Students of Color.

Factors That Contribute to Graduate School Aspirations & Enrollment

The undergraduate experiences of first-generation Students of Color make a lasting impression on subsequent years. Many first-generation Students of Color need assistance in considering graduate education due to limited knowledge and exposure to this educational level and the benefits it may bring over those associated with a bachelor's degree (Rampell, 2014). Factors such as faculty interactions and mentoring, participating in research activities, involvement in pipeline programs, and undergraduate majors are essential considerations for graduate school interest and enrollment.

Faculty Interactions & Mentoring

According to numerous research studies, positive and affirming interactions with faculty advisors, research mentors, and professors can enhance Students of Color's aspirations for attending graduate school (Cuellar & Gonzalez, 2019; Lindholm, 2004; Ramirez, 2013; Trolan & Parker, 2017). Interactions with faculty members can improve cognitive growth, socialization, retention, and academic motivation and achievement (Trolan & Parker, 2017). In her study on academic career choices and aspirations of a diverse group of faculty members, Lindholm (2004) found that two-thirds of the faculty participants explained that their interest in entering an academic career stemmed from their undergraduate research experiences and being mentored by a faculty advisor or professor. Interactions with faculty members commonly helped participants identify their interests in pursuing graduate school plans (Lindholm, 2004).

In a separate study, Hanson et al. (2016) found that good teaching practices, frequent interactions with faculty, challenging classes, experiential learning, and non-classroom interactions enhanced post-baccalaureate degree aspirations for Students of Color. For Latino/as Cuellar and Gonzalez (2019) and Ramirez (2013) found that students who had frequent interactions with faculty through mentoring, participation in undergraduate research programs, and working on campus increases interest in graduate school. For Black male students, Woodward and Howard (2015) found that having a lack of mentorship, a limited understanding of the Ph.D. process, and encountering systemic obstacles yielded low numbers of Black males considering a Ph.D. (Woodard & Howard, 2015).

In contradiction with the extant literature, Trolan & Parker (2017) found that Asian American/Pacific Islander and Latino/Hispanic students were less likely than white students to benefit from faculty interactions inside and outside the classroom. These findings imply that faculty interactions may not always influence Students of Color's aspirations for graduate school. Despite Trolan & Parker's (2017) work, most literature identifies mentoring and positive faculty interactions as a positive source of enhancing students' desires to attend graduate school (Inkelas, 2011).

Participating in Research Activities

Evidence suggests that across disciplines, becoming involved in undergraduate research through faculty and programming increases and sustains students' interests and aspirations to attend graduate school (Cuellar & Gonzalez, 2019; Hanson et al., 2016; Lindholm, 2004; Ramirez, 2013; Strayhorn, 2010; Trolan & Parker, 2017). Engagement in undergraduate research can increase students' attraction to the sciences compared to students who do not participate in any research activities (Strayhorn, 2010). Strayhorn (2010) found that engagement in summer undergraduate research positively influenced Students of Color's aspirations for graduate study. A student's exposure and engagement in summer undergraduate research sustained rather than initiated students' aspirations in graduate study. Students who collected or analyzed data during the summer had higher degree aspirations than their peers who did not engage in data collection or analysis (Strayhorn, 2010). These findings affirm earlier discoveries of early academic career aspirations for faculty, one objective of the McNair Scholars Program.

More recently, Woodward and Howard (2015) found that Black males in their first year of undergraduate took a research course that allowed them to work collaboratively, conduct graduate-level research, and gain socialization skills that ultimately influenced their interest in pursuing a Ph.D. Before taking that course and becoming involved in a program geared toward Black male excellence, students were unaware of what academic research entailed and the various opportunities and pathways available in research and teaching (Woodward & Howard, 2015). For example, specific experiences in research can yield increased degree aspirations for Students of Color. These experiences include navigating databases, examining components of methodological and theoretical frameworks, developing protocols, conducting semi-structured and focus group interviews, presenting research in written and oral form, learning about careers in research, and faculty research mentors (Strayhorn, 2010; Woodward & Howard, 2015). These experiences ultimately affirm students' abilities and desire to pursue graduate studies.

Involvement in Pipeline Programs

Students who engage in undergraduate research become more confident in their research abilities, more enthusiastic about their academic discipline, and interested in obtaining higher levels of education in their field (Strayhorn, 2010). With this in mind, universities and colleges have established resources and funding to create research programming for undergraduate students to stimulate early interests in pursuing research and advanced degrees in various fields (Strayhorn, 2010). Some government-sponsored programs, such as the National Science Foundation, National Institutes of Health, and TRIO Programs (specifically the Ronald E. McNair Post-Baccalaureate Achievement Program), are designed to incorporate a faculty-supervised research component that supports undergraduate research experiences for Students of Color (Strayhorn, 2010).

Outreach and pipeline programs create supportive pathways for minoritized populations to matriculate and persist in graduate education (Gazley et al., 2014). While they serve many functions, outreach and pipeline programs are adeptly structured to bring attention to graduate education fields and degrees, supplement missing skills, and aptly prepare individuals for graduate education degree-seeking programs (Gazley et al., 2014). From a student perspective (specifically a first-generation or member of an underrepresented group), outreach programs can be an opportunity to explore a career path and develop or strengthen skills to build a competitive application and compete in a rigorous graduate program. Outreach and pipeline programs are also examples of how we understand and address this population's aspirations and graduate school choices to support their path to complete graduate education and participate in academic careers (Gazley et al., 2014).

The Role of Undergraduate Major

Knowledge about pursuing a graduate education varies by major. First-generation Students of Color are less likely to know the difference between majors and may choose options that do not suit their specific educational needs and goals (Arnold et al., 2012). Research shows that some academic disciplines have lower graduate enrollment than others (Perna, 2006; Zhang, 2005). For example, business majors are the least likely to attend graduate school because this field produces immediate employment prospects (Baum & Steele, 2017; Hanson et al., 2016). The number of Students of Color in humanities Ph.D. programs is lower than the overall average of Students of Color with PhDs (Winkle-Wagner & McCoy, 2016).

Regarding social sciences, a study about Black undergraduate males in education found them less likely to pursue a graduate education due to their undergraduate major coupled with a limited representation of males in education and minimal knowledge about applying to graduate school (Woodward & Howard, 2015). Biology, mathematics, science, and psychology students are more likely to enroll in graduate school than in other fields, notably male-dominated. There are no specific statistics on the number of first-generation Students of Color in various graduate programs. Despite this fact, one can conclude that if they major in education, humanities, or majors that yield higher earnings like business or computer sciences, they are less likely to pursue a graduate degree.

This literature mainly reveals what is out there about first-generation Students of Color experiences related to graduate school aspirations. These aspirations influence whether students enroll in graduate degree programs. Our study contributes to this existing research by examining these specific environmental factors within a pipeline program (UMBC's McNair Program). Our study focuses explicitly on how these elements influence graduate school enrollment for McNair Scholars at UMBC after completing their undergraduate studies. This study will benefit directors, coordinators, and other McNair Program staff members to determine if specific disciplines yield lower enrollment or not and if certain scholarly activities increase graduate enrollment. Knowing the significance of these factors can help McNair Programs across the country with recruitment and other metrics to assist in reaching objectives set forth by the U.S. Education Department (U.S. E.D.) to ensure future funding that will benefit future scholars.

Methods & Procedures

IEO Model

The study presented in this paper was a part of a multi-phased effort to evaluate the UMA program and meet the grant requirements set by the E.D. This study employs Astin's (1993) Inputs-Environments-Outcomes (IEO) model as a conceptual framework for understanding the research question. The IEO is a college impact model that measures the relationships between student outcomes and input and environment variables (Astin, 1993; Astin & Antonio, 2012). Inputs refer to a student's personal qualities in an educational program, such as background characteristics, attitudes, and prior academic experiences (Astin & Antonio, 2012; Park, 2009). Environments represent a student's actual experiences during an education program, such as institutional contexts and collegiate experiences (i.e., interactions with faculty, joining student organizations, and participating

in political activities) (Astin & Antonio, 2012;). Input and environmental variables can interact with one another to influence student outcomes (Astin & Antonio, 2012). Outcomes are the manifestation of talents or goals that practitioners and educators try to develop for students in educational programs, which in this case is graduate school enrollment (Astin & Antonio, 2012). While the outcomes do not illustrate impact, the model can speak to the variations and effects of different environments and inputs for students navigating higher education landscapes (Astin, 1993).

Many higher education assessment research studies utilize the IEO Model (Astin & Antonio, 2012). The model's design allows practitioners and educators to measure relevant input and environmental variables to adjust programming for positive student outcomes (Astin & Antonio, 2012). For this study, the IEO model interacts nicely with the research questions. Since our outcome (O) is graduate school enrollment, we use various input and environmental variables to determine if any of these yields a higher enrollment level. Our input variables (I) include race/ethnicity, gender, first-generation status, and cumulative GPA. Environmental variables (E) are students' undergraduate major, mentoring, research experience, and time in the McNair Program. These factors are critical for our study because they are vital elements to program eligibility and requirements. Furthermore, these factors are supported by literature related to factors contributing to pursuing a graduate education for this population (Cuellar & Gonzalez, 2019; Lindholm, 2004; Winkle-Wagner & McCoy, 2016).

Instrument & Design

The U.S. E.D. uses the Annual Performance Reporting (APR) to assess every McNair Program's progress towards their specific goals and objectives. Meeting the goals and objectives set forth by U.S. E.D. determines the number of points awarded to each program to be eligible for continued funding. We use the APR data set from the UMBC McNair Program for this paper. The report covers a span of ten years, from 2010-2020. The APR consists of two sections, where the first includes information about the McNair Program, and the second section gathers very detailed information about individual McNair scholars. Each report covers a 12-month academic year, roughly from August/September to July/August. The report includes scholars for ten years after completing their bachelor's degrees.

Description of Institutional Context

The University of Maryland, Baltimore County is a large public research university recognized as a Minority Serving Institute (MSI). Located in Baltimore, UMBC offers 67 undergraduate majors and 92 graduate programs. Of the 10,835 undergraduates, 23.5% identify as African American, 8% identify as Hispanic, 28% identify as Asian American, and 28% are White (University of Maryland, Baltimore County, 2021). In addition, approximately 25% of the student body identifies as first-generation college students (O'Grady, 2020). The Office of Academic Opportunity Programs (AOP) at UMBC provides resources and support to traditionally underrepresented students in higher education to promote academic success and increase students' interest in enrolling in graduate school. The AOP supports four TRIO Programs and the NSF-funded Louis Stokes Alliance for Minority Participation. The TRIO Programs at UMBC include Classic Upward Bound, Educational Talent Search, Upward Bound Math/Science, and the McNair Scholars Program (Office of Academic Opportunity Programs, n.d.).

Description of UMBC McNair Scholars Program

The UMBC McNair Scholars Program was established in 1992. The program aims to prepare first-generation, low-income, and historically underrepresented students for graduate education with various activities designed to prepare them for doctoral training (McNair Scholars Program, 2021). As a federally funded TRIO program, the UMBC McNair Program must ensure that its participants meet requirements for research activities, graduate school enrollment, retention, and doctoral degree attainment. According to the program's website, 80% of UMBC McNair participants must complete a research project or scholarly activity during each program year (McNair Scholars Program, 2021). In addition, 70% of UMBC McNair participants must be accepted and enrolled in a post-baccalaureate program by the fall term after their graduation. Of those who enroll in a post-baccalaureate program after graduation, 90% of McNair alumni must continue to be enrolled in their program.

Moreover, 10% of UMBC McNair alumni are expected to receive a research-based doctoral degree within ten years of their graduation from UMBC (McNair Scholars Program, 2021a).

Currently, the program serves 30 students who are sophomores, juniors, and seniors at UMBC. The program is led by a community of administrative and student staff members. Four administrative staff oversee the day-to-day operations of the program. The administrative team consists of one program director, one program coordinator, one graduate assistant, and an administrative assistant. The UMBC McNair administrative staff employs a holistic critical mentoring model that emphasizes supporting a mentee's whole self. By creating a community of support, mentees receive guidance from McNair staff, peers, and formal and informal mentors from the university (Hunt, 2021).

In addition, the administrative staff receives support from six McNair students who take on roles as ambassadors, teaching fellows, and administrative generalists. Student ambassadors oversee the assessment, inventory, records, public relations and communications, scholar development, special events, and administrative-based tasks to maintain program operations. They are responsible for supporting program development and implementation. Additionally, they serve as key sources to connect students with program information and discuss their experiences and progression in the program (McNair Scholars Program, 2021b).

The UMBC McNair community extends beyond program staff and student workers. Members of the larger UMBC community participate as mentors to support students' academic and holistic development. Each McNair participant is appointed a faculty and staff mentor who has a graduate degree in and outside their field of study and assists students through the graduate school preparation and choice process (McNair Scholars Program, 2021b). The program also has a McNair Advisory Council (MAC), consisting of UMBC faculty, staff, administrators, alumnus, and retirees. The MAC provides program staff with guidance on project development, internal and external matters that may impact the program, and the creation of a network of McNair participants (McNair Scholars Program, 2021c).

With the support of the UMBC McNair Community, students are required to:

- Participate in a summer research program at UMBC or another institution
- Engage in research or scholarly activities with the support of a faculty mentor, conduct and present research at a national conference and the UMBC McNair Research Conference
- Attend McNair seminars and workshops, attend GRE test preparation courses
- Register and complete for McNair designated courses related to research methods and academic writing
- Attend Induction and Graduation Torch Ceremony, UMBC McNair Family Weekend, and UMBC McNair Research Conference
- Complete a Scholar Portfolio Enhancement Activities
- Participate in Individual Development Plan (IDP) meetings and McNair Bootcamps at least once a semester (McNair Scholars Program, 2021a)

Description of Sample

The UMBC APR data from 2010-2020 contain 117 participants. In looking at gender makeup across the dataset, 48 participants identified as male and 70 as female. The racial makeup includes 12 white students, eight Hispanic students, 88 Black/African American students, and nine Asian/Hawaiian Pacific Islanders (AAPI).¹ There was one Native American/Alaskan Native student in the sample, but they did not have data to fulfill the outcome (graduate school enrollment). For this reason, they were not included in the study. Regarding academic majors, 41 participants were in the sciences, technology, engineering, and mathematics (STEM), 70 in social sciences &

¹ Due to the number of Black/African American students in the sample, Black/African American students became the reference group.

humanities, and seven with majors outside those two categories. Additionally, due to all the variables used in the study, we went from a dataset of 155 participants to 117. Reasons include removing current scholars since they would not be eligible to enroll in graduate school, students who stopped out of their undergraduate career, and those who did not receive research or mentoring services.

Data Analysis and Variables

One of the main objectives set by the U.S. E.D. for all McNair Programs is to increase historically marginalized and underrepresented groups in graduate education with the goal of doctoral attainment. With this in mind, the dependent variable for this quantitative research study is graduate school enrollment. Graduate school enrollment captures the enrollment of UMBC McNair Scholars into a graduate program any time after their undergraduate education. The graduate programs captured in this dataset are Ph.D. programs of all disciplines and M.D./Ph.D. programs. Since the focus of the McNair Program is to increase diversity in the academy, no professional degrees such as law or business are captured in the data; this maintains the standards set forth by our funding entity, the U.S. E.D. Furthermore, U.S. E.D. tracks all McNair Scholars for ten years after graduation through the National Student Clearinghouse to determine if students reached the objective of going to graduate school and receiving a Ph.D.

The original race variable in the APR data set includes the following categories: Hispanic, Native American/American Indian, Asian/Hawaiian/Pacific Islander, and Black/African American. For this study, it is important to note that Asian, Hawaiian/Pacific Islander were combined as one race category due to the small numbers in each group. Combining these particular races is standard across similar types of studies. According to the definition set by the U.S. E.D., the first-generation status variable captures whether or not a student identifies as a first-generation college student. First-generation students are individuals whose parents and/or legal guardian(s) did not complete a baccalaureate degree or an individual with a single parent who did not complete a baccalaureate degree (Higher education act of 1965 section-by-section analysis, 1965). Lastly, cumulative GPA captures a student's cumulative GPA at the end of their undergraduate education. These input variables are mostly representative of characteristics that students have before entering their undergraduate careers (see Table 1).

We used participation in research activities, having a mentor, semesters in McNair, and academic major regarding environmental variables. Research shows that these specific factors directly impact graduate school enrollment for low-income, first-generation students of color (Cuellar & Gonzalez, 2019; Hanson et al., 2016; Lindholm, 2004; Ramirez, 2013; Strayhorn, 2010; Trolan & Parker, 2017). Time in McNair was determined by semesters starting from the semester they enrolled in the McNair Program through their graduating semester. For academic majors, we grouped this variable into academic disciplines as follows: STEM, social sciences & humanities, and other/unknown. These categories are how the U.S. E.D. tracks majors in the APR dataset. Furthermore, the research and mentoring variables are direct opportunities provided by our McNair Program. The research and mentoring variables were dummy-coded for whether or not students had participated in research activities or had a mentor during their time with the McNair Program (see Table 1).

Table 1. Descriptive Statistics of Variables in the Study

<u>Variable</u>	<u>%/Average</u>
Race	
Black/African-American	75.2%
White	10.3%
Hispanic	6.8%
Asian, Hawaiian/Pacific Islander	7.7%
Generation Status	
First-Generation Students	68.6%
Non First-Generation Students	31.4%
Academic Performance	
Cumulative GPA (average)	3.36918
Academic Major	
STEM	34.7%
Social Sciences & Humanities	59.3%
Unknown/Unspecified Field	4.2%
Scholarly Activities	
Research	43.2%
Mentoring	44.9%
Time in Program	
Semesters in McNair Program (average)	3.9068

Cross-Tabulations & Logistic Regression

The analysis conducted included cross-tabulations and logistic regressions to answer our research questions. The first research question explores the relationship between two independent variables and the dependent variable. Cross-tabulations are appropriate for this question because they allow researchers to determine whether one variable is associated with another (Astin & Antonio, 2012). By cross-tabulating one or more variables, we can examine the differences between and within groups when controlling for other variables. We ran a three-way cross-tab on graduate school enrollment by race/ethnicity and gender for our study's first question. Our second research question examines the relationship between dichotomous variables with categorical and continuous variables. Using logistic regression analysis, we can predict the likelihood of the dichotomous variable while controlling for one or more categorical and continuous variables (Pallant, 2013; Peng et al., 2002). Thus, we ran a logistic regression using independent variables to predict graduate school enrollment by blocks. The logistic regression blocks were organized as follows:

- **Block 1:** Student demographic information such as race/ethnicity and gender.
- **Block 2:** Generation status (measured by parent educational attainment level).
- **Block 3:** Academic performance such as cumulative GPA in undergraduate career.
- **Block 4:** Major (STEM, social sciences & humanities, and unknown).
- **Block 5:** Scholarly Activities (participation in research activities, having a mentor)
- **Block 6:** Time in Program (Semesters in McNair (measured by academic semesters).

Results

To answer the first research question, we conducted a three-way cross-tabulation. We found differences across race/ethnicity and gender for graduate school enrollment of UMBC McNair Scholars (Table 2). Table 2 indicates that most McNair scholars across race and gender attend graduate school. It is important to note that Black/African-American students are overrepresented in the sample. Hispanic and Asian, Hawaiian, or Other Pacific Islander students are underrepresented in the sample. White and Black/African-American students yield the highest attendance in graduate school enrollment. White males attend at the highest percentage rate, followed by Black/African-American males. More Black/African-American males attend graduate school after college than their female counterparts by only two percentage points.

Additionally, more White males attend graduate school than their female counterparts by 50 percentage points. Regardless of gender, Hispanic, Asian, Hawaiian, or Other Pacific Islander do not attend graduate school after college at the same rates as White and Black-African American students. However, more Hispanic females attend graduate school after college than their male counterparts by 25 percentage points. More Asian, Hawaiian, or Other Pacific Islander male students enroll in graduate school than their female counterparts by 30 percentage points. According to Table 2, we can infer that our most underrepresented groups in the sample do not attend graduate school.

Table 2.
Graduate Enrollment by Race and Gender

Race	Gender	Graduate School Enrollment Status	
		No	Yes
White	Male (n=3)	00.0%	100.0%
	Female (n=9)	44.4%	55.6%
Hispanic	Male (n=4)	75.0%	25.0%
	Female (n=4)	50.0%	50.0%
Black/African-American	Male (n=36)	38.9%	61.1%
	Female (n=52)	40.4%	59.6%
Asian, Hawaiian or Other Pacific Islander	Male (n=4)	50.0%	50.0%
	Female (n=5)	80.0%	20.0%

We ran a logistic regression to answer the second research question on input and environmental variables influencing graduate school enrollment among UMBC McNair Scholars (see Table 3). Using a logistic regression model, we examined the relationship between the dependent variable, four input variables, and four environmental variables. The independent variables are gender, race, first-generation status, and cumulative GPA. The gender variable captures binary gender identities (i.e., female, male). The environmental variables are academic majors (STEM, social sciences & humanities, and other/unknown fields), participation in research activities, having a mentor, and semesters in the McNair Program (see Appendix A).

Table 3 is the result of a logistic regression in SPSS. In Blocks 1 and 2, gender, race, and first-generation status were not significant predictors of graduate school enrollment. While controlling for gender, race, and first-generation status, cumulative GPA was a significant predictor of graduate school enrollment in Block 3 ($p < .05$). Therefore, for every .10 increase in GPA, the odds of students going to graduate school decreases by a factor of .974. Additionally, identifying as an Asian, Hawaiian, or Other Pacific Islander student significantly predicts graduate school enrollment ($p < .05$). Being an Asian, Hawaiian, or Other Pacific Islander student decreases one's odds of enrolling in graduate school in comparison to Black/African American students.

When introducing undergraduate majors into Block 4, cumulative GPA and Asian, Hawaiian, or Other Pacific Islander are no longer significant. When controlling for variables in Blocks 1-5, cumulative GPA and Hispanic became significant predictors of graduate school enrollment. In contrast to Block 3, cumulative GPA has a positive relationship with the dependent variable in Block 5 ($p < .05$). For every .10 increase in GPA, the odds of students going to graduate school increase by .144. Additionally, being Hispanic became a significant predictor

of graduate school enrollment in Block 5 ($p < .05$). Being a Hispanic student decreases one's odds of enrolling in graduate school in comparison to Black/African American students.

Lastly, while controlling for all independent variables (including semesters in the McNair Program) in Block 6, being Hispanic is the only significant predictor of graduate school enrollment ($p < .05$). The relationship between Hispanic and the dependent variables remains negative. The odds of enrolling in graduate school for Hispanic students are less favorable than for Black/African American students. Of these input and environmental factors, 14.8% accounts for the variability of influencing graduate school enrollment. This indicates that these factors are not as predictive of graduate school enrollment. According to Table 3, Hispanic is the only independent variable with a significant relationship with the dependent variable.

Discussion

Many factors influence graduate school enrollment. Regarding race, our study shows that identifying as

Table 3.
Beta Table for Graduate School Enrollment

	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	R ²
<i>Block 1: Demographics</i>							
Gender	-.228	-.215	-.208	-.226	-.261	-.248	.050
White	0.315	.212	-.105	-.125	.042	.008	.050
Hispanic	-.949	-.996	-1.449	-1.521	-1.686 *	-1.715 *	.050
Asian, Hawaiian/Pacific Islander	-1.120	-1.249	-1.587 *	-1.524	-1.475	-1.54	.050
<i>Block 2: Generation Status</i>							
First-Gen Status		0.329	0.501	0.476	0.418	0.483	.057
<i>Block 3: Academic Performance</i>							
Cumulative GPA			0.128 *	0.119	0.144 *	0.132	.103
<i>Block 4: Academic Major</i>							
STEM				0.097	-0.275	-0.07	.109
Social Sciences/Humanities				0.093	-0.024	0.023	.109
Unknown/Unspecified Field				-0.045	-0.191	-0.13	.109
<i>Block 5: Scholarly Activities</i>							
Research					-0.706	-0.65	.138
Mentoring					-0.009	-0.05	.138
<i>Block 6: Time in Program</i>							
Semester in McNair Program						-0.07	.148
p<.001 ***, p<.01 **, p<.05 *							

Hispanic decreased the likelihood of enrolling in graduate school in comparison to Black/African Americans. Consistent with the literature, Trolan & Parker (2017) found that Latino/Hispanic students were less likely than white students to benefit from student-faculty interactions that influence graduate school enrollment. These interactions are central to McNair program initiatives and the overall undergraduate experience. In opposition to this study, the reference group for our research was Black/African-American students, as they were the largest population in our sample (Bowen & Rudenstine, 1992). In many studies, those who identify as white are often the reference group as they are the largest and most privileged population, typically in higher education spaces (Dawson & Chatman, 2001). Our higher sample of Black/African-American students is indicative of the program's requirements to recruit underrepresented minority students in graduate education (Strayhorn, 2010).

Despite these high numbers in our study, research shows that Black males specifically yield low numbers in graduate education (Woodard & Howard, 2015). At the intersection of race and gender, our study shows that white and Black/African-American males yield the highest graduate enrollment numbers. However, during the

2017-2018 academic year, Black women at both master's and doctoral levels are the highest educated minority group in all U.S. higher education (U.S. Department of Education, National Center for Education Statistics, 2020). Perhaps other inputs and environmental factors yield these findings; therefore, further investigation on the specific experiences of Black women in McNair Programs may be warranted. Research informing what factors influence an individual's decisions to attend graduate school is essential as a higher level of education is necessary to meet societal demands and global economic needs (Zhou & Gao, 2021). Insight can inform the ways policymakers and higher education practitioners create support structures to increase marginalized and minoritized student populations' interest in graduate education.

Regarding environmental factors, research shows that a student's major, participation in research, and mentoring significantly impact their graduate school aspirations and enrollment (Hanson et al., 2016; Perna, 2006; Zhang, 2005). Particularly for students of color, having research mentors served as a positive factor that influences graduate school attendance (Lindholm, 2004; Ramirez, 2013; Trolan & Parker, 2017). While academic major, participation in research, and mentorship were identified as environmental factors in our study, they were not significant indicators of graduate school enrollment. Future studies should include all aspects of McNair Program environments, such as academic advising and other scholarly activities (i.e., attending and presenting research at conferences, traveling to graduate schools, networking events, and leadership roles in and out of the McNair Program). Inclusion of all McNair Program activities may yield more accurate results influencing graduate school enrollment. By expanding what environmental variables are included in future studies, researchers will be able to identify if and what factors are significantly associated with gains in graduate school enrollment rates. Identifying these factors will be pivotal in improving the structure and programming of McNair programs at large to best support Students of Color in their graduate pursuits.

Limitations

Conducting the study presented a number of challenges due to discrepancies in the data sets, missing values, and gathering data from various data archives. As a result, we have identified four limitations regarding the development and findings of this study. First, we acknowledge that there may have been inconsistencies across data collection and student information because we used self-reported APR data. Although the APR data is cross-referenced with university data to record the most accurate information, there have been several missing fields for students across the ten years of the APR data set. These missing fields include graduate school enrollment dates and information regarding environmental variables (i.e., participation in research activities and having a mentor).

One reason could be that the self-reporting data is reflective of the change in leadership over the last ten years. As a result, there may have been differences in how leadership has defined what constitutes the completion of an environmental variable. For example, directors may have different perspectives on what activities will count as research activities or not. Therefore, without consistency in defining activities for each environmental variable, there can be an impact on reported data.

Secondly, APR data only captures student information for each academic year. Thus, we had to manually enter data for the environmental variables for years that were missing using older datasets to include the environmental variables of this study. This proved to be time-consuming and limitations for the reliability of our data set as we could not locate information around environmental variables for each student. As a result of missing information, we needed to remove students from the study to ensure data consistency across variables.

Third, we would like to note electronic conversion of APR documentation still needs to occur. There are still paper files that include information that may have been missing from the electronic documentation we acquired. Therefore, the results of the study and what factors may or may not be significant can be due to the removal of students with missing information.

Lastly, we focus on limitations associated with our sample size and makeup. The current sample size was within but below the ideal sample size for a quantitative research study (Pallant, 2013). Journal-level and high-impact

quantitative research studies typically have a sample size of 300-500 participants (Pallant, 2013). Pallant (2013) reasons that small sample sizes limit the number of predictor variables one uses in a logistic regression model. Moreover, our sample consisted of an uneven number of participants across racial/ethnic groups. Black/African Americans were disproportionately represented in the data set, resulting in possible skewness of the results. Native American/Alaskan Native students were not represented in the sample, although the UMBC McNair Program serves this student population. The reason being is inconsistency in data collection for the one Native American student in the original sample. As a result, some disaggregation of differences in graduate enrollment across racial/ethnic and gender groups can be due to the constraints around our sample size and makeup.

Implications

This study rendered several implications for practice and research. To begin, we will identify practical and research-based recommendations based on the findings of the study. Next, we will address recommendations based on the limitations presented in this study.

Due to the study's findings, we offer practical recommendations for UMBC McNair Scholar staff. We suggest that UMBC McNair scholar-practitioners increase their recruitment of particular student populations underrepresented in the study. For example, we encourage practitioners to recruit more males and Native American/Native Alaskan students to join the McNair Program. Increasing recruitment of these particular groups can expand access to graduate school. It can also yield better data that will allow practitioners to identify trends related to Native American/Native Alaskan and males' pursuit of graduate education. We also encourage that UMBC McNair Scholar staff focus targeted support efforts for Hispanic and female students as they disproportionately attend graduate school at lower rates than their other racial/ethnic and male counterparts.

Additionally, as a result of our study's findings, we recommend further research to deeply examine the experiences of women of color and their decision-making process to attend graduate school. Research using a qualitative or mixed-methods approach may provide more rich and thick descriptions of how women are directly influenced by factors that may decrease their interest in seeking graduate education, particularly for Hispanic women. Furthermore, future research should explore the experiences of men of color who participate in McNair programs, given that the findings of this study showed positive outcomes for this group in terms of graduate school enrollment. Studies in this area may reveal how institutions can implement similar support structures and programs to increase enrollment into graduate education for men who are not McNair Program participants.

Given the limitations of the study, we present practical recommendations to McNair Programs, U.S. E.D., and the Council for Opportunity in Education (COE) regarding data collection and self-reporting practices. First and foremost, we would like to acknowledge that APR data is self-reported by each McNair Program. The U.S. E.D. needs to develop a standard data collection process to ensure consistency in results across programs and a common set of definitions for program activities. In the data set, the current research variable did not include how many times a student may have participated in research activities which could have implications for their graduate school aspiration and enrollment decisions (Trolan & Parker, 2017; Woodard & Howard, 2015). This was also the case for another environment variable, having a mentor. The APR data did not capture the number of mentors students had during their time with the McNair Program, as students can have more than one faculty research mentor and other mentor types. The number of mentors a student has can impact their aspirations and choice to attend graduate school and should be captured in future studies (Ragins & Scandura, 1994).

Moreover, all student and programmatic data should be accessible through electronic data storage systems. The standardization of data collection practices can promote accuracy in the results of program effectiveness. Accuracy of results will allow practitioners to develop better recruitment strategies, programmatic support efforts, and other direct initiatives related to accurate information for future students. We also recommend that the U.S. E.D. develop the best data collection and self-reporting practices in conjunction with the COE. By providing training and an official onboarding process for individuals transitioning into director-level and leadership roles, staff working directly with data will follow a consistent and standardized approach to collecting data.

Conclusion

Various studies demonstrate that the McNair Program helped students feel prepared and ready for enrollment into graduate school (Restad, 2013; Strayhorn, 2010; Willison & Gibson, 2011). Further research is needed to assess the environmental variables of the McNair Program and their influence on graduate school enrollment. Thus, an evaluation of the programming, recruitment, and overall engagement of McNair Programs will potentially increase the number of student demographics that yield low graduate school enrollment rates. There are important implications for both McNair Scholars practitioners and institutional leaders to provide meaningful and engaging collegiate experiences to enhance graduate school aspirations and enrollment for first-generation Students of Color.

References

- Arnold, K. D., Lu, E. C., & Armstrong, K. J. (2012). The case for a comprehensive model of college readiness. *ASHE Higher Education Report*, (38)5, 1-138.
- Astin, A. W. (1993). *What matters in college? Four critical years revisited*. Jossey-Bass.
- Astin, A. W., & Antonio, A. L. (2012). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education (The ACE Series on Higher Education)* (2nd ed.). American Council on Education; Rowman & Littlefield.
- Baum, S., & Steele, P. (2017). Who goes to graduate school and who succeeds? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2898458>
- Bowen, W. G., & Rudenstin, N. L. (1992). *In pursuit of the Ph.D.* Princeton University Press.
- Chamorro-Premuzic, T. (2020, January 07). Should you go to graduate school? *Harvard Business Review*. <https://hbr.org/2020/01/should-you-go-to-graduate-school>
- Council of Graduate Schools. (2008). *Graduate education and the public good*. <https://www2.ed.gov/policy/highered/reg/hearulemaking/2018/gradedpublicgood.pdf>
- Cuellar, M. G., & Gonzalez, A. M. (2019). Beyond the baccalaureate: Factors shaping Latina/o graduate degree aspirations. *Journal of Hispanic Higher Education*, 20(1), 59-74. <https://doi.org/10.1177/1538192719830082>
- Dawson, E., & Chatman, E. (2001). Reference group theory with implications for information studies: A theoretical essay. *Information Research*, 6(3).
- English, D., & Umbach, P. D. (2016). Graduate school choice: An examination of individual and institutional effects. *The Review of Higher Education*, 39(2), 173-211. <http://doi.org/10.1353/rhe.2016.0001>
- Espinosa, L. L., Turk, J. T., Taylor, M., & Chessman, H. M., (2019). *Race and ethnicity in higher education: A status report*. American Council on Education.
- Finkelstein, M. J. (1984). *The American academic profession: A synthesis of social scientific inquiry since World War II*. Ohio State University Press.
- Forrest Cataldi, E., Bennett, C., & Chen, X. (2018). First-generation students: College access, persistence, and postbachelor's outcomes. U.S. Department of Education, National Center for Education Statistics. <https://nces.ed.gov/pubs2018/2018421.pdf>
- Gazley, J. L., Remich, R., Naffziger-Hirsch, M. E., Keller, J., Campbell, P. B., & McGee, R. (2014). Beyond preparation: Identity, cultural capital, and readiness for graduate school in the biomedical sciences. *Journal of Research in Science Teaching*, 51(8), 1021–1048. <https://doi.org/10.1002/tea.21164>
- Gustad, J. W. (1960). *The career decisions of college teachers: A report research in the southern region*.
- Hagedorn, L. S., Chi, W., Cepeda, R. M., & McLain, M. (2007). An investigation of critical mass: The role of Latino representation in the success of urban community college students. *Research in Higher Education*, 48(1), 73-91. <https://doi.org/10.1007/s11162-006-9024-5>
- Hanson, J. M., Paulsen, M. B., & Pascarella, E. T. (2016). Understanding graduate school aspirations: The effect of good teaching practices. *Higher Education: The International Journal of Higher Education Research*, 71(5), 735–752. <https://doi.org/10.1007/s10734-015-9934-2>
- Hébert, T. (2018). An examination of high-achieving first-generation college students from low-income backgrounds. *Gifted Child Quarterly*, 62(1), 96-110. <https://doi.org/10.1177/0016986217738051>
- Higher education act of 1965 section-by-section analysis. (1965). U.S. Department of Health, Education, and Welfare, Office of Education. <https://www.govinfo.gov/content/pkg/COMPS-765/pdf/COMPS-765.pdf>

- Hunt, M.A. (2021). *Understanding Holistic Critical Mentoring Model*. Unpublished manuscript.
- Inkelas, K. K. (2011). The role of living-learning programs in women's plans to attend graduate school in stem fields. *Research in Higher Education*, 52(4), 349–369.
- Kirk, D., & Todd-Mancillas, W. R. (1996). Turning points in graduate student socialization: Implications for recruiting future faculty. In D.E. Finnegan, D.Webster, & Z.F. Gamson (Eds.), *Faculty and faculty issues in colleges and universities*, (2nd ed., pp. 541-550). Simon & Schuster.
- Lindholm, J. (2004). Pathways to the professoriate: The role of self, others, and environment in shaping academic career aspirations. *The Journal of Higher Education*, 75(6), 603-635.
- Malcom-Piqueux, L., Bensimon, E. M. (2017). Taking equity-minded action to close equity gaps. *Peer Review*, 19(2), 5-8.
- Martinez, A. (2019, October 22). Diversifying the Academy the Right Way. *Diverse Issues in Higher Education*. <https://diverseeducation.com/article/157965>
- McFarland, J., Hussar, B., Wang, X., Zhang, J., Wang, K., Rathbun, A., Barmer, A., Forrest Cataldi, E., & Bullock Mann, F. (2018). *The Condition of Education 2018*. U.S. Department of Education, National Center for Education Statistics. <https://nces.ed.gov/pubs2018/2018144.pdf>
- McNair Scholar (n.d.). *About*. Retrieved December 06, 2020, from <https://mcnairscholars.com/about/>
- Mehta, S. S., Newbold, J. J., & O'Rourke, M. A. (2011). Why does first-generation students fail? *College Student Journal*, 45(1), 20-35.
- Office of Academic Opportunity Programs (n.d.) Welcome. UMBC. Retrieved from, <https://aop.umbc.edu/>
- O'Grady, J. (November 9, 2020). *First in Class*. UMBC Magazine, <https://magazine.umbc.edu/first-in-class/>
- Pallant, J. (2013). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (5th ed.). McGraw Hill.
- Park, J. J. (2009). Taking race into account: Charting student attitudes towards affirmative action. *Research in Higher Education*, 50(7), 670–690.
- Peng, C.-Y. J., Lee, K. L., & Ingersoll, G. M. (2002). An introduction to logistic regression analysis and reporting. *The Journal of Educational Research*, 96(1), 3–14. <https://doi.org/10.1080/00220670209598786>
- Perna, L. W. (2006). Studying college access and choice: A proposed conceptual model. In J.C. Smart (Ed.), *Higher Education: Handbook of Theory and Research*. (Vol. 21, pp. 99-157). Springer. https://doi.org/10.1007/1-4020-4512-3_3
- Posselt, J. R., & Grodsky, E. (2017). Graduate education and social stratification. *Annual Review of Sociology*, 43(1), 353–378. <https://doi.org/10.1146/annurev-soc-081715-074324>
- postbaccalaureate transitions. *Equity & Excellence in Education*, 44(2) pp. 153–168. <https://doi.org/10.1080/10665684.2011.558416>
- Ragins, B. R., & Scandura, T. A. (1994). Gender differences in expected outcomes of mentoring relationships. *The Academy of Management Journal*, 37(4), 957-971. <https://doi.org/10.2307/256606>
- Ramirez, E. (2013). Examining Latinos/as' graduate school choice process: An intersectionality perspective. *Journal of Hispanic Higher Education*, 12(1), 23–36. <https://doi.org/10.1177/1538192712452147>
- Rampell, C. (2014, May 22). Higher education went from being a public good to a private one. *The Washington Post*. https://www.washingtonpost.com/opinions/catherine-rampell-higher-education-went-from-being-a-public-good-to-a-private-one/2014/05/22/50263a16-e1bd-11e3-9743-bb9b59cde7b9_story.html
- Restad, C. (2013). Beyond the program year: Graduates students' understanding of how McNair scholars program participation impacts their experiences in graduate school. *PSU McNair Scholars Online Journal*, 7(1), Article 16. <https://doi.org/10.15760/mcnair.2013.88>

- Roksa, J., Deutschlander, D., & Whitley, S.E. (2016, November 9-12). *The role of parents in facilitating belonging and institutional commitment for first-generation and low-income students* [Paper presentation]. Association for the Study of Higher Education meeting, Columbus, OH, United States.
- RTI International. (2019). *First-generation college students: Demographic characteristics and postsecondary enrollment* [Fact sheet]. The Center for First-generation Student Success. <https://firstgen.naspa.org/files/dmfile/FactSheet-01.pdf>
- Strayhorn, T. L. (2010). Undergraduate research participation and STEM graduate degree aspirations among students of color. *New Directions for Institutional Research*, 2010(148), 85–93. <https://doi.org/10.1002/ir.364>
- Trolian, T. L., & Parke III, E. T. (2017). Moderating influences of student-faculty interactions on students' graduate and professional school aspirations. *Journal of College Student Development*, 58(8), 1261–1267. <https://doi.org/10.1353/csd.2017.0098>
- U.S. Department of Education, National Center for Education Statistics (2020). Table 323-20: Master's degrees conferred by postsecondary institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2017-18. *Digest of Education Statistics*. https://nces.ed.gov/programs/digest/d19/tables/dt19_323.20.asp
- Walsh, B. A., Woodliff, T. A., Lucero, J., Harvey, S., Burnham, M. M., Bowser, T. L., Aguirre, M., & Zeh, D. W. (2021). Historically underrepresented graduate students' experiences during the covid-19 pandemic. *Family Relations*, 70(4), 955-972. <https://doi.org/10.1111/fare.12574>
- Willison, S., & Gibson, E. (2011). Graduate school learning curves: McNair scholars'
- Winkle-Wagner, R., & McCoy, D. L. (2016). Entering the (postgraduate) field: Underrepresented students' acquisition of cultural and social capital in graduate school preparation programs. *The Journal of Higher Education*, 87(2), 178–205. <https://doi.org/10.1080/00221546.2016.11777399>
- Woodward, B., & Howard, T. C. (2015). Creating educational excellence in the pipeline: Undergraduate African American males' perceptions of educational research and participation in the Black male project. *Spectrum: A Journal on Black Men*, 4(1), 99–125. <https://doi.org/10.2979/spectrum.4.1.06>
- Woosley, S. A., & Shepler, D. K. (2011). Understanding the early integration experiences of first-generation college students. *College Student Journal*, 45(4), 700–714.
- Zhang, L. (2005). Advance to graduate education: The effect of college quality and undergraduate majors. *The Review of Higher Education: Journal of the Association for the Study of Higher Education*, 28(3), 313–338. <https://doi.org/10.1353/rhe.2005.0030>
- Zhou, E., & Gao, J. (2021). *Graduate enrollment and degrees: 2010 to 2020*. Council of Graduate Schools. https://cgsnet.org/wp-content/uploads/2022/02/CGS_GED20_Report_final_v2-2.pdf

Appendix A: Variable Definitions and Coding

Dependent Variable

Output Variable

Graduate School Enrollment Gradschoolenroll_yes Two-point scale: 1= yes, 0=no

Independent Variables

Input Variables

Gender Female_yes Two-point scale: 1=male, 2=female

Race/Ethnic background Race_white Five-point scale: 1=White,
 Race_hispanic 2=Hispanic, 3=Black/African
 Race_blackaa American, 4=Asian,
 Race_aaapi Hawaiian/Pacific Islander

First-Generation Status Firstgen_yes Two-point scale: 1=yes, 0=no

Cumulative GPA CumGPA_10 Six-point scale: 1=below 1.75,
 2=1.75-2.24, 3=2.25-2.74, 4=B
 2.75-3.24, 5=3.25-3.74, 6=3.75-4.0.

Environmental Variables

Major STEM_ Three-point scale: 1=STEM,
 SOCSCI_HUM 2=social science & humanities,
 UNKWN_UNSP 3=unknown /unspecified field

Participated in Research Activities Research_ Two-point scale: 1=yes, 0=no

Had a Mentor Mentoring_ wo-point scale: 1=yes, 2=no

Semesters in the McNair Program Semesters_ 16-point scale: 1=1 semester, 2=2
 semesters, 3=3 semesters, 4=4
 semesters, 5=5 semesters, 6=6
 semesters, 7=7 semesters, 8= 8
 semesters, 9=9 semesters, 10=10
 semesters, 11=11 semesters, 12=12
 semesters, 13=13 semesters, 14=14
 semesters, 15=15 semesters, 16=16
 semesters.

Representation has changed: The need to update graduate student development theory to reflect marginalized populations' experiences in the PhD

Authors:

Rachel Renbarger*FHI 360*

RRenbarger@fhi360.org

Terrill Saxon*Baylor University*

terill_saxon@baylor.edu

David Rehfeld*University of Central Oklahoma*

drehfeld@uco.edu

Ariel Steele*Auburn University*

steel250@umn.edu

Abstract

Compared to undergraduate students, less is known about graduate student development, particularly marginalized students (first-generation, low-income, racially minoritized & underrepresented groups) such as those in McNair TRiO programs. This article reviews graduate student frameworks, discusses recent research on marginalized student success, and creates a conceptual model that better aligns with the students within the McNair program. Based on the findings, the authors propose a roadmap for program directors to support student success during and after students' McNair program participation.

Graduate student development is a substantial aspect of higher education yet is underdeveloped compared to undergraduate student development. A recent review of the existing literature found that few universities publish evaluations of their graduate programs, which signals a need to provide a public understanding of how graduate programs do (or do not) serve their students (Reeves et al., 2021). Graduate students' experiences differ dramatically from undergraduate students' experiences given the distinct nature of their coursework. Many graduate students are older and have had life and work experiences that make undergraduate theoretical models inappropriate (Baird, 1993). Despite this, few models have been created to comprehensively document graduate student persistence and development (Tinto, 1994; Weidman et al., 2001; Weidman & DeAngelo, 2020).

This need to understand graduate student development is particularly true regarding the development of marginalized students such as those in McNair TRiO programs. Specifically, McNair serves students from specific racial groups: Black (non-Hispanic), Hispanic¹, American Indian², Alaskan Native, Native Hawaiians, and Native American Pacific Islanders (Office of Postsecondary Education, 2022a). McNair also serves students who come from families who make below 150% of the poverty level (and are thus deemed "low-income") (Office of Postsecondary Education, 2022b) or whose parents did not obtain a bachelor's degree (first-generation) (Seburn et al., 2005). We use these particular definitions as a starting point to describe *traditionally marginalized* groups in graduate education. To illustrate, most documents regarding the persistence of Black, Latinx, and Native American doctoral students have ignored the reality of racism within higher education (Bancroft, 2018) despite the evidence of racism's negative effects on doctoral Students of Color (Renbarger et al., 2021c). From the work of McNair that has positively promoted the enrollment of students from these groups into graduate education (Renbarger & Beaujean, 2020; Renbarger et al., 2021a), focusing on these marginalized groups' experiences within graduate education can provide insight into what graduate education development theory can and should look like for the diversity of doctoral students in graduate programs today.

Positionality

Our identities likely impacted our review of the literature and the frameworks. As such, we detail some pertinent identities to allow the reader to understand the perspectives used when writing this article. The first author identifies as a cisgender, straight, first-generation/low-income White woman and former McNair participant with invisible physical and mental disabilities. Most of her experience as a student in higher education was in humanities (English) and social science (educational psychology) fields. The second author is a cisgender, middle-income White man who identifies as a member of the Lesbian, Gay, Bisexual, Transgender, and/or Queer (LGBTQ) community and has previous personal experience with mental health issues. Most of his experience as a student in higher education was in the allied health (speech-language pathology) and social science (applied behavior analysis; educational psychology) fields. The third author is a cisgender, straight, and middle-income White man; his experience as a student throughout higher education was in the social sciences. The fourth author identifies as a cisgender, straight, first-generation/working-class, neurodivergent, White woman. Her experience as a student and scholar in higher education was in science (biology) and higher education.

Purpose

This article will discuss recent research on marginalized student success, outline popular graduate student frameworks, and call for a conceptual model that better aligns with the needs of marginalized students, such as those within the McNair TRiO program. The current article will also help program directors consider nontraditional factors for supporting their students' success during and after their participation in the program.

-
- 1 When possible, we used the specific tribal affiliation mentioned in the article. For clarity, when no specific tribe was mentioned, we used the term "Native American" in alignment with the recent cultural identity paper by Chow-Garcia and colleagues (2022).
 - 2 We honor the distinction between sex and gender but use the terms used by the authors we referenced. In this cited work, the authors used terms relating to both gender and sex.

Current Doctoral Students

Based on data published by the Council of Graduate Schools (Zhou & Gao, 2021), applications for enrollment have increased across institutional classifications over the past decade. In that same timeframe, the Council for Graduate Schools reported an annual increase in doctoral-level study applications of 0.9% with some decreases observed over the decade in the arts and humanities, business, public administration and services, and social and behavioral sciences. The same data also indicate that enrollment over the past decade has increased, on average, by 1.8% across institutional classifications. The number of women enrolled in doctoral studies increased annually, on average, by 1.5% between 2010 and 2020, while the number of men enrolled during the same time frame only increased by 0.4% on average. Interestingly, the number of doctoral degrees awarded between 2010 and 2020 increased by 2.9% on average each year, which is a larger increase than seen with master's level degrees awarded (1.4% average increase annually) but lower than the number of graduate-level certificates awarded during the same timeframe (9.5% increase on average each year).

Sowell et al. (2015) reported enrollment data on 7,575 students from marginalized groups enrolled in science, technology, engineering, and mathematics doctoral programs. They reported approximately the same number of female³ (49%) and male respondents (51%), most of whom had no prior graduate degree (66%). Approximately 42% of students reflected in these data were identified as Black/African American, 52% were identified as Hispanic/Latino, and the remaining students were reported in aggregate as “Others” (6%). Data collected and reported by the Council of Graduate Schools indicates increases in enrollment in graduate study in several groups historically marginalized in higher education, suggesting a critical need to understand the factors affecting their likelihood of success in completing their degrees. Specifically, increases in enrollment were reported for students identifying as Alaskan Native, Black, and Latina/o/x, as well as women and part-time students (Zhou & Gao, 2021). With increases in these populations, graduate programs must understand the unique needs of groups historically absent from their programs and how they might be similar to and/or different from their traditional student populations.

The diversity in lived experiences of doctoral students complicates attempts to apply undergraduate models of student development as individuals can begin doctoral study immediately after obtaining a bachelor's degree or several years and potential degrees later. Baum and Steele (2017) identified increasing trends in graduate-level enrollment over time as bachelor's degrees have become an entry-level job requirement, with some jobs now requiring graduate degrees for professional advancement. With such a diverse group of people enrolling in doctoral-level studies despite no significant increase in academic jobs, the reservation of the Ph.D. for strictly academic career trajectories likely needs to be reconsidered given many graduates may elect to pursue careers in industry; this further complicates attempts to model development at the graduate level.

Differences by Field and Department

We want to acknowledge that there are distinct differences in experiences by field and department. Research has shown differences in anxiety and depression by fields, with engineering, medicine, and business having lower rates of anxiety despite engineering having higher rates of depression (Posselt, 2021). Additionally, Science, Technology, Engineering, and Mathematics (STEM) students tend to borrow more student loans than non-STEM students for graduate school (Webber & Burns, 2022). In examining the first-year attrition of doctoral students, Golde (2005) stated that discipline and department impact students' feelings of belonging. This is not to say there are no overarching challenges and strengths for marginalized doctoral students to be learned across graduate education, but to remind the reader to consider how their personal context may interact (either positively or negatively) with these general trends.

3 We honor the distinction between sex and gender but use the terms used by the authors we referenced. In this cited work, the authors used terms relating to both gender and sex.

Challenges

These disparities in success in graduate education come from structural issues within doctoral programs. The following sections outline some of the most widely studied areas of concern within doctoral programs: racism, classism/elitism, sexism, and discrimination based on sexual orientation.

Racism

Similar to other sectors of American society, doctoral programs have been plagued with racism, classism, sexism, ableism, and other forms of oppression that actively harm doctoral students. One of the most recent examples of racist practices has been uncovered by scholar McGee and colleagues (2021). They found that Black doctoral students were told that the stress they faced due to racism, particularly through exclusion, was not racism but actually “impostor syndrome,” the idea that they have mistakenly made their way into their doctoral program and will be “found out.” Rather than the racist structures being addressed, the faculty essentially gaslighted these Black doctoral students into thinking the problem was them, and they should stop questioning their own ability and everything would be fine. While the idea of “impostor syndrome” is relatively new in the academy, forms of racism are not. In reviewing the literature, Brunσμα et al. (2017) state, “The literature makes one thing very clear: Graduate students of color face racism, discrimination, and daily microaggressions within their departments” (p. 5). They reviewed the literature and found those issues along with a lack of integration and belonging, mental health issues, and a lack of mentoring for African American/Black, Latinx, and Asian graduate students in multiple fields. This is unsurprising as experiencing discrimination often is related to higher rates of depression for graduate students (Posselt, 2021). Black graduate students and postdocs have also prioritized academic success over their mental and physical health (McGee et al., 2019). With the toll these issues can take, doctoral developmental theories must consider race and racism as they impact students’ academic, mental, and emotional well-being.

Classism

While not always the same group of students but can overlap, first-generation and low-income doctoral students face similar issues of classism and elitism within their doctoral programs. In one of the earlier studies on first-generation doctoral students, Gardner and Holley (2011) identified unique differences for these students throughout their program. These students faced significant barriers before even entering their program, continued to fight an uphill battle as they learned the idiosyncrasies of being in higher education, felt like they lived in two worlds (academia and their home community), and needed support, particularly financial support, to finish their degree (Gardner & Holley, 2011). These themes were also found when comparing continuing-education students to first-generation students to each other; first-generation students reported the Ph.D. was like “an obstacle course” (p.1) and they could not rely on their families for support like their continuing-education peers (Bahack & Addi-Raccah, 2022). Students face academic and emotional challenges without a support structure to tell you how doctoral studies work. In terms of doctoral students’ financial challenges, a new investigation comparing 2000 and 2016 levels of borrowing for graduate students found that the average debt levels increased from 2000 to 2016, from \$40,300 to \$74,700 (Webber & Burns, 2022). Students from higher-income backgrounds borrowed significantly less in both years (Webber & Burns, 2022). These findings should be a cause for concern because graduate students who self-reported their finances as “a struggle” were 2.3 times more likely to have depression and 3.2 times more likely to have anxiety than their peers who did not have financial struggles (Posselt, 2021). Doctoral students face these “invisible barriers” (Gardner & Holley, 2011), and graduate programs should work to address these issues if they want their first-generation and low-income students to succeed. In addition to financial support, programs should explicitly state norms and expectations to uncover the “hidden curriculum” to help students succeed (Renbarger et al., 2021b).

Sexism

Women in doctoral programs face bias, harassment, and unequal treatment in multiple forms. In interviews with STEM women graduate students, Griffin et al. (2015) found that the norms of academia conflicted with their norms of being a woman; their departments prioritized bench work over everything else, pursuits of academia and research (not industry or teaching), and students' independence compared to nurturing or collaboration. Women were told to change their communication style to one that was more aggressive and were punished even when they did. Additionally, students face sexual harassment from faculty mentors (Griffin et al., 2015). In a recent study of Ph.D. students going through their defenses, women were less likely to perceive their dissertation committees as fair. They were stressed because they recognized their minoritized status as they did not have gender representation in their departments or fields (Lantsoght, 2021). This is important given that similar findings were published decades ago that documented women feeling less respected by faculty, receiving less mentorship, and getting to collaborate less on research than the students who identify as men (Fox, 2001). With issues like these, readers can understand why women are at a 63% higher risk for anxiety than men, although there were no differences in depression rates between genders (Posselt, 2021). Faculty must commit to providing mentorship, mental health resources, and equal opportunities for students, whether they identify as a man, woman, or non-binary doctoral student.

Sexual Orientation

Most of the research on LGBTQ people in the academy tends to focus on LGBTQ undergraduate students or faculty but has found that “even within academic settings, which are believed to be more liberal and accepting of diverse identities, being openly LGBTQ may result in discrimination and marginalization that has both personal and professional implications” (Prock et al., 2019, p. 185). Within the research on graduate students specifically, this discrimination and marginalization is observed when faculty advise LGBTQ students not to discuss their sexuality despite not providing similar recommendations for their heterosexual peers (Hsueh, 2020). LGBTQ students also face increased isolation due to moving away from their established LGBTQ-friendly community to attend their graduate school of choice (Jackson, 2017) and are at greater risk of feeling unsupported (Cech & Rothwell, 2018). Faced with these sorts of issues, graduate students who identified as LGBTQ were much more likely than their heterosexual peers to screen for anxiety (83% higher) or depression (46% higher) (Posselt, 2021). The percentage of LGBTQ graduate students with anxiety was almost twice that of the heterosexual student sample. If the goal is for every doctoral student to be successful, then graduate programs must account for each of their identities and their varying levels of associated marginalization when programming for that success.

Intersectionality

Importantly, these forms of oppression must be seen in a combined way, known as intersectionality. Intersectionality, a term coined by legal scholar Kimberle Crenshaw (1991), means to consider multiple forms of identities together, such as race and gender, to understand how multiple identities create a new experience outside of examining each identity separately. For example, in a review of the literature on the experiences of women of color in STEM, Ong et al. (2011) identified that both undergraduate and graduate students faced “issues of isolation, identity, invisibility, negotiating/navigation, microaggressions, sense of belonging, and tokenism” (p. 196). These findings have been replicated in recent studies across different fields and identities. For example, Wood et al. (2016) found that biomedical Ph.D. students' gender, race, and class affected how students navigated their career paths; Wanelik et al. (2020) found that ethnicity and socioeconomic status impacted career progression (e.g., publications) for early-career scholars in the fields of ecology and evolution; and Webber and Burns (2022) found relationships between race and ethnicity and borrowing rates for graduate education. In a literature review on doctoral students' well-being, Schmidt and Hansson (2018) reported that many studies in this area only represented the results of female⁴ doctoral students, which limits the development

⁴ We honor the distinction between sex and gender but use the terms used by the authors we referenced. In this cited work, the authors used terms relating to both gender and sex.

of relevant theories that apply across biological sex and gender identities. This is particularly relevant for fields that have been historically unbalanced in their representation of gender identities, such as STEM and the humanities. Any attempt at modeling doctoral student success and well-being requires researchers to account for environmental variables such as program location and field of study and students' myriad identities (e.g., race, socioeconomic background, gender identity, marital status). Even international studies have found that "socio-demographic aspects, and in particular gender, ethnicity, and field of study, influence how doctoral candidates experience their defense" (Lantsoght, 2021, p. 1). Using an intersectional lens allows us to see how race, class, gender, sexuality, disability, and all of students' other identities provide complex experiences that must be acknowledged within their programs.

Strengths

Despite all of the aforementioned forms of discrimination (and more) that marginalized graduate students face, students from these groups bring unique strengths. These include increased social ties, varied cultural values, and different sources of knowledge that can assist them throughout the doctoral degree process. While many of the studies in the next section come from the undergraduate literature, their concepts align with some of the asset-based theories discussed in the following section.

Social Networks

Marginalized graduate students often have extended networks of people to utilize for support while in their doctoral programs. These networks include "traditional" people, such as friends, immediate family, and advisors to help emotionally, academically, or financially (Figueroa, 2021; Leshem & Bitzer, 2021; Posselt, 2021). However, researchers have identified "invisible networks" that may influence marginalized groups' success, such as those within their work environment or even across the university (Leshem & Bitzer, 2021). Griffin and colleagues (2018) found that "scientists from underrepresented backgrounds construct and draw from diverse developmental networks that include individuals from within and outside of the academic community" including faculty, peers, advisors, program mentors, and similar players who share their identities. For example, in a study of McNair alumni, these alumni connected with their past peer cohort, former McNair directors, and program faculty mentors while in their Ph.D. programs to get support from afar (Renbarger et al., 2021). This use of extended networks may be because under-represented, racially minoritized students have a broader definition of family (McGee, 2021) and "kin" that means more than the immediate family. When programs recognize this, faculty may need to see that family events and holidays may take on a different meaning or intentionally connect students to identity groups on campus to create those relationships when students are geographically isolated from their identified support network.

Values

Researchers have identified general differences between what drives academic success for "underrepresented, racially minoritized" (URM) or historically marginalized students and their White or non-marginalized peers. Scholar Ebony McGee (2021) states that URM students often have what is called an equity ethic, a "set of moral values that includes a principled concern for justice...and for the well-being of people suffering under various inequities" (p. 76). McGee states that this "cultural uplift" can be traced back to enslavement and other forms of extended suffering because groups of people who have experienced shared trauma often have an innate desire to help from this past trauma. This equity ethic drives many of URM students' actions, including their major and future careers, to help solve the inequities they have seen in the world. These inequities extend beyond those within their own lives but are issues they know exist within the larger world. From an example within the doctoral student research, Figueroa (2021) found that Hispanic men were more likely to attain their Ph.D. because they saw it as a way to mentor the next generation of Hispanic students coming behind them and giving back to their community. Similarly, Naphan-Kingery and colleagues (2019) found that the equity ethic was present for graduate computing and engineering students who had previously seen or experienced suffering. Students with an equity ethic were more likely to want to stay in academia to teach the next generation or find

an industry position to fully actualize the equity ethic. Programs can use this information to help students identify proper service opportunities and career guidance to fulfill these values rather than promote more individualistic, capitalistic, or meritocratic values that do not align with those who have an equity ethic.

Knowledge

Although students from marginalized backgrounds may not have grown up learning the types of information that academia may find worthy, this does not mean that these graduate students do not come in with useful knowledge. These useful sources of information are what Moll and colleagues (1992) deemed “funds of knowledge:” types of household information that working-class Mexican communities had that promoted individual and community well-being and functions, such as agriculture, mining, repair, medicine, religion, economics, and household management. While the original types of funds of knowledge are still recognized, researchers have expanded the concept to include other forms of information that go unrecognized yet are valuable. Relevant to this paper, marginalized students use these alternative types of knowledge to excel in university settings, such as through Deferred Action for Childhood Arrivals (DACA) undergraduate students who have used background knowledge as resources to identify issues within higher education (Montiel; 2016; Przymus & Malin, 2021), or find validation in their field when their knowledge is validated (Smith & Lucena, 2016b). Related to the concept of equity ethic, researchers found that first-generation, low-income undergraduate engineering students tapped into these funds of knowledge and problem-solving to solve the issues they saw within their communities (Smith & Lucena, 2016a).

In terms of doctoral students’ funds of knowledge, less is known. We did find one study that used the term to describe the researchers’ personal experiences and how they impacted their graduate development. Cutri and colleagues (2011) described, “As ‘poverty PhDs,’ we conclude that select skills and dispositions that we developed in conditions of financial poverty helped us to navigate graduate school and that they continue to productively inform, yet complicate, the development of our professional identities” (p. 299). They created four funds of knowledge: “(1) a hard work ethic focused on monetary survival; (2) self-motivation, independent of any external rewards, to do whatever is necessary to accomplish our goals; (3) a sense of self-regulation regarding use of resources; and (4) a critical analytic awareness of power relations and structures and a sense of how to navigate them” (Cutri et al., 2011, p. 312). These four funds of knowledge, or skills, became useful from the beginning of graduate study and continued throughout graduation to their time as professionals. Again, similar to the equity ethic of the previous section, these skills were often used to help teach students - both from poverty and not - what is possible and individually mentor and provide the next generation of low-income students with a model of success. Ph.D. mentors and programs can and should identify and validate the funds of knowledge that students bring to the table to improve students’ feelings of belonging but also to expand traditional ideas of information and evidence. A new, more theoretical version of Funds of Knowledge called Community Cultural Wealth will be discussed later, focusing on relevant, asset-based theories that could be incorporated into graduate developmental frameworks.

Graduate Student Theories

Most graduate student theoretical frameworks tend to fall into one of two categories: career choices or socialization; in both, the traditional focus is on students’ assimilation (or not) into their programs or professions (Antony, 2002). These frameworks prioritize the organization and its norms and can pressure marginalized students who should not or do not want to assimilate against these norms (Antony, 2002). While some frameworks may focus on the socialization of graduate students to an academic career (e.g., Austin, 2002; Baker & Lattuca, 2011) or just on one specific period in students’ doctoral journeys (e.g., Baker & Pifer, 2011; Golde, 1998), the current article reviews popular theories that encapsulate the full range of doctoral student outcomes over the entirety of the doctoral program.

In reviewing the research and theory on graduate student retention and progress, Baird (1993) found that graduate models focused on students' integration into their department and socialization to their academic profession and expanded the work to include more factors related to student success. The reviewed models include those that create stages for this experience (e.g., Tinto, 1993) or describe graduate student learning as a set of processes (e.g., Berkenkotter et al., 1991). Combining the studies from the review, Baird (1993) provided an integrated model that emphasized the most important aspects of graduate student socialization, which included the faculty who train the student in their academic field, the peers who help them get through the difficulties associated with this socialization, and the external support systems. However, the language in this model emphasizes that the student is the main factor in whether they stay in their program. As Baird (1993) stated on pages 8-9:

In this model, attrition is associated with poor social and academic relationships with professors and fellow students, inadequate mastery of the forms of reasoning favored by the discipline, and poor support from spouses, employers, and other groups... If students do not have time for the sorts of interactions that all the models consider important, they will be less likely to complete their degrees or move ahead on schedule. Thus, students who work outside the university; who have other commitments, such as children; and who cannot afford to pursue full-time study are more likely to drop out or make slow progress.

Girves and Wemmerus (1988) created a graduate student degree progress model that allowed a more flexible understanding of how students make it through their program. Similar to Baird (1993), they include relationships with faculty and involvement with the program, but they also include financial support and psychological constructs such as alienation and satisfaction with the department that help explain why some students may not retain in their program (Girves & Wemmerus, 1988).

One of the most cited socialization frameworks comes from Stein and Weidman (1989), who created a model of socialization where students integrate into the institution as well as the profession:

At the institutional level the framework suggests that novices are integrated into the professional community by adopting its norms, attitudes and values and because of them the authority and status of the professional role. At the individual level, the framework suggests that novices willingly accept professional norms as they begin to identify with and become committed to a profession (p. 11).

This socialization is bidirectional in that the student may also affect their program or institution. The graduate student thus is changed into a new person based on their ability to adopt the norms, yet the framework lacks a major discussion of systemic forces that might affect this integration; only some background characteristics are mentioned and appear to be indirectly related to the students' outcomes. Even with an updated model (Weidman et al., 2001) that defined different ways of socialization, scholars have critiqued this socialization model for not applying to all students, especially SoC, as race is not labeled as a major factor in students' socialization experiences; however, the 2016 revision did include more consideration of students' backgrounds and dispositions (Winkle-Wagner et al., 2020).

Other theories of graduate student development have made progress to include more factors related to persistence that relate to the experiences of graduate students that do not focus solely on socialization. For instance, in Tinto's (1993) updated model of doctoral persistence, the model includes factors such as "student background" and "external commitments" such as financial resources and family responsibilities that may relate to a student's experiences entering the program, experiencing the institution, integrating into the field up to candidacy, and then researching for the dissertation but do not necessarily suggest a student must leave because of these factors. A limitation of Tinto's (1993) model is a large hurdle; it states that this model was formed with speculation rather than through longitudinal research. More recent studies used Tinto's model for racial minority doctoral students at a Hispanic Serving Institution yet found that only some of the aspects fit,

and further refinement was necessary for understanding underrepresented graduate student groups (Vaquera, 2007). While these theories do not reflect the more current population of graduate students, more modern frameworks do include some systemic forces.

21st Century Frameworks

From a longitudinal perspective, Gardner’s (2009) model of graduate student development utilized data from multiple studies with 177 doctoral students from across the United States and developed a conceptual framework for three phases of the doctoral journey: Phase I, entry and orientation into the program; Phase II, coursework and examinations leading to candidacy; and Phase III, dissertation work and transitioning to a new professional role. There are distinct challenges and supports in each phase, and if any of the challenges outweigh the supports, students may depart from their program. While the model does not include the particulars of race, socioeconomic status, first-generation status, or other important factors related to marginalized student groups, Gardner (2009) explicitly states that “students are as diverse as their experiences and that these individual differences must be accounted for in any consideration of their overall development or change during graduate school” (p. 12). Renbarger et al. (2021) found that the Gardner (2009) model did not include challenges such as racist departmental and institutional cultures, making it more difficult for these marginalized doctoral students to persist. Consequently, these factors matter for students’ success and should be incorporated into graduate development models.

One model that has recently examined race was the socialization of Black doctoral students. Winkle-Wagner et al. (2020) argue that traditional models of socialization that require Black students to conform to academic norms contribute to the racial disparities in doctoral degree enrollment and completion. Rather than using socialization frameworks, they used Bourdieu’s (1979) social reproduction theory to highlight the forms of capital students bring to their program. According to Bourdieu, capital is “accumulated labor... what makes the games of society—not least, the economic game—something other than simple games of chance” (1986, p. 15). Capital exists in multiple tangible forms, such as having wealth or property, but people can also have social connections or education that helps them move more easily through the world. For doctoral students who do not come from “traditional” backgrounds, they may not have the same networks, experiences, or prestige that their faculty expect or can relate to, which may put them at a disadvantage compared to their peers. As discussions of capital easily fall into the issue of viewing students without capital as deficient, higher education researchers have incorporated capital frameworks that honor forms of capital from Communities of Color.

Based on Critical Race Theory (CRT) scholarship, one framework is the Community Cultural Wealth (CCW) framework. Yosso (2005) argues that, by using CRT, “there [are] forms of cultural capital that marginalized groups bring to the table that traditional cultural capital theory does not recognize or value” (pp. 76-77). There are six forms of capital that include aspiration capital, continuing to hope and dream despite large, systemic challenges; linguistic capital, communicating in multiple or different languages or styles; familial capital, having an expanded history, consciousness, and intuition learned from viewing family or kin more expansively; social capital, connecting with networks of people who can provide support; navigational capital, moving through societal structures such as institutions of higher education; and resistance capital that includes understanding and challenging oppressive structures. An example of this can be seen in a study by Burt and Johnson (2018). They highlighted how a Black male engineer had familial capital because his parents influenced his interest in STEM and provided him with aspirational capital by encouraging his engineering education, with these forms of capital helping to overcome some of the barriers in STEM for Black men. Winkle-Wagner et al. (2020) adopted some of this inclusive language to advocate for a two-way socialization framework for Black doctoral students that does not suggest students should conform to academia but mature into scholars and change the field through new ways of thinking and researching via the CCW assets they bring. The model could be adapted for other doctoral student groups but is not meant to be a “one size fits all” framework.

Bancroft's (2018) model specifically for SoC, called out the lack of validity in traditional persistence models such as Tinto's and suggested a critical race theory (CRT) for science, technology, engineering, and mathematics (STEM) among Black, Latinx, and Native American doctoral students. CRT acknowledges the racism inherent in institutions, with this racism bolstering White communities economically and psychologically (Bancroft, 2018). Still, Bancroft's Critical Capital Theory (CCT) model expands CRT, combining it with capital models that acknowledge the community and culture that students bring with them into their programs. According to Bancroft,

CCT proposes that sociocultural and emotional supports for student persistence can emerge from four distinct social networks: A family network who have some knowledge of how to successfully navigate primarily White institutions of power, a network of other personal friends/acquaintances not affiliated with the student's STEM doctoral program and who have some knowledge of how to successfully navigate primarily White institutions of power, a network of fictive kinships with peers within the STEM doctoral program, and a network fictive kinships with STEM faculty which would specifically manifest as high quality mentorship relationships. It is the individuals from these four networks that students can reach out to for sociocultural and emotional support as they attempt to navigate the daily challenges of their STEM field. (p. 1329)

Using systemic influences along with individual experiences, researchers and practitioners can examine the likelihood of persistence in or departure from a STEM doctoral program. Bancroft's (2018) model disrupts the assimilationist perspectives of other socializing theories; however, Bancroft (2018) acknowledges this model focuses specifically on STEM fields rather than the whole of doctoral students and does not fully examine other systems of oppression that students may face, such as gendered oppression.

Within the socialization literature, gender has been a construct severely overlooked (Sallee, 2011; 2014). Using data from a traditionally man-dominated field and a traditionally woman-dominated field, Sallee (2014) examined how doctoral students are formally and informally socialized to take on the masculine norms of their discipline and uphold traditional masculine values of competition, strength, hierarchy, and the objectification of women to be successful. Examples of these values can be seen through the continued use of rank in the department (faculty over students) or faculty believing that women did not deserve their positions (Sallee, 2014). This socialization can come from faculty or peers. However, other researchers have documented that faculty play a large role in socialization and have been shown to highlight how being a woman does not align with belonging in the academic community (Griffin et al., 2015). These values and the disciplinary context interact with gender to impact doctoral students' outcomes (Sallee, 2011). Rather than perpetuate patriarchal traditions, scholars can use feminist lenses and ideals to socialize doctoral students. Indeed, Palmer et al. (2022) call others to learn from their feminist socialization study regarding doctoral collaboration and follow their four tenets of: "love and care are essential within graduate spaces, intentional feminist spaces are a counter space, academia must disrupt doctoral student isolation, and traditional research should incorporate feminist epistemology" (p. 11). More students can be represented and supported by expanding the way programs conceive of what graduate spaces and progress should be (through feminist and other decolonial frameworks).

Although these models have come further in documenting the variation of students' backgrounds and experiences in graduate student retention, studies have found that these separate models do not fully reflect the diversity of the graduate student body or include the challenges or supports these students bring to their doctoral degrees programs. Thus, we call for researchers and practitioners to envision models that might reimagine a theory that fully includes the doctoral students within our graduate programs.

Conclusion

The current paper is only a starting point for developing a more holistic, comprehensive, and contextual picture of doctoral students as they begin and progress through their doctoral programs. As we have described, multiple models and theories address various pieces of doctoral student development; however, these are disjointed. It is time for a new theory that combines these disparate pieces, focusing on the strengths of the underrepresented, racially minoritized doctoral student. These strengths include students' hidden or "invisible" social networks and various funds of knowledge and values (e.g., equity ethic).

Importantly, a new theory must include challenges and systemic barriers and structures. If ignored, racism, classism/elitism, sex/gender inequity, disability biases, sexual orientation bias, and other forms of oppression will maintain their marginalizing roles and actively harm the plight of these students.

Additionally, while not forms of oppression, other facets of the lives of doctoral students so far unaddressed in current theories must be considered. For example, how does being married, disabled, a parent (often single-), an international student, and possibly dual-career impact doctoral students' experiences? A comprehensive theory of doctoral student development must consider all these elements (see, e.g., Leake & Stodden, 2014; Phan, 2022; Webber & Burns, 2022). When it does so, there will be significant implications for future researchers, practitioners, and policymakers.

Recommendations for Researchers

Based on the literature presented, we suggest researchers continue examining graduate programs' systems and structures and doctoral students' experiences within these programs. To this aim, we provide several recommendations for researchers that would help clarify ambiguity between related concepts and strengthen conclusions being made as the result of future research. First, researchers should disaggregate data by specific groups (e.g., race/ethnicity) even when the groups are small (Castillo & Gillborn, 2022). Disaggregating the data is the first step in enabling future researchers to further investigate how students' differing identities relate to student outcomes, including representation or the lack thereof in study samples. This would help to address the issues raised above regarding how students of color, first-generation students, and those from different income backgrounds are treated by existing systems in higher education. As mentioned above, previous research has found that these groups of students often face unique barriers to their success due to issues with resource access (e.g., mentors, funding) and allocation, as well as limited familiarity with the hidden curriculum.

Researchers should also separate the constructs of biological sex and gender identity when collecting and reporting their data. As mentioned above, women are likely to experience issues such as sexual harassment during their doctoral studies, but it is important to understand if and how such findings vary based on biological sex or the social construct of gender identity. This recommendation also supports further research into the experiences of LGBTQ students, who, as mentioned above, face unique challenges related not only to their sexual orientation but also to their conformance or lack thereof with social expectations related to biological sex and gender identity. This also raises the issue of addressing intersectionality in research endeavors. While complicated, it is necessary to understand how the interaction of multiple identities influences students' ability to successfully navigate and complete doctoral programs beyond the expected influence of each individual identity.

One way to consider the multiple identities of the students in the graduate programs is to utilize one or more of the asset-based theoretical frameworks, such as those described previously. These frameworks will help change how the academy views graduate students and structures graduate education. Additionally, these frameworks allow researchers to highlight the strengths of doctoral students and the ways that the students themselves succeed within graduate education that can then be used in programs when appropriate.

Our final recommendation is to identify new areas for examination in graduate education research for these groups. The issues presented here, such as racism, sexism, and classism, are likely to pervade multiple aspects

of graduate education that have not yet been published. What can other systems and should be changed? Are there certain parts of the doctoral degree process that disproportionately hurt students? Obtaining a doctoral degree takes years, so many aspects of the doctoral experience must be researched.

In summary, researchers investigating issues related to doctoral students should improve efforts at understanding the unique barriers faced by historically marginalized and underrepresented groups, including (but not limited to) students of color, women, and members of the LGBTQ community. Supporting these students is critical to improving access to higher education and diversifying the academy. For researchers, collecting and reporting appropriate demographic data is a critical first step in enabling such investigations. Clarifying the terms used—even when those terms have been used interchangeably—is a critical endeavor for researchers moving forward.

Recommendations for Practitioners and Policymakers

High levels of debt are commonly cited (e.g., Webber & Burns, 2022) as a prime reason for marginalized groups to leave graduate education or never matriculate in the first place. More effort should be made to offer marginalized graduate students financial assistance, such as providing them with lists of local, state, regional, and federal opportunities and helping them prepare for those applications. Federal programs, such as the National Science Foundation's (NSF's) Advance Program and Graduate Research Fellowship Program, or state-specific programs such as the Southern Regional Education Board could greatly impact these students (Webber & Burns, 2022), and practitioners should mentor students through the processes to make these financial opportunities possible. Faculty and staff should ensure that there are campus scholarships, fellowships, and grant opportunities specifically for marginalized students to make an obvious positive impact.

As many groups have been historically marginalized within the academy, when program directors and administrators consider faculty mentoring and professional development for doctoral students, there should be a deliberate effort to ensure the students are fully included and integrated into the mentoring culture. Faculty provide a wealth of information (e.g., financial, connecting in networks, post-graduate placement) in critical growth areas for these graduate students. Explicitly outlining the policies and norms of academia can alleviate some of the structural barriers students face, but practitioners should ultimately work to dismantle the systems that work to prevent marginalized students from fully participating in all aspects of their doctoral program. For example, faculty can outline the expectations for conference attire, post guidelines surrounding sexual harassment, and eliminate barriers to doctoral admissions like the GRE. Moving forward, practitioners must continually reflect on their position and the current research on existing systems in perpetuating inequity within the academy, especially as they increase barriers to completion for students of color, women, and members of the LGBTQ community.

In terms of doctoral students' strengths, faculty and staff can focus on identifying the unique perspectives and opportunities that their graduate students bring to their graduate program. To illustrate, campus members can uplift graduate students with awards on campus for teaching, service, or leadership even outside of their traditional doctoral work. Alternatively, honoring students' lives, such as their work as community organizers or contestants in a Pow Wow, can signal that their contributions outside research are important and valuable. To know what these strengths might be, campus faculty and staff must build positive relationships with students and get to know them for who they are outside of the classroom or lab. If there are no formal processes for highlighting these achievements, practitioners can promote students through informal channels, such as through graduate program listservs or social media.

The time has come for a theory of doctoral graduate education that includes the strengths, barriers, and intersectionality of the multiple identities and experiences of traditionally marginalized doctoral students highlighted in the current paper and recent research. Higher education must make systemic changes to ensure more equitable access and outcomes for these doctoral students; using systemic frameworks can help move the field to that end. Bringing awareness to these structures and variables will facilitate policy changes that broaden opportunities for marginalized groups seeking doctoral graduate education (Webber & Burns, 2022).

References

- Antony, J. S. (2002). Reexamining doctoral student socialization and professional development: Moving beyond the congruence and assimilation orientation. In J. C. Smart & W. G. Tierney (Eds.), *Higher Education: Handbook of Theory and Research*, 7. Springer. https://doi.org/10.1007/978-94-010-0245-5_8
- Austin, A. E. (2002). Preparing the next generation of faculty: Graduate school as socialization to the academic career. *The Journal of Higher Education*, 73(1), 94-122. <https://doi.org/10.1080/00221546.2002.11777132>
- Baker, V. L., & Lattuca, L. R. (2010). Developmental networks and learning: Toward an interdisciplinary perspective on identity development during doctoral study. *Studies in Higher Education*, 35(7), 807-827. <https://doi.org/10.1080/03075070903501887>
- Bahack, H., & Addi-Raccah, A. (2022). PhD first-generation and continuing generation students' academic experience and strengths. *Higher Education*. <https://doi.org/10.1007/s10734-021-00806-4>
- Baird, L. L. (1993). Using research and theoretical models of graduate student progress. In L. L. Baird (Ed.), *Increasing graduate student retention and degree attainment*. Jossey-Bass. <https://doi.org/10.1002/ir.37019938003>
- Bancroft, S. F. (2018). Toward a critical theory of science, technology, engineering, and mathematics doctoral persistence: Critical capital theory. *Science Education*, 102(6), 1319-1335. <https://doi.org/10.1002/sce.21474>
- Baum, S., & Steele, P. (2017). Who goes to graduate school and who succeeds? *SSRN Electronic Journal*. <https://dx.doi.org/10.2139/ssrn.2898458>
- Bourdieu, P. (1979). *Distinction: A social critique of the judgment of taste*. (R. Nice, Trans.). Harvard University Press.
- Bourdieu, P. (1986). The form of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education*. Greenwood Press.
- Brunsmas, D. L., Embrick, D. G., & Shin, J. H. (2017). Graduate students of color: Race, racism, and mentoring in the white waters of academia. *Sociology of Race and Ethnicity*, 3(1), 1-13. <https://doi.org/10.1177/2332649216681565>
- Castillo, W., & Gillborn, D. (2022). *How to "QuantCrit:" Practices and questions for education data researchers and users* (EdWorkingPaper No. 22-546). <https://doi.org/10.26300/v5kh-dd65>
- Cech, E. A., & Rothwell, W. R. (2018). LGBTQ inequality in engineering education. *Journal of Engineering Education*, 107(4), 583-610. <https://doi.org/10.1002/jee.20239>
- Chow-Garcia, N., Lee, N., Svihla, V., Sohn, C., Willie, S., Holsti, M., & Wandinger-Ness, A. (2022). Cultural identity central to Native American persistence in science. *Cultural Studies of Science Education*, 17, 1-32. <https://doi.org/10.1007/s11422-021-10071-7>
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241-1299. <https://doi.org/10.2307/1229039>
- Cruz, A. (2018, October 9). The problematic history of the word "Hispanic." *Teen Vogue*. <https://www.teenvogue.com/story/problematic-history-of-hispanic-word>
- Cutri, R. M., Manning, J. M., & Chun, M. (2011). Poverty PhDs: Funds of knowledge, poverty, and professional identity in academia. *Studying Teacher Education*, 7(3), 299-314. <https://doi.org/10.1080/17425964.2011.617137>
- Figuroa, F. C. (2021). *Los Graduados: Factors affecting first-generation Hispanic males attainment of a terminal degree* [Unpublished doctoral dissertation]. University of Massachusetts Global.
- Fox, M. F. (2001). Women, science, and academia: Graduate education and careers. *Gender & Society*, 15(5), 654-666. <https://doi.org/10.1177/089124301015005002>
- Gardner, S. K. (2009). Special issue: The development of doctoral students—Phases of challenge and support. *ASHE Higher Education Report*, 34(6), 1-127. <https://doi.org/10.1002/aehe.v34:6>

- Gardner, S. K., & Holley, K. A. (2011). "Those invisible barriers are real:" The progression of first-generation students through doctoral education. *Equity & Excellence in Education*, 44(1), 77-92. <https://doi.org/10.1080/10665684.2011.529791>
- Girves, J. E., & Wemmerus, V. (1988). Developing models of graduate student degree progress. *The Journal of Higher Education*, 59(2), 163-189. <https://doi.org/10.2307/1981691>
- Golde, C. M. (1998). Beginning graduate school: Explaining first-year doctoral attrition. *New Directions for Higher Education*, 1998(101), 55-64. <https://doi.org/10.1002/he.10105>
- Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education*, 76(6), 669-700. <https://doi.org/10.1353/jhe.2005.0039>
- Golde, C. M., & Dore, T. M. (2001). *At cross purposes: What the experiences of today's doctoral students reveal about doctoral education*. Pew Charitable Trusts. <https://files.eric.ed.gov/fulltext/ED450628.pdf>
- Griffin, K., Baker, V., O'Meara, K., Nyunt, G., Robinson, T., & Staples, C. L. (2018). Supporting scientists from underrepresented minority backgrounds: Mapping developmental networks. *Studies in Graduate and Postdoctoral Education*, 9(1). 19-37. <https://doi.org/10.1108/SGPE-D-17-00032>
- Griffin, K., Gibbs Jr., K. D., Bennett, J., Staples, C., & Robinson, T. (2015). "Respect me for my science:" A Bourdieuan analysis of women scientists' interactions with faculty and socialization into science. *Journal of Women and Minorities in Science and Engineering*, 21(2), 159-179. <https://doi.org/10.1615/JWomenMinorScienEng.2015011143>
- Hsueh, L., Werntz, A., Hobaica, S., Owens, S. A., Lumley, M. A., & Washburn, J. J. (2021). Clinical psychology PhD students' admission experiences: Implications for recruiting racial/ethnic minority and LGBTQ students. *Journal of Clinical Psychology*, 77(1), 105-120. <https://doi.org/10.1002/jclp.23074>
- Jackson, S. D. (2017). "Connection is the antidote:" Psychological distress, emotional processing, and virtual community building among LGBTQ students after the Orlando shooting. *Psychology of Sexual Orientation and Gender Diversity*, 4(2), 160-168. <https://doi.org/10.1037/sgd0000229>
- Kaur, H. (2020). Why people are split on using 'Latinx.' CNN. <https://www.cnn.com/2020/08/12/us/latinx-term-usage-hispanics-trnd/index.html>
- Lantsoght, E. O. (2021). Students' perceptions of doctoral defense in relation to sociodemographic characteristics. *Education Sciences*, 11(9), 463. <https://doi.org/10.3390/educsci11090463>
- Leake, D. W., & Stodden, R. A. (2014). Higher education and disability: Past and future of underrepresented populations. *Journal of Postsecondary Education and Disability*, 27, 399-408.
- Leshem, S., & Bitzer, E. (2021). The invisible support networks of doctoral candidates: What acknowledgement sections of doctoral theses reveal. *South African Journal of Higher Education*, 35(3), 1-12. <https://dx.doi.org/10.20853/35-3-3538>
- McGee, E. O., Botchway, P. K., Naphan-Kingery, D. E., Brockman, A. J., Houston, S., & White, D. T. (2021). Racism camouflaged as impostorism and the impact on Black STEM doctoral students. *Race Ethnicity and Education*, 25(4), 487-507. <https://doi.org/10.1080/13613324.2021.1924137>
- McGee, E. O., Griffith, D. M., & Houston, S. L. (2019). "I know I have to work twice as hard and hope that makes me good enough:" Exploring the stress and strain of Black doctoral students in engineering and computing. *Teachers College Record: The Voice of Scholarship in Education*, 121(4), 1-38. <https://doi.org/10.1177/016146811912100407>
- Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice*, 31(2), 132-141. <https://doi.org/10.1080/00405849209543534>
- Montiel, G. I. (2016). Navigating the Ivy League: Funds of Knowledge and social capital of undocumented Ivy League students. *Harvard Journal of Hispanic Policy*, 28, 64-79.
- Naphan Kingery, D. E., Miles, M., Brockman, A., McKane, R., Botchway, P., & McGee, E. (2019). Investigation of an equity ethic in engineering and computing doctoral students. *Journal of Engineering Education*, 108(3), 337-354. <https://doi.org/10.1002/jee.20284>

- Office of Postsecondary Education. (2022a). *Applications for new awards; Ronald E. McNair Postbaccalaureate Achievement Program*. <https://www.govinfo.gov/content/pkg/FR-2022-03-09/pdf/2022-04987.pdf>
- Office of Postsecondary Education. (2022b). *Federal TRIO Programs current-year low-income levels*. <https://www2.ed.gov/about/offices/list/ope/trio/incomelevels.html>
- Ong, M., Wright, C., Espinosa, L., & Orfield, G. (2011). Inside the double bind: A synthesis of empirical research on undergraduate and graduate women of color in science, technology, engineering, and mathematics. *Harvard Educational Review, 81*(2), 172-209. <https://doi.org/10.17763/haer.81.2.t022245n7x4752v2>
- Palmer, D., Washington, S., Silberstein, Saxena, P., & Bose, S. (2022). Socializing doctoral students the feminist way. *International Journal of Qualitative Studies in Education, 1*-16. <https://doi.org/10.1080/09518398.2022.2061737>
- Phan, A. N. Q. (2022). The why of where: Vietnamese doctoral students' choice of PhD destinations. *Studies in Continuing Education, 1*-17. <https://doi.org/10.1080/0158037X.2022.2054978>
- Posselt, J. (2021). Discrimination, competitiveness, and support in US graduate student mental health. *Studies in Graduate and Postdoctoral Education, 12*(1), 89-112. <https://doi.org/10.1108/SGPE-07-2020-0042>
- Prock, K. A., Berlin, S., Harold, R. D., & Groden, S. R. (2019). Stories from LGBTQ social work faculty: What is the impact of being “out” in academia? *Journal of Gay & Lesbian Social Services, 31*(2), 182-201. <https://doi.org/10.1080/10538720.2019.1584074>
- Przymus, S. D., & Malin, K. (2021). DACA Funds of Knowledge: Testimonios of access to and success in higher education. *Journal of Hispanic Higher Education, 15*3819272110577. <https://doi.org/10.1177/15381927211057769>
- Reeves, P. M., Claydon, J., & Davenport, G. A. (2021). Program evaluation practices and the training of PhD students in STEM. *Studies in Graduate and Postdoctoral Education, 13*(2), 109-131. <https://doi.org/10.1108/SGPE-04-2021-0029>
- Renbarger, R., & Beaujean, A. A. (2020). A meta-analysis of graduate school enrollment from students in the Ronald E. McNair Post-Baccalaureate Program. *Education Sciences, 10*(1), 1-15. <https://doi.org/10.3390/educsci10010016>
- Renbarger, R., Morgan, G. B., & Prochnow, T. (2021a). Helping students from the McNair Scholars Program enroll in graduate school: A multilevel modeling examination. *Journal of Academic Support Programs, 4*(1), 38-46. <https://doi.org/10.36896/4.1fa3>
- Renbarger, R., Rehfeld, D., & Sulak, T. N. (2021b). ‘I had no idea until now:’ Preparing doctoral students in education for the professoriate. *Journal of Applied Research in Higher Education. https://doi.org/10.1108/JARHE-06-2021-0198*
- Renbarger, R., Talbert, T., & Saxon, T. F. (2021c). Doctoral degree attainment from Ronald E. McNair scholars program alumni: An explanatory embedded case study. *Educational Policy. https://doi.org/10.1177/08959048211042569*
- Sallee, M. W. (2011). Toward a theory of gendered socialization. *NASPA Journal About Women in Higher Education, 4*(2), 170-192. <https://doi.org/10.2202/1940-7890.1086>
- Sallee, M. W. (2014). Performing masculinity: considering gender in doctoral student socialization. *International Journal for Researcher Development, 5*(2), 99-122. <https://doi.org/10.1108/IJRD-10-2014-0034>
- Schmidt, M., & Hansson, E. (2018). Doctoral students' well-being: A literature review. *International Journal of Qualitative Studies on Health and Well-being, 13*(1), Article 1508171. <https://doi.org/10.1080/17482631.2018.1508171>
- Seburn, M., Chan, T., & Kirshstein, R. (2005). *A profile of the Ronald E. McNair Postbaccalaureate Achievement Program, 1997-1998 through 2001-2002*. US Department of Education, Office of Postsecondary Education. <https://www2.ed.gov/programs/triomcnair/mcnairprofile1997-2002.pdf>
- Smith, J. M., & Lucena, J. C. (2016a). “How do I show them I’m more than a person who can lift heavy things?” The Funds of Knowledge of low income, first generation engineering students. *Journal of Women and Minorities in Science and Engineering, 22*(3). 199–221. <https://doi.org/10.1615/JWomenMinorScienEng.2016015512>

- Smith, J. M., & Lucena, J. C. (2016b). Invisible innovators: How low-income, first-generation students use their funds of knowledge to belong in engineering. *Engineering Studies*, 8(1), 1-26. <https://doi.org/10.1080/19378629.2016.1155593>
- Sowell, R., Allum, J., & Okahana, H. (2015). *Doctoral initiative on minority attrition and completion*. Council of Graduate Schools.
- Stein, E. L., & Weidman, J. C. (1989, November 2-5). *Socialization in graduate school: A conceptual framework* [Paper Presentation]. Association for the Study of Higher Education Annual Meeting, Atlanta, GA, United States.
- Tate, K. A., Fouad, N. A., Marks, L. R., Young, G., Guzman, E., & Williams, E. G. (2015). Underrepresented first-generation, low-income college students' pursuit of a graduate education: Investigating the influence of self-efficacy, coping efficacy, and family influence. *Journal of Career Assessment*, 23(3), 427-441. <https://doi.org/10.1177/1069072714547498>
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). University of Chicago Press. <https://doi.org/10.7208/chicago/9780226922461.001.0001>
- Toutkoushian, R. K., Stollberg, R. A., & Slaton, K. A. (2018). Talking 'bout my generation: Defining "First-Generation College Students" in higher education research. *Teachers College Record: The Voice of Scholarship in Education*, 120(4), 1-38. <https://doi.org/10.1177/016146811812000407>
- Twale, D. J., Weidman, J. C., & Bethea, K. (2016). Conceptualizing socialization of graduate students of color: Revisiting the Weidman-Twale-Stein framework. *Western Journal of Black Studies*, 40(2), 80-94.
- Vaquera, G. (2007). Testing theories of doctoral student persistence at a Hispanic serving institution. *Journal of College Student Retention: Research, Theory & Practice*, 9(3), 283-305. <https://doi.org/10.2190/CS.9.3.c>
- Wanelik, K. M., Griffin, J. S., Head, M. L., Ingleby, F. C., & Lewis, Z. (2020). Breaking barriers? Ethnicity and socioeconomic background impact on early career progression in the fields of ecology and evolution. *Ecology and Evolution*, 10(14), 6870-6880. <https://doi.org/10.1002/ece3.6423>
- Webber, K. L., & Burns, R. A. (2022). The price of access: Graduate student debt for students of color 2000 to 2016. *The Journal of Higher Education*, 1-28. <https://doi.org/10.1080/00221546.2022.2044976>
- Weidman, J. C., Twale, D. J., & Stein, E. L. (2001). *Socialization of graduate and professional students in higher education: A perilous passage?* (Vol. 28). ASHE-ERIC Higher Education Report.
- Weidman, J. C., & DeAngelo, L. (Eds.). (2020). *Socialization in higher education and the early career: Theory, research, and application* (7th ed.). Springer.
- Winkle-Wagner, R., McCoy, D. L., & Lee-Johnson, J. (2020). Creating porous ivory towers: Two-way socialization processes that embrace Black students' identities in academia. In J. Weidman & L. DeAngelo (Eds.), *Socialization in Higher Education and the Early Career* (pp. 73-89). Springer. https://doi.org/10.1007/978-3-030-33350-8_5
- Wood, C. V., Campbell, P. B., & McGee, R. (2016). 'An Incredibly Steep Hill': How gender, race, and class shape perspectives on academic careers among beginning biomedical Ph.D. students. *Journal of Women and Minorities in Science and Engineering*, 22(2), 159-181. <https://doi.org/10.1615/jwomenminorscieng.2016014000>
- Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8(1), 69-91. <https://doi.org/10.1080/1361332052000341006>
- Zhou, E., & Gao, J. (2021). *Graduate enrollment and degrees: 2010 to 2020*. Council of Graduate Schools.

“I feel I matter a little less to the school”: Implications of Covid 19 pandemic through the lens of Latinx, low-income, and first- generation students in Washington State

Authors:

Christina Torres García

Central Washington University
Christina.Garcia@cwu.edu

Lizeth Bañuelos

Arizona State University
lbanuel9@asu.edu

Alexandria Coronado

The University of Alabama
abcoronado@crimson.ua.edu

Author Note

The TRIO Ronald E. McNair Program sponsored data collection. Portions of these findings were presented at the 40th COE Anniversary Annual conference in Atlanta, Georgia.

Correspondence concerning this article should be addressed to Dr. Christina Torres García, World Languages & Cultures, Central Washington University. Email: Christina.Garcia@cwu.edu.

Acknowledgment

The 2020 *Latinx Wellness* survey was designed with the assistance of Dr. Aryn Ziehnert, lecturer in psychology at Eastern Washington University.

Abstract

The COVID-19 pandemic has created a disruptive crisis, unmasking the vulnerabilities and inequities across the world in society’s interrelated economic, health care, and educational systems. COVID-19 widened and exacerbated student equity issues in higher education, especially for low-income, first-generation, and minoritized students. Documenting the student’s experiences to understand the pandemic’s impact on their academic aspirations is essential. Utilizing data from two surveys conducted in two teaching institutions at Washington State, this study highlights the exacerbated education inequities on students’ mental health, accessibility of resources, and institutional programming during the peak of the pandemic affecting academic aspirations. We conclude with educational policy recommendations and cross-institutional initiative strategies that higher education institutions should implement to reduce the inequity across universities.

Keywords: COVID-19, Latinx, TRIO & Equity, Mental Health, Washington

The COVID-19 pandemic and a revived racial justice movement are challenging higher education institutions' status quo by illustrating the inequality of services, prompting a more honest assessment of the need to radically (re)imagine a transformational post-COVID future; not just in terms of teaching and learning, but also in considering equity and inclusion in institutional policies and procedures. The crisis of COVID-19 and inequity go hand in hand. Over the past two years, the increasingly unfolding statistics of the global pandemic further exposed the systemic injustices entrenched and weaved in the fabric of society and reflected in higher education. These inequities are evident in various racial, ethnic, disability status, age, socio-economic, first-generation, and other overlapping factors.

Anti-colonial feminists, critical race theorists, and other scholars who eloquently articulate their roots have denounced these intersected and overlapping inequities. Battiste (2013) postulates that these inequities are the result of colonialism, stating that “education has its roots in a patriarchy Eurocentric society, complicit with multi[ple] forms of oppression” (p. 159). Torres García (2020) concurred with Battiste in her article titled *Chicana Feminism and Higher Education* by affirming that educational institutions continue to centralize the Western canon of thought entrenched in colonial hegemonic ideologies. Thus, the latter obstructs the radical transformation necessary to create equitable outcomes for low-income, first-generation, and systematically marginalized and minoritized students.

Even though these multifaceted and interconnected inequities have existed since the formation of this nation, the COVID-19 pandemic helped clear the fog, placing inequity in the spotlight. Author Arundhati Roy put it best in an online interview in which she likened the pandemic to “an MRI revealing the social bones, muscles, ligaments, and tendons” (Haymarket Books, 2020, 10:05), making it possible to see all the broken places (Wright, 2020) and torn ligaments of our educational system. TRIO¹ programs are among the few successful educational initiatives that address the profound social, economic, and cultural barriers historically entrenched in education. These programs emerged from the Economic Opportunity Act² in 1964, signed into law by President Lyndon B. Johnson—one of his War on Poverty landmarks. President Johnson and his administration emphasized the critical role education plays in facilitating the rise of the poor above their financial circumstances, helping them become equal in a society stricken with disadvantages and inequality. For many, education is a hammer used to break the cycle of poverty and a promise to eradicate inequities rooted in the fabric of society.

Indisputably, TRIO programs help transform the lives of many first-generation, low-income, and minoritized students, including students with disabilities, by providing academic and personal counseling, financial guidance, and other supportive strategies necessary for education access and retention. Additionally, TRIO programs are the pioneers of high-impact educational practices in educational institutions (Lunsford et al., 2017). According to a growing array of research studies, these high-impact practices are correlated with positive educational results from students with widely varying backgrounds (Lunsford et al., 2017).

Nevertheless, the current TRIO programs are insufficient to close the equity gap created by what education scholar and critical race theorist Gloria Ladson-Billings (2006) called *educational debt*. The COVID-19 pandemic has exacerbated this debt of education disparities. Meanwhile, as students return to the classroom with vaccines and rapid virus tests now available on campuses, there is a push to return to “normal” as soon as possible. Normalcy implies returning to the status quo—to the same inequitable values, ideas, practices, and initiatives in which higher education is built—without assessing the learning outcome during this pandemic.

This study reminds educators of the historical inequities and documents the impact of the COVID-19 pandemic on college students' experiences in hopes of shedding light on the necessity of undertaking a process of centralizing equitable initiatives and policies to restructure a transformative post-COVID-19 future in higher education. This work utilizes two surveys examining the immediate impacts of COVID-19 on TRIO students and

1 TRIO is a set of federally funded college opportunity programs that motivate and support students from disadvantaged backgrounds in their pursuit of a college degree.

2 Act of August 20, 1964 (Economic Opportunity Act of 1964), Public Law 88-452, 27 STAT 508, which mobilized the human and financial resources of the Nation to combat poverty in the United States.

TRIO-eligible students—low-income, first-generation, and minoritized students in postsecondary education. The results are organized into three overarching themes: (1) student mental health, (2) accessibility of resources and institutional programming, and (3) student-life balance.

Equity in Higher Education Based on Income and First-Generation Status

Equity refers to creating opportunities for equal access and success among historically underserved student populations in higher education. Education equity necessitates reforming educational institutions' practices, policies, and procedures to support academic fairness and inclusion. Equity-minded educators must apply an activist component to critical inquiry in order to transform existing policies and practices in higher education. For this to occur, it requires acknowledging the existing systematic disparities and the urgency of placing equity and excellence at the center of our higher education work. It is also essential to understand that economic inequality goes hand in hand with racial inequity. Both lenses must be applied and utilized as we work to transform Eurocentric policies and practices in higher education.

As Carnevale and Strohl (2010) concluded in their study focusing on race, socioeconomic status, and college admission test scores, “socioeconomic status itself is not race-blind” (p. 167). In other words, race follows class closely and is reflected in educational inequalities. For instance, the Washington Student Achievement Council (WSAC) illustrates that Washington state follows national trends that show lower-income individuals having lower educational attainment than their non-low-income peers (Kwakye et al., 2020). Additionally, 80% of people whose incomes exceed \$100,000 annually have a postsecondary degree, while only about 36% of people who make less than \$25,000 per year only have up to a high-school degree (Kwakye et al., 2020). These figures indicate that incoming students from low-income backgrounds overlap with first-generation students in higher education. The WSAC also reports that students from non-low-income backgrounds are more likely to persist throughout their education. The latter is true at both 2-year and 4-year institutions, with low-income students lagging eight percentage points behind their non-low-income peers at 2-year institutions and seven percent at 4-year Washington state institutions (Kwakye et al., 2020).

These lower persistence rates lead to lower levels of degree completion, already skewed by the lower levels of low-income students' enrollment in higher education. For example, only 46% of low-income high school students enroll in postsecondary education, whereas 68% of non-low-income high school students enroll in postsecondary institutions immediately after graduating high school (Kwakye et al., 2020). In fact, the state of Washington has implemented various programs allowing high school students to enroll in dual credit classes counting toward future degrees. Except for Tech Prep, low-income students consistently lag behind their non-low-income peers (Kwakye et al., 2020). The pandemic has exacerbated these inequities.

Moreover, according to the National Student Clearinghouse Research Center, “more than 1 million students have missed out on higher education in the wake of the coronavirus pandemic” (Douglas-Gabriel, 2022), affecting students of color the most. In Washington state, Latinos make up 13% of the state's total population. However, they comprise 26% of all confirmed COVID-19 cases and 19% of all COVID-related hospitalization as of November 29, 2021 (Latino Center for Health, 2021).

In 2020, Washington state ranked 13th highest among the states in total Hispanic and Latinx populations (Office of Financial Management, 2021). Based on U.S. Census data, Washington State's Latinx student population can be projected to increase from 1.02 million in 2022 to 1.32 million in 2030 and 1.61 million in 2040 (Office of Financial Management, 2021). The Latinx population resides primarily in the central regions of the state, which are the agricultural regions' that have depended on migrant labor throughout the last five decades and have been deemed “*essential*” by states during COVID-19. Central Washington University (CWU) is located in this central region and Eastern Washington University (EWU) is located two hours away in the easternmost regions of the state, bordering with the state of Idaho. As some of the most affordable 4-year public teaching institutions in the state, both CWU and EWU serve a high number of first-generation student populations each year.

Furthermore, in 2020, CWU Latinx undergrad enrollment was around 18%, while EWU had 16% (Central Washington University- IPEDS Submitted Reports, 2021; James Perez, 2021). Nevertheless, Washington state's enrollment rates dropped between 2018-19 and 2020-21. Of the six colleges in Washington state, only CWU saw a slight increase in enrollment. In contrast, the University of Washington (UW), Washington State University (WSU), EWU, and Western Washington University (WWU) all experienced decreases in enrollment (Kunkler, 2021). Unfortunately, studies have also reported profound rates of major depressive and anxiety disorders among low-income students (Alemany-Arrebola et al., 2020).

Student Mental Health During the Pandemic Affecting Academic Aspiration

There is a growing concern among the general population regarding the impact of the COVID-19 pandemic on mental health (Chirikov et al., 2020; Warner-King, 2021). According to the Student Experience in the Research University (SERU) Consortium survey of 30,725 undergraduate students and 15,346 graduate and professional students conducted in May-July 2020 at nine public research universities reported that 39% of students screened positive for generalized anxiety disorder, and 35% of the undergraduates screened positive for major depressive disorder (Chirikov et al., 2020). Chirikov et al. (2020) utilized the Generalized Anxiety Disorder-2 and Patient Health Questionnaire-2 to screen for anxiety disorders and significant depression symptoms. Additionally, according to this report, major depressive and generalized anxiety disorder rates are more pronounced among low-income students, students of color, women, LGBTQ students, and students who are caregivers. Studies demonstrate that self-efficacy among students negatively correlates with anxiety and depression (see Alemany-Arrebola et al., 2020). Consequently, stress and anxiety influence the perception of students' academic self-efficacy.

Moreover, according to the Court Improvement Training Academy in Washington State, there is a growing concern that the COVID-19 pandemic may delay the cognitive, emotional, and social development of children and youth, leading to signs of burnout, exhaustion, depression, anxiety, and suicide risk (Family and Youth Justice Programs, 2021). Along the same lines, the Center for Disease Control (CDC) estimates that 1 in 14 people under 18 years old present suicidal ideation since the pandemic started. Mental health-related visits to emergency departments increased for children ages 5-17 years old (Warner-King, 2021). With respect to college students, COVID-19 impacts students' lives by increasing levels of stress or anxiety, disappointment or sadness, loneliness or isolation, financial setback, and relocation (Active Minds, 2020).

A study of 2,086 college students by O'Shea et al. (2021) revealed how "COVID-19 created another level of unforeseen stressors impacting the mental health of students: social isolation, emotional issues associated with changes, issues related to independence, uncertainty, disappointment, and grief... particularly noted amongst those populations already constrained by material and financial structures" (O'Shea et al., 2021, p. 9). They also report that 80% of these students blamed the COVID-19 pandemic for the negative impact on their mental health while acknowledging that college students are already exposed to a range of psychosocial stressors, further increasing their vulnerability to depression, anxiety, and suicidality, when compared to their same-aged peers (O'Shea et al., 2021).

Therefore, researchers must examine how inequitable policies exacerbate racial disparities among these communities when factoring COVID-19 effects such as familial deaths, and economic challenges coupled with how scarce resources are distributed among first-generation, and minoritized students (Bruce & Tallman, 2021). These factors influence students' social, psychological, and emotional well-being who witness these happenings, stripping their attention away from school. Systemically marginalized students in postsecondary education also experience stress due to racial and ethnic discrimination and cultural conflict on college campuses (Piña et al., 2019).

Accessibility of Resources & Institutional Programming

The Organization for Economic Co-operation and Development (OECD) reported in the work titled Culture shock: COVID-19 and the Cultural and Creative Sectors that this pandemic disproportionately affected

students of color, students with lower social-economic and rural backgrounds, and students with disabilities, reflecting the populations that TRIO programs serve. Overcoming hurdles of technology access, environmental disruptions, and cultural pressures to be successful amidst this pandemic create new challenges for these minoritized students (Organization for Economic Co-operation and Development, 2020). Over the course of the pandemic, Turburll et al. (2021) highlight that institutional support is a critical factor in whether a university succeeds in its transition to an online format. This transition must occur both in terms of instructors moving their courses into an online setting and the accessibility of academic resources.

Studies also highlight how, moving forward, universities should strive to build institutional frameworks that enable them to provide adequate training for their students to better adjust to online formats, as well as access resources online (Hartshorn & McMurry, 2020). Hartshorn and McMurry (2020) also advise universities to understand better their student population's needs, especially disadvantaged students. However, the most recent studies primarily focus on institutional funding and resources for professors and staff (Davies et al., 2020; Kara et al., 2020; Tartavulea et al., 2020; Todd, 2020).

There has been little research on how institutions themselves provided similar resources to students, if any (such as laptops or additional financial aid) or whether or not students perceived receiving enough institutional support and resources during the pandemic.

Methods

Researcher

The authors of this study are all TRIO McNair alumni. The three researchers are from low-income, first-generation backgrounds and are all Latinx who understand firsthand the disparities and disadvantages of being underserved. When Ms. Bañuelos and Ms. Coronado started working on this project at the beginning of the pandemic, they were undergraduate students themselves going through the same difficulties as the participants of this study. Currently, both of them are pursuing their graduate studies in psychology and political science, respectively. Dr. Torres García directed a TRIO McNair Program for twelve years and was a member of the Council for Opportunity in Education during her time at Eastern Washington University.

Instruments

This study was formulated and launched in collaboration with the Council for Opportunity in Education (COE) and the Pell Institute upon completing Collaborative Institutional Training Initiative (CITI) training and receiving Institutional Review Board (IRB) approval. A convergent mixed-methods approach was utilized incorporating quantitative and qualitative data to better understand how TRIO and TRIO-eligible students perceived their academic experience amidst the COVID-19 pandemic. We offered two different surveys—*2020 Latinx Wellness and 2022 Equity & TRIO*—in two regional teaching institutions in Washington State (CWU and EWU). Both questionnaires are explained below.

For both questionnaires, participants were met with a consent form that requires electronic acceptance that they are: 18 years or older, voluntarily consent to participate in this study, and have read all presented information containing the study's purpose, benefits, and risks. The demographics section of this survey begins with an acceptance that all survey participants also meet the qualifications of being first-generation and low-income. Following questions in this section ask the participant for information on their status towards degree completion, ethnicity, gender preference, and TRIO affiliation. All asked for later points of analysis.

2020 Latinx Wellness Survey

The *2020 Latinx Wellness* questionnaire incorporated quantitative and qualitative data to understand Latinx first-generation students' perceived academic experience amidst the COVID-19 pandemic. The participants of this

survey were first-generation, low-income, and Latinx students; some also participated in a TRIO program. Of the 84 participants, 79 percent identified as female, 19 percent identified as male, and 2 percent identified as non-binary, with a median age of 20.5 (SD = 7.9). The *2020 Latinx Wellness* survey was conducted from August to November of 2020 at Eastern Washington University. Primary analyses of the data collected on this survey were quantitative, using established questionnaires to examine experiences related to perceived stress, academic self-efficacy, and institutional and familial support.

2022 Equity & TRIO Survey

The second questionnaire is titled *2022 Equity & TRIO*. This survey utilized a qualitative approach that consisted of open-ended questions totaling 42 questions within the context of the equity framework and leveraged the infrastructure of the TRIO McNair community, which serves low-income, first-generation students, and underrepresented students in postsecondary education. The *2022 Equity & TRIO* survey was conducted from August 2021 to February 2022 at Central Washington University and closely resembled the *2020 Latinx Wellness survey* focusing on the three areas of study–student mental health, accessibility of resources & institutional support, and student-life balance.

The total number of participants in the *2022 Equity & TRIO* survey was 53; 26 were active TRIO students. Of those 53 participants, 76 percent of the participants were first-generation, 63 percent were underrepresented students in higher education, 56 percent were female students, and 4 percent were non-binary. The majority of participants were part of the McNair Program. The rest were Latinx and low-income but were not TRIO students. This survey was split into five sections: demographics, institutional resources (TRIO program services), academic mentoring and community, institutional services, and personal student life balance.

Results

This study intended to investigate the effects of COVID-19 on first-generation, low-income, and minoritized students in two regional universities at Washington State through an equitable framework. The purpose of this study was achieved by examining the response of two surveys, the *2020 Latinx Wellness* survey conducted from August through December and the *2022 Equity & TRIO* survey conducted from September to February. The students' responses are analyzed and organized in three main areas, 1) the Student Mental Health, 2) Accessibility to Resources & Institutional Programming, and 3) Student and Life Balance. These findings are presented below.

Student Mental Health, Stress, and Academic Aspiration

The COVID-19 pandemic undoubtedly brought many complex changes to students' lives, increasing students' stress levels. Feeling stressed and overwhelmed was noticeable in both surveys. For instance, during the beginning of the pandemic, 76 percent of the students in the *2020 Latinx Wellness* survey reported feeling nervous and stressed about their academic life “fairly often” and “very often” within the last month period, and 98 percent agreed that this stress had increased due to COVID-19. Two years within the pandemic, using the *2022 Equity & TRIO* survey, 76 percent of the students reported still feeling stressed.

To get a deeper look at how the COVID-19 pandemic had increased students' stress levels, the *2020 Latinx Wellness* survey included an open-ended question: “How has the pandemic affected your role as a student?” Students described their increasing stress; one instance included this student response: “[I am] working a lot with being fully responsible for my learning and schoolwork has put much pressure on me. Along with being in quarantine, I feel like I can never get away from thinking about school and work, so it gets stressful.” Another student mentioned, “I felt more stressed out and overwhelmed in general when trying to keep up with what is going on, making it harder to focus on schoolwork.” Overall, feelings of stress and overwhelmed due to COVID-19 were noticeable and similar percentages were reported among students in both surveys despite the time period gap.

Academic Aspirations Under Stress

As the two surveys were analyzed, a significant difference in academic aspirations of completing their degree was noticeable. When the pandemic began, 71 percent of students reported that the pandemic negatively affected their aspirations of completing their baccalaureate degrees. Two years later, in 2022, the percentage increased to 86 percent while only 14 percent of the participants mentioned that COVID-19 had not affected their academic aspirations. This upward trend (from 2020 to 2022) is reflected in the decreasing enrollment trend within this time period at EWU and CWU.

Feeling lack of confidence plays a significant role in negatively affecting self-efficacy and academic aspirations. In the *2020 Latinx Wellness* survey, when asked, “*how often have you felt confident about your ability to handle schoolwork in the past months?*” Sixty-five percent of participants reported “*never,*” “*almost never.*” In a follow-up question, *how often have the students felt overwhelmed and unable to overcome academic difficulties,* 79 percent of participants reported “*sometimes,*” “*fairly often,*” or “*very often.*” High stress and overwhelmed decreased academic motivation. For instance, some of the students’ statements included, “*Well, now it is a lot harder to learn the content of my classes and my will to do the work has gone down,*” “*Rather than trying to do my best, I’m just trying best to survive*”; and “*It’s made it difficult to feel like I’m still in school.*”

Accessibility of Resources & Institutional Programming

When focusing on the rapid transition to online courses due to the pandemic, students reported in the *2020 Latinx Wellness* survey their disagreement and negative feelings toward online classes. For instance, one student noted a lack of motivation to continue their studies:

This will be my last quarter [here] because I am paying too much for not great quality learning. I am very hands-on. Learning online has kept me unmotivated and not excited to continue my studies. It’s left me feeling hopeless because other people seem to be doing fine in online learning and I just can’t do it. I feel like a failure.

These students’ responses represent the shift’s collateral damage to remote classroom learning. While they constituted an urgent response to the pandemic, these rapid modifications in classroom learning and student support overlooked students who became disengaged in online learning environments. These feelings of disconnection and hopelessness negatively affected their academic persistence and, ultimately, their educational and mental well-being.

Technology during COVID-19

Some students experienced difficulties with technology and expressed how these issues presented challenges to their classroom engagement. One student, for example, observed how these technical issues effectively dampened student participation:

Almost all classes are offered online, this has made technical difficulties a daily inconvenience... It is very difficult for me to learn and ask questions. It is hard to do everything online, you can’t talk to your peers, or have face to face with your instructor. It is much harder; it is like it is only up to me if I do well or not.

Having to adjust to a different learning style and adapt to new learning environments was prominent among students’ responses. Students expressed difficulty transitioning to an independent online learning style without guidance, especially given their various learning styles. One student mentioned, “*I am also a visual learner, so online classes have been difficult.*” Another shared, “*I am a hands-on/face-to-face learner and Covid has taken that opportunity away from me.*” The online courses reduce the opportunities to interact with other peers and professors for other students.

Moreover, the rapid transition to technology due to COVID-19 exacerbated the distance between students and instructors. One student noted that “[online learning] has taken away the immediate resources I could have by

being in a class setting where I can ask my professors questions any time I see them.” Notably, the feeling of disconnect accompanied the increasing reliance on technology. For instance, first-year college students felt detached from their online classes because of the pandemic, and the feeling of isolation from their university was even more pronounced. Students reported that the pandemic-related changes deprived them of invaluable in-person opportunities for learning and interacting with their professors:

The pandemic has stopped me from attending the university for the first time. I am a transfer student and I have not had the opportunity to actually sit in front of a professor. Virtually learning is challenging without having that interaction or easy accessibility to help.

Consequently, learning on an online platform made students feel disconnected from their institutions. When asked how their role as a student was affected by the pandemic, students indicated that they found it more challenging to communicate with professors. One student noted specifically that they felt less important as a result of this lack of communication:

I feel like I matter a little less to the school, and to teachers. I feel like my role as a student lately is the teacher rather than a student. Things aren't as organized and it's stressful for me personally. I take classes at Eastern and other schools, so I feel like even though I don't have to leave my apartment much for school there's barely enough time in the day to get everything done.

In the *2020 Equity & TRIO* survey, 68 percent of students reported feeling worried about doing well in online classes, and 50 percent of students reported feeling worried about accessing and successfully using the technology needed for online classes. However, as the pandemic drags on, an increase in enrollments in online asynchronous classes is noticeable for students working full time.

Support resources within the institution

Although students may be aware that they have access to helpful and supportive resources within their institution, they may not know how to access them. For instance, in the *2020 Latinx Wellness* survey, 83 percent of participants agreed with the statement “help is available from my university when I have a problem.” Similarly, 85 percent of participants in the *2022 Equity & TRIO* survey agreed with the statement, “I know of at least one safe space at my university/college where I can find support.” However, only 62 percent of these students reported knowing whom to contact about institutional changes in students’ services. One student explained, “the resources are there, but I have had a hard time finding them.”

When responding to the open-ended question about accessibility to academic resources (advisors, mentors, teachers) due to changes caused by the COVID-19 pandemic, their feelings of disconnect were noticeable, especially for minoritized students. One student reported:

Being a first-generation Latinx college student was hard enough as it was. Even though I am a junior, I still have no idea what I am doing. The academic advisors are no help at all, and I have no role model or mentor that compares to my situation. Especially during this pandemic, I feel alone and like I'm not getting the help that I need academically. The professors are giving us more homework than they did when we were in person. Do professors think we have all this free time on our hands since we were in a pandemic? Seriously, what are they thinking? Most of us are just trying to survive this but these professors are overloading and overworking us students and are drowning us in work and don't understand how hard this pandemic is affecting us, students.

This student's response represented many who expressed similar feelings that (1) students felt unsupported by academic advisors and (2) professors did not understand the challenges students confronted during the pandemic.

Support Network within TRIO

For TRIO students only, when asked about their support networks or with whom they felt supported throughout the pandemic, 85 percent mentioned family, while 69 percent reported friends. Additionally, 62 percent of the students reported feeling supported during the pandemic by their institutions, including advisors, faculty, and academic counselors. It is important to remember that this section was completed only by 26 active TRIO students who received services during the COVID-19 pandemic. Of those, 86 percent felt satisfied with the support received by the TRIO program, and 77 percent agreed to have received access to the best technology and being fully engaged in curricular and co-curricular experiences. When responding to the open-ended question about what they appreciated most about the TRIO program's response to COVID-19, they mentioned, "the academic support, especially since I am an online student who has never been offered such a strong support system that regularly checks in on me." One student shared that the TRIO program helped them through several challenges:

The wealth of information and access to resources I have received. But also, the support and open communication has helped me to accomplish a great deal, which I would otherwise not have been able to on my own. There is so much I did not know or would not have had access to [if it] were not for McNair. I am beyond grateful.

Another student observed feeling like they had their questions answered and they could meet with someone whenever they needed to, citing the flexibility and understanding of faculty and staff affiliated with the TRIO program: "Faculty and my counselors have been understanding and flexible with scheduling and answering my questions. My class peers and friends have been great at staying in touch, hanging out with them helps me wind down and destress from school." These feelings of support from the TRIO program helped facilitate a sense of community. As one student remarked, "there is a strong sense of community to help get through the pandemic. People understand the difficulties and worries that come from living through a pandemic. They understand the difficulty of studying at home which has helped me achieve a lot more in class."

The support, presence, and community offered through the TRIO program encouraged student engagement, facilitated peer-to-peer interactions, and boosted general academic performance in the classroom.

Student and Life Balance

COVID-19 impacted students in various areas of their lives, ultimately impacting their academic aspirations and motivation to stay in school. In the *2022 Equity & TRIO* survey completed in 2022, 65 percent of the surveyed students reported their educational persistence being impacted by the pandemic, while 51 percent reported their housing situation being impacted. Additionally, 32 percent reported that they faced food insecurity.

When comparing questionnaires regarding the student-life balance and their worry about their future, the participants of both surveys worry about work opportunities and having enough money to live. In the *2020 Latinx Wellness* survey, 45 percent of the participants reported that their working status or situation changed due to COVID-19, while 55 percent of TRIO students reported experiencing job loss and financial instability. Two years later, in the *2022 Equity & TRIO* survey, 52 percent of students reported that they worry about money, and 82 percent reported worries about financial stability and being able to afford their bills while 41 percent worry about "a great deal," and "a lot or moderate amount" about having enough to eat day-to-day despite receiving American Rescue Plan Act's Higher Education Emergency Relief Fund. It is noticeable that food insecurity rates increased from 2020 to 2022 and were prominent among low-income, Latinx students. Having food insecurity is affecting students' health and well-being, increasing stress and depression.

Additionally, students had the opportunity to answer an open-ended question about how the pandemic affected their role as students, where many expressed financial instabilities. For instance, students' reports include: "It has impacted the amount of classes I take. While I was hoping to go full-time and not work, losing my job during the pandemic made it difficult to save money for tuition so, at this point, I cannot afford to not work full-time."

Another student explained, “I’ve been working more often and doing my best to stay financially stable during this pandemic, but I am not able to keep up with my studies at the same time.” The pandemic stripped the opportunity for students to truly experience college life on campus.

During the pandemic’s beginning, most colleges and universities transitioned to offering online courses, closing their campuses and limiting the interaction of human contact. The rapid shift from in-person to online courses negatively impacted students finding difficulties reaching out to the support system within their departments, programs, and other units around campuses. Being distant and feeling disconnected from advisors, counselors, and professors impacted students on many levels. A student summarized what several participants expressed by sharing, “I miss campus, and humans, and in-person lectures. This pandemic ruined my life. I hate online school. Spring quarter was a JOKE [emphasis added by the student]. I hope this quarter is better but now I work 30 hours because if I am home, it is DEPRESSING so I rather work. There’s no winning, I’m stressed OUT.” Additionally, students who work in the healthcare industry shared the following:

Work has become very very stressful over the past 10 months as an assistant nurse. I have also been taking full or over full quarters since spring 2020 [18 to 20 credits]. All I have done for the past 10 months is going to work, then, do homework for school, I haven’t had much of life which sometimes makes actually finding the energy to do my work hard, I am also mentally tired after each workday and at the end of the workweek, all I want to do is relax and decompress.

Students’ worries only increased, with COVID-19 still being a prevalent issue, as shown in the *2022 Equity & TRIO* survey. Increasing worries about financial stability and work opportunities during the pandemic has heightened students’ worries about succeeding in their academic program. Some of them find refuge in their jobs. The move to online courses allowed students to increase their working hours in essential jobs; however, managing work and school became difficult and stressful. Nevertheless, the demand for outline courses began increasing at the end of 2022 since students were prioritizing full-time jobs and trying to manage school on the side.

Overall, this study has contributed to the literature by shedding light on disparities among TRIO and TRIO-eligible students within students’ mental health, the accessibility of resources and institutional programming, and student-life balance. However, there are limitations to consider mainly due to the exploratory nature of this study. First, with a sample of 137 survey participants performed in two teaching institutions in Washington, the result of this research may not be generalizable to all TRIO or TRIO-like students across the nation. However, the value of their unique narratives should not be underestimated. They shed light on perspectives of other first-generation, low-income, and minoritized students and hope to inspire more research among these populations. There is undoubtedly room for future research assessing how students perceived the federal or state support they may have received during the pandemic, such as Higher Education Emergency Relief Fund (HEERF) stipends, and how this plays a role in whether students feel financially supported to continue their education.

Discussion

This study has examined how COVID-19 has exacerbated disparities among TRIO and TRIO-eligible students within three broader areas: the students’ mental health, the accessibility of resources and institutional programming, and student-life balance in two teaching Universities at Washington State. These areas shed light on the inequities in postsecondary education for low-income, first-generation, and minoritized students.

Centering on student mental health, this study concurs with Alesary-Arrebola et al. (2020) report, as it shed light on the impact of self-efficacy and academic aspiration when feeling stressed and overwhelmed. It has been evident that COVID-19 has exacerbated the hardships of TRIO students and TRIO-eligible students’ communities and increased their stress levels. This has decreased their academic aspiration, decreasing persistence and retention in higher education institutions. The *2020 Latinx Wellness* survey unveiled the amounting pressures students are under to continue operating academically at a comparable level to pre-

pandemic life. These feelings were closely mimicked in the *2022 Equity & TRIO* survey that indicates students were still feeling stress in being able to operate academically to their fullest potential.

When centering on institutional support by comparing TRIO and TRIO-eligible students, it was noticeable the differences in perceived support shared by these students. TRIO students felt much more supported than TRIO-eligible. The shared feelings of disconnect and isolation were prominent among TRIO-eligible students affecting their stress and anxiety regarding their academics. On the other hand, TRIO students felt supported and even expressed a sense of community. This study shed light on the difference in TRIO equitable-minded educators versus other educators' student philosophy and the importance of building a community among students by nurturing safe spaces and centering families. Studies such as Garriott and Nisle (2018) have pointed out the importance of having access to "helpful" teachers, mentors, tutoring services, and a sense of belonging on campus to reduce stress and help with perceived academic goal progress for low-income students (Garriott and Nisle, 2018). This study expanded the notion of "helpful" to "holistic and equitable." Equitable-minded educators should consider the different backgrounds of students and address students' well-being with holistic advising, counseling, and mentoring. A holistic and equitable approach requires an understanding of the different students' backgrounds, validating their identities, reducing barriers, providing resources for mental well-being, and creating policies and procedures that center on the needs of these students; all of this as educators are building trust with students. Expanding the notion of being "helpful" to tangible actions and implementing equitable processes is important to serve first-generation, low-income Latinx students, especially during crises.

Another prominent institutional support in this study was the need for mental health. O'Shea et al. (2021) and other studies have underscored the need for universities to find ways to integrate mental health support into curricula. Otherwise, if mental well-being remains unaddressed by the institutions, students may continue to fall behind and their aspirations to complete their degrees. Additionally, funding or capacity limits often restrict the universities' resources that support low-income students. Factors such as relationship building, mentorship, and academic development are all critical to allowing first-generation low-income students to succeed in higher education spaces. The fact that, almost overnight, the academic system faced a sudden transition to remote teaching and learning, changes in grading systems, advising, mentoring, and the loss of access to research resources is widening the gap in persistence rates for low-income, first-generation, and other systemically underserved groups of students.

Nevertheless, true institutional transformation cannot occur without emphasizing the critical role of higher education leaders, administrators, and faculty in centering equity within the university's policies and procedures, especially during uncertain times. There is a degree of pressure for institutions to return to "normal" as soon as possible. However, according to the findings, these students are not capable of bouncing back to normal. The pandemic has impacted these students' lives, especially for low-income and minoritized students. Thus, this study urges educators to learn the lessons provided from this disruptive event of the COVID-19 pandemic and understand that going back to "normal" is absurd. Engaging in structured institutional reflection to capture the lessons learned from this pandemic may assist universities in implementing and improving not only diverse and inclusive policies and also equitable procedures to respond to the multidimensional equity challenges they are currently facing.

This study also shed light on the need to provide resources to students and faculty for a smooth transition to online and hybrid courses, bolstering advising centers with resources to increase student contact, and learning from TRIO educators regarding their holistic approach to advice and mentoring low-income, first-generation and minoritized students. Moreover, food insecurity negatively affects students' academic performance and health and affects stress and depression. The mixture of food insecurity and stress in college and universities contributes to students' low academic performance and less motivation to complete their college degrees. Implementing food pantries, FAH housing accessibility, and developing Section 8 apartments around universities should be part of the institutional social responsibilities to the community.

In the student life balance, improving the student well-being and creating a life balance is not viewed as an institutional priority since institutions do not perceive this as their responsibility. However, equitable-minded

educators believe otherwise. This study also concluded that there is a strong connection between student well-being and academic aspiration. A holistic approach to higher education where educators address students' learning, social, and emotional needs is crucial for improving the students' well-being and their student-life balance.

Through listening to these students' responses, this study can confidently conclude by recommending that higher education institutions (1) implement cross-institutional initiatives, educational policies, and strategies to reduce inequity gaps across colleges and universities while developing and nurturing students. Based on our findings, TRIO students and TRIO-eligible students need (2) more resources for a potential increase in students' requests for mental health services, holistic advising, counseling, and mentoring. Suppose it is a goal for higher education to continue supporting minoritized students. In that case, it must (3) implement mechanisms to support these students by providing scholarships, fellowships, or other State or Federal grants based on income. Succeeding through higher education does not stop at supporting students in classwork. It means supporting students in all aspects that might inhibit their ability to succeed. Finally, this study recommends a commitment from higher education institutions (4) to implement equitable and holistic approaches in advising, mentoring, and teaching by centering on students' particular needs and circumstances.

References

- Active Minds (2020). *COVID-19 impact on college student mental health* [Infographic]. <https://www.activeminds.org/wp-content/uploads/2020/04/Student-Survey-Infographic.pdf>
- Aleman-Arrebola, I., Rojas-Ruiz, G., Granda-Vera, J., & Mingorance-Estrada, N. C. (2020). Influence of COVID-19 on the perception of academic self-efficacy, state anxiety, and trait anxiety in college students. *Frontiers in Psychology, 11*. <https://doi.org/10.3389/fpsyg.2020.570017>
- Battiste, M. (2013). *Decolonizing education: Nourishing the learning spirit* (Reprint ed.). UBC Press.
- Bruce, L., & Tallman, R. (2021). Promoting racial equity in COVID-19 resource allocation. *Journal of Medical Ethics, 47*(4), 208–212. <https://doi.org/10.1136/medethics-2020-106794>
- Carnevale, A. P., & Strohl, J. (2010). How increasing college access is increasing inequality, and what to do about it. In R. D. Kahlenberg (Ed.), *Rewarding strivers: Helping low-income students succeed in college* (pp. 71–190). The Century Foundation.
- Central Washington University- IPEDS Submitted Reports. (2021, January 11). *Fall enrollment 2020-21*. https://www.cwu.edu/institutional-effectiveness/sites/cts.cwu.edu.institutional-effectiveness/files/documents/IPEDS_Fall_Enrollment_Data_FINAL_SURVEY_2020-21.pdf
- Chirikov, I., Soria, K. M., Horgos, B., & Jones-White, D. (2020). Undergraduate and graduate students' mental health during the COVID-19 pandemic. *UC Berkeley Center for Studies in Higher Education*. <https://escholarship.org/uc/item/80k5d5hw>
- Davies, J. A., Davies, L. J., Conlon, B., Emerson, J., Hainsworth, H., & McDonough, H. G. (2020). Responding to COVID-19 in EAP contexts: A comparison of courses at four Sino-foreign universities. *International Journal of TESOL Studies, 2*(2), 32–52.
- Douglas-Gabriel, D. (2022, January 13). Colleges lost 465,000 students this fall. The continued erosion of enrollment is raising alarm. *The Washington Post*. <https://www.washingtonpost.com/education/2022/01/13/fall-college-enrollment>
- Eastern Washington University - Counseling & Wellness Services. (2021). *Welcome to counseling and wellness services*. Retrieved November 26, 2021, from <https://inside.ewu.edu/bewell/#>
- Eastern Washington University - Office of Institutional Research. (2021). *Annual fall enrollment*. <https://inside.ewu.edu/institutional-research/factbook/enrollment/>
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71*(3), 500–507.
- Garriott, P. O., & Nisle, S. (2018). Stress, coping, and perceived academic goal progress in first-generation college students: The role of institutional support. *Journal of Diversity in Higher Education, 11*(4), 436–450. <https://doi.org/10.1037/dhe0000068>
- Hartshorn, K. J., & McMurry, B. L. (2020). The effects of the COVID-19 pandemic on ESL learners and TESOL practitioners in the United States. *International Journal of TESOL Studies, 2*(2), 140–156. <https://doi.org/10.46451/ijts.2020.09.11>
- Haymarket Books. (2020, April 23). *The pandemic is a portal* [Video]. YouTube. <https://www.youtube.com/watch?v=QmQLTnK4QTA&feature=youtu.be>
- James Perez, S. (2021, February). *HSI initiative annual report*. Eastern Washington University. <https://cdn.ewu.edu/wp-content/uploads/2021/02/2020-HSI-Annual-Report.pdf>
- Kara, N., Çubukçuoğlu, B., & Elçi, A. (2020). Using social media to support teaching and learning in higher education: An analysis of personal narratives. *Research in Learning Technology, 28*. <https://doi.org/10.25304/rlt.v28.2410>

- Krishnan J., and Mary, V.S. (2012). Perceived organizational support - An overview on its antecedents and consequences. *International Journal of Multidisciplinary Research*, 2(4), 1-13. http://www.zenithresearch.org.in/images/stories/pdf/2012/April/ZIJMR/1_ZIJMR_APRIL12_VOL2_ISSUE4.pdf
- Kunkler, A. (2021, October 26). *New university enrollment numbers released*. Washington State Wire. <https://washingtonstatewire.com/new-university-enrollment-numbers-released>
- Kwakye, I., Kibort-Crocker, E., & Pasion, S. (2020, October). *Equity landscape report: Exploring equity gaps in Washington postsecondary education*. Washington Student Achievement Council. <https://wsac.wa.gov/sites/default/files/2020-10-20-Report-Equity-Landscape.pdf>
- Ladson-Billings, G. (2006). From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher*, 35(7), 3–12. <https://doi.org/10.3102/0013189X035007003>
- Lunsford, L., Crisp, G., Dolan, E., & Wuetherick, B. (2017). Mentoring in higher education. In D.A. ClutterbuckF. K. Kochan, & L. Lunsford (Eds.), *The SAGE Handbook of Mentoring* (pp. 316–332).
- National Center for Education Statistics (2021, May). Loans for Undergraduate Students. <https://nces.ed.gov/programs/coe/indicator/cub>
- O’Shea, S., Koshy, P., & Drane, C. (2021). The implications of COVID-19 for student equity in Australian higher education. *Journal of Higher Education Policy and Management*, 43(6), 576–591. <https://doi.org/10.1080/1360080x.2021.1933305>
- Pina, A. A., Polo, A. J., & Huey, S. J. (2019). Evidence-Based psychosocial interventions for ethnic minority youth: The 10-year update. *Journal of Clinical Child & Adolescent Psychology*, 48(2), 179–202. <https://doi.org/10.1080/15374416.2019.1567350>
- Tartavulea, C. V., Albu, C. N., Albu, N., Dieaconescu, R. I., & Petre, S. (2020). Online teaching practices and the effectiveness of the educational process in the wake of the COVID-19 pandemic. *Amfiteatru Economic*, 22(55), 920–936. <https://doi.org/10.24818/EA/2020/55/920>
- Todd, R. W. (2020). Teachers’ perceptions of the shift from the classroom to online teaching. *International Journal of TESOL Studies*, 2(2), 4–17. <https://doi.org/10.46451/ijts.2020.09.02>
- Torres García, C. (2020). *Chicana feminist epistemology and higher education* [Manuscript submitted for publication]. Oxford Research Encyclopedia of Education.
- Warner-King, K. (2021). *COVID-19 impact on the mental health of children and youth in care*. Family and Youth Justice Programs Retrieved July 30, 2021, from, <https://www.wacita.org/covid-19-impact-on-the-mental-health-of-children-and-youth-in-care/>
- Wright, L. (2020, July 13). How pandemics wreak havoc—and open minds. *The New Yorker*. <https://www.newyorker.com/magazine/2020/07/20/how-pandemics-wreak-havoc-and-open-minds>

Entering the Unknown: What Are Possible Futures for TRIO?

Author:

John Groutt

The Pell Institute for the Study of Opportunity in Higher Education
jvgroutt@hotmail.com

Abstract

The federal TRIO programs began with Upward Bound as a War on Poverty “demonstration program” for high school students. Currently, TRIO comprises eight programs with goals similar to Upward Bound’s: to overcome intergenerational poverty by preparing low-income and disabled persons from middle school through adulthood to succeed in postsecondary education.

Critics have repeatedly challenged the programs’ legitimacy. Eventually, TRIO staff created a national organization to advocate for TRIO’s survival and expansion. The Council for Opportunity in Education (COE) has often battled the Department of Education, Members of Congress, and presidents who sought to restrict or eliminate the programs.

This article examines several major events in TRIO’s history and two recent transformational developments affecting higher education—the Covid-19 pandemic and rapidly developing technology—as bases to speculate on possible alternative futures for the programs.

Keywords: TRIO, higher education, postsecondary education, poverty, War on Poverty, Twelve-Day War, Council for Opportunity in Education.

If the world of [our] predecessors is completely fixed and determined ... the world of successors is completely indeterminant and indeterminable... The whole world of successors is by definition non-historical and absolutely free. It can be anticipated in an abstract way, but it cannot be pictured in specific detail. It cannot be projected or planned for, for I have no control over the unknown factors intervening between the time of my death and the possible fulfillment of the plan. (Schutz, 1967).

The best way to predict the future is to create it. Adriana Umaña-Taylor (as cited in Long, 2020).

The quotation from the Austrian-American philosopher and sociologist Alfred Schutz reminds us that although we can look backward at our social actions, it is impossible to foresee the future accurately. What is now known as TRIO dramatically illustrates Schutz's admonition.

Another consideration for envisioning the future was expressed by Adriana Umaña-Taylor, Sara Lawrence-Lightfoot Professor of Education, Harvard School of Graduate Education, during a panel discussion in 2020 titled, "What Is the Future of Education?" She observed that "the best way to predict the future is to create it" (Long, 2020).

Unforeseen outcomes of certain historical events have helped form the TRIO programs as we know them today. But none of these were inevitable and all were affected by actions of many persons. In this essay, we will visit several key historical events that have determined TRIO's size and current structure. We will also reflect on several alternative outcomes that could have resulted in the programs looking very different than they do currently, or not existing at all. Finally, we will consider two recent phenomena that are roiling all of higher education and speculate how COVID-19 and technology might affect TRIO's future.

Even though the tyranny of the present prevents us from exploring the vastness of the past and the indeterminable complexities of the future, this essay uses the tension between the two introductory views to guide our consideration of possible futures for TRIO. During the past six decades of a political and educational landscape, I have selected several events to serve as platforms for developing my theses. Few, if any, of these could have been foreseen that day in late November 1963 when a bullet ended the life of John Kennedy. The assassination began a series of events that resulted, among other outcomes, in the first of the eight programs that now are identified as TRIO. Understandably, the murder of President Kennedy was unanticipated, but also unpredictable were the actions of his successor, who instigated dozens of pieces of legislation that were unimaginable based on his behavior and statements during his twenty-four years in Congress, twelve each in the House and Senate, with a decade of his Senate years in leadership positions.

Lyndon Johnson was a stalwart Texan with well-known deep Southern beliefs about African Americans and about race and big business. Unexpectedly, he commissioned and quickly shepherded through Congress the radical Economic Opportunity Act of 1964, which provided the legislative framework for a group of programs to help the poor that he labeled the "War on Poverty." Out of that emerged the first TRIO program, Upward Bound.

More legislation, previously believed impossible, was rapidly passed to protect racial minorities and provide services for the poor. Among them were the Civil Rights Act of 1964 and the Higher Education Act of 1965, which included what was to become the second TRIO program, Educational Talent Search.¹ TRIO thus began buried in a swiftly moving series of laws and events that could never have been "projected or planned for" based on previous congressional debates or statements of the new president. No better illustration of the truth of both our futurists' predictions can be found than in these historical events surrounding the beginnings of TRIO.

Naomi Klein addresses one way to understand what happened—and can well recur—in *The Shock Doctrine*

¹ In the HEA 1965, Educational Talent Search was called "Contracts to Encourage the Full Utilization of Educational Talent" (CEFUET) (Groutt, 2003).

(2007). She describes how times of great national crisis offer unique opportunities to implement radical changes and fundamentally transform socially constructed systems across entire political, economic, educational, and other foundational social structures that were most unlikely, even impossible, without the crisis.

The theory embedded in *Shock Doctrine* was espoused in the writings of Milton Friedman for rapidly establishing free-market capitalism in a country. Friedman wrote, “Only a crisis—actual or perceived—produces real change. *When that crisis occurs, the actions that are taken depend on the ideas that are lying around*” (Friedman, 1962, p. ix, as cited in Klein, 2007, p. 7; italics added). Friedman was writing about new ideas lying around to address an economic crisis, but the same can be applied to a political crisis like the 1917 Russian Revolution, which adopted the ideas of Marx and Lenin to form a political party to rule an empire for decades. An American example occurred with the assassination of President Kennedy. That crisis provided the opportunity for the new president to undertake a radical process to address national poverty, as described in Michael Harrington’s then recent book, *The Other America: Poverty in the United States* (1963). Harrington inspired soul-searching within the Kennedy administration and then the new president, who learned about it within a day of his swearing-in. In his grandiose Texan style, Johnson declared a “War on Poverty” and in place of free-market capitalism called for “The Great Society.” Within this “war,” the radical ideas of Opportunity Theory (Cloward & Ohlin, 1960), then influencing a small committee chaired by the attorney general to address juvenile delinquency, provided the theoretical framework for what became Upward Bound (Greenleigh, 1970; Salett, 2011) and eventually TRIO. It was encapsulated in one word, “Opportunity.”

The War on Poverty

The most enduring element in the history of the TRIO programs is that they were invented to help poor folk overcome poverty and escape through higher education from America’s lowest caste, our version of India’s untouchables. “Opportunity” was the oft-repeated mantra used to promote and defend the first two TRIO programs, Upward Bound and Educational Talent Search. As the original allure of the War on Poverty began to fade, Congress continued to support and even expand TRIO to include students with disabilities also needing special help to succeed once they reached college; it created the Special Services for Disadvantaged Students Program (SSDS), now called Student Support Services, to provide services to low-income and handicapped college students (Higher Education Amendments, 1968).

Over nearly sixty years of TRIO’s history, both friends and foes have challenged these two qualifiers for participants. Because the programs were successful, good friends in Congress wanted to expand the services to include persons beyond those living in poverty or with handicaps. Others opposed expanding the target population, arguing, successfully, that this would end the focus on addressing poverty and disability, dilute the already insufficient funds, and destroy the reason the programs existed.

Some within TRIO wanted to limit the programs’ participants to one racial group. Opponents often tried to reduce or eliminate funding for TRIO. They used an array of tactics that included accusations that the programs were inefficient, ineffective, too expensive, or not a federal government concern. But let us return nearly to the beginning.

Counterattacks on the War on Poverty

The earliest threats to the original TRIO program, Upward Bound, began just a few years after it began and were articulated by a powerful member of Congress, Representative Edith Green (D-OR). She became disillusioned with the entire War on Poverty and used her extensive skills and powerful position as chair of the House Subcommittee on Special [Higher] Education to attack Upward Bound and call for its elimination. She made headlines as she accused the program of teaching students how to make bombs and encouraging revolution, while widespread severe civil disturbances in the late 1960s threatened to tear apart the nation’s social fabric. The future looked bleak for Upward Bound, as the newly elected president Richard Nixon had campaigned to eliminate the entire Office of Economic Opportunity (OEO), along with its programs. That, to many, signaled the end of a program that had begun a few years earlier with great hope.

Supporters in both the educational bureaucracy and Congress managed to save Upward Bound by moving it, in the HEA 1968, from the OEO to the Office of Education, where many feared (and Ms. Green hoped) that this most moribund of federal agencies would suffocate Upward Bound's creativity and tame the staff's dedication to social change. There Upward Bound joined Educational Talent Search and the new SSDS program to serve low-income (and for SSDS, handicapped) students. The three programs soon become known as the "Trio" programs, and the name has stuck, although there are currently eight programs serving differing constituencies. At that juncture, no one could have predicted their beginning or the opposition that followed within a few years.

Poverty Remains a National Problem

One of the questions that has lingered since the mid-1960s is how poverty surfaced into the national consciousness as a problem in an era of economic prosperity and how it evoked an initially strong determination to do something about it. Clearly, Lyndon Johnson's grasp of its power to unite a traumatized nation and his masterful political skills in linking its remedy to the popular murdered president figured into the initial wide support. But attention to and support for the War on Poverty was soon overwhelmed by the war in Southeast Asia, which engulfed the country's attention.

It seems assured that the programs to eliminate poverty were, and will continue to be, targets for annihilation. Attacks that began in 1965 continue today, as some still claim that the War on Poverty was lost. Read the revisionist book by Amity Shales, *Great Society: A New History* (2019), for contemporary arguments that echo President Reagan's famous quip in his 1988 State of the Union address, "...the Federal Government declared war on poverty, and poverty won" (Reagan, 1988).

This has been one constant in TRIO's history that we can expect to continue as long as the programs exist, even though the arguments supporting TRIO six decades ago still resonate for millions of individuals living in poverty.

Student Debt

Closely connected to the issue of poverty is the contemporary national apprehension about the staggering amount of student debt burdening many who have attended college, including those who have never graduated. The symbiotic bond between TRIO and financial aid has been recognized from their beginnings; the TRIO programs and federal financial support for low-income college students have shared Title IV in the Higher Education Amendments since the original Act was passed in 1965. Bureaucrats writing the bill recognized that students from families living in poverty needed significant financial support and guidance in how to apply for it in the newly available federal financial assistance known as Basic Educational Opportunity Grants (BEOG), later called Pell Grants. Educational Talent Search was designed to address this, and all TRIO programs continue to address nonfinancial handicaps faced by low-income and academically underprepared students.

Debt is a problem greatly magnified for the students TRIO is designed to serve. An article by Dorothy Brown in the *Washington Post* titled, "College isn't the Solution for the Racial Wealth Gap. It's Part of the Problem" (Brown, 2021), delineates how the growing problem of excessive student debt for all college graduates affects Black students and sinks one of the arguments for TRIO: that an education provides a pathway into the middle class. Brown's article presents a powerful argument for greatly increasing funding for Pell Grants and TRIO.

Tom Mortenson, higher education policy analyst, senior scholar at the Pell Institute, and longtime editor of the research publication *Postsecondary Education Opportunity*, analyzed census data and other statistical measures over many years. He provides overwhelming evidence of the growing inequality brought about by the constantly increasing cost of a college education along with the effects of the increasing wealth gap in America. He argues that the Pell Grant maximum award should now be \$30,000 to restore lost purchasing power, remove educational loans from the financial aid package for students attending public four-year universities, and fund the \$3,000 expected family contribution currently not included in calculating student financial need (Mortenson, personal communication to author, February 1, 2022). The Biden administration's proposed budget for FY2023

includes a 14 percent increase for a maximum Pell grant award of \$8,670. If passed by Congress, it will be the highest ever offered, but less than one-third of Mortenson’s calculated need for low-income students.

Unless the student debt issue is addressed successfully, the future of TRIO will be determined by the fact that TRIO’s demographic will no longer need the services of the programs since they will be unable to afford college and unwilling to assume the suffocating debt burden it imposes on students.²

Education: A Key to Social Mobility

One of the once national convictions supporting TRIO has been the Horatio Alger myth: anyone, regardless of their beginning circumstances, can work hard and be a success. Education was touted as the ladder to overcome inequality and attain that success—an equalizer available to all who took advantage of it. This potent argument was used continually in the initial years of Upward Bound and Talent Search to attract and motivate youth. Part of its force at that time was that colleges, which had often denied entrance to minorities before the Civil Rights Act and court decisions, were now opening slowly to those formerly forbidden access. Education, and especially higher education, was seen as the most powerful means to achieve personal equality and financial success.

In the beginning, TRIO programs had few competitors to address this problem, and the programs were promoted as the most certain way minority and poor youth could gain entrance and succeed in the halls of ivy. A student spoke for many when he described his excitement on entering the Princeton Upward Bound Program: “Even though Trenton is only ten miles from Princeton, it was a different world. We didn’t dare go past the iron fence on Nassau Street. We always considered Princeton the place you’re not supposed to go” (Hank [Tendajj] Ganges, interview by author, March 5, 2004).

Today, a barely noticed elephant has entered the room of TRIO opposition and higher education, especially as codified in colleges and universities where TRIO is currently structured to operate. Perhaps for the first time in our history, one of TRIO’s assumptions accepted without question by most Americans is being seriously challenged by more than a few: Higher education is elitist and, besides, knowledge and the “expertise” it offers are of little value. College is a huge waste of money. If this position is accepted, TRIO becomes superfluous.

An early version of this argument was related to me by Sister Mary Agnes, a Catholic nun who was director of a Talent Search project in the 1960s at Seton Hill College in Greensburg, Pennsylvania, “When I would visit the home of a miner or steel worker or welfare family, I would explain the program to the father and to the child whom we were recruiting for the program. The mother would almost always be out of sight during the discussion. Time after time,” she said, “as I explained the help we could provide the child to prepare for college, the father would turn abruptly to the child, and with anger in his voice almost scream, ‘And just *who* do you think you are? No one in our family has ever gone to college, and why do you think you’re better than we are? *Who* do you think you are?’” She lowered her voice and reflected, “That usually determined the future for the child.” It was not to include education beyond, or sometimes even completion of, high school (Sister Mary Agnes, interview by author, February 9, 2001). In the eyes of the girl’s father, her dream of getting a higher education was a betrayal of her Appalachian heritage. By getting a college education, she would be turning her back on her own people, abandoning her heritage, and graduating from college to enter a world he would never understand and distrust. That now widespread view is described in J.D. Vance’s *Hillbilly Elegy: A Memoir of a Family and Culture in Crisis* (2016) and Tara Westover’s *Educated: A Memoir* (2018).

Today, this attitude has expanded far beyond one Appalachian coal miner into a much broader segment of American society that sees higher education, but especially a four-year college degree, as irrelevant for getting

² The Federal Reserve reports that federal student loan debt exceeds \$1.5 trillion, owed by 4.5 million students. The Chamber of Commerce reports that two million people each owe more than \$100,000, with the average student debt in 2017 at \$37,102 and monthly payments of \$393. 4.7 million borrowers (10 percent) had their federal student loans in default in 2016. A few statistics help us to understand the extent of the imbalance affecting TRIO students: 77 percent of Black students took out loans (compared to the 60 percent national average), owe 15 percent more after graduation, and earn 23 percent less than the median for the general population (Chamber, 2017).

a good job and too costly. A 2019 Gallup poll reported that only 51 percent considered a college degree very important, versus 70 percent in 2013 (Marken, 2019); another poll found that one-third thought it was not worth the cost (Smith-Barrow, 2019) (both cited in Levine & Van Pelt, 2021, p. 228). The Horatio Alger myth as codified in a college degree, once accepted as unquestionable truth by most Americans and a key assumption underlying TRIO, is today under deep scrutiny. This presents challenges on many levels for TRIO, including recruiting students to the demands required for educational success and convincing members of Congress to provide adequate funding for the programs.

Coming from other directions, some opponents of helping the underclass rise through higher education approach it from a position of inherited power accompanying their caste and view it as a threat to their supremacy. Higher education for the poor can undermine the accepted social structure benefiting upper castes, whether in Appalachia or those who receive special access to elite institutions based on their family's inherited wealth, influence, or power. Legacy admissions used in many select schools are but one example of how caste plays a critical role in maintaining the social structure in America (Bowen & Bok, 1998; Karabel, 2005). When you tamper with this by supporting lower castes' move upward in society, you threaten a power structure. This is a basic premise of Elizabeth Wilkerson's *Caste: The Origins of Our Discontents*,

[Caste] is about power—which groups have it and which do not. It is about resources—which caste is seen as worthy of them and which are not, who gets to acquire and control them and who does not. It is about respect, authority, and assumptions of competence—who is accorded these and who is not (Wilkerson, 2020, p. 17).

Is TRIO the Answer?

For those who agree that there is a need for programs to help a population of students with academic potential but few opportunities or resources, another question emerges: is TRIO the most effective federal response? And if it continues to exist, how should it be structured in the future?

In the early years of TRIO programs, little was known about the debilitating effects poverty had on youth living in its degrading conditions. Additionally, there were no clear ways known to motivate and prepare youth to overcome the obstacles inbred into the life of the poor. Letters between educational professionals, government officials, and foundation leaders speak of the lack of knowledge, research, or programs to address the interrelationship between poverty and educational success. Reports from foundations in the early 1960s, which began to fund experimental programs to address the newly perceived problem prior to the War on Poverty, are filled with admissions that “we don't know what to do or how to do it.” Nevertheless, foundations provided substantial sums of money to discover what might work and how remedies might best be structured (Groutt, 2011).

Sheldon Judson, who was to become the first Princeton faculty director of the Princeton Cooperative School Program, wrote to a friend in England in 1964, as plans for a summer program for “culturally deprived [high school] children” were being discussed at Princeton. The problem, he believed, “is that there is no real (in my opinion) understanding of what can be done or should be done. We haven't gotten too far beyond the ‘let's-Do-Something-Because-it-is-Our-Duty’” ([Sheldon Judson] to Prof. H. D. Holland, 1 November 1963, box 1, folder 6), Princeton Cooperative School Program Records, Princeton University Archives, Department of Rare Books and Special Collections, Princeton University Library). Both Head Start for preschool children, and Upward Bound, once described by Sargent Shriver, director of the OEO, as “Head Start with Acne,” began as research and development experiments in the OEO. A constant argument from opponents was that more information was needed prior to operating national programs; therefore, both were launched as “demonstration programs.”

Today, after more than six decades of experience with “programs for the disadvantaged,” as these early efforts were originally called, and after years of research and experience with the problems involved, there exist many programs with widely differing designs claiming to do what TRIO says it does: the ABC Program, GEAR UP, along with dozens of remedial programs in colleges and universities, to name only a few. To assure TRIO's future existence, many argue that it must continually demonstrate its success in terms of outcomes, cost,

educational effectiveness, ability to meet constantly evolving challenges, originality, and development of best practices, among other measures.³ How can the money spent on TRIO show value added for its annual billion-dollar cost? Is it worth its cost? Are there more effective ways to accomplish what TRIO is doing? What are the unique contributions TRIO has made and is making in higher education? What is the impact of TRIO? What are students getting out of programs? What are institutions getting out of programs? What is the nation getting out of the programs? Are programs influencing and improving higher education, and if so, how? The history of TRIO is replete with challenges to its effectiveness in terms of both the more than one billion tax dollars now spent annually and its promise to students and the nation.

Few question the effectiveness of the advocacy done by the Council for Opportunity in Education (COE) with the Congress on behalf of TRIO. But the effectiveness of the programs in motivating and preparing students at all levels for entry and success in higher education requires ongoing reexamination to present the strongest possible case for the continued existence and increased funding needed to maintain and expand the programs. Future political climates in America may not respond to leverage that has been successful in the past. New approaches may be needed in the future for both advocacies, but especially for programming, as I shall discuss shortly.

The Department of Education and the Future of TRIO

Having reflected on the responsibilities of project personnel, I now turn to the federal department charged with administering the TRIO programs and the part it plays in the future of TRIO. The United States Government Accounting Office released an evaluation of the TRIO programs made at the request of Rep Virginia Foxx (R-VA),⁴ currently the minority leader in the House Committee on Education and Labor (GAO, 2020). It reviewed the department's administration of the TRIO programs: "[The Department of] Education does not routinely take steps to verify the data grantees report ... [which is] important because Education uses the information to track progress toward program goals." This, the report continues, "would better position Education to determine the extent to which TRIO improves higher educational outcomes for disadvantaged students." It recommends that the Department of Education "implement remedies" (GAO-21-5, p. 27). If TRIO is to continue in the future, the Department must fulfill its administrative responsibilities.

TRIO's Past Prognosticators

This is not the first time the TRIO community has been asked to predict its future. In the fall of 1998, the *Journal of Negro Education* devoted an entire issue to "TRIO Programs, Higher Education, and the American Future" (Blake, 1998). The predictions of several authors in that issue can contribute to our present inquiry.

McElroy and Armesto contributed a chapter focused on Upward Bound, but their observations could apply to all the TRIO programs (McElroy & Armesto, 1998). They conclude that Upward Bound and other compensatory approaches to the education of low-income students will not alone suffice to provide the answer; they must be joined with other proven comprehensive educational reforms and initiatives such as replacing general and vocational tracts with an academic core that is integrated with vocational studies and coordinated with other proven research-based school reforms. One such reform initiative they cite is the High Schools That Work, then

3 Clark Chipman, an official in the Office of Education in the 1960s and 1970s, remains adamant that this is an area where TRIO and COE need robust development if they are to continue to exist and fulfill their potential. He and David Arendale have helped establish a Best Practices Clearinghouse within the Educational Opportunity Association (EOA), one of ten COE affiliate regional organizations, centered in Chicago, to share best practices among TRIO personnel. Available <https://besteducationpractices.squarespace.com>. The Department of Education is addressing this concern by incorporating "competitive preference priorities," which identify "evidenced based practices" they believe have various levels of proven effectiveness and awarding proposals additional points if they incorporate practices identified as especially effective at the time of competitions for new awards. For a critique of this, see M. Cahalan (2018).

4 Representative Foxx was a project director of a TRIO Student Services Project at Appalachian State University in Boone, North Carolina, in the mid-1970s. She has often been critical of TRIO in her position on the House Committee on Education and Labor, which oversees TRIO.

a project of the Southern Regional Education Board. In addition to increasing students' educational and career opportunities, they argue, we must also offer teachers professional development, enabling and encouraging them to understand and commit to educational reform—if the program is to succeed. Michael Timpane and Arthur Hauptman made similar and more extensive recommendations five years later (Timpane & Hauptman, 2004). Our discussion later in this article will offer analogous observations for TRIO's future, as TRIO, and all of education, face dramatic challenges brought about by new technology.

The GEAR UP program, begun in 1998 (the year the *JNE* TRIO-focused issue was published), was not mentioned in the McElroy and Armesto article, possibly because GEAR UP was still in development as their piece was written. However, the GEAR UP model might be included as one possible direction for TRIO's future. It begins to address the changes proposed by those authors for integrating the federal programs with school reform, including teacher training. It offers one possible future for TRIO: the two or three entities serving the TRIO student—the project itself, the institution hosting the project, and, for precollegiate programs, the school systems in which the students are enrolled—would become more fully integrated in providing the services. All three claim to serve the same student and would no longer stand in separate silos but more fully integrate their efforts to provide more effective services. This would mean that, as in the GEAR UP model, the precollegiate TRIO programs begin to incorporate school reform as a part of their structuring.

TRIO once moved hesitatingly in this direction when TRIO Dissemination Grants were initiated in 1998 “to promote the replication or adaptation of successful TRIO Program components, practices, strategies, and activities by institutions and organizations that are not TRIO Program grantees” (United States Department of Education, 2003, p. 3). This effort lasted only eight years until 2006, when the George W. Bush administration reduced TRIO funding and used the Dissemination money to replace some of the funds taken from the projects that provided direct services to students.

Restructuring the programs in this way might also respond to a problem that was seen as a threat from TRIO's beginning, when the first national director of Upward Bound worked to prevent projects from being “walled off inside an institution, a sort of Hertz rent-a-Upward Bound program,” standing as an isolated silo apart from other departments of the host college or organization (Greenleigh, 1970, p. 33). This reflects what Maureen Hoyler years later described as TRIO's Achilles' heel—“institutional apathy ... the institutions don't care.” When asked why, she responded, “They're poor peoples' programs.... The programs are there more... only as foster children” (Hoyler, interviews by author February 4, 2002, and September 20, 1999). Her responses recalled the initial program of what was to become TRIO when OEO “poverty warriors” flew around the country to convince wary university officials to write proposals to establish Upward Bound projects on their campuses in conjunction with local Community Action agencies, which administered OEO poverty programs. OEO staff often faced resistance from colleges that did not want to answer to a local poverty agency or were told that the university was not in the business of social change (Greenleigh 1979, p. 32-33; Groutt, 2014, p. 379). Today, the problem remains, just in a different form.

A second major concern of the *JNE* authors is the small percentage of eligible students being served by the programs. That development in TRIO's future will be addressed in the following section.

TRIO's Future: 1. Growth?

Thomas Wolanin, a prolific author, scholar, and key congressional staff person who worked on at least six reauthorizations of the Higher Education Amendments, wrote a piece on the occasion of the twenty-fifth anniversary of the Pell Grant Program: “The challenge for the future is how to restore the Pell Grant as the real foundation, and not just the symbol, of equal educational opportunity” (Wolanin, 1998, p. 13). We might substitute “TRIO Programs” for “Pell Grant” and paraphrase: “The challenge for the future is how to establish the TRIO Programs for the first time as the real foundation, and not just the symbol, of equal educational opportunity.”

Best estimates of the portion of the eligible population served under the TRIO programs have remained about 5-8 percent of the eligible students.⁵ Thus, Wolanin’s challenge for the Pell Grants clearly applies to TRIO. If past funding levels are any indication for the future, then TRIO will remain more of a symbol than a real foundation for equalizing educational opportunity. Both statistical studies and the stories of TRIO student achievers demonstrate that TRIO is effective. However, to date, appropriations are sufficient to serve less than 7 percent of eligible students. For the remaining 93 percent of eligible individuals, TRIO remains only a symbol of what could be. I will return to this in a moment.

Maureen Hoyler, President of the Council for Opportunity in Education, presents a hopeful vision of TRIO’s future. In early 2021, during the heady days of a transfer of power in the White House and Congress, I asked her what she saw for the future of TRIO. “I think we are in a really crucial time,” she replied. “It could move TRIO from the periphery to the center of higher education policy in the Biden administration. It’s a question of whether or not that will or will not happen. It’s what we are hoping will happen. It is an unprecedented opportunity.” (Hoyler, interview by author, March 9, 2021).

Hoyler based her optimism on the fact that, for the first time in history, a national party that won a presidential election has a written commitment in its platform to double federal support for TRIO programs, as well as doubling the Pell Grant awards for low-income students (Democratic Platform, 2020, p. 69). But she added a caution, “We have to make sure they [the federal government] do what they said they were going to do” (Hoyler, interview by author, March 9, 2021).

This platform commitment resulted from TRIO advocates in Vermont working with supporters of Senator Bernie Sanders (I-VT) and the progressive wing of the Democratic party as the platform was being developed. It is an example of how the TRIO community continues to engage its local supporters to influence national educational policy to benefit its constituency. “The whole point of being organized,” Hoyler continued, “is to try to understand how the policy process works” (Hoyler, 2021). David Stockman, an adversary in the “Twelve-Day War” under President Reagan, described in the next section, confirmed Hoyler’s analysis when he reflected on the White House losses in that 1983 struggle: “Unorganized groups can’t play in this game,” he said. “Weak clients” suffer for their weakness. The TRIO community is recognized for its political sophistication and effectiveness in protecting its funding and influencing legislation using the constituency-based politics abhorred by Stockman (Greider, 1981, pp. 30 and 52).

At the time of this writing, the Biden administration’s FY2023 budget is requesting that Congress increase TRIO funding by \$161 million (14 percent) and raise the maximum Pell Grant by \$1,775 (10 percent) for a total maximum Pell Grant award of \$8,670 (Hoyler, TRIO-listserv email, March 28, 2022). Thus modest but real growth for TRIO appears to be a realistic immediate future under the Biden administration.

TRIO’s Future: 2. Collapse?

Lessons from the 1983 “Twelve-Day War”

Ronald Reagan became president in 1981 with a conservative sweep in the 1980 election and a philosophy that education belonged not with the federal government but with the states and local governments. The “New Federalism” budget he submitted to Congress cut social programs by 70 percent, reducing students’ financial aid by more than two billion dollars, cutting funds for land-grant colleges and graduate and professional opportunity programs, and gutting or eliminating scores of other federal educational programs (Congressional Quarterly, 1985, p. 519). Reagan’s director of the Office of Management and Budget, David Stockman, expressed amazement that the new Republican majority in the Senate stood firm in support, “voting against every motherhood title” that was brought before them for restoration of funds (Greider, 1981, p. 38).

The administration proposed to “zero out” Talent Search and Educational Opportunity Centers. “Zero out,”

⁵ It is nearly impossible to get a more accurate figure due to the varying qualifications in the different programs and lack of data for some qualifiers. However, most who have worked with available statistics agree this is a reasonably accurate figure.

explained William Greider, writing about the OMB director, “became a favorite phrase of Stockman’s; it meant closing down a program ‘cold turkey,’ in one budget year,” to guarantee it would not be around when the political climate might change and allow a still existing but weakened program to be restored to full funding (Greider, 1981, p. 34).

Total TRIO appropriations were cut by \$6 million (4 percent); the new administration had won the first skirmish over educational programs designed to help the poor. This fit the conclusion of the Urban Institute’s 1984 analysis of Reagan’s first term, that the spending cuts had mainly affected the working poor, who suffered serious losses, including a 7.6 percent decline in income after inflation, while income for the top one-fifth had risen by 8.7 percent (*Congressional Quarterly*, 1985, pp. 519-520). But this was only the beginning of the assault on these programs and the nation’s most vulnerable. This presented an existential challenge for the TRIO community, a conflict they later called “The Twelve-Day War.”⁶

Senator Lowell Weicker (R-CT) introduced the Reagan administration’s budget as the bill’s floor manager and chair of the Senate Appropriations Subcommittee dealing with education. (Glennon, 1983, October 8). He proposed that the appropriation for the five then-existing TRIO programs take a hit of more than 35 percent (\$55 million) in the initial budget cuts (Mitchem, 1997). Given the Senate’s tenor, Weicker’s prestige and power, and President Reagan’s “promise of a war of vetoes” to demonstrate “fiscal control” (Greider 1981, p. 53), it was highly unlikely that TRIO would be spared. The U.S. Commission on Civil Rights noted that these reductions would reduce TRIO funding by 47 percent between 1981 and 1983, despite the recent evaluation that Special Services and Upward Bound were effective in reaching minorities and women and raising student performance. It issued a statement that “these budget reductions will foreclose access to postsecondary education for hundreds of thousands of women and minority young people” (Statement on the fiscal year 1983 education budget, 1982, p. 19). For the TRIO community, it felt like a full-scale assault to wipe out the programs, begun eighteen years earlier in the War on Poverty.

A national organization of TRIO personnel, the National Council of Educational Opportunity Associations (NCEO), had incorporated two years earlier in 1981 (Mitchem, 1982) and had one full-time person working in Washington.⁷ Meanwhile, its leaders had developed an active political network among the TRIO professional staff working on TRIO projects scattered across the country. Arnold Mitchem served as its unpaid executive director while still administering the TRIO Special Services for Disadvantaged Students Program at Marquette University in Milwaukee. He, along with a few others, were flying in and out of Washington regularly⁸ as they worked to strengthen the nascent national organization, develop contacts with supportive congressional staff in key committees, and work to gain the support of officials in the Washington educational bureaucracy (but alarming most, as they organized outside the bureaucracy’s control). They were also quickly learning and engaging others to work with members of Congress in their home districts.

Just a month before Weicker’s surprise proposed cut, TRIO personnel in Louisiana met with their senator, J. Bennett Johnston (D-LA), in New Orleans. Johnson was particularly impressed that the programs were working so effectively with a wide racial diversity, unusual in his state. Leveraging a relationship with one of Johnson’s staff, TRIO folks convinced him to offer an amendment in the full Senate Appropriations Committee, of which he was a member, that would reverse the subcommittee’s actions and restore the \$55 million to the TRIO funding appropriation. The process used was a classic example of what Arnold Mitchem repeatedly says, “In politics,

⁶ The events described for this event took place in twelve frantic days, beginning mid-afternoon September 15 and concluding about 2:30 p.m. on September 27, 1983 (Mitchem, 1997).

⁷ The NCEO replaced an earlier iteration, the National Coordinating Committee for Educational Opportunity Associations (NCCCOA). It incorporated and held its first Policy Seminar in Washington in March 1981, with the purpose to inform TRIO professionals about policy issues. It also opened a national office in Washington in June 1981, with one full-time staffer, Maureen Hoyler.

⁸ Organizers were careful to use either personal or nonfederal monies for this travel since it would have been illegal and damaging to their efforts to spend federal program monies for this purpose. Mitchem’s salary as project director and his travel expenses were paid by Marquette University which insulated him from accusations that he was using government funds to support these organizing efforts.

everything is personal” (Mitchem, interview by author, May 23, 2003). But the method was not limited to Louisiana.

TRIO folks in South Carolina convinced Senator Ernest Hollings (D-SC) to sign on to Johnston’s amendment to make it the Johnston-Hollings amendment. That it originated from two Southern fiscal conservatives provided a strong card supporting the restoration of funding. Then, at a small dinner meeting in Washington, Mitchem convinced Republican Senator Mark Andrews (R-ND) to sign on to the amendment; Native American TRIO supporters had laid the groundwork back in North Dakota for that to take place. In New Mexico, a Latino group (LULAK) worked with Senator Pete Domenici (R-NM), chairman of the Budget Committee, to bring him onto the TRIO team. In New York City, a group of six TRIO persons buttonholed Senator Alphonse D’Amato (R-NY) following a banquet and followed up with his staff to bring a reluctant D’Amato on board. The list of supporting senators kept growing.

Leaders in the TRIO community focused their most intense efforts on the Senate, with its Republican majority, to counter the Republican administration and its powerful supporters in key Senate committees (Mitchem, interview by author, May 23, 2003). The newly formed NCEOA sent out hundreds of mailgrams to program personnel and friends across the country, who in turn sent telegrams to their senators—at their own expense, to avoid charges of misuse of government funds. They urged the legislators to support the Johnson-Hollings amendment to restore the \$54.7 million of funding that the Reagan administration had proposed to cut (Mitchem, 1983).

The House, controlled by the Democrats, worked separately on the bill during the same fall time period. There, progress was evolving differently from in the Senate as contentious ongoing debates took place in back rooms throughout Washington’s hot summer. The National Educational Association (NEA) and its members were furious because they believed the appropriations bill that emerged from the House Labor and Education Committee was far too low. They had supported Democrats in the midterm elections and now demanded that they deliver.

At a reception in Washington, Arnold Mitchem shared the accomplishments and needs of the TRIO programs with a staff member of Representative Dick Gephardt (D-MI), who brought them to the attention of members of the House Appropriations Committee and their staff, who at that time were working on the amendment⁹ (Mitchem, interview by author May 23, 2003).

In Texas, Oscar Hernandez, director of a TRIO Talent Search Program in San Antonio, advocated with the House Majority Leader James Wright (D-TX). The House work on the bill proceeded a week or so in advance of the Senate’s debates. Responding to the NEA concerns, Majority Leader Wright offered a floor amendment drafted by the NEA and, after a compromise, added \$300 million to the bill, which not only restored the funding cut by the administration but also included an additional \$10 million increase for TRIO (Glennon, 1983, p. 1976; Mitchem, interview by author May 23, 2003; Mitchem, 1997).

Meanwhile, advocacy by the TRIO community was proving equally effective with members of the Senate Committee on Appropriations. Reporting on action on this bill, the weekly report of the *Congressional Quarterly* describes how Weicker, the bill’s floor manager and chair of the Senate Appropriations Subcommittee dealing with education, pleaded in the full Senate committee to resist adding money to the bill during markup. “The objective of this exercise is not a veto,” he said, and warned that adding additional money to the bill increased the likelihood that it would either never be enacted or be vetoed by President Reagan. However, the Republican leadership was unable to hold the line, as the full committee accepted the House proposal for increased funding. The CQ reported:

Weicker, supported by Appropriations Chairman Mark O. Hatfield, R-Ore., was able to fend off most amendments to add money to the bill during markup. *The largest increase accepted by the committee* [italics added] was an amendment offered by Pete V. Domenici (R-NM)

⁹ While members of Congress decide the general direction and approve final language and amounts in bills, their staff work out the details of bills and appropriations amounts that require weeks of research and negotiations, while keeping the member informed. That is why building good relations with congressional staff is so important for advocates’ success.

to provide an extra \$64.7 million for the special programs for disadvantaged student known collectively as the TRIO program. The amendment made TRIO funding in the Senate version of the bill equal to the amount approved by the House. [Republican Senators] Weicker and Hatfield conceded the benefits of the TRIO program but argued against the Domenici amendment as veto bait.... But Domenici's amendment was adopted by voice vote. Domenici, as chairman of the Budget Committee, is usually the senator who argues for fiscal restraint. Domenici is up for re-election in 1984. (Glennon, 1983, October 1, p. 2027).

Following five years of funding through continuing resolutions in the Carter administration, the TRIO programs finally regained funding crafted directly for them with this victory (Glennon, 1983, October 1).¹⁰ The TRIO community had accomplished this unexpected reversal of the Reagan budget process and added \$10 million, largely outside the glare of public attention. The feat was accomplished in a hectic twelve days by a disparate group of political neophytes scattered across the country who were quickly mastering constituency-based politics and learned lessons that they would put to good use in the years to follow. One of their nemeses, David Stockman, reflected: "The power of these client groups turned out to be stronger than I realized. The client groups know how to make themselves heard" (Greider, 1981, p. 52).

The program's fate would have been sealed if the administration had succeeded, says Arnold Mitchem. The restoration of the \$65 million was very significant: "If they had been successful sustaining a 30 percent cut, that would have been the end of it. Once you can wound a bear, he's yours and you can take him out. They understood that" (Mitchem, interview by author December 17, 1999). A blueprint for protecting the TRIO programs from administrative or legislative annihilation in the future was established in the 1983 Twelve-Day War. But it depended on the continued existence of a strong advocacy organization: "[There are] no final victories," mused Hoyler during an interview years later (Hoyler, interview by author, October 27, 2007).

There would be other serious threats to TRIO's existence: the Gramm-Rudman-Hollings Balanced Budget Act of 1985 and the "Contract with America" orchestrated by Representative Newt Gingrich (R-GA) in 1995, which, among many other goals, included plans to zero out funding for the programs (referred to in TRIO lore as the "War on Opportunity"). During the administration of George W. Bush (2001-2009), a highly criticized but also highly touted "scientific" scheme labeled the Program Assessment Rating Tool (PART) rated Upward Bound and Talent Search as "ineffective," resulting in the Bush administration's FY 2005 and 2006 budgets recommending zero funding for the two programs (Cahalan, 2018; Congressional Research Service, 2004). (The PART system was discontinued in 2009.) Robust action by the TRIO community, led by the Council, was successful in all but a few instances in countering these and other efforts to downsize or eliminate one or more of the programs (Groutt, 2022). The community has mastered what David Stockman labeled "constituency-based" politics (Greider, 1981, p. 51). But there is no assurance that those successes will continue forever. Annihilation is indeed one possible future for TRIO.

Imagined Washington Post Headline: "TRIO PROGRAMS TERMINATED"

What would higher education in the United States be like if the efforts to eliminate TRIO had been successful? What if tomorrow's headline were to read, "TRIO PROGRAMS ENDED"? This imagined headline helps us shift perspectives and ask, "What, if anything, would the country have lost or gained as a result?"

One answer is provided by Amity Shales (2019), mentioned earlier, who berates the Great Society as a major failure, and John Cogan, a senior fellow at the Hoover Institution and faculty member at Stanford, who wrote *The High Cost of Good Intentions: A History of the Federal Entitlement Programs* (2007). They would quickly respond that we would have saved more than a billion dollars a year on programs that never should have been a part of the federal government that wasted billions of taxpayer dollars every year they existed. Their philosophy is encapsulated in Congress by Representative Virginia Foxx (R-VA), currently the leading Republican on the House

¹⁰ TRIO appropriation dropped from \$156.5 million in FY 1981 to \$150.2 million in FY 1982, the first two years of the Reagan administration (Council for Opportunity in Education, *TRIO funding history*, Washington, D.C.).

Education and Labor Committee, who wants to abolish the entire Education Department. She told a House committee drafting legislation, “It is not the role of the Congress to make college affordable and accessible” (Field, 2016). She speaks for those who want to eliminate any federal government involvement with education. That is one bleak future—or, in this case, nonfuture—that TRIO faces. It is not unimaginable, and the TRIO “wars,” as the community labels the most serious past threats to its existence, demonstrate that it is a future possibility.

From the viewpoint of TRIO supporters, the country would have lost the contributions of thousands of students who served the nation in positions they were able to fill only because of the skills and training gained through higher education: health care workers, educators, business and military leaders, lawyers, authors, public servants. It would have been a terrible loss and waste of talent.

TRIO’s Future: 3. Transformation?

There is at least one other possible future for the programs beyond growth or termination; they can be dramatically changed from their present structure. Participants in the 2020 Harvard symposium, referred to earlier, were unanimous that two current phenomena will greatly affect the future of education in ways we can barely imagine: the COVID-19 pandemic and technology. The COVID-19 pandemic forced TRIO educators to discover and use new ways to recruit, counsel, and teach students as they discovered new technology unfamiliar or unused by most TRIO practitioners before 2019; schools, job centers, and the usual locations were closed and/or did not permit entry, severely handicapping the recruiting of students. Then they struggled to serve students with unfamiliar distance learning and counseling techniques. Students had to adapt to virtual technology (if their areas or homes had access, which many did not), which diluted the interpersonal relationships so important for learning, especially for students whose handicaps make them eligible for TRIO services. Then there are many aspects of the new technology already in use by educators, such as Artificial Intelligence, that will change TRIO but are beyond the space allotted to this article to address here (Jaschik, 2016; Zeide, 2019).

COVID-19’s long-range impacts are yet to be seen with the altered educational experiences of students in primary and middle school who constitute the pipeline for TRIO participants in the next decades: constant interruptions to classes; uncertainty on how to structure teaching to meet conditions never before encountered; frustrations of parents and teachers with the on-again, off-again in-person and virtual teaching; health and attendance policies becoming political circuses; and students from low-income families most affected as they fall ever further below their prepandemic nadir (Balingat, 2022; Meckler, 2022).

These disruptions, which will bedevil TRIO professionals for the next several decades, might be compared to those the Princeton Upward Bound program encountered in the mid-1960s following extreme social upheaval in its target areas of urban New Jersey. It was unprepared for and did not initially recognize the dramatic changes in the incoming students who had experienced traumatic events during the violent social unrest in their neighborhoods and high schools. It had affected their academic preparation and destroyed many family and neighborhood support systems in just a few years. The impact on its incoming students was not immediately recognized or understood. Unfortunately, the university and program administrators were unable or unwilling to restructure the project to address the severe new problems faced by students, and a highly successful pre-college program ended (Groutt, 2014). In the immediate future, TRIO needs to be prepared to address its students entering a new post-Covid-19 world arriving with previously unknown social and academic issues brought about by the disease and its social disruptions.

In a Post-Covid World

Authors of *The Great Upheaval: Higher Education’s Past, Present, and Uncertain Future*, arguably the most thought-provoking recent book on the subject, write that the known forces driving the “transformation” of higher education are “changing demographics, the rise of the knowledge economy, the advance of digital technology and globalization.” However, it is “COVID-19 [that] demonstrates the power of the unknown,” for it has accelerated the transformation, “including the closure of colleges and universities owing to declining

enrollments and finances, the ballooning of online education, the expansion of the number and the enrollments of nontraditional higher education providers, and the demand for short-term nondegree training and retraining programs to meet challenging labor market realities” (Levine & Van Pelt, 2021, p. x).

Opinions differ on whether this change will be an incremental adaptation or of such magnitude that traditional models will be rendered obsolete. Levine and Van Pelt argue that whichever view is correct, we can already see adaptations and seismic changes at the margins of higher education that point to the future. One is the booming postsecondary sector already existing beyond traditional colleges and universities. This ranges from first-rate universities, libraries, museums, and corporate media companies, providing low-cost alternatives to traditional institutions’ degrees: certificates and outcome-based education that is cheaper and more accessible. These offer an agenda for a global, digital, knowledge economy; they are less costly than a college degree and ignore “seat-time,” as students learn at their own pace “upskilling and reskilling” in certificate programs. Some offer short or part-time courses, often to adults as continuing education.

Although these programs are currently at the margins and periphery of higher education, Levine and Van Pelt point to a future that is outcome-based, time-independent, digital, individualized, low-cost, and available at any time and place. They shift seat-time to learning outcomes, use variable calendars that are not semester or location-based, and award micro-credentials rather than degrees. These models seem especially appropriate for consideration by TRIO programs focused on adult learners (Levine & Dean, 2012), such as the Educational Opportunity Programs and Veterans Upward Bound. TRIO leaders will need to consider how TRIO might adapt and use these already flourishing new approaches to postsecondary education to benefit its adult students and consider how they will affect the entire range of TRIO programs serving students at all levels. An immediate caveat is that TRIO leaders must begin to work with Congress and the Department of Education to understand the changes taking place and adjust the current legislative mandates, departmental regulations, and expected outcomes for evaluating the programs.

In a World of Technology

Technology is changing human interactions, including education. We do not yet fully understand how this will affect higher education, universities, human relations, pedagogy, and all that we recently took for granted. A *Chronicle of Higher Education* special report on “The Future of Teaching” found evidence that “some students benefit from real-time learning while others do better working at their own pace.” Full-time students living on campus preferred the first, while students living off-campus with full-time jobs and/or families preferred the latter. If online students could check in with one another and the instructor, the outcomes of virtual and in-person learning were similar” (McMurtrie & Supiano, 2021, p. 25). This has important implications for work with the student populations TRIO serves, both positively for allowing them flexible schedules to fit with their work or home duties and negatively for weakening the interpersonal relationships so important for marginalized students, both adult and youth.

The *Chronicle* authors also provide the example of George Washington University, which “has invested heavily in classroom technology, including cameras and microphones to allow more flexibility in course delivery” and where students may “appear individually on screens, like virtual fans at an NBA game” (McMurtrie & Supiano, 2021, pp. 11-12). How will schools with high percentages of low-income students afford this expansive technology and, even more to the point, how many low-income students will be able to afford it and the internet connections in their homes, often in locations with poor or nonexistent internet service? Is this dooming them to fall even further behind?

Other elements of our rapidly developing technology bring additional ominous clouds to the practicalities of teaching and learning. Will the alluring power of digital technologies overwhelm reality? Will our students find their cell phones, video games, and virtual reality more captivating than the more demanding and less exciting effort of study, research, and intellectual pursuit? Malloy Owen writes that new social media are taking television’s place for Americans to escape reality, “offering us far more immersive and convincing—but equally fictive—narrative experiences.” And he continues, “Another source of unreality is the vast inequality of American

society, which allows the professional classes to live out a utopian fantasy while ignoring desperate poverty a few blocks over. And late-modern American racism, as James Baldwin and Ralph Ellison held, is not so much hatred as a dreamlike oblivion in which black people appear as phantoms, not entirely real.” My concern is that it may allow not only professional classes to live out a utopian fantasy, but also our students and potential students to live lives they will have been programmed to want in a virtual world that Baldwin and Ellison describe so effectively. “The expansion of virtuality serves the interests of power,” writes Owen, “contrary to the naive hopes of the Americans who ... imagined that the escape from reality offered relief from ‘deeper and deeper forms of social control’” (Owen, 2021, pp. unnumbered in electronic version).

A Creative Educational Center?

A rich source for educational and policy innovations lies in TRIO’s long experience providing services for disadvantaged students. Staff working in the programs have developed effective and potentially radical new strategies to address their special needs and problems. One historical example is the “first-generation” concept, which broadened the target population of special programs to serve a previously unrecognized population in need of special help without sacrificing a focus on serving the poor and disabled. It is now recognized as a marker for educational disadvantage by all of higher education; it was discovered and documented as a result of research by the TRIO community and first used in the HEA 1980 because of their advocacy.

This challenges the TRIO community to explore and develop new ideas to provide alternatives in the areas of policy and educational practices and, as Milton Friedman advised his capitalist admirers, “to keep them alive and available until the politically impossible becomes politically inevitable” (Friedman, 1962, p. ix). TRIO can recreate itself and contribute to higher education in the future if it is constantly learning from, and building on, its unique experiences with its students from low-income families and with handicaps.

TRIO is about serving students, understanding, and acting in the policy arenas, but it is also, and primarily, about education. The community must develop a stockpile of effective educational ideas and effective practices—so that when a crisis strikes, it is prepared to act swiftly to introduce radical change into the status quo, politically and pedagogically.

The Problem of the Present

The question is not whether / we have free will, but what choices / history offers us. The strongest force / is conformity, not passion, not even greed / for possessions.

(Mary Jo Bang, 2021).

This essay has explored many possible futures for these programs, from total annihilation to becoming the central part of a new higher education policy providing services to larger percentages of eligible students and developing and using radical educational innovations, including new technologies. Which of these or others will occur remains unknown. However, several things are certain: there is always a future to the present, that future will always remain indetermined and indeterminable, and it will present opportunities to create it.

Using Schutz’s description of the future as “completely indeterminant and indeterminable,” we face unknown factors that will intervene in the possible fulfillment of plans, factors over which we have no control. But we can also pivot to follow Umaña-Taylor’s admonition to create our future as we employ familiar advocacy tactics while developing new methods to address previously unknown factors now appearing on the horizon.

TRIO practitioners are well-advised to focus on their ultimate goal, helping marginalized students enter and succeed in higher education, and not to confuse this with the current system, which requires a college or university to deliver that end. The current system may soon be outmoded, largely irrelevant, and too expensive for many.

TRIO can learn from industries such as music, film, and newspapers, as described by Levine and Van Pelt. The

newspaper industry, for example “was in the news business, but thought of itself as in the *newspaper* business, conflating its business (i.e., producing news content) with the means of distributing it. The result is that it was blindsided by the digital platforms that took away its consumers and advertising revenues” (Levine & Van Pelt, 2021, p. 262). TRIO might face a similar fate if it confuses its “business” (helping students to enter and succeed in postsecondary education) with the current configuration of higher education, which requires colleges and universities developed for another era.

Knowledge of TRIO’s history, how its community dedicated to the poor, the marginalized, and to racial justice responded to the unanticipated factors in the past, allows us to look to TRIO’s future with considerable hope. Though not assured of future successes and victories, the TRIO community has developed strategies that have been successful in the past. It has the guidance of ideals that the programs embody to keep it faithful to working on behalf of students living in poverty, with handicaps, and suffering from racism. Its work can create new ideas and practices to be available in a time of future crises.

The War on Poverty may never end in total victory,¹¹ but it has helped hundreds of thousands of individuals who have had the opportunity to be a part of TRIO. They deserve the best services we can provide. This requires that we understand and employ the most effective teaching and counseling strategies and become collectively and actively involved in the policy process on behalf of the poor, the racially marginalized, and those in powerless castes to help them prepare for *their* unknown futures.

¹¹ Since the War on Poverty ended, the official rate of poverty has fluctuated between 11 and 15 percent, very close to what it was at the time President Johnson announced his dramatic program in 1964. When one includes services now provided the poor that did not exist in the 1960s, which were a later outcome of the War on Poverty, such as food stamps, housing subsidies, medical benefits, and other benefits, then real poverty has been reduced by 10 percentage points, from 26 percent to 16 percent, even though the official poverty rate has stayed almost the same (Weissman, 2014, DeParle, 2021).

References

- Balingit, M. (2022, May 9). Virtual learning set poor children even further behind, study shows. *The Washington Post*. <http://www.washingtonpost.com/education/2022/05/09/virtual-online-learning-achievement-gap/>
- Bang, M. J. (2021). The problem of the present. *New York Review of Books*. <https://www.nybooks.com/articles/2021/04/29/problem-of-the-present/>
- Blake, J. H. (1998). The full circle: TRIO programs, higher education, and the American future – toward a new vision of democracy. *The Journal of Negro Education*, 67(4), 329.
- Bowen, W. G. & Bok, D. (1998). *The shape of the river: Long-term consequences of considering race in college and university admissions*. Princeton University Press.
- Brown, D. A. (2021, April 9). College isn't the solution for the racial wealth gap. It's part of the problem. *The Washington Post*. <https://www.washingtonpost.com/outlook/2021/04/09/student-loans-black-wealth-gap/>
- Cahalan, M. (2018). TRIO, the what works clearinghouse, and the competitive preference priorities (CPPS): An imposed structured practitioner-research collaboration. In H.T. Rowan-Kenyon, M. Cahalan, & M. Yamashita, (Eds.), *Reflections on connecting research and practice in college access and success programs* (pp. 104-130). Pell Institute. http://pellinstitute.org/downloads/publications-Reflections_12_Cahalan.pdf
- Chamber of Commerce. (2017). *Student loan statistics*. <https://www.chamberofcommerce.org/student-loan-statistics/>
- Cloward, R. A. & Ohlin, L. F. (1960). *Delinquency and opportunity: A theory of delinquent gangs*. Free Press.
- Cogan, J. F. (2007). *The high cost of good intentions: A history of the federal entitlement programs*. Stanford University Press.
- Congressional Quarterly. (1985). *Congress and the nation VI: 1981-1984: A review of government and politics in the postwar years*. Congressional Quarterly Press.
- Congressional Research Service. (2004, November 5). *The Bush administration's program assessment rating tool (PART)*. <https://crsreports.congress.gov/product/pdf/RL/RL32663/3>
- Council for Opportunity in Education. *TRIO funding history*.
- Democratic party platform. (2020). [file:///C:/Users/User/Downloads/2020-Democratic-Party-Platform%20\(4\).pdf](file:///C:/Users/User/Downloads/2020-Democratic-Party-Platform%20(4).pdf).
- DeParle, J. (2021, November 18). A Historic Decrease in Poverty. *The New York Review of Books*, 68(18),17-19.
- Field, K. (2016, December 22). *A day in the life of Virginia Foxx*. The Chronicle of Higher Education. <https://www.chronicle.com/article/a-day-in-the-life-of-virginia-foxx/>
- Friedman, M. (1962 reprint, 1982). *Capitalism and freedom*. University of Chicago Press.
- GAO United States Government Accounting Office. (December 2020). *Higher education: Department of education should further assess college access grant programs*. <https://www.gao5.gov/assets/720/711369.pdf>
- Glennon, M. (1983, October 1). \$4 Billion less than house: senate appropriations reports \$92.5 billion in social funding, *Congressional Quarterly Weekly Report* 41 (39), p. 2027.
- Glennon, M. (1983, October 8). Costliest amendments defeated or withdrawn: Senate approves \$98.9 billion in social programs money bill. *Congressional Quarterly Weekly Report* 41. (40), 2071-72.
- Glennon, M. (1983, September 24). Democrats to add more later: House approves \$96.5 billion money bill for social programs. *Congressional Quarterly Weekly Report*, 41(38), 1975-1976.

- Greenleigh Associates. (1970). *Upward Bound. 1965-69: A history and synthesis of data and on the program in the Office of Economic Opportunity*. Office of Economic Opportunity. <https://files.eric.ed.gov/fulltext/ED105032.pdf>
- Greider, W. (1981, December). The education of David Stockman. *The Atlantic*. <https://www.theatlantic.com/magazine/archive/1981/12/the-education-of-david-stockman/305760/>
- Groutt, J. (2003, January). *Milestones of TRIO history, Part I*. Opportunity Outlook: The Journal of the Council for Opportunity in Education. http://www.pellinstitute.org/downloads/trio_clearinghouse-Groutt_January_2003.pdf
- Groutt, J. (2011). A role foundation played in advancing opportunities in higher education for American poor and minorities. GIVING: Thematic issues on philanthropy and social innovations, social justice philanthropy. New series 2, 39-54.
- Groutt, J. (2014). Upward bound among the ivies: The Princeton cooperative school program, 1964-1976. *Princeton University Library Chronicle*, 75(3), 350-384. <https://doi.org/10.25290/prinunivlibrchro.75.3.0350>
- Groutt, J. (2022). *Great Expectations: The story of the federal TRIO programs* [Working Paper. 21].
- Harrington, M. (1963). *The other America: Poverty in the United States*. The Macmillan Company.
- Higher Education Amendments of 1968, Pub. L. No. 90-575, 82 Stat. 1014
- Jaschik, S. (2016). Are at-risk students bunnies to be drowned? *Inside Higher Ed*. <https://www.insidehighered.com/news/2016/01/20/furor-mount-st-marys-over-presidents-alleged-plan-cull-students>
- Karabel, J. (2005). *The chosen: The hidden history of admissions and exclusions at Harvard, Yale, and Princeton*. Houghton Mifflin.
- Klein, N. (2007). *The shock doctrine: The rise of disaster capitalism*. Picador.
- Levine, A. & Van Pelt, S. (2021). *The great upheaval: Higher education's past, present, and uncertain future*. Johns Hopkins University Press.
- Levine, A., & Dean, D.R. (2012). *Generation on a tightrope: A portrait of today's college student*. Wiley.
- Long, B. (Moderator). (2020, December 9). *The future of education* [Video]. YouTube. https://www.youtube.com/watch?v=_gfquf3Ysd0&ab_channel=HarvardGraduateSchoolofEducation
- Marken, S. (2019, December 30). *Half in U.S. now consider a college education very important*. Gallup. <https://www.gallup.com/education/272228/half-consider-college-education-important.aspx>
- McElroy E. J. & Armesto, M. (1998, Fall). TRIO and upward bound: History, programs, and issues—past, present, and future. *Journal of Negro Education* 67(4), 373-380. <https://doi.org/10.2307/2668137>
- McMurtrie, B & Supiano, B. (2021). *The future of teaching: How the classroom is being transformed*. The Chronicle of Higher Education.
- Meckler, L. (2022, January 30). Public education is facing a crisis of epic proportions: How politics and the pandemic put schools in the line of fire. *The Washington Post*. <https://www.washingtonpost.com/education/2022/01/30/public-education-crisis-enrollment-violence/>
- Mitchem, A. (1982) Politics and education: A short history of a new institution and a new professional class. *Journal of Equal Educational Opportunity* 1 (1), 21-31.
- Mitchem, A. (1983, September 25). Telegram to Senator Mark Hatfield. Copy in possession of author.
- Mitchem, A. (1997 Winter). The history of TRIO. *NCEO Journal*, pp. 2-5.
- Owen, M. (2021). The house always wins: Holding and folding in the contemporary age. *The Hedgehog Review*, 23(3). <https://hedgehogreview.com/issues/authenticity/articles/the-house-always-wins>

- Reagan, R. (1998, January 1988). *State of the Union Address* [Speech audio recording]. <https://millercenter.org/the-presidency/presidential-speeches/january-25-1988-state-union-address>
- Salett, S. (2011). *The edge of politics: Stories from the civil rights movement, the war on poverty and the challenges of school reform*. BEA Press.
- Schutz, A. (Trans. George Walsh). (1967). *The phenomenology of the social world*. Northwestern University Press.
- Shales, A. (2019). *Great Society: A new history*. HarperCollins.
- Smith-Barrow, D. (2019, March 11). Despite high costs, new poll shows most young adults think a four-year degree is worth it. *Hechinger Report*. <https://hechingerreport.org/despite-high-costs-new-poll-shows-most-young-adults-think-a-four-year-degree-is-worth-it/>
- Statement on the fiscal year 1983 education budget*. (1982, October). U.S. Commission on Civil Rights Clearinghouse Publication No. 73. wrong
- Timpane, P.M & Hauptman, A.M. (2004). Improving the academic preparation and performance of low-income students in higher education. In R. D. Kahlenberg (Ed.), *America's untapped resource: Low-income students in higher education* (pp. 59-100). The Century Foundation Press.
- United States Department of Education (2003). *Office of Postsecondary Education; TRIO Dissemination Partnership (TRIO Dissemination) Program; Notice Inviting Applications for New Awards for Fiscal Year (FY) 2003*. Federal Register. <https://www.federalregister.gov/documents/2003/03/06/03-5283/office-of-postsecondary-education-trio-dissemination-partnership-trio-dissemination-program-notice#:~:text=D>
- Vance J.D. (2016). *Hillbilly elegy: A memoir of a family and culture in crisis*. Harper Collins.
- Weissman, J. (2014, January 7). Why you should forget about the poverty rate. *The Atlantic*. <https://www.theatlantic.com/business/archive/2014/01/why-you-should-forget-about-the-poverty-rate/282849/>
- Westover, T. (2018). *Educated: A memoir*. Random House.
- Wilkerson, E. (2020). *Caste: The origins of our discontents*. Random House.
- Wolanin, T. R. (1993). Pell grants: a 25-year history. In L. E. Gladioux, B. Astor, & W. Swail (Eds.), *Memory, reason, imagination: A quarter century of Pell grants* (pp. 13-37). College Entrance Examination Board.
- Zeide, E. (2019). Artificial intelligence in higher education: Applications, promise and perils, and ethical questions. *Educause Review*. <https://er.educause.edu/articles/2019/8/artificial-intelligence-in-higher-education-applications-promise-and-perils-and-ethical-questions>

The Unheard: What College Readiness Means to TRIO Parents

Authors:

Kevin D. Todd

Higher Education Consortium of Metropolitan St. Louis
Educational Talent Search
ktodd@hecstl.org

Reman S. Jabar

Higher Education Consortium of Metropolitan St. Louis
Educational Opportunity Center
rjabar@hecstl.org

Author's Note

We have no conflicts of interest to disclose. Correspondence concerning this article should be addressed to ktodd@hecstl.org or rjabar@hecstl.org.

Abstract

Researchers have been intrigued for years about the attitudes and opinions of counselors and students on the subject of college readiness. As of the date of this writing, no research looks into the parents' opinions of low-income, first-generation college students on what college readiness means to them. Given the fluid definition of the term and the consensus among scholars that parents greatly influence decisions about going to college, the inquiry seemed fitting. Results show that while parents would adopt a definition widely used by scholars such as Conely (2008), parents consider readiness to include good decision making, maintaining family ties, and certain economic responsibilities.

Keywords: low-income, first-generation, parent involvement, college readiness, transitioning

Student affairs professionals are particularly concerned about student development and college readiness maturation (Patton et al., 2016). Many universities have opted to develop first-year programs to benefit low-income, first-generation college students so that transitioning students can optimize their success in college. This student demographic comes with unique perspectives on college and differs from their upper-middle-income counterparts in how they view what it takes to successfully transition to college. While first-generation students show up to class and live on campus alone, they are accompanied by the well wishes, values, and expectations of the parents who sent them off to obtain the four-year degrees their parents have not been able to attain thus far. Despite their first taste of independence, these young men and women are still heavily influenced by their parents' concerns, desires, and expectations.

Studies have repeatedly shown that the idea of considering post-secondary education, deciding on the right institution, and ultimately attending college were all influenced by their parents to a significant degree (Bartoszuk & Yerhot, 2019; Bourdieu, 1986; Chapman et al., 2018; Chlup, et al., 2018; Gordon & Cui, 2012). Despite the large body of literature that has well established this fact, very few researchers have asked, "How do the parents of low-income, first-generation students define college readiness?" As of the date of this writing, the researchers of this project have not found a single study that investigates that question.

Literature Review

A review of the literature shows that since the 1990's researchers have inquired about the issues that low-income, first-generation college-bound students face (Holcomb-McCoy, 2010; Ishitani, 2003; Le et al., 2015; Terenzini, et al., 1996). Many of these inquiries have studied parental involvement and its effectiveness. Over the years, the insight provided by such inquiries has proven to be useful guidance to practitioners. Counselors and college advisors leaned into the validity of such findings and began to reach out to parents to involve them in the college search and application process. As a result, the industry experienced a rise in post-secondary enrollment and attainment by this population over the last several years (Le & Faxon-Mills, 2016). However, reaching out to parents does not always mean that all parents are reached (Tierney, 2002). One study shows that Latino families were not reached even though literature was sent home with the children (Chlup et al., 2018). Counselors were left with the feeling of having successfully communicated but, in reality, failed to inform the parents they intended to reach. In other cases, reaching out means parents are told about college readiness activities, but the frequency is very low (Holcomb-McCoy, 2021) and content quality is lacking (Novakovic et al., 2021). This disproportionately negatively affects low-income students who would be the first in their families to attend college (Novakovic et al., 2021). The 2010 Holcomb-McCoy study reported that counselors host informational sessions regarding college readiness matters once a year for juniors. Fewer than 50% of those same counselors sent notifications to parents. In the recent Novakovic et al. study (2021), less than 50% of counselors feel adequately trained about the college readiness process, even though they view it as very important. These numbers deserve the attention of school administrators and TRiO programs are given that low-income, first-generation students report looking to their counselors for guidance on college readiness (Bartoszuk & Yerhot, 2019; Chapman et al., 2018; Chlup et al., 2018; Novakovic et al., 2021).

Furthermore, only about half of the counselors (51%) who participated in the Novakovic study believed they were adequately prepared to use data to inform their practice, even though they believe it is very important. Tierney (2002) concluded years earlier that while data supports parental involvement as the most predictive factor in students deciding to go to college, schools do not seem to be using this data to inform their practice. He stresses that "parents frequently have pointed out they would spend more time on educational activities if teachers gave them advice about what to do." This is virtually impossible given they infrequently have contact with colleges and universities (Tierney, 2002).

Despite the rise in college enrollments and degree attainment among low-income first-generation students since the inception of TRiO programs, this paper aims to fill one glaring gap in the literature, which is the lack of knowledge among scholars regarding parental perceptions, expectations, concerns, and attitudes about what

it means to be college-ready. This paper will argue that parents believe their children must be academically, mentally, emotionally, and parentally ready to succeed in college.

The prevailing implicit posture in the literature is that low-income, first-generation students' parents do not know which questions to ask. In other words, since they are not college-educated (Holcomb-McCoy, 2010), they do not have an opinion or preferences. This attitude is unspoken but real given that the opinion of this demographic has never been sought before. This presumptuous disposition among practitioners and researchers is evidenced not only by the lack of literature that explores the question in a meaningful way but also by ignoring the fact that while many TRiO students have parents without a four-year degree, a fair amount have some college if not an associate degree (Pell Institute, 2020). In 2012, the undergraduate population was 139% larger than in 1970 (Quinn et al., 2019). In 1972, 79% of high school seniors were potentially first-generation college students. At that time, neither parent had college experience at all. In 2017, that number dropped to 59%. This would mean that counselors and college advisors must not operate under the same assumptions used 50 years ago when low-income, first-generation meant that parents had no college experience at all in many cases (Contreras et al., 2018). Today, since more parents have at least some college education, one would expect those parents to have an opinion on what college readiness looks like to them. However, those parents with no college experience also have an opinion on geographical preferences, the academic and social climate, culture, safety, and other things. There is a major disparity among low-income students in that they represent a large number of first-generation students, although more people have at least some college (The Pell Institute, 2020).

It is a given that academic readiness is the primary focus for most parents and their college-bound children when preparing for college, regardless of social class or socioeconomic status. However, the aforementioned areas of parental concern are overlooked, unknown, or undervalued by those in the profession that demand attention if low-income, first-generation students are to improve their chances of not only persisting but attaining a four-year degree within six years of graduation (Zarifa et al., 2018) and with their degrees see a change in socioeconomic status as well as a change in social class. Bourdieu's theory (1987) is applied later to understand how class and socioeconomic status differ. An examination of the literature reveals that several domains are of particular interest to parents of low-income children as personal determinants for college readiness.

Time Management

Effective time management and knowing how to prioritize tasks have long been viewed by researchers as pro-academic behavior that indicates college readiness (Byrd & Macdonald, 2005; Duncheon, 2021; Reid & Moore, 2008; Strayhorn, 2013). Strayhorn writes that "time spent studying" is a positive predictor of his three readiness measures which are grade point average, 12th grade National Assessment of Educational Progress (NAEP), standardized math score, and highest 12th-grade math level. Strayhorn (2013) correlates effective time management with good study habits and higher test scores. For many first-generation students, effective time management is not a skill that receives much attention (Byrd & Macdonald, 2005). This can be a problem because students from this demographic tend to work to pay for college expenses. As a money-saving strategy, they stay home rather than live on campus (Zarifa et al., 2018). Not only does this approach result in undermatching the student to a college more suited for their abilities and goals (Lopez Turley, 2009), but it puts them at risk of leaving their studies before attaining a bachelor's degree (Bozik, 2007).

Transitioning to College

According to Schlossberg's theory, a transition is "any event or non-event which results in changed relationships, routines, assumptions and roles." It is only seen as a transition by the one experiencing it. (Anderson et al., 2012). In other words, if changes occur and the student does not see it as significant, then it is not a transition. For Schlossberg transitioning from high school to college is an *anticipated transition* (Anderson et al., 2012).

Knowing what to expect before arriving at college is a privilege second-generation students have through their parents that first-generation students do not. Second-generation students can talk about what college is like

from a parent who has experienced it (Chapman et al., 2018). These nuanced conversations give students depth of understanding and insight so that they know what to expect upon arriving on campus for the first time. Because many first-generation students stay at home and hold jobs, they have limited access to campus and student life activities that foster relationships that improve retention (Pell Institute, 2020).

Emotional/Mental Health

The parents of first-generation students have slightly different worries from those of second-generation students (Patton et al., 2016). Parents are concerned about their children speaking up for themselves. While they may not anticipate clinical depression, they know their children better than student affairs professionals do and worry that their children may begin to face struggles that cause them to give up or not speak up on important matters (Bartoszuk K & Yerhot, 2019; Chapman et al., 2018). These fears stem from concerns about fitting in on the college campus and can have psychological consequences (Patton et al., 2016). Depression in adolescence and early adulthood continues to be underdiagnosed for many reasons (Weitkamp et al., 2016). One reason is that what is deemed “normal” behavior for adolescents and young adults could be indicators of depression. One of the dangers of never or misdiagnosing depression is that it is often associated with negative economic outcomes, including unemployment in later adulthood (Fergusson et al., 2007). First-generation students are at greater risk of depression when they do not feel like they fit into their college environment (Patton et al., 2016; Sanford, 1967). Upper-middle income and low-income parents expressed concerns about their students being a good racial/ethnic fit for the institutions at which they study (Chapman et al., 2018; Karp et al., 2004). Richman and Jonassaint (2008) found that “recent exposure to race-related stress can have a sustained impact on physiological stress responses for African Americans.” In the context of college readiness, it behooves parents to research the climate and culture of the college community before applying. Academic stress is commonly self-reported among college students; however, it should be noted that research indicates that “the first onset of depression is often preceded by major life stressors” (Pascoe et al., 2020).

Social-fit/Maturation

An individual’s social class can determine how and if a college-bound student accesses college (Patton et al., 2016). According to Sanford’s theory, *differentiation* is when students view themselves as unique and *integrated* and as part of a group (Sanford, 1967). He further posits three developmental conditions to interact with one’s social environment: readiness, challenge, and support (Sanford, 1966). A student cannot exhibit certain behaviors until ready. Readiness comes due to maturation, or the environment is seen as beneficial. The amount of challenge a student can handle is correlated with the amount of support the student has. The greatest support is from parents and family members. Here, Schlossberg warns about minoritized groups feeling marginalized. Feelings of marginalization may be temporary for first-year students but more permanent for minority groups (Patton et al., 2016; Fergusson et al., 2007). In either case, such feelings could lead to self-consciousness, irritability, and depression. Schlossberg posits five areas of feeling that one “matters”: *attention*, the feeling of being noticed; *importance*, feeling cared about; *ego-extension*, feeling that others are proud of one’s success or feels that others empathize with their failures; *dependence*, a feeling of being needed; and *appreciation*, the feeling that others appreciate one’s efforts (Schlossberg, 1989). To fit in or feel socially accepted. Some students turn to socially risky behaviors (Vaughan et al., 2021).

Substance abuse and safety

The parents of first-generation students have similar worries to those of second-generation students. Parents are concerned about campus safety and the ability of their children to make difficult decisions in the face of peer pressure, substance abuse, and sexual assault (Chapman et al., 2018; Vaughn et al., 2021 see also (Karp et al., 2004). Also, many first-generation parents do not have the opportunity to visit the colleges where their children will attend if the school is in another state (Chapman et al., 2018). Those who can send their children to cities or states where there is family so that the family member can look after their child (Chapman et al., 2018).

Economic Responsibilities

More and more students, young and old, are opting to work while studying (Bozik, 2007; Carnevale et al., 2015; Reid & Moore, 2008). This rise in working college-age students correlates with the parents of low-income first-generation students who expect their college-going children to participate economically in maintaining a home, college education, or both. While students may have great intentions to work and pay for college, they are at greater risk of dropping out (Cahalan et al., 2022). This is especially true if they work while living at home. To go a step further, this group is more likely to leave college if they work over 30 hours per week (Bozik, 2007; Zarifa et al., 2018). Living on campus and working reduces this risk (Bozick, 2007).

Institution Proximity

For most parents of first-generation low-income students, the college of choice is the best option nearest home. This is known in the literature as the “*geography of opportunity*” (Lopez Turley, 2009). This is normally done because of the distrust of leaving the state (Lopez Turley, 2009). Parents are uncomfortable because they know little about out-of-state schools. Parents do not consider how detrimental this can be to their children in the long term. Students who stay near home because of parental fears of going away find they may be under-matched academically (Bartoszuk & Yerhot, 2019; Lopez Turley, 2009). This means that while it is true that they have enrolled in a nearby college, they could have been enrolled in a college or university more suited to their educational needs and objectives. However, attainment rates are higher among first-generation students who go to college 4-5 hours away. Students who lived near home but on their own saw better grades than those who lived with their parents (Garza & Fullerton, 2018). In the literature, there are at least five primary reasons parents of first-generation, low-income children tend to keep them close to home rather than allowing them to go away. The first and most common reason is economical (Chapman et al., 2018; Lopez Turley, 2009; Lopez Turley, 2006). For others, it is based on feeling their child has not reached an adequate maturity level for going away from home (Lopez Turley, 2009). Next is the desire to keep family close and family values intact (Lopez Turley, 2006). A fourth reason is safety concerns (Vaughan et al., 2021). Finally, it is simply not having done enough to learn about other colleges outside of their immediate surroundings that may satisfy the academic, social, and safety requirements (Chapman et al. 2018). These concerns among parents of low-income, first-generation college students are not very different from upper-middle-income parents (Karp et al., 2004). Karp and colleagues interviewed 30 upper-middle-income parents. Nearly all of these parents (28 of 30) had bachelor’s degrees, and 25 fathers and 13 mothers had graduate degrees. Of the 30 families, four were Asian, two African American, and one Hispanic. Their students were all headed to four-year institutions. Karp’s findings show that parents, regardless of socioeconomic class, share the same sentiments when it comes to their students going away to college. Besides the tendency of upper-middle-income students to apply to four-year colleges, one notable difference is that the parents of low-income, first-generation students are less likely to negotiate going to college 2 or 3 hours away (Lopez Turley, 2009).

Separation (the parental struggle)

How far students want to go in their studies seems to be mostly determined by mothers in low-income, first-generation families (Bartoszuk & Yerhort, 2018; Newton & Sandoval, 2015; Chlup et al., 2019). Not all students contact their parents regularly when they move away from home, and for some parents, not knowing makes them uncomfortable (Bartoszuk & Yerhot, 2019). This disconnectedness has various causes. For some, it is a matter of priorities and time management; for others, it may be rooted in family dysfunctionality (Bartoszuk & Yerhot, 2019). Communication with parents while students are away focuses mostly on the student’s well-being and maintaining family connections. (Bartoszuk & Yerhot, 2019). Regardless of their four-year degree, foreign-born parents, like the parents of low-income, first-generation students, are far more likely to insist on their children staying in the same city to study (Karp et al., 2004; Garza & Fullerton, 2018).

Positive Academic Behaviors

Students staying in their parents' homes and dropping out has more to do with the interruptions at home than the living conditions (Garza & Fullerton, 2018) or as Strayhorn (2013) states, a lack of "grit." Students need dedicated times and places to study (Tierney, 2002). They must demonstrate academic behaviors that will give them positive outcomes, such as attending class, studying skills, self-awareness, and perseverance (Strayhorn, 2013). Conley (2008) posits that a part of college readiness is having an "array of learning strategies and coping skills that are quite different from those they developed in high school." The researchers of this study adopt the definition of college readiness suggested by Conley and will expand upon it:

College readiness can be defined as the level of preparation a student needs in order to enroll and succeed, without remediation, in a credit-bearing general education course at a post-secondary institution that offers a baccalaureate degree or transfer to a baccalaureate program. *Succeed* is defined as completing entry-level courses at a level of understanding and proficiency that makes it possible for the student to consider taking the next course in the sequence or the next level of course in the subject area. The college-ready student envisioned by this definition is able to understand what is expected in a college course, can cope with the content knowledge that is presented, and can develop the key intellectual lessons and dispositions the course is designed to convey. In addition, the student who is ready for college will be able to understand the culture and structure of post-secondary education and the ways of knowing and intellectual norms of this academic and social environment (2008).

Conley offers a clear definition of college readiness which has been lacking among academics because of the fluidity of the term (Strayhorn, 2013).

The Current Study

Identifying the expectations of the parents of first-generation, low-income students, understanding what being "college-ready" means to them, and comprehending how they view their role in the process of readiness is the objective of this study and will, in turn, expand on Conley from a parental perspective. Considering that not all well-to-do or privileged parents know how to navigate the college readiness maze, the study's relevancy is seen even more given that those of this demographic are least likely to have access to such information. Even though they may have college degrees themselves, the privileged spend thousands helping their children find the right college fit (Sun & Smith, 2017).

Sun and Smith point out that "elite parents rely on individuals they perceive as experts to establish 'bridges' between their social worlds and the academic worlds that appear to be beyond their control" (2017). By contrast, low-income parents rely on the expertise of TRIO and similar programs to bridge a similar gap for the same reasons (Le, Mariano, & Faxon-Mills, 2016). Sun and Smith refer to bridging the social world of the elite to that of academia, which begs the question, "what is a social class." Often social class and socioeconomic status are used interchangeably. However, a distinction exists between the two. At a basic level, socioeconomic status refers to objective areas such as household income, occupational status, and education. In a related but nonetheless distinct way, social class can be understood as being more subjective and socially constructed. It is a more fluid concept regarding relationships and the role of power one has given their surroundings (Zandy, 1996). Two people may view themselves as middle class but have different socioeconomic statuses (Sanders & Mahalingam, 2012; Zandy, 1996). This would explain why the elite may see themselves as deserving of entry. Yet, they are part of a different social class than those in academia and need to pay for college admissions readiness for their children.

This privileged mindset which acts on its beliefs, starkly contrasts with the beliefs of underprivileged TRiO parents, though from a different socioeconomic status, may not seek out expertise but are just as deserving of

access to the same academic and social class (Zandy, 1996). TRiO practitioners may tell parents of low-income students what their roles should be when educating their children (Gordon & Cui, 2012); however, parental perceptions of what “college readiness” means to them, their level of involvement, and feeling that their desires are being considered by their college-going children and the institutions have never been formally studied (Gordon & Cui, 2012).

Researchers find the definition of college readiness lacking because it does not recognize that the college-going experience is multi-faceted. It is mostly encouraged by parents, economically provided for by parents, and ultimately achieved by their support. Universities admit they need parental intervention to help with things such as drinking, hazing, violence, and other destructive behaviors as children enter what researchers call *emerging adulthood*. Research has shown this to be the case even among low-income, first-generation students. Students rely on their parents for the financial and emotional support or the interventions they need to attain a four-year degree. A working definition of what it means to be ready for college must include the definition set forth by those in academia. Still, it must be forged with the desires and expectations of the parents of the students. This is because students make a contractual agreement with their parents when selecting a college. Parents and students must agree at a certain level before the child is handed off to a college or university. Parents need to feel that their students will be safe.

Methodology

This paper will explore identifying parental college readiness expectations based on 15 surveys and seven interviews of Higher Education Consortium of Metropolitan St. Louis TRiO parents. They have expressed interest in their children pursuing post-secondary education.

Higher Education Consortium of Metropolitan St. Louis

In 1962, a group of college and university Chancellors and Presidents from the St. Louis metropolitan area sought better collaboration through discussion on issues that affect higher education institutions and provide a representative voice for metropolitan St. Louis higher education. From that meeting, the Higher Education Coordinating Council of Metropolitan St. Louis (HECC) was formed and incorporated in 1964. HECC is the Higher Education Consortium of Metropolitan St. Louis (HEC).

The organization offers the community three TRIO Educational Opportunity Programs: Educational Talent Search, Upward Bound, and Educational Opportunity Centers. These serve participants in the greater St. Louis metropolitan area, which includes five-surrounding counties. HEC TRIO programs provide services to over 859 middle and high school students and over 4,400 adults annually.

The method for identifying those surveyed was to look at all three programs, Educational Talent Search (TS), Upward Bound (UB), and Educational Opportunity Centers (EOC), and use program databases, Blumen for TS and UB and Student Access for EOC to identify participants for the surveys and subsequent interviews. The selection criteria used are parents with a junior or senior high school child who plans to attend college or have a child who has started their first year of college, first-generation, low income, email address, phone number, and status are currently active. The two academic years in focus were 2020-2021 and 2021-2022.

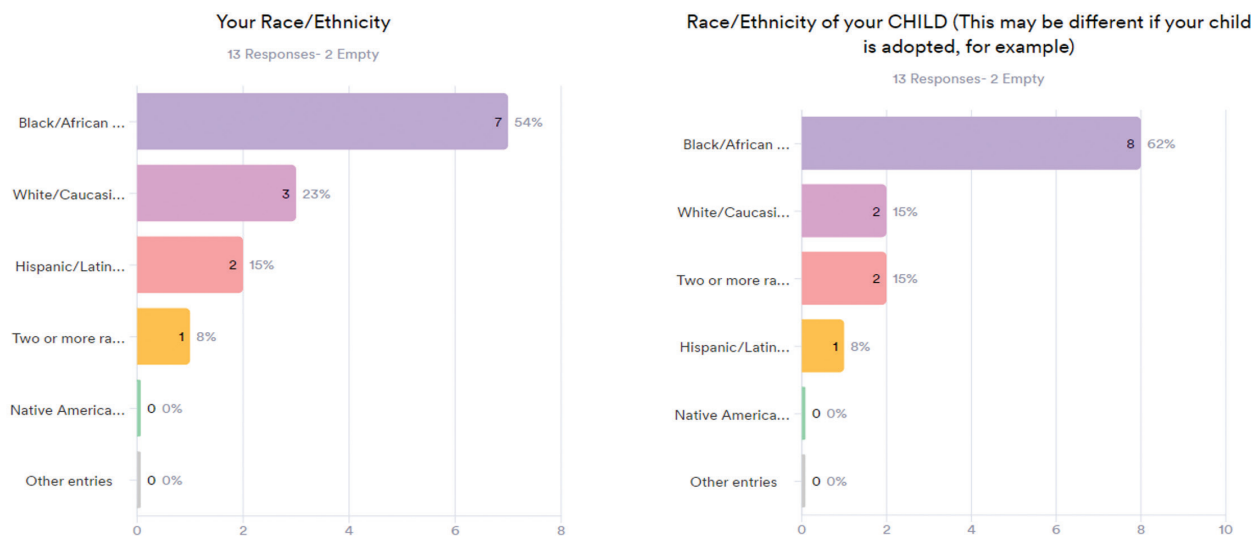
The number of eligible candidates was 1,927 for all three programs. Bulk emails and text messages were sent to all candidates. The process was repeated the second day and a few days later using the same method along with phone calls.

Cohort Year	Educational Opportunity Centers	Educational Talent Search	Upward Bound
2020-2021	Texts Sent — 480	Texts Sent — 186	Texts Sent — N/A
	Emails Sent — 178	Emails Sent — 91	Emails Sent — 19
2021-2022	Texts Sent — 181	Texts Sent — 126	Texts Sent — N/A
	Emails — 492	Emails Sent — 173	Emails Sent — 1

Fifteen participants submitted responses. Those submissions were checked to make sure they met the criteria. Those that did not were eliminated. For example, a parent responded “yes” to “would you like to be considered for an interview.” Still, their college experience was that they had a bachelor’s degree, making them ineligible for this research. Out of the fifteen submissions, seven agreed to an interview.

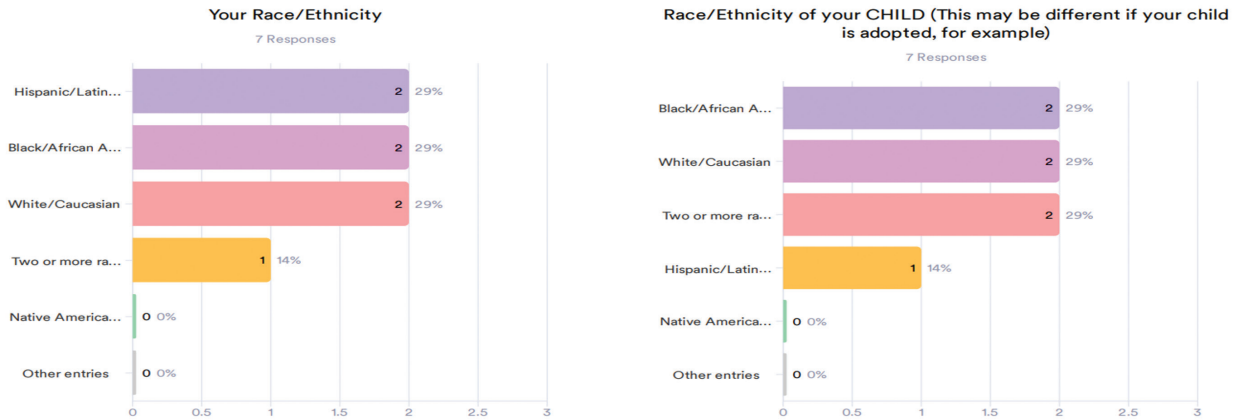
The parent’s Race/Ethnicity for the fifteen responses is 54% of Black/African American, 23% White/ Caucasian, 15% Hispanic/Latino of any race, and 8 % of two or more races. Student’s Race/Ethnicity for the fifteen interviewees were 62% Black/African American, 15% White/ Caucasian, 8% Hispanic/Latino of any race, and 15% of two or more races. (See figure 1 below).

Figure 1



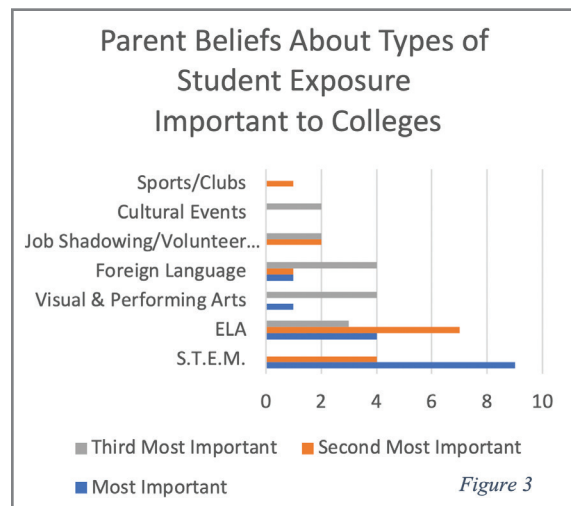
Black/African American, 29% (2) White/ Caucasian (1 is white Middle Eastern), 14% (1) Hispanic/Latino of any race, and 29% (2) are two or more races. (See figure 2).

Figure 2



Academic Findings

Those interviewed are all married women except two. Of those two, one is divorced, and the other is a widow. Of the married women, two are separated, and three live with their spouses.



The researchers explored parents’ beliefs about what they viewed as important for academic readiness and what they perceived colleges deemed as important. The domains discussed in the survey and subsequent interviews were 1) Academic Readiness, 2) Social Readiness, 3) Emotional Readiness, 4) Geographical Readiness, 5) Parental Readiness, 6) Economic Readiness, and 7) Institutional Readiness. These charts represent parent perceptions of what colleges would like to see students exposed to during their high school careers. Figure 3 illustrates what parents see as necessary for success in college. Most parents view exposure to S.T.E.M. and English Language Arts as the two most important areas required for college readiness. This finding not only confirms what practitioners assumed to be true, it further suggests that while TRiO parents realize the

importance of focusing on these areas for college admissions, historically first-generation, low-income students do not get the exposure to higher-level math and ELA classes that their second-generation counterparts enjoy.

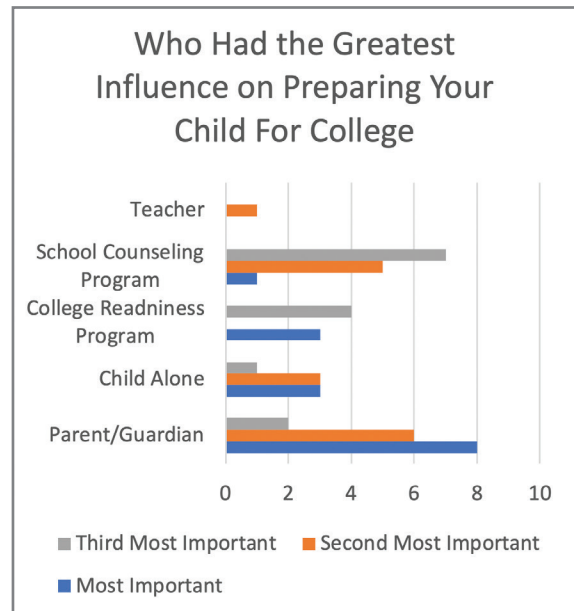
This is also significant because as Tierney (2008) points out, parents are willing to get involved with helping their students with college readiness. While teachers do not have the constant communication with colleges and universities that counselors and college advisors have, TRiO Talent Search and Upward Bound should consider creatively and strategically involving parents in activities that would encourage parents to talk to their children about striving to enroll in higher-level math and ELA coursework. Studies overwhelmingly support parental expectations serve as external motivators for children. The parents in this study see themselves as the primary reason their children go to college (see figure 6). Practitioners should leverage this knowledge, and the influence parents have by engaging parents in these key academic areas. For example, research skills, reading, time management, and writing are all associated with success in college. Equipping parents to create a home culture of reading and writing and offering creative ways to incorporate reading, research writing, and study skills into the TRiO curriculum will increase the probability that their children will attain a bachelor’s degree within six years. Parents of Talent Search and Upward Bound Trio students could be encouraged to access services from

Educational Opportunity Centers. Students who see their parents engaged in academic work are encouraged to do the same (Perna, 2015). Bella has an adopted son who is a senior in high school. She passed the HiSet and is currently enrolled in college. She says:

I am a first-time college student myself. I think he sees how hard I work trying to maintain a work-study balance. He sees how hard I work and I think that is having a huge influence on him and it's making him like want it verses me making him....Because at the beginning we first started discussing college, this is like when he was a sophomore, it was more of 'um I want to go to the Marine Corp' that's kinda what he had his sights set on for the longest even before I adopted him. It was kinda the route that he wanted to go in. 'I just want to go to the Marine Corp. I will think about college afterwards'. That was around the time I enrolled in college and he started to see how I do things, how I manage my schedule and everything and I think that had an influence on him because at some point during his junior year he said, 'yes I want to enroll into a college' without me having to say anything.

Unconsciously, Bella created a home culture of higher education, and her son soon adopted the same train of thought. Bella goes on to say that her son is currently taking college courses during his senior year.

Of those parents with juniors and seniors interviewed in the study (4), only one parent could remember her student's ACT score or even whether or not they took the test. This suggests that parents are uninvolved with preparation for the test. Informing parents about how they can set expectations at home around standardized test-taking will encourage students to do more to prepare. This is critically important given that some colleges and universities still use standardized tests to determine scholarship offers (Strayhorn 2018; Strayhorn 2014). Parents ranked ACT/SAT second highest in importance only after good grades, regarding what characteristics they believe are important to colleges. This ranking further suggests that parents want their students to do well on these tests even though many universities are becoming test-optional.



Effective time management is associated with college readiness (Strayhorn, 2014). Parents repeatedly cited concerns about their child's management of time:

Gabriella — “she needs more time to complete assignments. She does not feel supported with her disability.”

Bella — “He doesn't speak up to ask for help. He waits 'til the last minute to do everything. He even completes assignments and does not turn them in.”

Aaliyah — (daughter's name) needs to learn to say “no” to some stuff so that she has time to complete the most important things. She and I talk about this all the time. She is constantly running, running, running”

Serenity — “He always waits until the last minute”

Quinn — what (daughter's name) does is wait until two or three days before the assignment is due to start working on it. She gets them in, but barely.

Time management is one of the other academic behaviors cited by researchers to indicate post-secondary academic success. Others include attending class regularly, self-awareness, study skills, and “grit.” That is being

able to persevere through difficult moments to attain a four-year degree (Strayhorn, 2013).

One salient point mentioned by Gabriela is that Trio programs should consider making parents feel welcome to participate by offering promotional materials in their home language and by hosting parent informational sessions that give parents specific guidance regarding college readiness in the parents' language. This would make parents feel included, appreciated, encouraged, and informed enough to motivate their children.

Gabriella — “Inform parents in a series of workshops on college readiness, not just one message. They will not remember everything you said. Also, do the same for the children. If it is part of their regular school day and taught regularly, they will remember and be prepared for when they go to college. Suicide is real (name of university) where my daughter goes has already had two suicides this year. They need to know about bullying, drugs, and alcohol temptations before they get to college. Hispanics are used to going to class (in college) and then home. Here you live on campus. Drugs, suicide, and bullying should be addressed during the school year.

Social/Emotional Findings

The theme that was most prevalent in this study was social/emotional. Parents are worried about their child's emotional readiness for college. This worry translated into decisions such as keeping their children close to home to go to college. Still, as stated earlier, parents are unaware of the impact this has on their children and the likelihood they will graduate within six years. Five out of the seven mothers interviewed expressed concerns about their children not fitting in or dealing with peer pressure. When asked: “How do you rate your child's overall ability to make difficult decisions regarding peer pressure, choosing friendships, romance, and behaviors while in college, with one being not at all able and five being very able?” Only 27% of participants scored their children as very able.

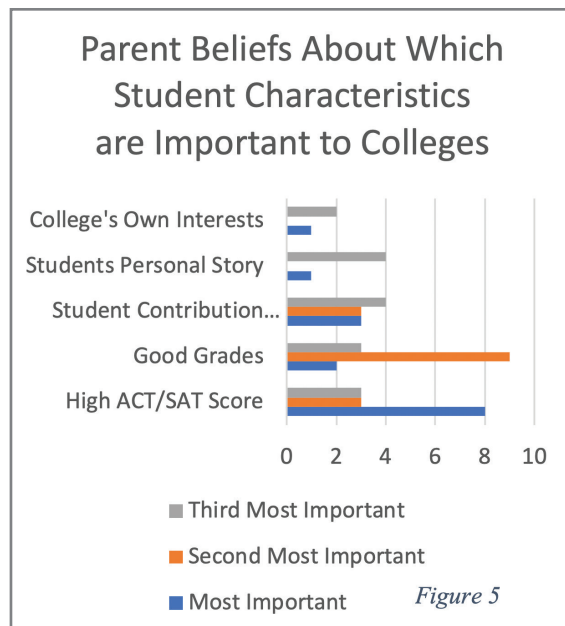
The seven parents interviewed in this study began grooming their children for college from a very young age by placing them in the best possible schools within the district where they lived. Two had transferred their children to private schools, three had transferred their children to suburban schools, and two remained within the target schools served by their TRiO program. Two of the mothers interviewed have spouses that work in educational institutions—one for a suburban public school system and the other for a local four-year university. Even with giving their children the best possible academic opportunities, they fear that their students are not ready for the social responsibilities that come with moving on to post-secondary education:

Bella, “I'm worried because he used to hang with the wrong crowd. He does not really speak up for himself. He will have his work done, and may forget to turn it in.”

Alyia, “I wonder if we coddled her too much. We won't know until she gets out there and starts doing things on her own. I was shocked to hear her speak up for herself at a recent meeting at her school”

Serenity, “I don't want him to encounter something and it's so difficult that it makes him want to give up and drop out”

Gabriela, “Exposure brings temptation. At home they are protected from things that could tempt them. In college they have more freedom. Now, I'm worried because now she is vaping



trying to fit in with these cheerleaders. She is stressed because her classes are also very hard, and she has an IEP, and the school is not helping her. She also has a boyfriend now who she wants to be with in another state.”

Ana, “I may have protected her too much by putting her in private school. Those kids were snobbish and she never made friends there. Now, I want her to make friends at college because she doesn’t really have any friends. I think she should join a club or something. She doesn’t push herself and I feel guilty because of our home environment. Her dad and I are getting divorced.”

Ana has one daughter who has dropped out, and the other is a first-year college student who has considered it.

Ana — “(daughter’s name) quit going and now (2nd daughter’s name) is thinking about quitting too. She doesn’t feel successful. She goes to class and comes home. The only class she likes is photography because she likes art.

This data is consistent with the literature, regardless of socioeconomic class. Parents are concerned about their students being influenced by behaviors that slow down or even hinder graduation.

Only 60% of parents said they believe their children are very comfortable (5 out of 5) or mostly comfortable (4 out of 5) fitting in with faculty/staff and peers based on race, gender, religion, or political views. And only 53% of respondents believe their child is very able (5 out of 5) or mostly able (4 out of 5) to balance a social life with academics.

Every parent interviewed said their child waits until the last minute to complete assignments or projects. This is a habit that Tierney (2008) cites as one that can cause problems for first-year students because they are bringing high school habits into the college classroom. Nearly half (47%) of the parents in this study rank their children 3 out of 5, with five being able to meet deadlines regardless of their stress/anxiety. No parent scored their child as very able to meet deadlines. 54% of parents scored their child either a 4 out of 5 (27%) or 5 out of 5 (27%), with five being very stressed.

Geographical Findings

While parents ranked their children as being able to adapt to college relatively easily, this seems to be associated with the desire for students to stay local rather than leave. Nine out of 15 parents elected to have their children study in the same city; five chose to have their child study 3 hours or less away, and one selected to study abroad. Of the seven parents interviewed, all but one have plans to study locally. The one parent, Quinn, who is allowing her daughter to leave and has an associate degree, visited three universities with her daughter in the state, her daughter participated in an out-of-town college tour to 5 universities, and she also visited two universities with her high school:

Quinn — “She was not hearing anything I had to say about going to school locally. She knew she wanted to attend an HBCU and that is where she is going.”

Aaliyah — “Dad said no immediately.” I am a little more flexible. We went to visit a school (unnamed) about two hours away in a small town. I asked her, ‘you wear natural hair, where are you going to go around there to get your hair done or the products you need’ We all agreed that local is better for her.

Serenity — “if one day he wants to go to another state or country I would support him”

Gabriela — “we knew she was going to (school name) because dad works there, and we don’t have to pay tuition. But she lives on campus, so she has her freedom. In (country of origin) we don’t ‘go away to college. That is something you do here.”

Bella — “If he wanted to go to another state, I would support him”

Serenity, Bella and Gabriella are parents who were born in other countries and are accustomed to going to school while living at home. It is customary to live at home until married; this is true across the socioeconomic spectrum citing Karp, Holmstrom, and Gray:

Mother — Because I was just too attached to him in terms of what are the systems in this country, what are the customs in this country...In Brazil students stay home until the day they get married. They even continue living together after they get married. In Brazil the people don't travel as much, they don't move as much, they don't disintegrate as much. You can have two, three generations of family in the same city and they all spend weekends together. The cultural differences between Brazil and the United States are a major issue (2004).

Nonetheless, TRiO parents should know that higher attainment rates are associated with going away to college. Six-year attainment rates drop dramatically when students live with their parents (Garza & Fullerton, 2018). This can be mitigated when living in the same city but separate from parents.

Economic Findings

The parents in this study are mostly willing to help their children pay for college; however, it is not surprising to see parents in this study lean heavily toward keeping their students close to home for college. 10 out of 15 parents expect their children to have some economic responsibility at home while in college. This is in keeping with the literature that shows parents of low-income, first-generation students expect, to some degree, that their children be prepared to participate economically at home while they seek their degrees. All parents except Bella and Quinn said that it is important that their children play an economic role to learn responsibility while in college.

Grace — “She will need to pay something non-college related just so that she can learn the responsibility of being on your own.

Aaliya — “she is going to have to participate in work-study because dad and I can't do it alone

Serenity — “He is responsible for his car note and insurance. Other than that, we leave him alone so he can focus on his studies.”

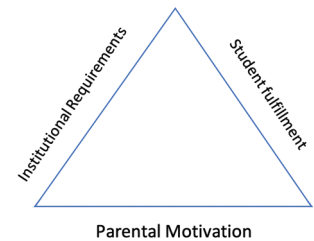
When asked, “How would you rate your concerns overall about your child's college experience, with one being NOT WORRIED at all and five being VERY WORRIED?” 66% of parents said they were mostly worried (4) or very worried (5). These worries were the sum total of the areas discussed in the interviews. For parents, these areas need to be addressed in addition to the academic goals they have for them to feel that their students are college-ready.

For the parents of low-income, first-generation Trio students, in addition to the definition given by Conely, college readiness means premature maturation in terms of at least some level of economic responsibilities. Readiness means having the maturity to manage social and academic relationships and the self-awareness necessary to recognize when extra support is needed when faced with peer pressures, stress, and feelings of belonging. For those living at home and going to college, readiness means knowing how to deal with interruptions and separate home life from college life.

Discussion

Hossler and Gallagher (1987) identified college choice characteristics and narrowed them to three phases. Phase one is the predisposition phase. In this stage, the student determines if they want to attend college. The next phase is the search phase. The student gathers information about colleges and creates a “set,” a list of colleges of interest. The last phase is the college choice itself. Research has consistently shown that the decision to attend college, phase one, is highly influenced by parents (Lopez Turley, 2009; Strayhorn, 2014; Sanford, 1967; Tierney, 2002; Vaughan et al., 2021), a fact that is also demonstrated in the present study. Parents also heavily influence the list of college choices. This is not to say that the child has no choice. The college chosen is a result, in most cases, of at least some discussion with parents.

When taken together with existing data, the current study observes that regardless of the level of parental involvement, the student, and the parent, to greater or lesser degrees, work together to achieve balance among three fluid components: 1) The admission requirements of the institution the student wants to attend 2) Meeting non-negotiable requirements of the parent(s) and 3) Meeting the requirements of satisfaction for the student. Trio parents see themselves as the motivation for the phases Hossler and Gallagher describe. These parents see college readiness as a construct of which they are the chief cornerstone. This concept can be illustrated with a simple triangle. The parents form the base or foundation of the triangle. Student motivation starts there. The student has desires they would like to have met in the college-going process, and the institution has requirements of entry. What can be observed in this study is that parents have their readiness agenda when they send their children to college. To attain a degree, they want their child to have an affordable, educationally enriching experience in which they fit in socially and feel safe in all of the domains mentioned without sacrificing family connectedness. To a greater or lesser degree, all three, the institution, the student, and the parent, must be satisfied if the student is to have a positive experience that leads to attainment. How college readiness can be defined is the extent to which these three are met. If there is discontentment in the home regarding the college choice, there will be friction between the parent and the child. If the child fails to meet the institution’s academic requirements, there is friction between the university and the child. If the student is not aware of how to speak up for themselves, avoid troublesome peers, and find academic resources such as study groups, then they have friction within. Readiness in the minds of TRiO parents must include not only academic and financial components but also familial and social-emotional components.



Each of these requirements must be fulfilled to a satisfactory degree for all interested parties. First, the student must satisfy the admissions requirements of the university they plan to attend. As options are being discussed, parents may be willing to accept having some of their more important or non-negotiable desires met while sacrificing others to see their child happy at the institution of their choice. Similarly, to maintain balance and to have their parents’ support, students may sacrifice things that are not so important to them in a college/university but not be willing to budge on others. Families will consider cost, location, size, private, public, programs/majors, scholarship opportunities, social fit, racial/ethnic make-up, safety, academic climate/culture, etc.

Recommendations

Trio programs may implement various adjustments in their services to account for parental opinions. An annual assessment of participants and parents would allow programs to stay abreast of what parents need to motivate their children. And since parental involvement is vital for graduation and degree attainment, it makes sense to get their opinion at least annually or intermittently throughout the program year. Trio programs should not leave transitioning to college in the hands of the universities but write a curriculum that spans the school year to address the concerns of parents regarding transitioning to college: Anxiety, stress, time management, choosing relationships, living at home vs. living on campus, substance abuse, separation anxiety, college-

going environments at home and so on. These programs should include informational sessions for parents. These activities can show inclusion by ensuring marketing is done in the various languages represented in TRiO programs. Since parents are such a big influence on college choice, the parents could be invited on local college tours. They can be encouraged to meet their child's school at the universities they visit. TRiO could equip parents by directing them to materials and activities that create college-going cultures at home, such as referring qualified parents to Educational Opportunity Centers. For students in middle school, college-going culture might include invitations to activities such as ACT preparation classes, inviting parents to college tours, and informing them on how to schedule tours for themselves. These diverse faces of TRiO each have a voice. It is time they are heard.

References

- Anderson, M. L., Goodman, J., & Schlossberg, N. K. (2012). *Counseling adults in transition: Linking Schlossberg's theory with practice in a diverse world* (Fourth ed.). Springer.
- Baxter Magolda, M. B. (2002). Helping students make their way to adulthood: Good company for the journey. *About Campus*, 6(6), 2-9. <https://doi.org/10.1177/108648220200600602>
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). Greenwood. http://home.iitk.ac.in/~amman/soc748/bourdieu_forms_of_capital.pdf
- Chapman, T. K., Contreras, F., & Martinez, E. (2018). African American parents and their high achieving students: Issues of race, class and community in the college choice process. *Journal of African American Studies*, 22(1), 31-48.
- Chlup, D. T., Gonzalez, E. M., Gonzalez, J. E., Aldape, H. F., Guerra, M., Lagunas, B., Zorn, D. (2018). Nuestros hijos van a la universidad [Our sons and daughters are going to college]: Latina parents' perceptions and experiences related to building college readiness, college knowledge and college access for their children—A qualitative analysis. *Journal of Hispanic Higher Education*, 17(1), 20-40. <https://doi.org/10.1177/1538192716652501>
- Fergusson, D., Boden, J., & Horwood, J. (2007). Recurrence of major depression in adolescence and early adulthood, and later mental health, educational and economic outcomes. *British Journal of Psychiatry*, 335-542. <https://doi.org/10.1192/bjp.bp.107.036079>
- Garza, A. N., & Fullerton, A. S. (2018). Staying close or going away. *Sociological Perspectives*, 61(1), 164-185.
- Gordon, M. S., & Cui, M. (2012). The effect of school-specific parenting processes on academic achievement in adolescence and young adulthood. *Family Relations*, 61(5), 728-741.
- Holcomb-McCoy, C. (2021). Involving low-income parents and parents of color in college readiness activities. *Professional School Counseling*, 23(1), 1-11.
- Karp, D. A., Holmstrom, L. L., & Gray, P. S. (2004). Of roots and wings: Letting go of the college-bound child. *Symbolic Interaction*, 27(3), 357-382.
- Klasik, D., & Strayhorn, T. L. (2019). The complexity of college readiness: Differences by race and college selectivity. *Educational Researcher*, 47(6), 334-351.
- Lam, C. M., & Kwong, W. M. (2012). The “paradox of empowerment” in parent education: A reflexive examination of parents' pedagogical expectations. *Family Relations*, 61(1), 65-74.
- Lippman, L., Guzman, L., Keith, J. D., Kinukawa, A., & Shwalb, R. (2008). *Parent expectations and planning for college*. National Center for Education Statistics. U.S. Department of Education. <https://nces.ed.gov/pubs2008/2008079.pdf>
- Novakovic, A., Patrikakou, E. N., & Ockerman, M. S. (2021). School counselor perceptions of preparation and importance of college and career readiness counseling. *Professional School Counseling*, 23(1), 1-11. <https://doi.org/10.1177/2156759X21998391>
- Chambers, T., & Parks, S. (2002). Helping students find their place and purpose. *About Campus*, 7(5), 20-24. <https://doi.org/10.1177/108648220200700505>
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104-112. <https://doi.org/10.1080/02673843.2019.1596823>
- Patton, L. D., Renn, K. A., Guido, F. M., & Quaye, S. J. (2016). Foundations for understanding student development theory. In L. D. Patton, K. A. Renn, F. M. Guido, & S. J. Quaye (Eds.), *Student development in college: Theory, research, and practice* (p. 35). Jossey-Bass.

- Patton, L. D., Renn, K. A., Guido, F. M., & Quaye, S. J. (2016). Social Class and Identity. In K. Renn, *Student Development in College: Theory, Research, and Practice* (Third ed., p. 245). Jossey-Bass.
- Cahalan, M., Addison, M., Brunt, N., Patel, P. R., Vaughan III, T., Genao, A., & Perna, L. W. (2022). *Indicators of higher education equity in the United States: 2022 historical trend report*. The Pell Institute for the Study of Opportunity in Higher Education, Council for Opportunity in Education (COE), and Alliance for Higher Education and Democracy of the University of Pennsylvania (PennAHEAD).
- Perna, L. (2015). Improving college access and completion for low-income and first-generation students: The role of college access and success programs. *ScholarlyCommons*. https://repository.upenn.edu/gse_pubs/301
- Sanford, N. (1966). *Self & society: Social change and individual development*. (First ed.). Atherton Press.
- Sanford, N. (1967). *Where colleges fail: The study of the student as a person*. Jossey-Bass.
- Schlossberg, N. K. (1989). Marginality and mattering: Key issues in building community. *New Directions for Student Services*, 1989(48), 5-15. <https://doi.org/10.1002/ss.37119894803>
- Smart Richman, L., & Jonassaint, C. (2008). The effects of race-related stress on cortisol reactivity in the laboratory: Implications of the duke university lacrosse scandal. *The Society of Behavioral Medicine*, 35, 105-110. <https://doi.org/10.1007/s12160-007-9013-8>
- Strayhorn, T. L. (2014). Modeling the determinants of college readiness for historically underrepresented students at 4-year colleges and universities: A National Investigation. *American Behavioral Scientist*, 58(8), 972-993.
- Vaughan, E. L., Limas, E. F., McKean Blackwell, N., Klann, E. M., & Robbins, M. J. (2021). Parental concerns about students' transition into college: Substance use and sexual assault. *Journal of Interpersonal Violence*, 36(1-2), NP96-NP114. <https://doi.org/10.1177/0886260517731787>
- Weitkamp, K., Klein, E., & Midgley, N. (2016). The experience of depression: A qualitative study of adolescents with depression entering psychotherapy. *Global Qualitative Nursing Research*, 3, 1-12. <https://doi.org/10.1177/2333393616649548>
- Tierney, W. G. (2002, September). Parents and families in precollege preparation: The lack of connection between research and practice. *Educational Policy*, 16(4), 588-606.
- Ishitani, T. T. (2003, August). A longitudinal approach to assessing attrition behavior among first-generation students: Time-varying effects of pre-college characteristics. *Research in Higher Education*, 44(4), 433-449.
- Lopez Turley, R. N. (2009, April). College proximity: Mapping access to opportunity. *Sociology Education*, 82(2), 126-146. <https://doi.org/10.1177/003804070908200202>
- Bartoszuk K. D., & Yerhot, M. (2019, January 17). Parents' and College Students' Perceptions of Support and Family Environment. *Emerging Adulthood*, 9(1), 76-87. <https://doi.org/10.1177/2167696818823947>

STEMTank – Implementing an Online Engineering Summer Camp for Underprivileged High School Students in Response to COVID-19

Authors:

Matthew J. Traum

University of Florida
mtraum@ufl.edu

Adrienne L. Provost

Santa Fe College
adrienne.provost@sfcollge.edu

Jodi Doher

Santa Fe College
jodi.doher@sfcollge.edu

Abstract

STEMTank was a three-week in-person engineering summer camp offered in 2020 for high schoolers from socioeconomically disadvantaged North-Central Florida regions. Borrowing from the ‘Shark Tank’ television show, STEMTank challenged participants to develop and build products to solve problems in their communities and showcase these solutions to panels of “Sharks.” COVID-19 forced STEMTank’s rapid transition to online delivery. This paper describes the utilization of personnel, technology, and logistics enabling organizers to successfully conduct STEMTank remotely. The program’s impact on participant self-efficacy was evaluated using a pre/post-New General Self-Efficacy Scale. Surveys reveal statistical improvement at $\geq 95\%$ confidence in two participant self-reported efficacy metrics: 1) ability to perform challenging tasks well and 2) success in endeavors to which they set their minds.

Keywords: STEM, College-Access Programming, Online / Distance Learning, Student Self Efficacy, Summer Camp

Introduction

TRIO is among the country's most recognized college access program consortiums. TRIO expanded from its beginnings as part of the 1965 Higher Education Act to serve roughly 800,000 students through federal appropriations of \$1.3 billion in 2020 (Council for Opportunity in Education, 2019). Increasingly, college access programs include STEM-related interventions to broaden student exposure to science, math, engineering, and technology college majors and careers (Lane et al., 2020). One such program, called STEMTank, is described here. This program represents a unique collaboration and partnership between the Santa Fe College (SF) TRIO program and the University of Florida (UF) Mechanical and Aerospace Engineering (MAE) Department. Previously a community college, SF is a Florida Public College System school with an emphasis on conferring Associate's and Bachelor's degrees. UF is the flagship campus of the State University System of Florida [State] and a comprehensive research university.

These institutions' collaborative STEMTank program was initially intended to be a three-week primarily in-person engineering design experience created and implemented by SF TRIO and UF MAE with funding from the US Department of Education. The program was planned to run during the summer of 2020. Participants were high school students from North-Central Florida served by the SF TRIO site, which includes schools in rural and socioeconomically disadvantaged regions. Originally, participants would have been bussed to UF during two of the program's three operational weeks. In these sessions, they would have worked in person with UF and SF faculty, staff, and students seven hours per day during those weeks. Between the two in-person weeks would have been sandwiched a remote learning week where the participants worked from their homes to implement the program's central project with the help of college student mentors from UF and SF available to them via online video chat.

Borrowing from the popular 'Shark Tank' television show, STEMTank challenged participants to complete an open-ended engineering design and build process by 1) identifying a problem in their community, 2) designing a problem solution using BlocksCAD software, 3) working with college student mentors to refine the design, 4) 3D printing prototypes for testing, and 5) communicating results to the community. For their final reveal, participants were to showcase their products "In The Tank" to a panel of "Sharks": UF and SF faculty, staff, and industry representatives who served as subject matter experts. From previous experience recasting college engineering content for high school (Traum, Flewellen, Legare, 2018), adapting a college-level engineering design course for STEMTank required amalgamating successful high school design experiences (Traum, Karackattu 2019a; Traum, Karackattu 2019b) with the DEEP POOL technique where college students built educational product prototypes in short periods (Traum, Selvi, et al., 2018; Traum, Selvi, Hanlon, 2019). These pedagogical underpinnings were leveraged to design the in-person curriculum originally envisioned for STEMTank 2020.

Everything changed on March 16, 2020. On that day, both SF and UF transitioned to fully online instruction in response to the COVID-19 pandemic. This switch also eliminated STEMTank's ability to run in person that summer. Many other summer camps and experiences organized by college access programs nationwide were canceled (Adame, 2020). However, instead of canceling the STEMTank 2020 program, the organizers recast STEMTank into a fully online experience as did a few others across the county (Bergsman & Chudler, 2021), with participants joining one-hour-long synchronous Zoom meetings four days per week. Tuesday sessions lasted two hours and were held jointly online with the capstone senior design course of UF's MAE Department.

This paper describes STEMTank challenges faced and overcome during the transition to online instruction including 1) how educational content and physical artifacts were delivered to student participants despite some not having Internet at home, 2) how participants were effectively supported despite swapping from seven in-person hours to one online contact hour per day and 3) how participants' prototypes were 3D printed despite all UF's fabrication capabilities being shut down or reallocated to printing items to combat COVID-19. Also presented are data quantifying STEMTank's effectiveness based on pre/post-self-efficacy surveys completed by participants. These data show that despite moving online, STEMTank induced a statistically significant

increase at $\geq 95\%$ confidence in two participant self-reported efficacy metrics: 1) ability to perform challenging tasks well and 2) success in endeavors to which they set their minds. Thus, STEMTank is a useful and practical model showcasing the promise, practice, and effectiveness of educational opportunity programs both from the perspective of practitioner-scholars and the vantage point of STEMTank's student participants. The fact that these participant self-efficacy gains were accomplished despite challenges imposed in the summer of 2020 by the COVID-19 pandemic demonstrates the value of college access programs to change students' lives by successfully setting them on trajectories toward STEM majors and careers.

Methods

The five key elements facilitating STEMTank's successful transition online were 1) distribution of computers coupled with family's willingness to seek public Internet access, 2) college student Mentors holding daily virtual office hours, 3) synchronous integration with an engineering design college class once per week, 4) conducting final product reveals by Zoom meeting, and 5) acquiring hobby-scale 3D printers managed by STEMTank staff.

STEMTank participants consisted of high school-aged students 15-18 years old in ninth through twelfth grade. All participants were members of the federally funded college-access program. The program had 11 participants: 63% (7) were female, and 36% (4) were males; 82% (9) were both low-income and potential first-generation college students. Fifty-four percent (6) identified as an underrepresented minority.

While most participants had access to home computers with reliable Internet access, some did not. To enable access to STEMTank online for these participants, laptops were lent by SF if needed and delivered contact-free to their homes by TRIO staff. Participants interfaced with live STEMTank online content in other cases through their cell phones. In cases where reliable Internet was not available at home, participants (or, if too young to drive, their families) took them to libraries or local businesses where WiFi Internet was available. These spaces were often closed to public access due to COVID-19. So, participants sat in their cars in the establishments' parking lots to access WiFi and the Internet. In cases where getting online was impossible, students could call into STEMTank sessions using a cell or land-line phone to hear the audio and interact with instructors. Ultimately, all content was posted online through the Canvas Learning Management System (LMS), enabling participants to access material later if they could not get live access to online lectures and discussions.

Instead of the original plan for seven in-person contact hours per day, organizers recognized that seven daily hours of Zoom meetings would be overwhelming, and keeping participants focused in this format would be difficult. Simultaneously, it was recognized that one contact hour per day was not enough to shepherd participants through the challenging open-ended design project of developing from scratch a product to solve a problem in each participant's community. The solution was to hire as mentors five UF MAE students who had previously completed the department's capstone senior design course sequence (Traum, Niemi, et al., 2020). These mentors were therefore well-versed in design and could provide technical guidance to STEMTank participants. Whenever possible, selected mentors were female or underrepresented minority students and served as effective role models exhibiting behaviors and actions of successful college engineering students. Mentors staffed drop-in Zoom office hours accessible daily through the Canvas LMS from 9 am to 6 pm.

During STEMTank's recruitment phase, prospective participants indicated a desire to work in UF engineering laboratories and interact with college students. Since in-person interactions were not permitted during the pandemic, virtual interactions were substituted for in-person college experiences. On Tuesdays, STEMTank ran concurrently with UF's MAE capstone design course, allowing participants to comingle with college students in a single Zoom meeting. In the first meeting between the capstone students and STEMTank participants, the college class was divided into two panels, each moderated by SF and UF faculty and staff. STEMTank participants were split between the panels. One college student on each panel delivered a short, prepared presentation on life as an engineering college student at UF. Then each panel moved into a Q&A format with STEMTank participants asking questions that were answered in turn by the college students. At the panel's

conclusion, the college students were placed in Zoom breakout rooms organized by their design project teams STEMTank participants were allowed to enter these breakout rooms to observe how college students conducted their engineering design process. STEMTank participants, briefed in a previous online meeting on the engineering design process, were instructed to look for specific techniques used by the college student teams and draw inspiration for their forthcoming product design processes.

STEMTank participants were challenged to identify a problem in their community and solve it with a 3D printed object. Table 1 lists the problems students identified and the artifacts they designed and fabricated with 3D printing to solve those problems. Given the backdrop of the pandemic and especially lockdowns and quarantines, participants’ communities often shrunk to a focus on their own homes and families. Thus, many of the identified problems revolved around making life easier around the house given that everyone was essentially restricted to staying home. STEM Tank organizers recognized that participants’ homes could become “living laboratories” if the student had on-hand measurement tools and received training in their use. Given the team’s successful experience with hands-on STEM educational lab kits (Starks et al., 2017; Traum & Hadi, 2019; Gaikwad et al., 2022), STEMTank participants were mailed engineering measurement tool kits that included 1) calipers, 2) a micrometer, 3) thread gauges, 4) feeler gauges, and 5) a digital multimeter. Virtual STEMTank sessions were devoted to teaching the proper use of these tools. Then participants applied these skills to measure interfaces around their homes and communities to collect size data that informed dimensionless of their 3D printed solutions.

STEMTank’s original budget included a line item for 3D printing participants’ products in UF’s rapid prototyping facility. However, COVID-19 pandemic lockdowns consumed nearly all UF’s spare 3D printer capacity as technicians running those machines were forced to stay home. What UF 3D printing capacity remained was dedicated to printing ventilators, face shields, and other lifesaving items to combat the pandemic. Given this urgency, no institutional 3D printer time was available for non-life-or-death STEMTank prints. So, to provide STEMTank fabrication capacity, the budget was reallocated to purchase six hobby-scale 3D printers, Pura i3 MK3S+ machines, that could be operated in UF-approved remote work locations and be continuously monitored by STEMTank staff. So, STEMTank’s six dedicated 3D printers operated in the garages and home offices of UF faculty and staff, who monitored the prints to ensure they finished without problems. This “distributed print farm” approach allowed STEMTank participants to send their part designs through mentors to the program’s distributed 3D printers. Finished parts were then handed off to SF TRIO staff who provided same-day contactless delivery of parts to STEMTank participants’ homes. With parts in hand, STEMTank participants assembled their designs and tested them at home to collect data needed for their final reveals to panels of “Sharks” at the end of the program.

Table 1: Problems identified by STEMTank 2020 participants in their communities and the artifact each one designed, built, and tested to solve that problem.

#	Problem Identified	Solution
1	Need for Shy People to Start Conversations	Jenga Block Ice Breaker Game
2	Contactless Door Opening / Closing	Touchless Door Tool
3	Unraveling Fishing Line Cord	Fishing Line Clip
4	Eyeglasses Slipping Off Wearer’s Face	Eyeglasses Earpiece
5	Chronic Dehydration	Smart Water Bottle Holder
6	Teaching Young Children to Read	Letter Abacus / Cryptex
7	Aluminum Cans In the Garbage	Recycling Can Crusher
8	Vacuum Running Over Its Own Cord	Vacuum Cord Catcher / Roller
9	Animal Feed Gets Wet in the Rain	Covered Animal Feeder
10	Cannot See COVID-19 Mask Wearers Facial Expressions	Transparent Face Mask

After about three weeks of work to solve their community-inspired engineering problems by designing and testing 3D printed solutions, STEMTank participants prepared for their final reveals “in the tank” in front of a panel of “Sharks,” subject matter experts from SF, UF, and practicing engineers from industry and government. The final STEMTank product reveal occurred online using a Zoom webinar (rather than a conventional Zoom meeting). Participants, panelists, and organizers joined the main meeting while a spectator gallery, including STEMTank staff and participants’ families watched separately. This structure kept the main reveal room smaller and less intimidating for participants while allowing all stakeholders access to watch the event.

Students’ self-perceived pre/post-self-efficacy was measured via a UF IRB-approved survey administered through Canvas and based upon the New General Self-Efficacy Scale (Chen, Gully, Eden, 2001). Eight questions (listed in the Appendix) were posed with responses on a 5-point Likert scale.

Results

Figures 1-5 show five example products produced by STEMTank participants to solve a perceived problem in their community; all products were produced following the same engineering design sequence and methods described here.

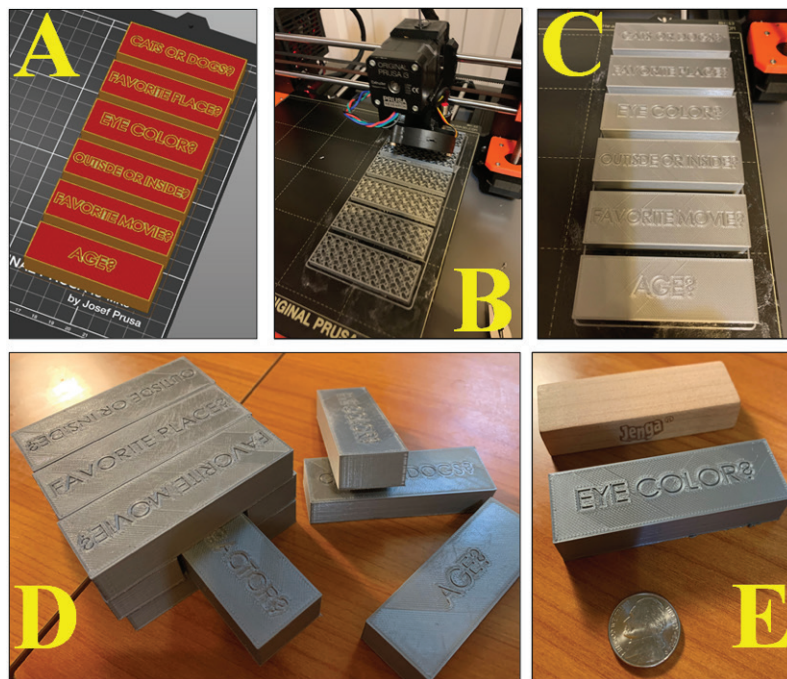


Figure 1: This STEMTank-participant-designed product is a Jenga block ice breaker game that solves the problem of enabling shy people to start conversations in social situations. Each block includes a conversational prompt that a pair of players discuss each time one successfully removes a block from the stack. The design is shown in five stages: A) a digital file in a 3D printer slicer, B) additive manufacturing in-progress on a 3D printer, C) blocks freshly printed and still attached to the 3D print bead, D) a short block stack showing how the game is played, E) dimensional comparison to a Jenga block and a nickel for size perspective.

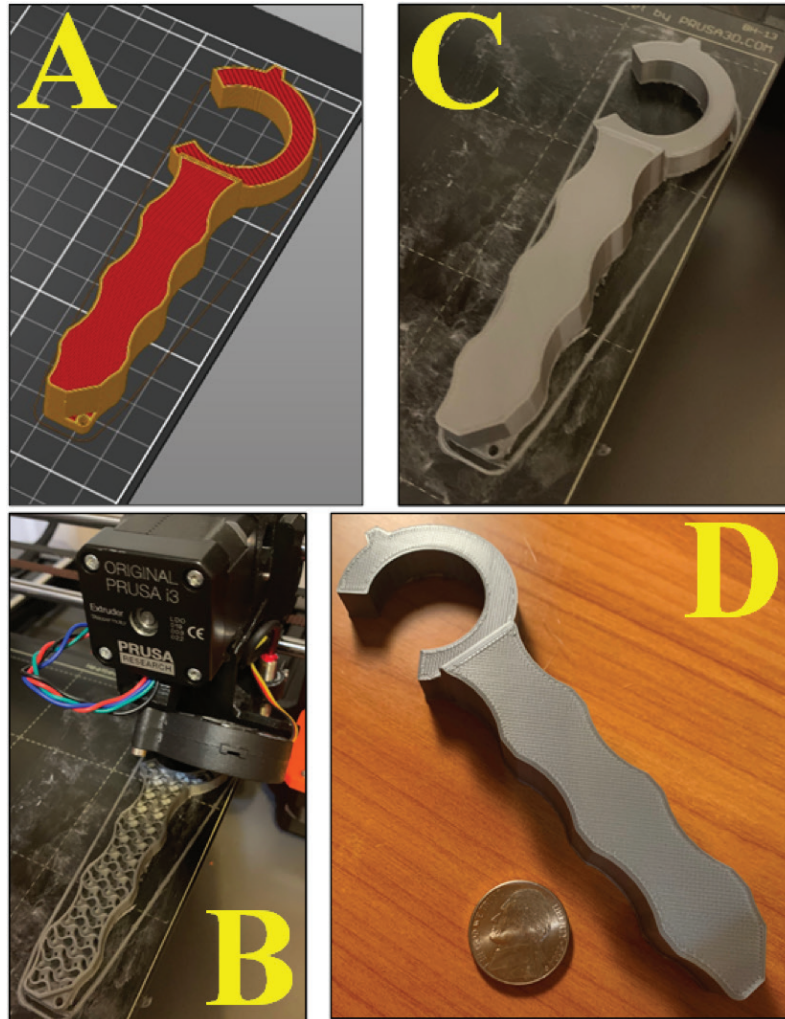


Figure 2: This product is a touchless door opening / closing tool designed by a STEMTank student participant to solve the problem induced by the COVID-19 pandemic of how to access doors in public places without physically touching them with one's hands. The design is shown in four stages: A) a digital file in a 3D printer slicer, B) additive manufacturing in-progress on a 3D printer, C) freshly printed on a 3D print bed, and D) the final product with size comparison to a nickel.

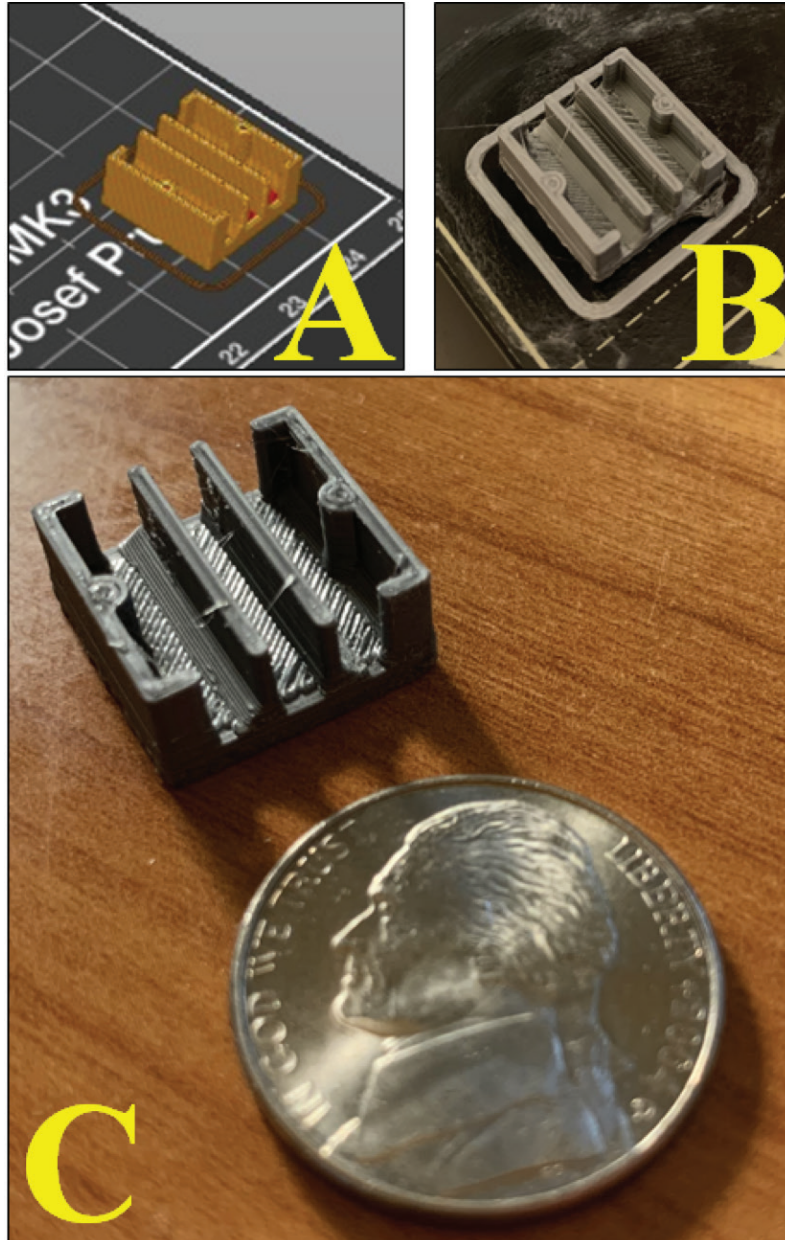


Figure 3: This STEMTank-participant-designed product fishing line clip that prevents stored line from unraveling. The design is shown in three stages: A) a digital file in a 3D printer slicer, B) freshly printed on a 3D print bead [note the brim used to prevent delamination of this small part], and C) the final product with size comparison to a nickel.

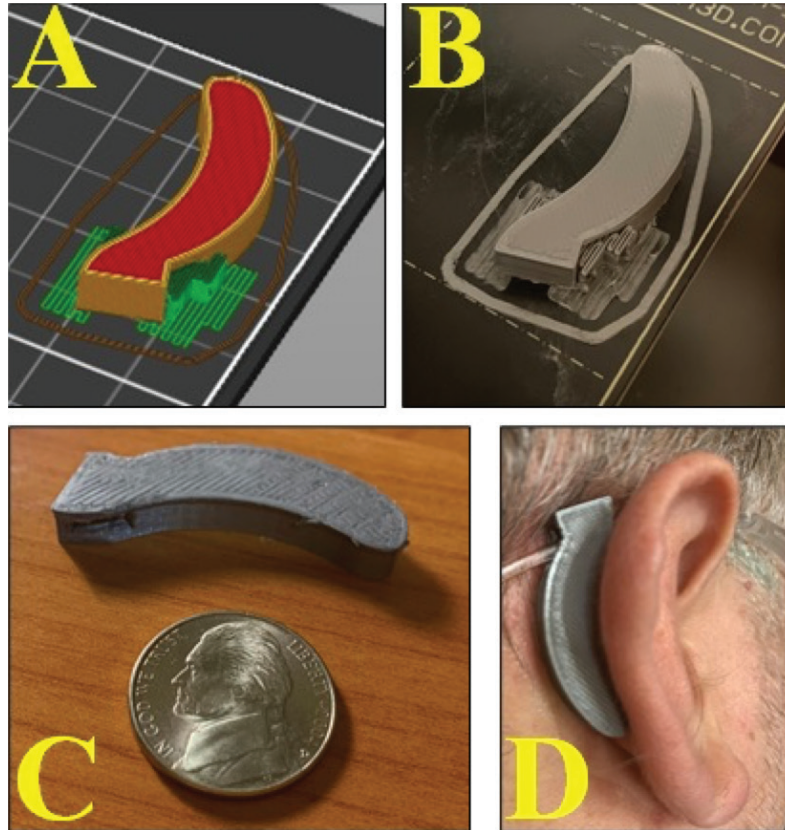


Figure 4: This product, designed by a STEMTank student participant, solves the problem of glasses slipping off a wearer's face by using an over-ear clip that slides onto glasses frames. The design is shown in four stages: A) a digital file in a 3D printer slicer, B) freshly printed [note the support scaffolding] on a 3D print bead, C) released from the print bead with scaffolding removed, and D) in use on a wearer's glasses frame.

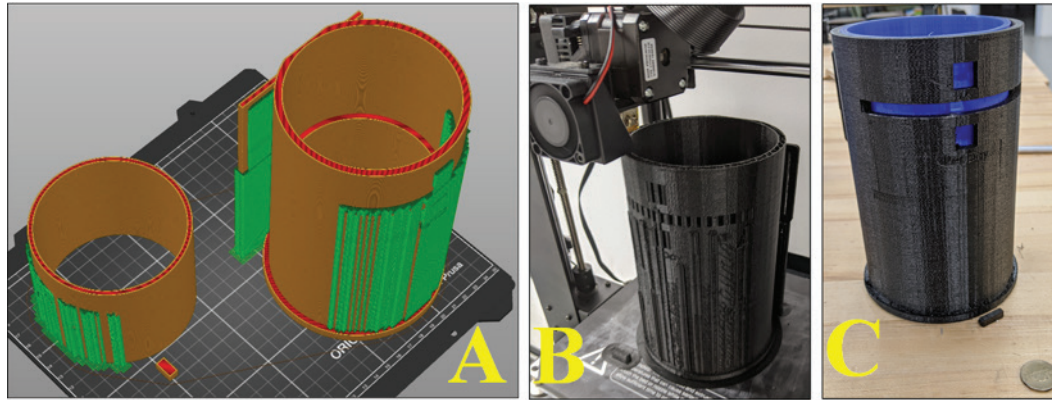


Figure 5: This product is a smart water bottle holder designed by a STEMTank student participant to solve the problem of user chronic dehydration. The bottle holder includes a rotating mechanism that reminds its user how much water has been consumed in a day relative to the amount needed to stave off dehydration. The design is shown in three stages: A) a digital file in a 3D printer slicer, B) additive manufacturing in-progress on a 3D printer, and C) the final product with size comparison to a nickel.

Ten participants ($n = 10$) completed the New General Self-Efficacy Scale survey. To easily visualize and evaluate STEMTank's impact on student participants, averaged pre/post survey data are shown in Figure 7, but this bar chart does not carry statistical significance. Since participants' unique pre/post responses were tracked, survey data were processed using one-tailed Wilcoxon Signed Rank Tests. Data were manually evaluated using Critical Value Tables at 95% confidence intervals (Winner, 2019). Data pairs showing no pre/post-change were removed, reducing n and influencing the Critical Value. The minimum population needed to evaluate data via one-tailed Wilcoxon Signed Rank Tests is $n = 5$. So, Q1, Q2, Q3, Q5, and Q8, where five or more participants reported no pre/post-change could not be evaluated because $n < 5$.

Of the remaining survey questions evaluable via one-tailed Wilcoxon Signed Rank Tests, STEMTank had no influence on Q7 [Do Tasks Well] ($Z = -1.247$, $p < 0.05$), but it did have positive influence on Q4 [Succeed in Endeavors] ($Z = -2.023$, $p < 0.05$) and Q6 [Perform Effectively] ($Z = -2.023$, $p < 0.05$) at $\geq 95\%$ confidence. This induced increase in STEMTank participants' self-reported self-efficiency can be seen on the heat map of Figure 8 as the concentration of green pre/post squares. Despite the small sample size of $n = 10$ and the short interaction time between STEMTank staff and participants, only three weeks, these results show that STEMTank induced statistically measurable improvement in at least two student self-efficacy metrics among participants.

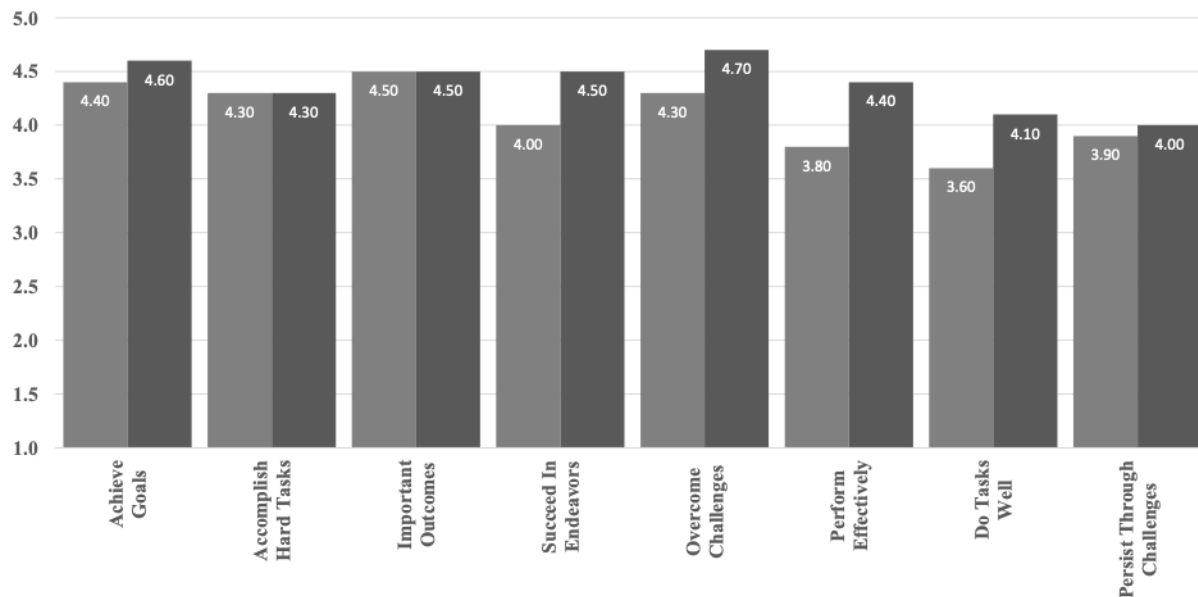


Figure 7: This bar chart representation of pre/post STEMTank participant self-efficacy self-evaluation survey data provides an easy-to-visualize snapshot of the program’s impact. While average pre/post participant-reported self-efficacy metrics improved in response to 6 of 8 questions and stayed the same for the other 2, statistically significant program outcomes cannot be drawn from these data. Figure 8 embodies a more nuanced statistical analysis from which conclusions can be drawn about the program’s impact.

Key	Student	Achieve Goals		Accomplish Hard Tasks		Important Outcomes		Succeed In Endeavors		Overcome Challenges		Perform Effectively		Do Tasks Well		Through Challenges	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Improved	1	4	5	4	4	5	4	3	4	4	5	3	4	4	5	3	3
Neutral	2	5	5	5	5	4	4	4	5	5	5	3	5	3	4	4	4
Regressed	3	4	4	3	3	5	5	3	4	4	4	4	4	3	4	3	3
	4	4	4	4	4	4	4	3	4	4	5	4	5	2	5	4	4
	5	5	5	5	5	5	5	5	5	4	5	4	4	3	3	4	4
	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	7	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	4
	8	5	5	5	4	5	5	5	5	5	5	4	5	5	4	5	5
	9	4	5	4	5	4	5	4	5	4	5	4	5	5	5	4	5
	10	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3

Figure 8: Data ‘heat map’ showing STEMTank participant pre/post self-efficacy survey results.

Discussion

To achieve success in instilling within student participants a broad self-efficacy foundation, STEM-focused college access programs should invoke a triad of positive student responses: 1) Attitude, “I like STEM”; 2) Self-Confidence, “I am good at STEM”; and 3) Resilience, “I can overcome STEM challenges” (Provost et al., 2022). The New General Self-Efficacy Scale survey administered to STEMTank participants measures these metrics with eight interrelated questions. Figure 7 shows that averaged student survey responses did improve from pre-intervention to post-intervention survey administration in six of eight measured metrics. The two remaining

metrics showed no increase or decrease due to participants' STEMTank exposure. However, looking exclusively at the statistically significant self-efficiency increases represented in the heat map of Figure 8, STEM Tank 2020 only successfully positively energized students at $\geq 95\%$ confidence interval in the first two categories: Attitude (as measured by Question 4: "I believe I can succeed at most any endeavor to which I set my mind") and Self-Confidence (as measured by Question 6 "I am confident that I can perform effectively on many different tasks").

While Figure 7 does indicate improvement in the third metric, Resilience, none of the pre/post survey responses to questions measuring Resilience changed enough to be measurable by the Wilcoxon Signed Rank Test at $\geq 95\%$ confidence interval. These include Question 5, "I will be able to successfully overcome many challenges," and Question 8, "Even when things are tough, I can perform quite well."

Why was STEM Tank 2020 unsuccessful in evoking a statistically significant participant self-efficiency response in their Resilience self-evaluation when it had positive impact on other self-efficacy metrics? We believe it is because STEM Tank 2020 did not let participants fail. The safety net provided by STEMTank mentors and teaching staff was unwavering throughout the program, with better than a 1:1 ratio between staff and participants. Participants were repeatedly assured that the successful long-term outcomes of their STEMTank projects were virtually guaranteed due to the high level of support and intervention mentors provided whenever needed. For example, mentors guided students throughout the build by offering frequent check-ins. Behind the scenes, mentors redesigned participants' parts with subtle fixes to make them viable for 3D printing. Staff and faculty continuously watched 3D printer jobs for signs of print failure. They would redesign the part to eliminate the failure mode and reprint it if a failure occurred. This structured and applied mentorship approach eliminated almost all risks of failure participants faced.

The literature states that challenging activities that nonetheless present support structures that are too accommodating have minimal impact on the long-term normalization of failure, and these activities ultimately fail to produce long-term academic persistence (Kapur, 2016). In short, due to the massive amount of mentoring and support available, STEMTank 2020 participants felt cocooned in a safety net. They could not recognize the struggle, challenge, and setback as an integral part of the STEM learning process since the outcomes of their projects were never at risk of failure. This result from the survey data is consistent with anecdotal information from participant interviews after STEMTank 2020 concluded. Said one student participant, "They always had office hours open for us to ask questions, and if we didn't know the answer or solve the problem, a mentor would help us work through it and figure it out." While very high levels of STEM student support and mentorship in college access program has classically been seen as positive, it induced the unintended consequence for STEMTank 2020 of failing to instill grit and resilience in participants.

This outcome is important to consider when formulating the correct design for future STEM-focused college access programs. For example, in later 2021 and 2022 iterations of the STEMTank program, organizers purposely integrated intentional failure activities into the curriculum in which the chance of participant failure is high. Intentional failure activities create opportunities for participants to recognize failure as a normal part of the STEM learning process, especially in engineering design. Integrating these failure activities into later STEMTank curricula evoked a statistically significant participant response in pre/post survey questions linked to the resilience metric that were lacking in 2020.

Given the unique circumstances of COVID-19 forcing STEMTank to rapidly transform for all-online delivery, examples in the literature of similar engineering programs for high schoolers are spartan. When such programs do exist and are reported, data collection is often absent (Bergsman & Chudler, 2021). So, there exist few examples of similar high school summer STEM programs that made a rapid online transition and collected data to evaluate their effectiveness. Moreover, dissimilarities in the types of data collected across programs make comparison challenging. Nonetheless, two such programs were identified and evaluated in comparison to STEMTank 2020. First is the 2020 Additive Manufacturing & 3D Printing (AM&3DP) virtual summer camp for high school and early-college STEM students centered in Guilford County, North Carolina (Megri et al, 2021). Second is the 2021 Aerospace Engineering (AE) Virtual Summer Camp for high school students run by North Carolina State University (Hughes & Ewere, 2022).

AM&3DP camp participants completed post-experience self-assessment surveys evaluated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) as shown in Table 2. There were n = 12 survey respondents. No pre-experience survey was administered, and questions focused on effectiveness of the program, not student self-efficacy changes induced by program exposure. So, AM&3DP program effectiveness cannot be quantified statistically as was done here with STEMTank.

Student Self-Assessment of Course Learning Objectives	[5]	[4]	[3]	[2]	[1]	Ave.
Attitude: "I like STEM"						
How do you feel overall about virtual summer camp?	5	5	1	1	0	4.17
Do you enjoy learning virtually?	4	4	4	0	0	4.00
Self-Confidence: "I am good at STEM"						
How effective has virtual learning been for you?	4	6	2	0	0	4.17
How well could you manage time while learning remotely?	6	5	1	0	0	4.42
Resilience: "I can overcome STEM challenges"						
How stressful is distance learning during the COVID-19 pandemic?	5	5	2	0	0	4.25
How helpful are your teachers while studying virtually?*	6	6	0	0	0	4.50

Table 2: Student survey results from the Mergi et al AM STEM Camp (n = 12) arranged to correspond with the triad of positive participant responses.

*This row's average is incorrectly reported as 4.33 in the original.

Nonetheless, the AM&3DP questions correspond roughly to the triad of positive STEM participant responses: 1) Attitude, "I like STEM"; 2) Self-Confidence, "I am good at STEM"; and 3) Resilience, "I can overcome STEM challenges". Table 2 subjectively arranges AM&3DP survey questions into triad categories. When viewed in this framework, AM&3DP summer program participants self-reported in aggregate Agreement (4 or stronger) in all objectives achievement. This outcome suggests participants were ultimately successful in completing tasks assigned, but they also experienced hardships, setbacks, and were mentored to normalize these failures to build grit. The authors describe participants "performing multiple relatively advanced designs and projects proposed by the instructors with an increasing level of difficulty." The conclusion of structured and well-balanced failure junctures in the AM&3DP camp is reinforced by resoundingly positive exit surveys of participants and parents with n = 184 responses: 98.9% rated both the instructor's content and visuals as Good or Outstanding, 97.8% rated the instructor's presentations as Good or Outstanding, and 94.6% rated the camp's organization as Good or Outstanding.

In a second example, a North Carolina State University AE high school camp shifted all-online in summer 2021 in response to COVID-19 (Hughes & Ewere, 2022). N =36 participants responded to a short post-camp survey scored on a 4-point Likert scale (4 = Strongly Agree, 1 = Strongly Disagree). Without pre/post survey data, the AE program's effectiveness cannot be quantified statistically. Nonetheless, 61% of exit survey respondents strongly agreed and 33% agreed that they wanted to attend a follow-on camp with only 6% disagreeing. This result corresponds in aggregate to 3.55 on a 4-point Likert scale in response to whether participants wish to attend again. In triad of positive participant response parlance, this response loosely corresponds to a "I like STEM" (Attitude) participant response. In the AE camp survey, no question corresponded to "I am good at STEM" (Self-Confidence). Responding to whether they would attend a virtual camp again, 36% of participants strongly agreed, 36% agreed, 22% disagreed, and 6% strongly disagreed (equal in aggregate to 2.55 on a 4-point Likert scale). In triad parlance, this response loosely corresponds to a weak "I can overcome STEM challenges" (Resilience) participant sentiment consistent with overzealous failure juncture elimination by instructors. And in fact, this paper contains descriptions of activity over-scaffolding: "input from the camp counselors and the lead counselor were also available to students **at all times.**" As with STEMTank 2020, the AE camp may not have given students enough independence in open-ended problem solving to normalize failure and build resilience; hence lower participant response results on the corresponding grit-related survey question.

Conclusions & Next Steps

STEMTank is an engineering design summer camp for high school students from socioeconomically disadvantaged North-Central Florida regions. The program was created and run through a novel collaboration between the SF TRIO Program and the UF MAE Department. STEMTank borrowed elements from the famous ‘Shark Tank’ television show, challenged participants to develop products to solve problems in their communities, and showcased their products “In The Tank” to a panel of “Sharks,” who were subject matter experts from academia, industry, and government. The 2020 summer STEMTank program, originally intended to be delivered in person had to rapidly transition to an all-online delivery format owing to the COVID-19 pandemic. This paper described the utilization of personnel, technology, equipment, and logistics enabling organizers to successfully deliver and conduct STEMTank entirely online. In a post-pandemic world where remote instruction is no longer compulsory, best practices learned from STEMTank 2020 could be implemented by similar programs to successfully engage students from a wider geographical area than would otherwise be possible in-person and/or offer college engagement programs at a reduced cost by eliminating the need for brick-and-mortar infrastructure and participant travel to a distant college site.

The STEMTank program’s impact on participant self-efficacy was evaluated using a pre/post-New General Self-Efficacy Scale survey conducted online through the Canvas LMS. One-tailed Wilcoxon Signed Rank tests reveal statistical improvement at $\geq 95\%$ confidence in two STEMTank participant self-reported efficacy metrics: 1) ability to perform challenging tasks well and 2) success in endeavors to which they set their minds. However, STEM-focused college access programs must invoke a triad of positive participant responses to provide a multi-faceted pathway to student success: 1) Attitude, “I like STEM”; 2) Self-Confidence, “I am good at STEM”; and 3) Resilience, “I can overcome STEM challenges.” STEM Tank 2020 successfully improved participants’ self-perception of Attitude and Self-Confidence. However, it did not impact self-perception of Reliance. It is believed that the lack of Resilience growth among participants arose from an overly-protective safety net embedded into STEMTank that did not let participants experience failure. The program was designed with mentors who were too available and helpful and intervened too soon when participants faced challenges. This high level of support seemed positive and needed when it was happening, especially against the backdrop of 1) all the anxiety experienced by students during the COVID-19 pandemic and 2) the uncertainty of transitioning STEMTank from in-person to online (Rogers, 2020). However, the impact of this overly generous safety net was that participants did not experience the feeling of failure. They, therefore, missed out on opportunities to normalize and discuss failure and ultimately recognize it as an integral part of STEM learning and the engineering design process. Complementary results were observed in other high school STEM camps that rapidly transitioned online in response to COVID-19. A 2020 AM&3DP virtual summer camp in Guilford County, NC evoked the triad of positive STEM participant responses by exposing students to elaborate and open-ended design challenges with just the right amount of staff support so participant failure could be experienced and normalized. In contrast, a North Carolina State University AE camp made mentors too readily available, and the resulting over scaffolded projects likely led to lower student interest in attending the camp if it were offered online again.

Finalized STEMTank participant designs were uploaded to Thingiverse.com with Creative Commons attribution allowing the global Maker community to use and remix them. The Mentor virtual office hours and hobby-scale 3D printer farm created to transition STEMTank online proved so successful and beneficial that these elements will continue to anchor the STEMTank program after in-person instruction is reinstated at UF and SF. In 2020, STEMTank was recognized by the Association of Florida Colleges Workforce Adult & Continuing Education Commission (WACE) with a 1st Place Exemplary Practice Award. In 2022, STEMTank was offered for a third consecutive summer to high schoolers from socioeconomically disadvantaged North-Central Florida regions. The 2022 program’s focus was a design, build, fly, and analyze open-ended rocket project adopted from a curriculum previously used with success for 9th and 10th graders (Traum & Karackattu 2019b).

Acknowledgements

We gratefully acknowledge Educational Talent Search, a federally funded Department of Education grant (Award P044A170936) that provides college access information and assistance to first-generation, low-income students across North Central Florida.

References

- Adame, D. (2020) "Another Revenue Hit for Colleges: Canceled Summer Camps," NPR Special Series – The Coronavirus Crisis. <https://www.npr.org/2020/07/16/891335534/another-revenue-hit-for-colleges-cancelled-summer-camps>
- Bergsman, K.C., Chudler, E.H. (2021) "Adapting a Neural Engineering Summer Camp for High School Students to a Fully Online Experience," *Biomedical Engineering Education*, Volume 1, pp. 37–42.
- Chen, G., Gully, S. M., Eden, D. (2001) "Validation of a new general self-efficacy scale," *Organizational Research Methods*, Volume 4, Number 1, pp. 62-83.
- Council for Opportunity in Education — Updates. (2019). https://coenet.org/updates_121619.shtml
- Gaikwad, D. S., Niemi, S. R., Traum, M. J. (2022) "Hurricane- & Pandemic-Resilient Instructional Engineering Labs Enabled Via Portable Kits," *Proceedings of the American Society for Engineering Education Southeastern Section Conference*, Charleston, SC, USA, March 13-15.
- Hughes, M., Ewere, F. (2022) "Building a 100% Online Aerospace Engineering Virtual Summer Camp for High School Students," *Proceedings of the American Society for Engineering Education Southeastern Section Conference*, Charleston, SC, USA, March 13-15.
- Kapur, M. (2016). "Examining Productive Failure, Productive Success, Unproductive Failure, and Unproductive Success in Learning," *Educational Psychologist*, Volume 51, Number 2, pp. 289–299.
- Lane, T. B., Morgan, K., & Lopez, M. M. (2020). "A Bridge Between High School and College: A Case Study of a STEM Intervention Program Enhancing College Readiness Among Underserved Students," *Journal of College Student Retention: Research, Theory & Practice*, Volume 22, Number 1, pp. 155–179.
- Megri, A. C., Hamoush, S., Megri, I. Z., & Yu, Y. (2021) "Advanced Manufacturing Online STEM Education Pipeline for Early-College and High School Students," *Journal of Online Engineering Education*, Volume 12, Number 2, pp. 1-6.
- Provost, A. L., Doher, J., Traum, M. J. (2022) "Valuing Failure: Successful Experiential STEM Learning Projects Boost Self-confidence while Failure Improves Grit," Chapter in Mindset Pathways to STEM Success – A Compilation of Tools and Strategies for Higher Education to Boost Learning in STEM, Florida-Caribbean Louis Stokes Regional Center of Excellence, Gainesville, FL, USA.
- Rogers, L. E., Stubbs, K. J., Thomas, N. A., Niemi, S. R., Rubiano, A., Traum, M. J. (2020) "Transitioning Oral Presentations Online in Large-Enrollment Capstone Design Courses Increases Panelist Participation," *Advances in Engineering Education*, Volume 8, Number 4.
- Starks, J., Hendrickson, F. R., Hadi, F., Traum, M. J. (2017) "Miniaturized Inexpensive Hands-On Fluid Mechanics Laboratory Kits for Remote On-Line Learning," *Proceedings of the 124th American Society for Engineering Education Conference and Exposition*, Columbus, OH, USA June 25 – 28.
- Traum, M. J., Flewellen, L.M. Legare, E. L. (2018) "College-Level Multi-Step Energy Conversion Efficiency Experiments Should be Decomposed for High School Deployment." *Proceedings of the American Society for Engineering Education Southeastern Section Conference*, Daytona Beach, FL, USA, March 4-6.
- Traum, M. J., Hadi, F. (2019) "A Miniaturized Circular Hydraulic Jump for Remote On-Line Fluid Mechanics Instruction," *Journal of Online Engineering Education*, Volume 10, Number. 1, Article 3.

- Traum, M. J., Karackattu. S. L. (2019a) “The Pencil-Top Fidget: Reinventing Shop (Metal Drilling and Tapping) in High School Science Classrooms.” *Proceedings of the 126th Annual American Society for Engineering Education Conference and Exposition*, Tampa, FL, USA, June 16-19.
- Traum, M. J., Karackattu. S. L. (2019b) “It’s Nothing Like October Sky!/: Spurring 9th & 10th Graders to Think Like Engineers via Rockets Custom-Designed for Maximum Altitude.” *Proceedings of the 126th Annual American Society for Engineering Education Conference and Exposition*, Tampa, FL, USA, June 16-19.
- Traum, M. J., Niemi, S. R., Griffis, M. W., Thomas, N. A., Sawyer, W. G. (2020) “Implementing an Effective Large-Enrollment Engineering Capstone Design-and-Build Program,” *Proceedings of the 2020 American Society for Engineering Education Southeastern Section Conference*, Auburn, AL, USA, March 8-10.
- Traum, M. J., Selvi, E., Aponte, S. A., Bayran, C-D. R., Diaz Sanchez, D. J., Lyles, K. J., Norwood, D. D., Pruitt, J. R. Scroggins L. J. (2018) “Developing Engineering Education Products via Project Ownership Oriented Learning in an Undergraduate Mechanics of Materials Course.” *Proceedings of the American Society for Engineering Education Southeastern Section Conference*, Daytona Beach, FL, USA, March 4-6.
- Traum, M. J., Selvi, E., Hanlon, A. (2019) “Evaluation of DEEP POOL on Student Learning Outcomes Attainment,” *Proceedings of the 126th Annual American Society for Engineering Education (ASEE) Conference and Exposition*, Tampa, FL, USA, June 16-19.
- Winner, L. (2019) “Critical Values of the Wilcoxon Signed Ranks Test.” University of Florida, Gainesville, FL: Statics Department Web Site. URL: http://users.stat.ufl.edu/~winner/tables/wilcox_signrank.pdf

Appendix

STEMTank participants were asked the following eight pre/post self-efficacy survey questions; the abbreviated Figure 8 code for each follows [in brackets]:

- Q1.** I will be able to achieve most of the goals that I set for myself [Achieve Goals]
- Q2.** When facing difficult tasks, I am certain that I will accomplish them [Accomplish Hard Tasks]
- Q3.** I think that I can obtain outcomes that are important to me. [Important Outcomes]
- Q4.** I believe I can succeed at most any endeavor to which I set my mind. [Succeed in Endeavors]
- Q5.** I will be able to successfully overcome many challenges [Overcome Challenges]
- Q6.** I am confident that I can perform effectively on many different tasks [Perform Effectively]
- Q7.** Compared to other people, I can do most tasks very well. [Do Tasks well]
- Q8.** Even when things are tough, I can perform quite well. [Persist Through Challenges]

TRIO Works: The Impact of Student Support Services on the Career Self-Efficacy of First-generation Students

Author:

James K. Winfield

Southern New Hampshire University

j.winfield@snhu.edu

Abstract

This action research study analyzed career and major choice perceptions of low-income first-generation college students or FGCS using career self-efficacy as the primary metric. This study used a mixed-methods methodology to gain a deeper understanding of barriers and factors that impact students' career and major decisions. Using a pretest-posttest design, participants' self-efficacy levels were assessed using the Career Decision Self-Efficacy Assessment - Short Form (CDSE-SF). After analyzing the students' performance in the five sub-scales of this instrument, these data were used to inform one-on-one interviews and focus groups. All participants were first-year students enrolled in a federally funded TRIO Student Support Services program. This study aimed to examine the impact of TRIO SSS Programs on FGCS major and career decisions and their exploration process. Findings from the study support that financial support, supportive advising, and mental health resources are vital to provide effective support for FGCS as they pursue and achieve their career ambitions.

Keywords: first-generation college students, career self-efficacy, TRIO, action research, student support services

Acknowledgments

I would like to show gratitude to all of the TRIO Programs. Since 1965 these programs have been at the forefront of the access and success of first-generation college students. As this was originally dissertation research, I am grateful to my advisor Dr. Yasha Becton and the faculty community, who supported my research interests, Drs. David Martinez, Terrance McAdoo, and Leigh D'Amico. Finally, I thank my colleagues in the Black First-gen Collective along with my dear friend and mentor, Dr. LaTonya Rease-Miles, for her motivation and encouragement to write more and share this work.

TRIO works: The impact of student support services on the career self efficacy of first-generation students

According to a 2019 report from The Pell Institute for the Study of Opportunity in Higher Education, the percentage of “students with the potential to be first-generation college students” sits at 60% across all races (p. 22). These data also show that first-generation college students (FGCS) comprise about a third of all students in higher education, and only 27 percent will earn a degree within four years (Cahalan et al., 2019). Manzoni and Streib (2018) further affirm that the perception of a four-year degree is an *equalizer* for students to gain access to higher income levels and professional opportunities. These data align with the degree completion numbers among FGCS versus their continuing generation peers, which informs a call to action among higher education professionals to create and support efforts for timely graduation and career attainment for this population (Whitley et al., 2018).

Federally funded TRIO programs that were established by the Higher Education Act of 1965 have been paramount to the conversation and evolution of access to FGCS, specifically those who are low-income as defined by their yearly household income (U.S. Department of Education, n.d.). Originally from the author’s dissertation research study, this study implored a mixed-methods action research methodology to analyze the levels of self-efficacy of students enrolled in a TRIO SSS program.

This research instituted theoretical frameworks to identify social and cultural factors influencing FGCS and college progression. Ward et al. (2012) affirms that building self-efficacy is an essential factor in the success of FGCS. Hence, Bandura’s (1977) foundational work on self-efficacy has a place in the theoretical frameworks of this study. Lent et al. (1994) Social Cognitive Career Theory accompanies the theoretical frameworks for understanding FGCS in this context of career exploration and decision making.

Social Cognitive Career Theory or SCCT and Bandura’s Self-efficacy serve as theoretical grounding for this research study by recognizing self-efficacy beliefs and the outcomes and expectations of those beliefs. SCCT is a core concept to support how beliefs and lived experiences inform career development and self-efficacy. Bandura (1977) posits that people’s personalities and behaviors can be understood by unpacking one’s lived experiences in alignment with conventional developmental trends.

As this is an action-based research study, the goal was to identify a population’s need and a solution to support that need (Herr & Anderson, 2015). Therefore, the TRIO SSS program’s impact on the students served as the intervention to frame the action to resolve the gap in access and support that may exist because of the research findings.

Method

Research Questions

The following research questions were identified to explore career development efforts in collegiate TRIO Programs that influence the process of career decision-making. The development of these questions revolved around the generative idea that the population being studied are experts in the environmental factors that impact their decisions (Herr & Anderson, 2015).

Research Question: How does the TRIO Student Support Services Program's career development component equip students to better understand their skills and abilities related to their potential careers?

- **Sub-question 1:** How well does the TRIO Student Support Services Program consider the cultural and social factors when providing advisement and career counseling?
- **Sub-question 2:** Is there any difference in outcomes based on race and ethnicity?

Procedure

The research process for this study consisted of four parts. The first was the Career Decision Self-Efficacy Scale Short Form or CDSE-SF administered to the students enrolled in the TRIO—SSS program. The second part of the process included in-depth one-on-one interviews with four participants. The third part of the process included a post-test of the CDSE-SF to gauge student perceptions after participating in the study and post-intervention. Finally, the study concluded with a focus group to reflect on and identify progress areas.

Career Decision Self-Efficacy Scale (CDSE)

This study implored using the Career Decision Self-Efficacy Scale Short Form (CDSE-SF). This instrument was provided to students to gauge their career self-efficacy while using a vetted tool to provide data organized in five sub-scales outlined in the assessment. These sub-scales are (1) self-appraisal, (2) occupational information, (3) goal selection, (4) planning, and (5) problem-solving (Betz & Taylor, 2012). The scales provided quantitative data on a five-point mean scale to show performance in each sub-scale. Capturing these data was essential to prioritize intervention strategies that use existing services and identify those that need to be evaluated to better support FGCS throughout their career exploration process.

Participants and Setting

The study participants were first-year students enrolled in the TRIO – SSS program at a large state four-year research institution with over 27,000 students in fall 2019. Whites are at roughly 20,400, Black or African Americans are about 2,200, Hispanic are around 1,300, and Asian are a little over 900. The gender breakdown of the institution is forty-four percent male and fifty-one percent female among undergraduates.

As indicated on their FAFSA submissions and status as TRIO students, they are also in-state residents and of low-socioeconomic standing. This particular TRIO-SSS program enrolls approximately 120 students per academic year and has a first to second-year retention rate of 89%. Although from the same group, the respect for the intersectionality of this population was prioritized to frame this study. Factors such as familial culture, values, race, and ethnicity are all vital contributors to students' experiences navigating college. These factors were all considered during each phase of the research process.

Table 1 *Demographic Statistics of Pretest & Post Test*

Gender		
	Pre and Posttest Demographics	
Man	3	27.27%
Woman	8	72.7%
Race/Ethnicity		
Asian	-	-
Black	7	63.63%
Hispanic/Latinx	1	9.09%
White	3	27.27%
Age		
<i>*Participants provided numeric values</i>		
18 years	3	27.27%
19 years old	8	72.72%

Four TRIO-SSS students participated in this research’s interview and focus group portion. Below are descriptions of these students.

Sam. A Black man and a biology pre-medicine track student. In addition to being FGCS, Sam is also first-generation and one of two sons of Jamaican immigrants. He values his family’s support and aims to become a cardiovascular surgeon.

America. A Latinx woman and is a political science major. America is the daughter of Mexican immigrants. A self-described go-getter America has a passion for policy, history, and debate. She aspires to earn a doctorate and work in higher education as a professor teaching political science.

Monica. A Black woman and is a broadcast journalism major. She hopes to enhance the image of women of color in the entertainment industry. She is an avid social media user to develop her brand and aspires to become a TV or radio host.

Misty. A Black woman and is a biology pre-medicine track major. She values positivity and uplifting images of Black women in the healthcare field. Misty has a strong interest in neuroscience and degenerative diseases and plans to pursue her M.D. and specialize in one of those areas of interest.

Findings

In the first step of this research, the online version of the CDSE-SF was administered to first-year students enrolled in the TRIO SSS program. A random sample of 50 students enrolled in this program received the CDSE during the spring semester. These 50 students were out of 117 students. These students were also previously enrolled in the institution's first-year seminar course during the fall semester; this critical component ensured uniformity in the students' experiences. Out of the 50 identified students invited to participate, the pretest administration of the CDSE-SF yielded a participation rate of 32 percent (N=16). The post-test responses were 22 percent (N=11) of those participants. For consistency, the 11 (22%) students who participated in the pre and post-test were used to compare the CDSE-SF data (See Appendix A for raw pre and post-test data table).

As self-efficacy is domain-specific, the five sub-areas of the CDSE-SF provided a breakdown of perceived levels of efficacy based on the five measurements. The instrument provided means for each participant, both domain scales and total. These data were further extrapolated by running the standard deviation of domain scales and identifying differences in the respective areas.

Table 2 *Pre and Posttest CDSE-SF Means for TRIO-SSS Students*

Scale	Pretest Mean (N=11)	Pretest Standard Deviation	Posttest Mean (N=11)	Pretest Standard Deviation	Difference Between Pre and Post
Self-Appraisal	3.89	0.71	4.11	0.60	.22
Occupational Information	3.84	0.70	4.05	0.62	.21
Goal Selection	4.02	0.74	4.27	0.60	.25
Planning	3.75	0.61	4.16	0.50	.41
Problem Solving	3.80	0.58	3.98	0.79	.18
Total CDSE	3.87	0.60	4.12	0.55	

Note. CDSE-SF scale scores represent average scores and range from 0 (No Confidence) to 5 (Complete Confidence). These equate to 1-5 means scales.

Per the data in the five sub-scales, students showed the highest level of career self-efficacy within the domain scale of *goal selection* with a mean of 4.02 (pretest) and 4.27 (post-test). The second highest was *planning* with a 4.16 in the post-test, and the third highest was *self-appraisal* in the post-test. These data assert that students in the SSS program have a strong sense of their career trajectory and are affirmed in their abilities to succeed in their respective fields. The lowest mean score in the pretest was in *planning* with a 3.75 and a post-test score of 3.98.

Exploration of these data also found that the *planning* category saw the highest growth, increasing by 0.41 from pre to post-test. This uptick in the *planning* ability is further outlined in qualitative narratives as students shared their intended pathways and next steps in their careers. *Problem solving* saw the smallest increase with 0.18 from pre to post-test; this may be associated with the students still in their first year of college and minimal encounters with career-oriented obstacles.

Table 3a Pre and Posttest CDSE-SF Means Comparison Data by Race

CDSE-SF Means Comparison									
CDSE-SF Scales	Self-Appraisal		Difference	Occupational Information		Difference	Goal Selection		Difference
	Pre	Post		Pre	Post		Pre	Post	
Race - Black	4.00	4.31	.31	4.00	4.17	.17	4.29	4.46	.17
Race - White	3.73	3.73	0	3.80	3.80	0	3.67	3.73	.06

Table 3b Pre and Posttest CDSE-SF Means Comparison Data by Race

CDSE-SF Means Comparison									
CDSE-SF Scales	Planning		Difference	Problem Solving		Difference	Total Score		Difference
	Pre	Post		Pre	Post		Pre	Post	
Race - Black	3.74	4.26	.52	3.77	3.97	.20	3.99	4.23	.24
Race - White	3.80	3.80	0	3.93	3.73	-0.2	3.77	3.77	0

Per the race comparison chart of CDSE-SF scores among the Black FGCS students surveyed, these students demonstrated higher levels of self-efficacy with a 4.23 mean (Black) and 3.77 mean (White). In further analysis of the means comparison, White participants experienced a significant decrease of 0.20 in *problem solving* its

mean from pre to post-test. These data were interesting as this was the only decrease in mean score among both races of participants. Among White participants who participated in the CDSE-SF minimal increase was seen in goal selection which increased by 0.6. The remaining sub-scales provided static data from the pre and post-test. A point of inquiry is to unpack why *self-appraisal*, *occupational information*, and *planning* saw no increase for this group.

Among Black FGCS participants, the most notable gains were in the *planning* sub-scale, with an increase of 0.52 going from a 3.74 mean to a 4.26 mean. The second sub-scale with high yields was *self-appraisal* (0.31), and the third was *problem solving* (0.20). *Occupational information* and *goal selection* were tied, both increasing by 0.17. Although these sub-scales saw the smallest increase, they were still very high as they were over a 4.00 mean in both pre and post-test. Overall, in comparison to other sub-scales, *problem solving* was the least in mean among Black participants, as the overall numbers, this category showed the lowest performance.

To answer research sub-question 2: Is there any difference in outcomes based on race and ethnicity? The data shows a difference among Black and White participants, with Black FGCS having an overall higher level of career self-efficacy. Tables 3a and 3b outline findings and race-specific data for the TRIO – SSS participants. The findings narratives offer further insight into the quantitative metrics provided by the CDSE-SF instrument.

Pretest Findings

Black FGCS were shown to have a higher career self-efficacy with a mean of 3.99 versus the 3.77 of their White peers. Black FGCS scored lower in the *planning* domain with a 3.74 mean versus their White peers, who held a 3.80 mean. The *goal selection* domain showed the highest difference among White participants, a standard deviation of 1.15 (3.67 mean) compared to the .46 (4.49 mean) among the Black participants. Black FGCS participants saw three domains with means of 4.00 and up, *self-appraisal* (4.00), *occupational information* (4.00), and goal selection (4.29).

Posttest Findings

The data shows a consistent yet significant difference among Black FGCS in their total scores of a 4.23 mean versus the 3.77 of their White peers in the post-test phase. Also, during the pretest. There was a demonstrated increase in *problem solving* among Black FGCS with a standard deviation of 1.10 (3.97 mean) and .71 (3.97 mean) among the Black participants. During this data collection phase, the domain of *goal selection* continued to show the highest gains among Black FGCS with a mean of 4.46. White participants scored a 3.73 in this domain, which was also mirrored in the *appraisal* and *problem-solving* domain scales.

Research sub-question 2: In response to research sub-question one, is there any difference in outcomes based on race and ethnicity? Quantitative findings from this research show that, among this group of FGCS, there is a difference in career self-efficacy levels based on race. Black FGCS showed higher overall levels in both pre and post-test dissemination of the CDSE-SF (as outlined in Tables 3a and 3b). In addition, Black FGCS consistently held higher means in all domains during the post-test.

Table 4 Total CDSE-SF Scores by Race

<i>CDSE-SF Total Score by Race</i>		
<i>Race</i>	<i>Pretest</i>	<i>Posttest</i>
<i>Black</i>	3.99	4.23
<i>White</i>	3.77	3.77

Interview Themes

The second tier of the analysis process included interviews with four TRIO-SSS students who participated in the CDSE-SF assessment pre and post-test. These students were invited to participate in 30 to 40-minute virtual interview sessions and asked eight questions framed to explore further career self-efficacy, support systems, and personal perspectives (See Appendix B for questions). These sessions were facilitated via Zoom, with the auto-generated transcription feature enabled. The data were further reviewed and synced up to clean up inconsistencies due to transcription errors.

The themes were then extracted based on frequency and substance related to identified research questions. Finally, triangulating interview notes with the deductive coding process sought to identify additional contextual factors that further illuminated the barriers, cultures, and unique perspectives regarding FGCS experiences in achieving career self-efficacy while in the TRIO – SSS Program. Five themes emerged due to this process and are provided in Figure 1.

Figure 1 - Interview Themes



Note. Figure 1 describes the interview themes that emerged during the one-on-one sessions with participants.

Theme 1: TRIO Program Support

Support from the TRIO staff came up consistently during the individual sessions and focus groups. This support consists of professional staff, advisers, and trained student mentors who are upperclassmen in the SSS program. These students are paired with all first-year SSS students. The perspectives below show these support systems' impact on the student participants.

Subtheme 1.1 TRIO Staff. Below are the comments made regarding the support that TRIO professional staff have provided to the SSS students. America shares the support provided by the TRIO staff along with how it has assisted her in developing connections within her aspired career.

They are really helpful ... I'm glad...they hold us accountable - so they know that we're on the right path to find a career after to college. [In my] career process [SSS] has been awesome, Dr. Callis especially, [he] sends so many emails [where] he offers...many opportunities [to] look over your resume...or try to connect us with...McNair scholars that are in PhD programs.

That's how I was able to find that one political science student, and...it really does help a lot, because...they want you to succeed. (America)

Subtheme 1.2: Peer Mentors. Having a peer mentor who has familiar experiences and identifies with the FGCS circumstances has enriched their college experience.

She's really helped me out...to get in contact with people who have been in the place that I have been. So, the classes I'm struggling [in] she's helped to connect me to...her friends who've taken the courses and ... [with] the Student Success Center [so] that [I] can go there and get a tutor to get assistance. (Sam)

Monica also shares her feedback on how the SSS mentorship program has positively had an impact on navigating her college experience.

[I] like [that] you have...a mentor to kind of keep you on track [and SSS has] you...to meet [with] this person every month. They are basically [there to] see how you are mentally and the reason I love it so much is because the person I was paired with... it's kind of like a friendship that we. I feel comfortable [with her] I can just...tell her how it's really going and...she gives me tips and if there's a problem...I can talk to [her]. (Monica)

Theme 2: Financial Support

A topic that emerged consistently among all interview participants was the financial assistance provided to students enrolled in the program. As TRIO-SSS participants, students addressed that the tuition supplement and reduction provided to students enrolled in the program proved to be of significant benefit as the stressors of finances were minimized.

Monica shared her thoughts and how she was grateful for the financial support provided by the TRIO – SSS Program.

[SSS] really is a good program. [That's] why I'm so... glad that I am a part of this at such a big university because I don't know about ...other students but I don't have the money. I don't have the support for a school like this, so they definitely helped me. (Monica)

America offered an additional perspective on the impact of the tuition supplement.

Right now, everything's basically covered and it really does help [being in] SSS with the reduced tuition at least for the...first-year, because like I really do want to get a four year degree. (America)

These perspectives show just how significant the financial supplements provided by the TRIO – SSS Program were for the students. Not worrying about this common stressor allowed them to focus more on their academics and cocurricular activities versus managing the uncertainty of *how to finance their education*. Having that stress could result in an increased need to work, which could lead to working multiple jobs or taking on longer workdays.

Theme 3: Identity Intersection

A strong theme that emerged from the discussion was the intersection of identities and their impact on going to college and career decisions. The areas that emerged included the influences of their country of origin, race, and gender.

Subtheme 3.1: First-generation Citizenship. Two participants confided that they were the children of immigrants. This identity based on origin played a vital role in the responsibility that they felt to pursue higher education. This further substantiates the idea of *first-gen plus*, which accounts for the various factors and

identity subsets that FGCS identify with. (Wesaw et al., 2018). In the case of these students, their identity is compounded by being both first-generation American citizens and first-generation college students. America and Sam shared their insights on being both the children of immigrants and being FGCS:

My brother went to a technical school, but he dropped out because he's under DACA [Deferred Action for Childhood Arrivals], and we had to pay out of state tuition just for him to go to tech[nical school] and we can't afford it. So, I was really scared because... I want[ed] to go to college, but at the same time like I want[ed] to go to a four year, and we didn't know...if I would have that much money...but it worked out. (America)

America's perspective framed her initial reservations about pursuing higher education as her brother was classified as one of the "Dreamers" under the DACA legislation. The financial security that America acquired would not have been possible without her being a natural-born citizen and the tuition supplements provided by the institution and SSS program. Sam also shares his experience being a child of immigrants while being FGCS.

My parents were immigrants, so we moved here from Jamaica. [My parents]...gave up everything that they had down there, so that me and my brother [could]...pursue higher education here, so a big thing in my family was education. [My mom's] siblings and my dad's siblings are...in higher fields, they are...doctors [and] engineers. My mom and dad decided that, since it is such a big part...go somewhere where we could go further in it. (Sam)

These narratives uncovered a solid responsibility to achieve that is common among FGCS who are immigrants or born of immigrants (Covarrubias et al., 2015). However, the complexities of being FGCS and first-gen American citizens expose a challenge based on a looming sense of obligation (Jehangir et al., 2014). These students speak of the *sacrifice* their parents made to ensure that they had more academic and professional opportunities; this perspective is substantiated as the participants are highly focused on their career goals. Still, the burden appears to weigh heavy as they are on this academic journey for not only themselves but for their families.

Access is a salient undertone in these narratives to fulfill the students' needs. Financial barriers would have limited these students from pursuing an education at their current institution. Engstrom and Tinto (2008) confirm that access that is absent of support does not equal opportunity. In this case, finances are one of the primary supports needed for FGCS to focus on their career goals. The literature further supports this as a viable barrier to pursuing and completing a four-year degree (Pratt et al., 2019; Wilbur & Roscigno, 2016).

Subtheme 3.2: Being A Black FGCS Woman. Two interview participants identified as Black women and spoke about their experiences managing their multiple responsibilities and staying true to their identities while being at a large, predominately White institution. Monica shared her thoughts while sharing how her mother influences her and why she chose her major.

[I was] raised by very strong women, strong Black women in my family. It's been like it's a generational thing for me... I've kind of always had to be the one to step up and take care of my sister and basically grow up a little quicker than most people. I think what inspired me the most was... my mom and then...realizing how underrepresented [seeing] a Black girl is on TV...so I just... want to break some of those barriers and make my family proud and just represent. (Monica)

Misty also shared her feedback on how being a woman of color influences her path and frames her approach to succeeding in her aspired career.

I am very confident...especially being a Black female...from a...low-income family. I think that there's a lot of things that [White] people don't expect from you [or] expect you to be able to do and they kind of look down on you. (Misty)

Misty and Monica shared their perspectives of being Black women in competitive fields and the perceptions and challenges that come with it. They both spoke to familial obligation that they shared to make them proud, but they also reframed how Black women are seen and increased representation in their fields. One striving to align her passion for medicine with the needs of society, and the other is working to build a social and media brand to excel in mass media. Although drastically different in aspired occupations, they both sought to be represented in a space where they felt there were not many of them.

These experiences align with the phenomenon of navigating identity politics among Black women, Hooks (1990) asserts that Black women feel a deeper sense of connection to achieve and thrive, not only for themselves but for other Black women. These challenges are more pronounced as Black women navigate predominately White spaces and seek to ensure representation is at the forefront (Hooks, 1990).

Theme 4: Mindset and Resilience

As the tone of the study was to frame a non-deficit stance, participants' mindsets and resilience came through during the interview sessions. Monica shared their thoughts on how amidst challenges and barriers that their mindsets and ability to push through assisted them:

I feel like it just starts mentally like just having such a determined mindset and I feel like I have that but, just like if you have some people to motivate you it really goes a long way. You just have to have that push to get it done. I would just have to say, [having] those people to support me because I can handle the rest. I got me - I just need support. (Monica)

Although mindset and persistence are essential, the students do not stray from expressing the need for support and accountability. The interviewed students showed high levels of intrinsic motivation but appreciated resources such as personnel and students to support them.

Theme 5: Articulation of Pathways and Goals

Students who were interviewed articulated next steps based on where they were as first-year students. When asked about their confidence in achieving their goals and the next steps to achieve them, all participants stated that they were confident in their abilities to achieve their goals. The following narratives expand upon students' perspectives as they affirm their passions and opportunities.

[I've] always loved...biology classes like anatomy...so that's kind of like where I am now. I have to go to college and...medical school...and... I'm just taking the proper steps...and these [are]...great...life experiences. In college it's not always just about the academics, but the connections [you] make there as well as the experience[s]. (Misty)

America was able to share her next steps to achieving her academic goals.

[They] have a new pathway to graduation so I know when I'm a[n] upperclassmen...I [will] have to do...mock interviews [and]...build...a full-on resume. (America)

Sam offered his insights on what it takes to be competitive for medical school programs.

You have to be a well-rounded person... they're still going to look at the grades, first. I was like [if] my grades aren't up there with... the top kids in my class and I'm already at a disadvantage, even if I was out... getting experience in the field. I say [I'm] confident... because I feel like I can get up there, like if I push myself hard enough, and if I use all the systems that... [the University] has set up to support me like tutoring services or just on getting one on one time with my teachers, then I will be able to get up there yeah. (Sam)

Monica provided a summary of how she plans for her next steps in working in mass media while pacing herself into getting acclimated to college.

Building...some type of portfolio...and attending like a lot of job fairs and taking advantage of those internships... I think I still [have] to get college under my belt a little bit more. Those are my next steps, maybe a portfolio [and] job interviews. (Monica)

All participants effectively articulated reasonable steps to success based on their status as first-year students while projecting areas of improvement and exposure. These exposure areas were not limited to interviews, portfolios, workshops, and career fairs, all of which are best practices to support career success among FGCS (Pulliam et al., 2017).

Focus Group Findings

The focus group portion of the study was conducted with the four participants from the interviews. The student participants were asked six questions (refer to Appendix B for questions) during a one-hour virtual session to explore areas of growth further and fill in the gaps using the collective insight from the students. Like the interviews, the sessions were hosted via the Zoom platform with the auto-transcription feature enabled. Processes such as triangulating the notes and the recordings were vital to ensure accuracy in the transcriptions. Deductive coding was used to identify the prominent themes in the discussions with the students to offer additional context.

Below are the six emergent themes from the focus group session (Figure 2). Following are the accompanying responses and perspectives of the participants. These narratives add more context to factors that positively and negatively influenced their progress toward their career goals while in college and the SSS program.

Figure 2 - Focus Group Themes



Note. Figure 2 outlines the collective themes that emerged during the culminating session with the four participants.

Theme 1: Managing Doubt. A theme from the focus groups included participants grappling with managing doubt in their academic paths. Students mentioned phrases and questions, such as “your major is difficult” or “will you get a job in that field?” Doubt from others surfaced as an evident grievance and obstacle faced by these students. Below is an account from one of the participants.

For me, it's those preconceived notions that people have. I do want to be a doctor and that's a lot of schooling. As soon as...someone asks me what I want to do... that's always...the first thing they jump to is how long I will be in school or how much I [will] have to pay [in tuition]. I think [they're] ...trying to deter me away from that path [and] turn me away from...[my goal] as a way to help me. (Sam)

Whether from peers, family, or others, these narratives expose the impact of individual comments that question the abilities of these students seeking to progress in rigorous academic programs. These FGCS could navigate and ignore the doubt shared by outsiders who questioned their career aspirations. The self-efficacy level of these students can be tied to the support of the TRIO program.

Theme 2: TRIO Program Support. Similar to the interviews, the dedicated support of the TRIO Program and staff re-emerged as significant support for students enrolled in the SSS program. In addition, the following perspectives were shared as students reflected on their interactions with the staff, programs, and resources:

It makes you appreciate it even more because you're seeing... what [it would be like] if you didn't have [the support and] what you would have to...potentially deal with, opposed to... the blessing, that you have because of it. Also, just the support from the professors and how supportive they are and how understanding they are. They get you and... a lot of them have been in this position...so they understand. (Misty)

America also provided her perspectives on how the SSS program supports her,

The main thing I really like in [SSS are]... all the resources they give you, because...I know nothing about college or what [or] anything about career. Mrs. Lyles (TRIO SSS Adviser) sends out the scholar connect [newsletter] and then they do...a lot of events to help us with any career-based [needs and] questions, it really does help a lot. (America)

Students enrolled in the program see the benefits and made these point well known. They also shared how fortunate they are to be in this type of program as they know that all FGCS students do not have this opportunity due to the enrollment constraints of the TRIO – SSS Program.

Theme 3: Mental Health Support. Prioritization of mental was a reoccurring theme and arose organically as the participants addressed the various challenges they faced while pursuing their college education and career.

Right before...school started, I was diagnosed with anxiety and depression. Which I've already...had to like deal with...but like having been diagnosed [and] knowing exactly what it is and then going through it. With the transition to college, it was...hard for me [to]...stay focused sometimes when going through ...those spells. It's nice to have...that support like my friends and my family. But just dealing with that and trying to like stay on top of everything and not get behind has been like a bit of a challenge but it's getting easier. (Misty)

As a college student, America shared a detailed experience and challenges with mental health and boasted about how a faculty member supported her.

[I've] had...depression [since I was]13. [I] couldn't get officially diagnosed until...I was [an] adult because you know parents don't believe that but. This semester...I had one week [where] I really went through it. [I] had such a bad episode, I got really sick, [and] I got broken up with, so all those three [things] really made me worse.

[I told] Dr. Singleton [English Professor] ...what was going on. She called me and... reached out to me, to make sure [that] I was okay and [to say] make sure your mental health comes first, no matter what.

Having that reinforcement from...[your] own teacher ...really did help, having...a professor ... to somewhat understand...what you're going through and like making sure that you're taking care of yourself. (America)

Sam also offered some insight on his challenges with mental health and how the SSS program provided support to him.

My mom went to the hospital and then... my girlfriend broke up with me... a few days later. I was kind of like in a downtrend, and the same [support was received by] Dr. Singleton. I could definitely tell that she cared a lot. I sent her an email, and she like instantly replies... don't worry about it, like...if you can't make it to class today, I fully understand and it's perfectly fine. It was just really reassuring to know someone ...actually cared and... saw me as more than just a student. And then yeah so definitely like the SSS program is a big-time support. (Sam)

Support for mental health in the SSS program was a significant part of the holistic support offered by the SSS program. Through the narratives, it is evident that the SSS leadership and staff have *normalized* a culture of seeking help for health crises, whether they are physical or mental. Through the qualitative data the participants provided, students shared that they could have stopped or not have done well in some of their courses without this support.

Students like America and Sam shared explicit examples of where they had bouts with depression. Being vulnerable enough to share what they were going through with their professors helped them significantly. This was mutual as the professor, which happens to be the same professor (Dr. Singleton), was understanding and offered grace and support to the students as they sought medical assistance and time to improve their situations. This narrative also exposed a cultural stigma surrounding mental health support. America stated in her narrative that she has known of her mental health issues but was not diagnosed as her parents *did not believe in it*.

The direct connection to career support emerged as students indicated that without this support the students could have potentially dropped out or failed their classes. Doing any of these would delay their progression to their degree or possibly lose their financial supplements if they fell below the GPA needed to stay in the SSS program.

Theme 4: Career Recommendations and Connections. Substantive points were made by focus group participants regarding strategies that were recommended by the TRIO – SSS Program. Below are three strategies and practices participants brought up to increase their engagement in their respective majors and careers.

Subtheme 4.1: Informational Interviews. One of the student participants indicated how conducting an information interview with someone in her desired career helped affirm them in their goals and received insight and a pulse of real-life experiences. For Misty, her first-year seminar instructor made this recommendation, who is also a TRIO staff member. Misty shared how an informational interview assisted her in gaining a better understanding of her desired career field.

I was able to interview one of my friends parents who is a general surgeon, and he gave me a lot of insight on the career itself and, like the good things about the bad things about it and things that people expect and then the reality, so it was just nice to hear someone that's really in the field and active in it, their experiences and what they had to do to get to that point and ...how it is to be in the career. (Misty)

Misty's participation came up multiple times throughout both the interview and focus group. Taking this suggestion from her first-year seminar instructor proved beneficial as it further cemented that she was in an academic major that fits her passion and skills.

Subtheme 4.2: Co-curricular Involvement. Involvement in student organizations and leadership positions are common factors of increased engagement among college students. However, these engagements are even more impactful when they are experiential in nature, exposing students to additional career possibilities. Monica shared her experience with being connected to a major specific opportunity to broaden her insight into career possibilities within her program of study, broadcast journalism.

I'm involved with MUTV (on-campus news station) and I have my own TV [segment that] I'm a part of [on] Monday night[s]. So, I'm pretty proud of myself and I think I did pretty good for my first year. (Monica)

Through this experiential learning experience, Monica discovered more about her aspired career while actively working in a learning lab environment.

Subtheme 4.3: Networking Opportunities. America was provided an opportunity facilitated by the McNair Scholars TRIO Program, where she essentially found a mentor and was exposed to the possibilities within her major and post-graduate opportunities via a current graduate student.

I sat down [with]...a bunch of people talking about...going to grad[uate] school. One girl, I talked to [pursued] the same degree as me...and went to grad[uate] school completely free and she was the same SSS program. [It] really put [things] in perspective for me. I can actually do this! It really put in my mind like maybe I want to go to grad school [and get] my PhD fully funded. (America)

Kezar et al. (2020) appropriately address the positive impact that practices such as networking have on FGCS as they are in the career exploration and decision-making process. Imbedding opportunities like the one that America participated in can prove vital and provide students with models of success that can ultimately increase confidence and self-efficacy (Kezar et al., 2020; Pratt et al., 2019).

Theme 5: Sense of Responsibility and Obligation. FGCS commonly take the mantle of being the responsible child and providing for their families. The sense of responsibility is to pursue their career dreams not only for themselves but for a greater purpose, their families, and their hometown. This undue pressure came to life in the narratives provided by the students.

I have five siblings, and I'm the youngest so... there's always been like that pressure there to be like the perfect child. I was never able to bring anything home less than an A. One time I got in trouble for bringing home a 96. It was always...a lot of like academic pressure to just do well. If I want a certain career, I have to make certain sacrifices - I have to really focus in and like get things done, and I can't really get distracted by a lot of outside things. (Misty)

Misty's perspective offers an unfortunate pressure that is placed upon her. Her drive to succeed is strong and shown through her previous articulation of pathways and experiences needed to succeed in the medical field. However, her pressure to achieve perfection may influence her challenges with mental health. America provided her reflections on the sacrifices of her family.

My parents are...immigrants, they came from Mexico to go to the States, [and are] not U.S. citizens...they have...very low-income jobs... my mom cleans houses my dad works in a restaurant. I'm very grateful for that, because, like they're able to support me with whatever I need, but sometimes I know that it's... not what they exactly want[ed] to give me. (America)

The reflections of the participants of this study illuminated the unique levels of pride and responsibility that these students felt based on their family structures and income. Covarrubias et al. (2015) affirm the guilt that FGCS feel as they seek to better their circumstances and make their families proud. Misty provided reflections on academic pressures to do well and succeed academically. At the same time, America exposed how being of low socioeconomic status and being the child of immigrants furthered her passion for achieving her dream.

Theme 6: Improve Communication of Resources. Areas of improvement arose via the closing dialogue of the focus group. SSS students were asked about missing areas of support as they pursued their career ambitions. Students were then asked to identify what they perceived as lacking in the SSS program or institution-wide. Overwhelmingly, there was no negative feedback on the SSS program but recommendations to reproduce the environment and communication created by the SSS program. America The students' perspectives provided the following:

Because...I know... people complain, [about]...all these meetings what they really are helpful and I do it for like the best of us because, like I've been...learning a bunch of stuff that I need to know. (America)

As America started the conversation by providing accolades to the SSS program, other participants shared the barriers they identified at their institution.

I don't know what could be in place, but...I know they have...job fairs...something maybe to help you know for sure you're going to get a job or something. like I just wish it was someone or an organization that just made that their whole entire thing to really help you and to push you and help you network...I...think something like that I think was something else I would say. (Monica)

Misty provided her experiences and challenges with navigating resources and communication across campus.

I think that there could be better communication on getting [opportunities].

Inform students that [opportunities] are available for them, because I know [SSS] does a great job of doing it, they tell us [as] they send out the scholar connect [newsletter] with all these different like things, but the university as a whole, they don't really. They don't really have a common place where you can find all that information it's kind of hearsay or you if you go through this person or if you know this person. Then they'll tell you about this [opportunity], or if you're a certain major they'll tell you about certain things that help you like in your major. (Misty)

Sam echoes Misty's sentiment about communication and resources while sharing his unique perspective of having a sibling who has also served as a vital resource for him as well.

I am lucky enough to...have a brother who... goes to the to the university so [he] ...knows the ins and outs. I go to him when I need to like find things. Going through...the whole [University] website... just takes forever and it usually doesn't get me to anywhere. I remember the first time I tried to like figure out where the writing lab was... it was the hardest thing that's find.

So [I] just like send [my brother] a text, and I feel like that's kind of unfair. Just because my brother has been through the college doesn't mean that I should be able to have more... opportunities to...use the [re]sources at the school, as compared to other people who are paying the exact same amount as I am to go to a college. I just feel like the university... should make it easier for students to be able to use the resources that they're creating for us. (Sam)

Per the comments, the grievances shared by the students were less about the TRIO – SSS Program but about the institution at large. Effective communication of programmatic and institutional resources was an evident barrier to success in the participants' feedback. In some cases, the resources may be available at the institution, but the students may lack a practical orientation on navigating these resources.

Interpretation of Results

To further synthesize the qualitative findings, the themes were placed in the following categories: *support systems*, *barriers*, *intrinsic and cultural factors*, and *career-best practices*. These areas were identified as categories to frame the various factors among FGCS students who participated in this research study. The following table outlines the identified categories and the related themes.

Table 5 *Thematic Categories of Qualitative Findings*

Support Systems	Barriers	Intrinsic & Cultural Factors	Career Best Practices
<ul style="list-style-type: none"> • TRIO Support - Staff & Mentors • Financial Support 	<ul style="list-style-type: none"> • Managing Doubt • Mental Health • Communication of Resources 	<ul style="list-style-type: none"> • Sense of Responsibility (Family) • Identity Intersection (Citizenship, gender, and race) • Mindset & Resilience 	<ul style="list-style-type: none"> • Career Connections (Informational Interviews, curricular involvement & Networking) • Articulation of pathways & goals

Primary Research Question. How does the TRIO Student Support Services Program’s career development component equip students to better understand their skills and abilities related to their potential careers? This was answered via the direct application of career best practices, as shown in Table 5. TRIO-SSS students further showcased this understanding through both quantitative and qualitative metrics. Via the CDSE-SF, students demonstrated high levels of comprehension and learning through the post-test performance with a mean of 4.27 mean in *goal selection*, 4.16 in *planning*, and 4.05 in *occupational informational*. These specific domain scales of this instrument directly correlate with career outcomes expectations as outlined by the SCCT framework. Further validation of these metrics can be gleaned from the rich narratives the TRIO – SSS Participants provided in the thematic areas of *Career connections and Articulation of pathways & goals*.

Research Sub-question 1. How well does the TRIO Student Support Services Program take into account the cultural and social factors when providing advisement and career counseling? The TRIO SSS program implores an intrusive style of advising and coaching. Per the interviews and focus group feedback, the TRIO staff and faculty are integral to these students’ support network.

As FGCS are not monolithic, a single approach to support them is not the resolution to address the complexities of capital, culture, and identity that these students bring to their respective college(s). However, prioritizing consistent and relevant communication to students accompanied by individualized support through coaching and advising sessions appears to benefit SSS students. This model embodies an environment similar to what would exist at a smaller-sized institution holding the mantra of making a large institution seem smaller.

Discussion

Limitations of Study

The administration of the CDSE-SF was during the early part of the COVID-19 pandemic, and students were constantly being assessed and asked to complete surveys. Due to this, survey fatigue was an obstacle in the administration of the survey and response. In addition to the diversity of responses, there were some gaps. Among White FGCS, the data was quantitatively minimal and non-existent qualitatively. This study was enhanced as the robust narratives from the interviews and focus groups offered an exclusive lens of the experiences of Black and brown FGCS students. Black FGCS were well represented in all phases of the research study. Among Latinx students, the data was minimal quantitatively. Although one Latinx participant participated in the interview and focus group, the qualitative data was enlightening and uncovered intersections of identity that warrant a more profound exploration of Latinx FGCS.

Implications to Practice

To align the non-deficit-based framing of this research, the findings supported the need to understand the strengths of this population to improve practice. These findings support the challenges of FGCS and inform positive interventions and outcomes. Therefore, the following categories were identified to synthesize and frame the more prominent themes of support they include:

- **Financial.** Participants showed high levels of academic and social ambition. Unfortunately, financial barriers were deterrents as many explored college as an option. The SSS program provides financial supplements that decrease some of the financial strain experienced by college-going students.
- **Socio-emotional.** As expressed in the qualitative narratives, there is a need for holistic support to help FGCS cope with doubt management, undue pressure, and mental health challenges. This practice has a grounding in Rendon's (1994) validation theory as the need for *affirmation* and constant support are essential to the success of underserved student populations.
- **Relational.** This theme supports the need for timely communication and intentional programming explicitly designed for SSS students to connect them with resources. Participants spoke to TRIO personnel and events' influence on their success and help-seeking skills.

These themes are outlined visually via the Venn diagram below in Figure 3:

Figure 3 - Thematic Model of Support for FGCS Self-Efficacy



Note. Figure 5.1 outlines three major thematic categories that were identified to couple the various themes extracted from the research data.

The overtones of equity and access framed this action research and are affirmed through the findings illuminating the central themes. Fostering support systems that align with the three themes, similar to what the TRIO Programs provide, can support student development to enrich college's academic and career exploration process.

In the vein of access and equity, differences in experiences emerged due to this study. These differences manifested in a higher sense of career self-efficacy among Black FGCS. Low participation among White and Latinx FGCS left some questions unanswered, and a further dive into this study would provide context to these unanswered inquiries. The absence of these data prompts additional investigation points that the study could not address due to participation constraints. Some of these areas of investigation include:

- What are the unique lived experiences of Black FGCS that contribute to a higher sense of career self-efficacy?
- What would vary or change if there was more participation among White FGCS?
- What are the career self-efficacy metrics among Latinx FGCS?

By embracing the uniqueness of FGCS students through understanding the data, stories, and practical support mechanisms, institutions of higher education professionals will become better equipped to serve first-generation college students. In addition, instituting an approach that focuses on strengths and support will foster a career-centered culture that will aid FGCS in their journeys from students to gainfully employed alumni.

References

- Bandura, A. (1977). *Social learning theory*. Prentice-Hall.
- Betz, N. E., & Taylor, K. M. (2012). *Career Decision Self-Efficacy Scale (CDSE) Manual*. Mind Garden, Inc.
- Cahalan, M., Perna, L. W., Yamashita, M., Wright-Kim, J. & Jiang, N. (2019). *Indicators of higher education equity in the United States: 2019 historical trend report*. The Pell Institute for the Study of Opportunity in Higher Education. http://pellinstitute.org/indicators/reports_2019.shtml
- Covarrubias, R., Romero, A., & Trivelli, M. (2015). Family achievement guilt and mental well-being of college students. *Journal of Child and Family Studies*, 24, 2031-2037.
- Engstrom, C., & Tinto, V. (2008). Access without support is not opportunity. *Change: The Magazine of Higher Learning*, 40(1), 46-50.
- Herr, K., & Anderson, G. (2015). *The action research dissertation: A guide for students and faculty* (2nd ed.). SAGE.
- Hooks, B. (1990). *Yearning: Race, gender, and cultural politics*. South End Press.
- Jehangir, R. R., Stebleton, M. J., & Deenanath, V. (2014). *An exploration of intersecting identities of first-generation, low-income students* (Report No. 5). National Resource Center for The First-Year Experience and Students in Transition.
- Kezar, A., Hypolite, L., & Kitchen, J. A. (2020). Career self-efficacy: A mixed-methods study of an underexplored research area for first-generation, low-income, and underrepresented college students in a comprehensive college transition program. *American Behavioral Scientist*, 64(3), 298–324.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45, 79-122.
- Manzoni, A., & Streib, J. (2017). The equalizing power of a college degree for first-generation college students: Disparities across institutions, majors, and achievement levels. *Research in Higher Education*, 60, 577-605.
- Pratt, I., Harwood, H., Carvazos, J., & Ditzfield, C. (2019). Should I stay or should I go? Retention in first-generation college students. *Journal of College Student Retention: Research, Theory & Practice*, 21(1), 105-118. <https://doi.org/10.1177/1521025117690868>
- Pulliam, N., Ieva, K. P., & Burlew, L. (2017). The relationship between perceived career barriers and career decision self-efficacy on initial career choice among low-income, first generation, pre-freshman, college-bound students. *Journal of College Access*, 3(2), 78-97.
- Rendon, L. (1994). Validating culturally diverse students: Toward a new model of learning and student development. *Innovative Higher Education*, 19(1), 33-51.
- U.S. Department of Education. (n.d.). Federal TRIO Programs. <https://www2.ed.gov/about/offices/list/ope/trio/index.html>
- Ward, L., Siegel M. J., & Davenport, Z. (2012). *First-generation college students: understanding and improving the experience from recruitment to commencement*. Jossey-Bass.
- Whitley, S., Benson, G., & Wesaw, A. (2018). *First-generation student success: A landscape analysis of programs and services at four-year institutions*. National Association of Student Personnel Administrators, Inc.
- Wilbur, T., & Roscigno, V. (2016). First-generation disadvantage and college enrollment/completion. *Socius: Sociological Research for a Dynamic World*, 2, 1–11. <https://doi.org/10.1177/2378023116664351>
- Winfield, J. K. (2021). *An action based approach to analyze factors that impact academic major and career choice of low-income first-generation colleges students* (Publication No. 28643089) [Doctoral dissertation, University of South Carolina]. ProQuest Dissertations & Theses Global.

Appendix A

CDSE-SF Raw Data from Pre & Posttest

Below are the raw data charts for the pre and post-test administration of the CDSE-SF.

Pretest Results

	Gender	Ethnicity	Self-Appraisal (SF)	Occupational Information (SF)	Goal Selection (SF)	Planning (SF)	Problem Solving (SF)	Total Score (SF)
1	Woman	White	4.8	5	5	5	5	5
2	Woman	Black	4	4	4	3.8	4	4
3	Woman	Latino	4.8	4.2	4.2	3.6	3.4	4
4	Man	White	5	5	5	5	5	5
5	Woman	Black	4.6	4	4.6	4.2	4.6	4.4
6	Woman	Asian	3.4	4	4.2	4.6	3	3.8
7	Man	White	3.4	3.4	3	3.2	3.2	3.2
8	Woman	White	3	3.2	3	2.6	2.6	2.9
9	Woman	Black	3	3	3.8	2.8	3.2	3.2
10	Woman	Latino	3.6	2.8	3.2	3.6	3.6	3.4
11	Woman	White	2.8	3	3	3.2	3.6	3.1
Total			3.96	3.93	4.03	3.79	3.73	3.89
Standard Deviation			0.74	0.67	0.71	0.7	0.68	0.63

Appendix A (cont.)

Posttest Results

	Gender	Ethnicity	Self-Appraisal (SF)	Occupational Information (SF)	Goal Selection (SF)	Planning (SF)	Problem Solving (SF)	Total Score (SF)
1	Woman	White	2.8	3	3	3.2	3.6	3.1
2	Woman	Black	3	3	3.8	2.8	3.2	3.2
3	Woman	Black	4.8	4.2	4.6	4.2	4	4.4
4	Woman	Black	4	4	4	3.8	4	4
5	Man	White	5	5	5	5	5	5
6	Woman	Latino	3.6	2.8	3.2	3.6	3.6	3.4
7	Man	White	3.4	3.4	3	3.2	3.2	3.2
8	Woman	Black	4.6	4	4.6	4.2	4.6	4.4
9	Woman	Black	3.8	4.4	5	3.4	3.2	4
10	Woman	Black	4.2	4.4	4.2	3.8	3.8	4.1
11	Man	Black	3.6	4	3.8	4	3.6	3.8
<i>Total</i>			3.89	3.84	4.02	3.75	3.80	3.87
<i>Standard Deviation</i>			0.71	0.70	0.74	0.61	0.58	0.60

Appendix B

One-On-One Interview Questions

The following list of questions were used to guide the student interviews. Participants responded accordingly and as needed to the prompts below.

1. Tell me about yourself and what led you to college?
2. What is your major?
3. What inspired you to select your major and why?
4. What career do you aspire to have with your respective major?
5. What are the next steps you need to take to achieve your career goals?
6. How confident are you in achieving these goals and why? Not confident/ Confident/Very confident
7. How has the SSS - TRIO program assisted you in your major exploration process?
8. What other support systems have been beneficial to you in your major/career process and why?

Appendix C

Focus Group Questions

The following list of questions were used to guide the focus groups. Participants responded accordingly and as needed to the prompts below.

1. Since we last spoke have there been any changes in your career goals?
2. What programs or efforts have you participated in this semester that have supported you career goals and decisions?
3. What challenges have you encountered while pursuing your career goals? How have you navigated those challenges?
4. What has SSS/TRIO provided you all with to support your career ambitions?
5. How has your background (race, income, gender, or upbringing) influenced your career choices?
6. What additional supports are missing from the SSS program that could support you in your career decisions? If not, from the SSS what is missing from the institution?

The Needs of Students Navigating College While Homeless: How the Federal TRIO Program Can Support Them

Author:

Bertha Fountain, Ph.D., LMSW

Silberman School of Social Work at Hunter College

Veterans Health Administration – James J. Peters VA Medical Center

Bfountain@hunter.cuny.edu

Abstract

More college students are experiencing homelessness, and the COVID-18 pandemic has caused many students to experience housing instability and financial hardship. Very little is known about this cohort of students who tend to be hidden. This qualitative research study utilizing resilience theory sheds light on the challenges faced by college students experiencing homelessness. Although students were motivated to attend college, they struggled with their mental health and with managing their basic needs. Federal TRIO Student Support Services (TRIO SSS) can partner with Higher Education Institutions to effectively respond to this evolving crisis. Federal TRIO programs can offer a safety net and pathway out of homelessness for students experiencing homelessness by providing supportive services.

Keywords: basic needs insecurity, homelessness, college students, TRIO, support programs

The Needs of Students Navigating College while Homeless: How the Federal TRIO Program Can Support Them

The COVID-19 pandemic has had an adverse impact on college students. Research has described the impact of the COVID-19 pandemic on institutions of higher education. More and more students are experiencing housing instability and homelessness. A nationwide survey (Goldrick-Rab et al, 2020) of basic needs insecurity¹ during the COVID-19 pandemic documented an increase in student homelessness (15% at four-year institutions and 11% at two-year colleges). At the City University of New York (CUNY) 54% of students who had to withdraw from classes in the spring semester of 2020 said it was because they needed to focus on securing and maintaining their basic needs, such as housing and food (CUNY School of Public Health, 2020). Colleges and universities must be prepared to effectively respond to and manage this problem within local and statewide conditions. Institutions of higher education have indicated that they need additional help in addressing students' food and housing needs (Kienzl et al, 2020). They cannot do this alone and must partner with federal, state, and local government as well as community organizations to provide support to students impacted by this health pandemic.

Federal TRIO programs can partner with institutions of higher education to address this evolving need. Under the auspices of the U.S. Department of Education, TRIO programs have been around since the 1960s and, over the long term, have been successful in helping students attain college degrees (Congressional Research Service [CRS], 2020). Students experiencing homelessness may be disconnected from services that will guide and support them in their academic journey. TRIO programs are designed to boost retention and success by providing college access and completion services to students in postsecondary education.

Educational opportunity outreach programs fill a gap in services for students who need support to succeed academically. TRIO Student Support Service programs operate in and work with higher education institutions and have assisted a wide variety of students to graduate (CRS, 2020; Bennett, 2018). One study of college campus TRIO support programs found in addition to academic success, early engagement of students provided them with a sense of community, time management skills, and access to resources and specialized services (Huang et al., 2019).

COVID 19 has redefined student engagement, and as such, programs must now pivot to address those who experience homelessness. Addressing the essential needs of students experiencing homelessness helps them expand economic access by providing opportunities for upward financial ability and housing stability. It also helps to break the cycle of poverty and create opportunities for these students to become productive members of society. The current health pandemic has changed our lives and forced higher education institutions to change the student learning environment.

While previous research has documented that homelessness exists on college campuses (Crutchfield & Maguire, 2018; Broton, 2020; U.S. Department of Housing and Urban Development, 2015), we know very little about this student population due to severe data limitations and the hidden nature of homelessness. Homeless advocates suggest that the homeless population is increasing (National Alliance to End Homelessness, 2020). This article will present research highlighting students experiencing homelessness. It is timely and relevant given the current pandemic and the changing nature of homelessness. The research contributes empirical knowledge through the theoretical lens of resilience by acknowledging the challenges, internal strengths, and external supports that students who are homeless encounter in college. Resilience has been described as a "dynamic process encompassing positive adaption within the context of significant adversity" (Luthar et al., 2003).

Homelessness is a multifaceted problem and when homeless young adults attend college a variety of factors may complicate their lives, including residential instability, food insecurity, and lack of financial resources. The challenges of pursuing shelter may interfere with their participation in their educational pursuits (Hallett, 2010).

¹ Basic need insecurity is defined in this research as homelessness, food insecurity and housing insecurity - having a safe, affordable and consistent place to live (Goldrick-Rab et al, 2020).

There is limited research on how youth experiencing homelessness manage their basic needs and utilize college to transition into a more stable future.

At CUNY students who experience homelessness survive in an environment with over 241,080 students who attend the 24 schools that are part of the CUNY system (CUNY Office of Institutional Research and Assessment, 2019). Identifying this population and understanding their unique strengths and needs is difficult unless they self-identify and disclose their homeless status. Not enough is known about students experiencing homelessness who attend college. Colleges are not tracking the number of students experiencing homelessness on campus (Bowers & O'Neill, 2019; Wilson et al., 2019). The research, part of a dissertation project, provides guidance on how to best support college students experiencing homelessness and provides a base to better understand what is happening now on college campuses.

Methods

The research question guiding the study was “How do young adults describe their experience of being homeless while in college?” The lives of those who are homeless encompass multiple realities that are mutable, interpretive, and complex. Qualitative research was essential for this type of inquiry. Its methods are highly suitable for understanding complex, multifaceted experiences (Shepherd et al., 2010) and provide depth and detail about what is, in this case, a critically under-explored phenomenon (Patton, 2002).

Phenomenology is a methodological way of understanding human experiences and how individual situations are meaningfully experienced (Husserl, 1980), suggesting that understanding a person cannot occur in isolation from their world. This framework provides a perspective on a phenomenon by combining descriptive and interpretive accounts that allow an analysis of the cognitive and affective elements of an individual’s experiences. Phenomenology also provides a means to describe and understand the theory of resilience. The phenomenon of inquiry is homelessness which represents the context of adversity. The inquiry provides insight into resilience by highlighting how college students absorb and learn, including their challenges and strengths, in an adverse environment.

Screening and Sampling. The sampling was purposive to ensure the selection of students experiencing homelessness who attended colleges that are part of the City University of New York system. Before study implementation, human subjects’ approval was secured from the CUNY Institutional Review Board for the Protection of Human Subjects (IRB) for seven CUNY undergraduate schools.

Students in the study had to meet the following criteria to participate. Students eligible for the study were emerging adults. Emerging adults are defined as young people between 18 and 29 (Arnett, 2016). Capturing young people at this stage of their life as they transition into adulthood provides years old insight into their decisions to create stability in their lives. The definition of homeless status used for this study is consistent with federal guidelines defined by the education subtitle of the McKinney Vento Act – Title 42, Chapter 119, Subchapter VI, Part B: Education for Homeless Children and Youths. The Act defines homelessness as individuals who “lack a fixed, regular, and adequate nighttime residence” (McKinney Vento Act, 2015). Participants had to experience homelessness in the last month of the screening date for at least two weeks either with their biological family, independently, or with others to be considered for this study.

Data Collection

Recruitment. Recruitment activities included posting flyers in “high traffic” locations on campus and meetings with campus staff and professors to inform them of the research. Half of the participants were connected with the CUNY Educate, Develop, Graduate, Empower (EDGE) program (City University of New York, 2021). CUNY EDGE partners with the NYC – Human Resources Administration (HRA) and ensures that students maintain their eligibility for HRA assistance by helping them fulfill public assistance requirements.

Interviews. The method used for this qualitative inquiry was interviewing. Before the start of the interview, participants were asked to complete a short questionnaire that asked them to provide basic information concerning: their race; ethnic identity; gender; gender pronoun; major in school, including their reasoning for choosing this major; the number of semesters/years enrolled at CUNY; student status (full or parttime); whether they attended school uninterrupted, including an explanation of why they may have had breaks in school attendance; grade point average; and the number of credits. The researcher used the interview to follow up on the responses to the questions. This allowed the researcher to better understand the student's status in college, collect basic demographic information and ask participants about their academic experience.

An interview guide consisting of a semi-structured interview protocol of open-ended questions allowed participants to share their stories in their own words and express their views on their terms. Through the interviews, the participants explored their independent processes of reflection and disclosure. Open-ended questions entailed an inductive process to allow concepts and categories to surface from the participants' words and for a multiplicity of responses, from which themes emerged.

The interview guide included both context setting and open-ended questions. Students were asked questions about how they were managing college while homeless; what barriers they were experiencing; what support system they had; any opportunities they had experienced because of their homeless situation; and why college was important to them. Lastly, they were asked for recommendations that CUNY could provide to support students experiencing homelessness.

Data was collected on ten students from three community colleges that make up the City University of New York. Interviews were held over two years (beginning in April 2017 and continuing through May 2019). The interviews ranged in length from 17-43 minutes, and the average interview lasted 30 minutes. Interviews were held in private spaces on campus (library, private office) that were confidential and safe for both the participant and principal investigator.

Data Analysis. This descriptive study used Interpretative Phenomenological Analysis (IPA) methodology. Interpretative Phenomenological Analysis has its roots in phenomenology and was chosen to enter the participant's social and psychological world. IPA uses an ideographic approach to data analysis and, as such, is committed to a detailed focus on a person's subjective lived experience rather than making universal generalizations (nomothetic). It also recognizes the existence of a plurality of realities that may each be influenced by cultural and social structures and the participants' inner thoughts and feelings. The goal of IPA is to understand how the target group makes sense of a given phenomenon.

The process of analysis in IPA is both dynamic and iterative. Thus, the researcher assumes a central role in analyzing the participants' experiences and is not bracketed out. Traditionally, in phenomenology, the researcher holds their pre-understandings and assumptions to attain experiences before making sense of them (Dörfler & Stierand, 2020). In IPA, the analysis is informed by the researcher's prior experience, assumptions, and knowledge. Interpretative phenomenological analysis acknowledges that our understanding of the world is derived from how we interpret it, which is the essence of the hermeneutic interpretive school of thought (Reiners, 2012). Thus, understanding the meaning of individuals' experiences is the hermeneutic method's objective. A dual interpretation process (double-hermeneutic) involves the researcher understanding experience from the subject's perspective and the researcher trying to decode and make sense of what the participant shared (Smith et al., 2009). IPA requires attending to talk and text in a sustained and detailed way. It entails continual review and analysis between the parts and the whole of the text to get as close to the subject's personal experiences while also gaining a holistic perspective. Eatough and Smith (2008) describe IPA as descriptive, empathic, critical, and questioning to draw out and disclose the meaning of the respondent's experience.

Data collected from a small sample of homeless CUNY students (N =10) represented a commitment to quality IPA by providing a perspective on a phenomenon (Smith et al., 2009). The data detailed interpretative accounts of participants' experiences which allowed for convergence and divergence of the data. Based on the suggestion of Smith et al. (2009), the analysis incorporated: descriptive experiences of the students; the

way they described their experiences; and the researchers' interpretations of how the students understood the experiences they described.

Data analysis started after a case-by-case verbatim transcript was generated from each student. The analysis included several steps. Initially, the transcript was read several times to become immersed in the data and to code the text. Paying attention to the relationship (dialog) between the researcher and the participant allowed for the emergence of an interpretative account. The screening form and questionnaire completed by the students were also reviewed with each transcript to facilitate achieving saturation. Next, a summary of each transcript was done. The researcher took notes during and after each interview, and these reflections were reviewed and used to develop the researchers' interpretations of the interview. This included reflecting on the researcher's direct experience working with homeless young adults and understanding the homelessness experience in New York City, including knowledge of structural supports and barriers. The researcher assured that the essence of the participants' experiences was conveyed by using a research assistant to help with data analysis and a software program. This helped to compare patterns and emerging themes across the data to determine conceptual similarities, divergence, and nuances.

MAXQDA, a qualitative software program, was used for data management and analysis. MAXQDA software helps "inductively develop codes and categories directly based on the data" (Kuckartz, 2014, p. 132). The use of MAXQDA allowed for further analytical searches for emergent textual patterns. Consistent with IPA methodology, the researcher's interpretive aspects remained the primary instrument for any findings (Smith et al., 2009). Ultimately, student descriptions and the researcher's interpretation were given primacy in constructing meaning-making for this study. The last part of the data analysis included validation of interpretations by discussing the final themes with members of the dissertation committee. This included reflection on the researchers' perceptions, conceptions, and processes to help establish coherence and plausibility.

Findings

The research captured the stories of colleges students experiencing homelessness. The chart below summarizes participant demographics. All students haven been identified and given pseudonyms.

Table 1 - Demographics of the Participants

Pseudonym	Age (Years)	Race/Ethnicity	Homeless Status	Sleeping Arrangement	Length of Homelessness (months)	Number of Semesters at CUNY
Miguel	29	Latino	Unaccompanied	Couch surfing	8	4
Michelle	27	Afro/Caribbean	Unaccompanied	Room rental and work	9	8
Maria	20	Latina	Unaccompanied	Living with boyfriend	4	4
Mario	24	Latino	Unaccompanied	Couch surfing	3	1
Ada	20	Latina	Unaccompanied	Transitional living facility	12	2
Elizabeth	29	Latina	Unaccompanied	Family Shelter	24	4
Jose	19	Latino/African American	Accompanied	Family Shelter	6	3
Elena	29	“American”	Unaccompanied	Car	24	4
Camila	26	Latina	Accompanied	Family Shelter	2	4
Luna	20	Latina	Accompanied	Family Shelter	21	2

Participant Characteristics

Gender identity and pronoun usage were asked of each student. All the students identified as cisgender, three identified as male, and seven as female. The students were from minority groups (Latinx and African American). They were all full-time matriculated students and had been in college for an average of 2.6 semesters while experiencing homelessness. The shortest amount of time a student experienced homelessness was for two months, and the longest time was two years. Students self-reported their GPAs as “C” or above. Homeless status was defined as a student who was homeless independently (unaccompanied), not with their parent(s), living independently. Those who were homeless with their parents are considered as accompanied.

Half of the respondents resided within the NYC shelter system in diverse types of facilities for individuals and families. The remaining respondents had unstable sleeping arrangements. Students in the sample were also in various stages of their homeless journey (from looking for housing to those who found housing). Of the five students in a homeless shelter, three were in family shelters with their parent(s), and one was in a shelter with her three young children. The remaining student was living independently by herself in a transitional living facility for homeless youth. The student in a family shelter with her three children had found a stable home and was moving out of the shelter soon.

The five students who were not in the shelter system were homeless independently and experienced instability and uncertainty around their living arrangements. Maria stayed with her boyfriend, who lived in a male-only congregate-care facility. Elena slept in an inhabitable place (a car at one friend’s house) and would shower at another friend’s home. She shared that she waited until her friend’s mother left for work to have access to the apartment. Michelle had a part-time overnight job that allowed her to sleep, even though she was supposed to be awake while working. Michelle also rented a room with someone she was in conflict with and had to find another room to rent. Miguel was “couch surfing” and primarily stayed with a family member who lived in a building that did not allow people sleeping there who were not on the lease. Mario slept on a couch with friends, but this arrangement was temporary. While these may seem like undesirable, unsafe, and risky sleeping arrangements, students shared that they were aware of their options and chose to live in unsecured housing rather than in the shelter system. The data captured that homelessness can be a prolonged and recurring experience. The longest time that a student in the study experienced homelessness was two years, and the

shortest amount of time homeless was two months. One student was previously homeless, which points to the fragility of housing stability. The themes based on the research question and theoretical framework are discussed below.

Family Impact on Homelessness

The students shared diverse perspectives on their pathway to homelessness which overwhelmingly were influenced by their families. They included family discord (disruption in the home), inability to find affordable housing, and situational factors (life events). Family discord was reported as the predominant reason for homelessness. Many students became homeless to escape the abuse and stress of living at home.

Basic Need Insecurity

Students had to manage their basic needs along with academic demands. The Hope Center (2021) broadly defines basic needs insecurity as lacking access to resources for food, housing, health care, technology, transportation, personal hygiene, and childcare. Students shared the challenges of securing their basic needs for food and income, access to the internet and technology, participation in government assistance programs, employment, and mental health care.

Food Insecurity. Research has noted a high co-occurrence between food insecurity and homelessness (Miles et al., 2017; Tsui et al., 2011). Food insecurity is defined as “the limited or uncertain availability of nutritionally adequate, safe foods, or the inability to acquire personally acceptable food in socially acceptable ways” (Coleman-Jensen et al., 2017). Most students (7 out of 10) talked about their experience of food instability on and off-campus.

While many participants received federal nutrition assistance (independently or in connection with a parent), it often did not result in eating nutritious meals. Students’ living environment impacted their ability to not only store but also cook food. This was mentioned by students who were in shelters and those who are not. Low food security caused some students to choose less filling or nutritious options. Camila made a conscious choice to eat one meal a day. She was also aware of the campus food pantry but she did not use it. She indicated that she could not take food from the pantry to the shelter and revealed that “I have trouble asking people for stuff. Yeah, I don’t like to, so I kind of depend on myself to get everything.”

Others residing in shelters talked about limited storage space and were concerned about others taking their food in shared storage spaces. One student shared that you cannot store food in the shelter and can only eat prepared meals, which she brings in to eat with her family. Miguel was aware of the food pantry on campus but was embarrassed to access it. “I’ve got this annoying shame thing on my back trying to carry a grocery bag out of campus. I don’t know what it is, but I just won’t do it.” The ability to address basic needs was hindered by students’ concerns for privacy and embarrassment over their homeless situation. Elena could not buy hot food with her food stamps and had to use her cash allowance, which limited her disposable income.

Financial Resources. For many, the ability to address basic needs while homeless was contingent on their participation in government programs, especially those providing financial assistance. Many students accessed these programs in the community and on campus through the CUNY EDGE. While all participants described feeling supported by the EDGE program, all expressed frustration with meeting the City of New York Human Resource Administration (Public Assistance) requirements. Elena talked about the frustration of maintaining her eligibility. Elena shared that “... I’m always in fair hearings and I’m in reconciliation, and they’re (Public Assistance) always closing my case.”

For Elena and other students’ participation in government assistance programs comes with a cost because Public Assistance does not consider the needs and demands of college students. They are required to work to receive benefits. This same frustration was experienced by other students working with homeless service providers in the community. Luna struggled with having to spend the financial aid money she received from the

college. She did not deposit it into her bank account since she had to submit her bank statements to shelter staff to maintain her family's financial eligibility to remain in the shelter system. Whether it was meeting the demands of HRA or shelter requirements, students had to limit or hide their income to receive services.

Most of the students (8 out of 10) were either looking for work or were working. Their need for financial stability to address day-to-day needs and future expectations influenced this pressure to work. Juggling the demands of school while working was a part of many students' daily routines. Luna, who was required to work by Public Assistance, shared, "Yeah I don't wanna work, but I have to." She did not want her work obligations to impact her academic studies and felt that it would complicate her life. While employment helps provide money, working also presented academic challenges for students. Ada spoke of her inability to enjoy her college experience because of the pressure of working to save money.

Mental Health. Many students in this sample openly discussed aspects of their mental health and expressed feeling depressed and anxious. Half of the students shared that they spoke with a mental health professional. Two students disclosed that they were seeing a psychiatrist off-campus. Miguel shared, "I've got a counselor on campus who helps me to stay on board with things..." He also saw a psychiatrist in the community. Elena was referred to a therapist on campus because her GPA fell below 2.0. She described her mental health treatment as "... that was a gift from God ...". She also indicated that therapy helped her to understand why she was homeless and provided a safe space for her to express her feelings and be heard. Until she went to therapy on campus, Elena did not realize how her behavior contributed to her mother asking her to leave home. Her willingness to explore this therapeutically gave her insight into the consequences of her behavior, which led to her conflict with her mother and homelessness.

Ada received treatment in the community and captured the essence of the emotional toll of homelessness by expressing that "being homeless is a stressor in and of itself." Camila acknowledged her emotional struggles but was reluctant to take the time to go to counseling, saying, "So I know I need to talk to someone to deal with it [anxiety] ... but until I know that I have internet where I am staying, my main focus is to study and passing all my tests and make sure I graduate." Camila's priorities were focused on her academic demands rather than her emotional needs. Students experienced chronic stress related to homelessness and their role as college students.

Disclosure. Homelessness threatens the well-being of college students who experience it, and how they felt about their homeless situation was evident in their responses. Luna shared, "There's no shame in being homeless." Elizabeth also disclosed that she was not embarrassed about being in a shelter and was comfortable talking about it. She viewed her homelessness experience as something "that help[s] you to grow." Luna's and Elizabeth's responses were unique among respondents. Luna understood this as reflected in her comment, "being homeless does not define a person but does impact them." Most of the students in the study were selective with whom they spoke and discussed their concerns and maintained their privacy and confidentiality on campus. Their comments revealed the shame and discrimination they felt regarding their homeless status.

Lack of trust impacted the ability of several students to speak with and relate to others. When asked about going to the campus counseling office, Michelle said, "Students are scared to go up there because they are scared of their business being out." Ada discussed being selective with whom she talked to on campus and in the community. She expressed, "I don't know how professional people are. I'm just skeptical." Ada shared that she does not always share that she lived in a shelter among friends and those she was dating. She added, "I either come up with a story or try to decide if this is someone that's worth disclosing why they can't come to her home – the facility." She isolated herself from the social experiences of college. Maria kept her homeless situation private, and Camila was also cautious about disclosing her homeless situation on campus. Many were ashamed and embarrassed, only select confidants were aware of their homeless status, and they did not access services on campus.

Impact on Academic Studies

Regardless of their housing arrangements, all students talked about the difficulty of balancing being homeless with their academic studies. Addressing basic needs were prioritized along with college responsibilities. Studying on campus was described as a necessity for homeless college students who discussed the difficulty of studying off-campus. Jose shared that he could not study in the shelter and must do so on campus. Camila described the difficulty balancing her living situation with keeping up with her classwork. She shared, “Classes are hard right now, I’m jumping from one place to another. Knowing that I have no internet where I’m staying, I have to be at the library for a very long time to do my homework and projects.” Students were forced to find other ways to study, with many spending a good deal of time in the campus library. Using library resources and services on campus became important for the homeless students in this study. Luna’s comments also capture the frustration experienced by homeless students. Luna acknowledged the support she receives on campus but shared, “support only goes so far when you can’t do the last mile on your own. The last mile you have to do, you can’t do that easily. It’s hard to seize them when you don’t have the opportunities to sit down and study, or write for uninterrupted periods, or to go online and look at the stuff that’s being sent to you in time.”

Importance of College Education. The pursuit of a college degree was seen as an opportunity that was an important part of the participants’ growth. Students experiencing homelessness understood the benefits of a college education. Elena shared, “It’s the only thing keeping me alive like the only thing I wake up to look forward to is to go to school because there’s nothing else to look forward to. It’s just school and getting my education.” She was a street homeless student and college gave her life purpose and meaning. Luna described the benefits of going to college, “I see it as a way out of poverty.” Luna understood the temporary nature of her housing situation. Using college to escape homelessness was echoed as well by Maria. Maria revealed, “I feel that college is the only way you can be sure that you’re going to have a good life.” She shared that she did not want to be in a shelter or have a dead-end job.

Those students who had children and families described being inspired by them. Miguel shared that he is “trying to get better for my son.” Determination was also expressed by Elizabeth, a separated mother of 3 young children, who wanted to make a good life for her children. She shared, “it starts with education that’s my dream I want a good job for my family.” Mario had custody of his son and expressed a similar desire to build a life for him. He described college as “the next step to a career for me and it’s the best way.” These students shared their motivation for attending college and provided suggestions for services for others who are experiencing homelessness.

Recommendations From Students Experiencing Homelessness. Several patterns emerged from students when asked about recommendations they would make to support other college students experiencing homelessness. These suggestions centered around housing and financial assistance and addressing basic needs. Elena’s comments summarized the importance of housing assistance for these students. She shared, “so, I’m paying for my college so it’s just more like hey, can you really help me because now I am paying just for my education but not paying for a room. I’m giving my money to you guys and still not having a place to sleep, put my head at night, just to be in this school.” Students also suggested access to private facilities for bathing, lockers, and a place to rest during the day.

Many students were not aware of financial resources available to homeless students on campus; these included not only financial aid but also access to meal vouchers, emergency funds for homeless students in need, tuition waivers for homeless students, and financial support for books, school supplies, and access to public transportation. One student mentioned that courses on financial management would be useful for homeless students. Ada mentioned, “just advertise that you’re here to help [homeless] students.” Her comments echoed what others also expressed, that homeless students are not made aware of services and programs available to them. Even in situations where students were aware of resources (meal vouchers, food pantry, Single Stop, etc.) on campus, some did not utilize them.

The findings provide the phenomenon's essence by putting a face on college students experiencing homelessness. The differences and similarities in their experiences illustrate the complex pathways and environments they navigated. Their stories help us understand college students experiencing homelessness through the prism of the intersecting themes discussed below.

Discussion

Reasons for homelessness

Homelessness takes different forms, which emerged once the sampling was complete, allowing the researcher to capture the homeless experience of students across a continuum. The students shared diverse perspectives on their pathway to homelessness which overwhelmingly were influenced by their families. They included family discord (disruption in the home), inability to find affordable housing, and situational factors (life events). Most did not have family support on their journey, or their families relied on them for assistance. Also, some had families of their own and were the wage earners in their households.

Basic needs insecurity

While there were many specialized programs at CUNY to help students succeed, the programs often did not capture those experiencing homelessness. Students were unable, due to program constraints, to assist with the range of service needs these students had. Institutional resources do not specifically target students experiencing homelessness. For some homeless students having priority access to jobs on campus would be more helpful than fulfilling work requirements in the community. The needs should inform campus-level resources of students.

Mental Health. College is a stressful experience under typical circumstances, and this was exacerbated in students in the study. Students experiencing homelessness are constantly exposed to stressful situations and described normal reactions to abnormal circumstances. The challenges of homelessness (frequent and sometimes sudden housing moves, demands of service providers, fractured relationships with family members, and the shame of homelessness) created additional stress. Also, dealing with the rigors of academia (lack of internet, limited financial resources to purchase classroom materials, having a quiet place to study, attending study groups, etc.) was difficult to manage. Whether the students experienced chronic stress or other mental health symptoms, research documents the impact of homelessness on the emotional well-being of young people, including the acknowledgment that homelessness is a traumatic experience (Davies & Allen, 2017; Narendorf, 2017).

Navigating college and homelessness simultaneously imposes additional pressures on the students, impacting their psychological functioning. While struggling emotionally with anxiety and depression, some found ways to cope and manage by seeking mental health services and support from their networks. Students who accessed mental health services found therapy beneficial, which suggests that they will access this service if it is easily accessible. They were encouraged to use this resource.

Disclosure. One of the challenges for youth experiencing homelessness on campus was that they choose to be invisible and feared that others would become aware of their status. Lack of disclosure by students impacted the ability of some to access mental health and other critical support services on campus. Research has documented that the shame associated with homelessness often results in students hiding their situation from others on campus (Geis, 2015; Tierney & Hallett, 2012). The literature also points out that homeless students may experience significant stigma regarding their housing status, which can potentially act as a barrier to sharing their experience with others and seeking help (Harris, 2017; Goldrick-Rab et al., 2018).

Colleges have structures and routines which allow individuals to create anonymity and make them indistinguishable from their peers within the boundaries of classes and other campus spaces. Students

experiencing homelessness can choose which aspects of their identity they share with others, thus putting them in control of whom they choose to share with. Their mental health symptoms can also disconnect them, as evidenced by the inability of many students to trust and form intimate relationships, choosing to distance themselves from others, and feeling powerless. These barriers caused students to isolate themselves, with many failing to access resources on campus that could assist them. They carried the burden of homelessness on their shoulders. Those who disclosed their housing circumstances did so discretely with select campus and off-campus providers. The researcher experienced the impact of disclosure in data collection efforts. Students were reluctant to self-disclose, and the researcher worked with trusted confidants on campus to gain access to these students.

Impact on Academic Studies

Shelter rules and regulations were described as restrictive and not suitable for college students living in them. Students were often powerless regarding shelter mandates, including rules about storing and preparing meals, keeping shelter appointments, maintaining income eligibility when receiving financial aid on campus, and curfew requirements. Living in shelters often interfered with academic studies, such as internet access and having a quiet place to study. The study participants lacked control over their living situation. They had to make sacrifices and adjustments to their school schedule and study habits to stay on top of their schoolwork and class attendance. Inclusive services for students experiencing homelessness, that are student-centered to accommodate their lifestyles are needed.

Importance of College Education

All study participants talked about what influenced them to pursue post-secondary education. Students were motivated to pursue college because they viewed their situation as temporary and were taking steps to change the trajectory of their lives. College was viewed as a pathway out of homelessness and an opportunity to provide security for themselves and their families.

Recommendations From Students Experiencing Homelessness

While students demonstrated help-seeking behaviors, they also described barriers to accessing services, including lack of knowledge about campus resources, service fragmentation, and avoiding programs that may be helpful due to embarrassment over their homeless situation. Students provided insight into how campus service delivery systems can be improved for the homeless.

Students described needing distinct levels of support tailored for the homeless on campus. This included temporary and permanent housing options, financial assistance, tutoring, transportation, and counseling that is easily accessible. It was also noted that campus staff were not well-versed in the best way to help them. Staff working with these students should be knowledgeable about homelessness and how the stigma of homelessness can serve as a barrier to service usage. A single point of entry (program) for these students on campus would help them access appropriate campus services and community resources.

Resilience

Using a resilience framework provided a better understanding of the capacities and challenges of students. The stories the students shared exposed the vulnerabilities they faced, along with limited coping strategies and resources to deal with the stress of homelessness. Resilience was evident in students' individual and shared experiences and included personal characteristics and supportive relationships. The operationalization of the construct was evidenced by the following.

Self-Efficacy. The most resounding personal characteristic demonstrated by the students was self-efficacy. Students believed in their ability to remain focused on their academic goals despite homelessness. This determination came through as they talked about their study routine. Participants often prioritized their academic goals over their basic needs. Students were flexible and exhibited problem-solving skills to manage challenging

situations (sleeping arrangements, interaction with government agencies, finding a suitable place to study, looking for permanent housing, etc.) due to their homelessness. Their choice to accept the challenges of unstable sleeping arrangements demonstrated their strength and adaptability. They made sacrifices and did what they needed to persist in college, maintain their eligibility for government assistance, and make money for basic needs and academic materials. Miguel shared that although his journey has been stressful, he has faith and trusts his process. Michelle used various self-care methods to help her to cope. Students created routines that allowed them to persist and pursue their goals.

Supportive Relationships. External relationships provided the support that many students needed to persevere. Miguel talked about “culling resources” to help him navigate his homeless experience, and Maria felt supported on campus by faculty and staff. Students developed trusting relationships with friends, family, campus staff, and programs to support their personal and academic well-being; this is especially evident by the support they received from the CUNY EDGE program. Several students were also engaged with other programs on campus (such as the food pantry and the community resource center – Single Stop). Ada was connected with community-based services for young people experiencing homelessness. Elizabeth felt supported by the shelter staff and other community-based organizations sharing, “God give me good people, and I thank him for it.” Institutional, personal, and social networks provided many students stability and support.

Students were motivated to maintain their college enrollment and graduate, expressing optimism and hope. They maintained a positive outlook regarding their challenges. Several students indicated that homelessness motivated them and gave them purpose and determination to pursue college. Mario shared that being homeless “give me more motivation to make sure I’m never in this situation again or make sure nobody in my family will ever be in this situation.” As a single parent, Elizabeth was “fighting for a good life” for herself and her children. Resilience looked different for each student given their housing and sleeping arrangement, personality, whether accompanied or unaccompanied, and other variables. Each student demonstrated their capacity to exercise self-efficacy and resourcefulness through interdependent actions, which allowed them to secure the resources and services required to sustain themselves as they navigate college.

Resilience theory was a useful framework offering a strength-based perspective. It assumes that individuals can manage and adapt to hardships, but resilience is not static. While students were doing better than expected, given their circumstances, resilience is a dynamic process that fluctuates. Resilience is more than a physical trait or characteristic; it is a process that must be situated within a person’s developmental context. Examining the role that social ecology plays in development outcomes is important. Facilitative environments are necessary for an individual to achieve a positive outcome.

Study Limitations

There was a danger that participants would attempt to please the narrator or enhance their descriptions of their experiences; however, the data suggest that these participants did not appear to be doing this artificially. The sample was small, which is typical for phenomenological studies using IPA. As such, the generalizability of the findings cannot be assumed due to the sample size and data being collected on only three CUNY community college campuses. Lastly, the research was a snapshot of homeless students at a point in time. It was not designed to determine if students persisted in their educational studies or graduated from college since it was not a longitudinal study.

Conclusion

The research finding draws attention to the struggles faced by college students experiencing homelessness and its impact on their pursuit of an academic degree. They include family problems (leading to homelessness), low incomes and financial constraints, lack of appropriate and quality employment, and systemic problems

(colleges, community, and government programs). These stressors impacted their mental health and students were discreet about their homeless status. Despite these challenges, students viewed homelessness as a temporary, surmountable challenge and had positive expectations for their future. They exhibited strength and were determined to persist. Students identified their needs and made recommendations for housing, financial assistance, and targeted services for students experiencing homelessness. The findings also revealed macro-level problems and barriers.

To succeed students experiencing homelessness must be in an environment that practices collective efficacy (Bandura, 2000). This research adds to the growing awareness of the prevalence of homelessness on college campuses. It also draws attention to the multi-faceted nature of homelessness along with the barriers and challenges of providing services to this cohort of students on campus and in the community. The findings of the research provide guidance and recommendations on how to support college students who are homeless.

Institutions of higher education are adjusting their learning environment to adapt. The current climate will impact the ability of students experiencing homelessness to succeed academically and more college students experience basic needs insecurity. This trend is impacting student enrollment. The National Student Clearinghouse Research Center (2022) estimated that undergraduate enrollment declined 5.1% between the fall of 2019 and the fall of 2020. Community Colleges are facing an even greater decline in student enrollment (National Student Clearinghouse Research Center, 2022). The ongoing COVID-19 pandemic is restructuring the economic landscape and reshaping our social lives (Yeyati & Filippini, 2021). This global crisis requires a different response to address these challenges.

In this new environment institutions of higher education need assistance and must collaborate with community-based organizations and government agencies to address this systemic problem. The research findings suggest that programs offering housing, financial assistance, tutoring, socialization opportunities, and mental health counseling are all necessary components. Students experiencing homelessness require “specifically tailored, context-appropriate, equity-focused interventions, and research attention” (Dawson & Jackson, 2013).

National organizations working with homeless students in college have advocated for a Single Point of Contact (National Association for the Education of Homeless Children and Youth, 2018). TRIO programs have demonstrated success and TRIO SSS can provide the structure these students need. Federal TRIO programs are well-positioned to remove the barriers to success by working with universities. This collaboration can effectively respond to the current crisis and ensure degree completion for college students experiencing homelessness.

References

- Arnett, J. J. (2016). College students as emerging adults: The developmental implications of the college context. *Emerging Adulthood, 4*(3), 219-222. <https://doi.org/10.1177/2167696815587422>
- Bandura, A. (2000) Exercise of human agency through collective efficacy. *Current Directions in Psychological Science, 9*(3), 75-78. <https://doi.org/10.1111/1467-8721.00064>
- Bennett, C. A., Hsiao, E-L., Dees, D. C., Kim, D. & Bochenko, M. J. (2020). The impact of TRIO student support services on academic performance of non-traditional students at a public state college in Georgia. *Journal of Adult and Continuing Education, 27*(2), 157-174. <https://doi.org/10.1177/1477971420915938>
- Bowers, P. H., & O'Neill, M. (2019). The lived experience of being a homeless college student: A qualitative interpretive meta-synthesis (QIMS). *Journal of Children and Poverty, 25*(2), 114-130. <https://doi.org/10.1080/10796126.2019.1629580>
- Broton, K. M. (2020). A review of estimates of housing insecurity and homelessness among students in U.S. higher education. *Journal of Social Distress and Homelessness, 29*(1), 25-38. <https://doi.org/10.1080/10530789.2020.1677009>
- City University of New York – Office of Institutional Research. (2019). *A profile of undergraduates at CUNY senior and community colleges: Fall 2019*. https://www.cuny.edu/wp-content/uploads/sites/4/page-assets/about/administration/offices/oira/institutional/data/current-student-data-book-by-subject/ug_student_profile_f19.pdf
- City University of New York (2021). *EDGE program*. <https://www1.cuny.edu/sites/cunyedge>
- City University of New York School of Public Health. (2020). *The state of food security at CUNY in 2020: An assessment and recommendations*. https://static1.squarespace.com/static/572d0fcc2b8dde9e10ab59d4/t/5ee2711f44361d4425414a3d/1591898403740/CUNY-UFPI_food-security_v07_Final.pdf
- Coleman-Jensen A, Rabbitt M. P, Gregory C. A, Singh A. (2017, September). *Household food security in the United States in 2016* (Economic Research Report No. 247). Economic Research Service, U.S. Department of Agriculture. <https://www.ers.usda.gov/webdocs/publications/84973/err-237.pdf>
- Congressional Research Service (2020, October 21). *The TRIO programs: A primer*. <https://crsreports.congress.gov/product/pdf/R/R42724/15>
- Crutchfield, R. & Maguire, J. (2018, January). *Study of student basic needs*. California State University Office of the Chancellor Study of Student Basic Needs. https://www2.calstate.edu/impact-of-the-csu/student-success/basic-needs-initiative/Documents/BasicNeedsStudy_phasel_withAccessibilityComments.pdf
- Davies, B. R. & Allen, N. B. (2017). Trauma and homelessness in youth: Psychopathology and intervention. *Clinical Psychology Review, 54*, 17-28. <https://doi.org/10.1016/j.cpr.2017.03.005>
- Dawson, A. & Jackson, D. (2013). The primary health care service experiences and needs of homeless youth: A narrative synthesis of current evidence. *Contemporary Nurse, 44*(1), 62-75. <https://doi.org/10.5172/conu.2013.44.1.62>
- Dörfler, V., & Stierand, M. (2020). Bracketing: A phenomenological theory applied through transpersonal reflexivity. *Journal of Organizational Change Management, 34*(4), 778-793. <https://doi.org/10.1108/JOCM-12-2019-0393>
- Eatough, V., & Smith, J. A. (2008). Interpretative phenomenological analysis. In C. Willig & W. Stainton-Rogers (Eds.), *The SAGE Handbook of Qualitative Research*. <https://dx.doi.org/10.4135/9781848607927>
- Geis, Q. D. (2015). *Exploring the academic and social experiences of homeless college students* [Dissertation, University of Nebraska-Lincoln]. Higher Education Commons.

- Goldrick-Rab, S., Coca, V., Kienzel, G., Welton, C.R., Dahl, S. & Magnelia, S. (2020). *#RealCollege during the pandemic: New evidence on basic needs insecurity and student well-being*. https://hope4college.com/wp-content/uploads/2020/06/Hopecenter_RealCollegeDuringthePandemic.pdf
- Goldrick-Rab, S., Richardson, J., Schneider, J., Hernandez, A., & Cady, C. (2018, April). *Still hungry and homeless in college*. The Hope Center. <https://hope4college.com/wp-content/uploads/2018/09/Wisconsin-HOPE-Lab-Still-Hungry-and-Homeless.pdf>
- Hallett, R. E. (2010). Homeless – How residential instability complicates students' lives. *About Campus*, 15(3)11–16. <https://doi.org/10.1002/abc.20023>
- Harris, D. A. (2017). Just the “Typical College Diet”: How college students use life states to account for unhealthy eating. *Symbolic Interaction*, 40(4), 523-540. <https://doi.org/10.1002/symb.280>
- Hope Center. (2021, March 31). *#RealCollege2021: Basic needs insecurity during the ongoing pandemic*. <https://hope4college.com/wp-content/uploads/2021/03/RCReport2021.pdf>
- Huang, H., Fernandez, S. B., Rhoden, M. A., & Joseph, R. (2019). Elements of a college support program that matter: A case study. *Research on Social Work Practice*, 29(8), 949-960. <https://doi.org/10.1177/1049731519832105>
- Husserl, E. (1980). *Phenomenology and the foundations of the sciences*. Martinus Hijhoff Publishers. (Original work published 1952).
- Kienzl, G., Goldrick-Rab, S., Conroy, E. V., & Welton, C. R. (2020, September). *#RealCollege during the pandemic: Initial institutional responses to address basic needs insecurity*. The Hope Center for College, Community, and Justice. <https://hope4college.com/wp-content/uploads/2020/09/COVIDInstitutionSurvey.pdf>
- Kuchartz, W. (2014). *Qualitative text analysis: A Guide to methods, practice and using software*. SAGE Publications.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2003). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543-562. <https://doi.org/10.1111/1467-8624.00164>
- McKinney-Vento Homeless Assistance Act. Public Law 100-77*. (2015, December). <https://uscode.house.gov/view.xhtml?path=/prelim@title42/chapter119/subchapter6/partB&edition=prelim>
- Miles, R., McBeath, B., Brockett, S., & Sorenson, P. (2017). Prevalence and predictors of social work student food insecurity. *Journal of Social Work Education*, 53(4), 651-663. <https://doi.org/10.1080/10437797.2017.1299062>
- Narendorf, S. C. (2017). Intersection of homelessness and mental health: Mixed methods study of young adults who accessed psychiatric emergency services. *Children and Youth Services Review*, 81, 54-62. <https://doi.org/10.1016/j.childyouth.2017.07.024>
- National Alliance to End Homelessness. (2020). *Population at-risk: Homelessness and the COVID-19 crisis*. <https://endhomelessness.org/wp-content/uploads/2020/03/Covid-Fact-Sheet-3.25.2020-2.pdf>
- National Association for the Education of Homeless Children and Youth. (2018). *Single point of contact model*. <https://naehcy.org/wp-content/uploads/2018/08/SPOC-Model-Revamp-FINAL.pdf>
- National Student Clearinghouse Research Center. (2022, January 13). *Term enrollment estimates, 2021*. https://nscresearchcenter.org/wp-content/uploads/CTEE_Report_Fall_2021.pdf
- Patton, M. (2002). *Qualitative evaluation and research method*. Sage Publications.
- Reiners, G.M. (2012). Understanding the differences between Husserl's and Heidegger's phenomenological research. *Journal of Nursing and Care*, 1(5), 1–5. <http://doi.org/10.4172/2167-1168.1000119>
- Shepherd, C., Reynolds, F. A., & Moran, J. (2010). “They’re battle scars, I wear them well”: A phenomenological exploration of young women’s experience of building resilience following adversity in adolescence. *Journal of Youth Studies*, 13(3), 273–290. <https://doi.org/10.1080/13676260903520886>

- Smith, J. A., Flowers, P., Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method, and research*. Sage Publications.
- Tierney, W. G., & Hallett, R. E. (2012). Homeless youth and educational policy: A case study of urban youth in a metropolitan area. In C. Camp-Yeakey (Ed.), *Living on the Boundaries: Urban Marginality in National and International Contexts* (pp. 49-78). Emerald Group Publishing Limited. [https://doi.org/10.1108/S1479-358X\(2012\)0000008008](https://doi.org/10.1108/S1479-358X(2012)0000008008)
- Tsui, E., Freudenberg, N., Manzo, L., Jones, H., Kwan, A. & Gagnon, M. (2011). *Housing instability at CUNY: Results from a survey of CUNY undergraduate students*. Healthy CUNY Initiative, City University of New York.
- U.S. Department of Housing and Urban Development, Office of Policy Development and Research. (2015). *Barriers to success: Housing insecurity for U.S. college students*. https://www.huduser.gov/portal/periodicals/insight/insight_2.pdf
- Wilson, S. L., Williams, L. D., & Leach, M. (2019). The invisible dilemma of collegiate homelessness. *Journal of Psychiatry and Behavior Therapy*, 2(1), 37-40.
- Yeyati, E. L., & Filippini, F. (2021, June). *Social and economic impact of COVID-19* (Working Paper No. 158). Brookings Institute. <https://www.brookings.edu/wp-content/uploads/2021/06/Social-and-economic-impact-COVID.pdf>

First Gen/Gen Z: Reimagining Secondary Education Supports through Literacy Partnerships

Authors:

Libby Adjei

Oklahoma State University
libby.adjei@okstate.edu

Sarah J. Donovan

Oklahoma State University
sarah.j.donovan@okstate.edu

Abstract

Oklahoma State University (OSU) is a land grant university whose mission is to promote learning, advance knowledge, enrich lives and stimulate economic development through teaching, research, extension, and outreach activities. To ensure that the mission of the university remains in the forefront of the services that are rendered to the community, the Upward Bound Program is housed under the OSU's Division of Institutional Diversity (DID) as a part of their outreach efforts to rural communities. COVID-19 negatively impacted the additional academic support that Upward Bound provided to first generation and/or low income students as schools closed their doors. Upward Bound students had limited access to high-quality teaching and learning experiences as schools moved to online platforms to replace in-person learning. The students informed the Upward Bound staff that learning loss was occurring rapidly, and they needed assistance. To reimagine the delivery of services, Upward Bound sought assistance from OSU's Randall and Carol White Reading and Mathematics Center (RMC) to offer literacy tutoring. The RMC matched Secondary Education English preservice teachers with Upward Bound students. The preservice teachers met virtually each week with Upward Bound students for ten weeks for three semesters. This partnership between Upward Bound and the RMC uncovered best practices that can assist pre-collegiate programs and university programs in expanding their bandwidth and meeting the goals of their respective programs.

Keywords: adolescent literacy, service learning, embodied pedagogy, distance learning, COVID-19

In the early days of COVID-19, many schools closed their buildings for virtual learning or quickly shifted school-based practices to minimize human contact and thus spread the virus. Though distance education theories predate COVID-19 (Holmberg, 2005; Kearney, 2012; Moore, 1993), the situation created by COVID-19 was closer to “emergency remote teaching” (Hodges et al., 2020)—temporary practices distinguished from deliberate, planned online education. Education program coordinators grew increasingly concerned by inequitable access to and understanding of online teaching and learning (Alvarez, 2020; Bozhurt et al., 2020) and struggled to support the social-emotional needs of students without face-to-face contact. Holmberg (2005) explained that empathy is necessary for online learning, creating a feeling of belonging in the learning community. Still, few educators were trained to nurture relationships online when they’ve only ever done so in person.

As education program coordinators with extensive secondary teaching experience, Sarah in Teacher Education and Libby, the Upward Bound Director, we came together out of a shared purpose to offer online support to our students (preservice teachers in their 3rd and 4th year of college and 9th-12th grade secondary students respectively) during the early days of the COVID-19 pandemic. For Sarah, she was looking for ways to support preservice English teachers in learning content, pedagogy, and relational ways of being with students. Libby was looking for ways to stay connected and offer tutoring to her high school students in the Upward Bound program. With the help of our university literacy center, we developed an online tutoring program grounded in service-learning research that connected preservice teachers and high school students from September 2020 through December 2021.

The online tutoring program had five key features: (1) the mentoring was informal and seen as complementary to the Upward Bound (UB) program and central to the methods of coursework for preservice teachers; (2) program coordinators framed tutoring as support and enrichment, so weekly one-hour tutoring sessions were in response to the needs and interests of students; (3) Upward Bound students volunteered and were offered stipends and technology (e.g., hotspots) for their participation; (4) preservice teachers participated in the contextual situation of preservice teachers transferring theory to practice, and (5) materials and sessions were documented for instructional purposes.

This collaboration examines the tutoring partnerships within an online cross-program collaboration designed to support Upward Bound students (program described below) with preservice teachers who need instructional practice. We are interested in the interplay between the tutor’s and the tutee’s experiences during and after tutoring sessions.

1. How do program coordinators be responsive or innovative in times of crisis?
2. What are the implications for how we respond to changes in our programs and learning needs?

This project is significant in how we center self-perception, literacy identities, and reciprocity in learning. We are interested in illuminating the impact of these concepts on education identity. With weekly meetings over the past two years, we participated in online reflection, sharing anecdotal and emerging evidence within and across our programs. In this reflective practitioner piece, we center our journey as critical friends leading a student-centered program who needed support for ourselves and the people we serve during a crisis.

Literature Review

Though this is a reflective article, we think it is essential to offer literature that has supported our work in developing and studying our collaboration.

Tutoring as Preservice Teacher Fieldwork

Service-learning is that bridge that allows preservice teachers to extend their knowledge and gain experience while providing service to the community (Laverick & Paquette, 2017). Authentic field experiences help preservice teachers apply theory to practice, differentiate instruction to meet students’ needs, understand the

workload and challenges of classroom teachers, and gain knowledge and appreciation for teachers and public schools (Lane et al., 2011; Massey & Lewis, 2011). Schools with no funding for tutoring services can utilize trained college students to enrich students' learning experiences online, making tutoring more accessible to high school students with busy schedules and lives not proximate to academic institutions. Preservice English teachers design instruction in "situated contexts, independent learning triggered by self-monitoring and problem solving, reading rehearsal through extended time for reading, collaborative learning using peer conferencing, and reader response through writing" (Falk-Ross, 2008). Tutoring offers flexibility in the choice of materials and methods, both proven factors in improving students' motivation and willingness to participate (Fischer, 1999; Juel, 1996). Student interest in the process and materials used during learning is key to motivation and can be easily supported through tutoring events (Hidi, 1990; Ivey & Broadus, 2001).

Flower's (2002, 2008) exploration of service-learning problematizes the server-served dichotomy that service-learning often creates and articulates a more complex picture of the potential role reversals present in the act of service-learning. Flower's (2002, 2008) work features reciprocity—a concept that refers to both the interchange in roles between teacher and student as well as the interchange between university and community partnerships—as central to service learning's definition, thus seeking to reverse the longstanding practice of the academy using the community for the academy's own ends (Zlotkowski, 1996).

Equity for First-Generation Students

In 1964, the United States Department of Education developed three programs known as TRIO: Upward Bound (UB), Talent Search, and Special Services for Disadvantaged Students. The TRIO programs are federal outreach and student services programs designed to identify and provide services for individuals from disadvantaged backgrounds. The United States Department of Education administers, funds, and implements them. The general mission of this program is to assist first-generation and low-income students and students with disabilities to progress to post-baccalaureate programs (McElroy & Armesto, 1998). Five primary foci of TRIO precollegiate programs include: 1) academic preparation for college, 2) educational and career planning, 3) financial literacy, 4) self-efficacy, and 5) support systems. Two-thirds of the participants must be first-generation and low-income, and one-third can be students who are "at-risk" academically. These academically at-risk high school students are further at-risk because they may be the first one in their family who has graduated from high school. There is a gap in the literature that addresses first generation and/or low income students who are the first in their families to graduate from high school. The term first generation is defined as a student whose parent(s) did not complete a 4-year college or university degree (Toutkoushian et al., 2021). Although this is true for the students in the Upward Bound program, it does not represent a holistic view of the educational landscape that these students navigate. Finding research that specifically focuses on students who are the first person in their family to graduate from high school can be difficult. The research that exists only provides information on first generation high school students through the lens of them being first-generation college students. Therefore, it does not address the issues that first generation high school graduates face such as (a) parental assistance with navigating high school graduation requirements, (b) a parent who do not understands the high school system enough to advocate for their child to be placed in rigorous courses, (c) parents feeling alienated because of a negative experience in their high school career, so they have a difficult time working with principals, counselors, and teachers, (d) parents working with counselors to develop a postsecondary plan for their child, etc. Although some of these factors may be parallel to first generation college students; however, first generation high school students have other unique challenges that can prevent them earning a high school diploma. Without support in high school, these students are less likely not to earn a diploma, to become first generation college students (Capannola & Johnson, 2020).

When students enter the school system, they are immediately positioned into a complex system of stratification influencing academic, social, and emotional experiences (Venezia & Jaeger, 2013). This educational hierarchy, which purposely separates students from one another, is a disadvantage to students from low-income populations (Apple, 2004). Further, first generation students vary from non first generation peers in cultural, socioeconomic, and geographic experiences, including the role of guardians in academic support (Jehangir

et al., 2015). Further, they are more likely to be working to contribute financially to the family and/or care for younger siblings (Atherton, 2014; Jehangir et al., 2015). Research also shows that first generation students can feel increased stress and feelings of guilt when school and family responsibilities intersect (Lohfink & Paulsen, 2005). Thus, first generation students navigate a range of personal, familial, and social identities. It is essential that the support systems that TRIO programs like Upward Bound offer to first generation students include time and space for students to surface and explore such intersecting identities. Of particular concern and intensified by COVID-19 is that students from lower socioeconomic backgrounds experienced more obstacles transitioning to online learning, especially in terms of accessing adequate study space, learning support, and scheduling conflicts. The OSU Upward Bound program recognized this right away; however, finding effective support took some problem solving, which led to our partnership and a cross-program tutoring program between Upward Bound high school students and undergraduate college students, some also first generation college students.

Research examining cross-age tutoring programs has primarily emphasized the quantitative academic gains of the younger struggling readers (Fitzgerald, 2001); studies that examine how the intimacy of tutoring relationships fosters self-perception and literacy identity are few, and in programs focused on measurement-based outcomes, such a personal focus is absent.

Theoretical Framework

Essential to our ongoing reflection about the protocols of the literacy partnership between Upward Bound and Oklahoma State University preservice teachers is a stance of theorizing. In other words, as we partnered with Upward Bound and OSU students in literacy partnerships, we found that the online space and generational experiences informed and illuminated precisely what kinds of support our students needed, so a conceptual framework became helpful in our reflective practice.

Pedagogical Third Space Theory

Using third space theory as a conceptual framework, we will examine how tutoring partnerships play out when enacted in a virtual social space. The third space theory draws on the hybridity theory proposed by Bhabha (1994). In this study, we define the virtual tutoring space as a third space because it transcends the official and traditional spaces for teacher education and learning (e.g., the practicum school and the university). This “pedagogical third space” (Bhabha, 1994) in English education can synthesize traditional school literacies (e.g., writing process, reading strategies, application of technologies) with students’ lived literacies (e.g., self-perception, social relationships, identities). Bhabha (1994) explored third spaces as sites “for elaborating strategies of selfhood . . . that initiate new signs of identity, and innovative sites of collaboration, and contestation, in the act of defining the idea of society itself” (pp. 1–2). Moje et al. (2004) positioned “pedagogical third spaces” as those that challenge and expand what types of literacy practices are valued in school and the world. As stated above, most studies focus on quantifying learning or measurable academic gains without inviting youth (and preservice teachers) to bring their everyday literacy practices, identities, and interests into the classroom.

Youth Culture and Literacies

Youth culture and literacy tend not to receive much attention among policymakers and educators, as much funding is directed at children’s early literacy (Moje et al., 2000; Vacca, 1998). Turning our attention to youth to study how they learn increasingly complex literacy practices and how they use technologies to navigate complex social worlds has the potential to inform children and adult literacy learning. Comaroff and Comaroff (2000) argued, “youth tend everywhere to occupy the innovative, uncharted borderlands along which the global meets local” (p. 308). And now more than ever. Moje (2002) argues,

These youth, by virtue of their unique position in society, encounter contradictory and global practices that younger siblings have not yet experienced and that their parents (most of whom could not afford the time or money to take such a trip) may never experience (p. 222).

Advocates for a new understanding of adolescent literacy argue that the first step in revamping adolescent literacy approaches is to begin with fostering communities where students feel encouraged to make contributions to learning (Santa, 2006). Just as critical literacy is predicated on human transformation and consciousness-raising, adolescence is a period of development driven by transformation. As adolescents prepare for the social and intellectual challenges of functioning in an adult world, they need increased exposure to complex modalities of literacy. For instance, Behrman (2003) notes literacy instruction for adolescents: “Literacy development in secondary schools...but should involve participation in an array of language activities using multiple texts in varied settings both in and out of school” (p. 3). For Gee (2002), youth make decisions and create hybrid and fluid identities that work across and within multiple spaces, times, and places.

Only during the COVID-19 pandemic lockdown of 2020 did education program coordinators begin to experience online/offline life as Gen-Zs, who have never known life without the internet. Researchers Katz et al. (2021) state: “Digital technology, with the constraints and freedoms it imposes, has affected and shaped not only their online habits of being but also their offline life and practices and the merging of the two” (p. 13). Social codes or behavioral expectations in different online spaces require a high degree of dexterity. With COVID-19, there was no transition or instruction on how to do school online, be mentored online, or navigate distinct social contexts. And there was no option. The online was completely digital without the human interaction they had come to depend on; the same for preservice teachers who had ideas of being a teacher in a classroom space, fully embodied.

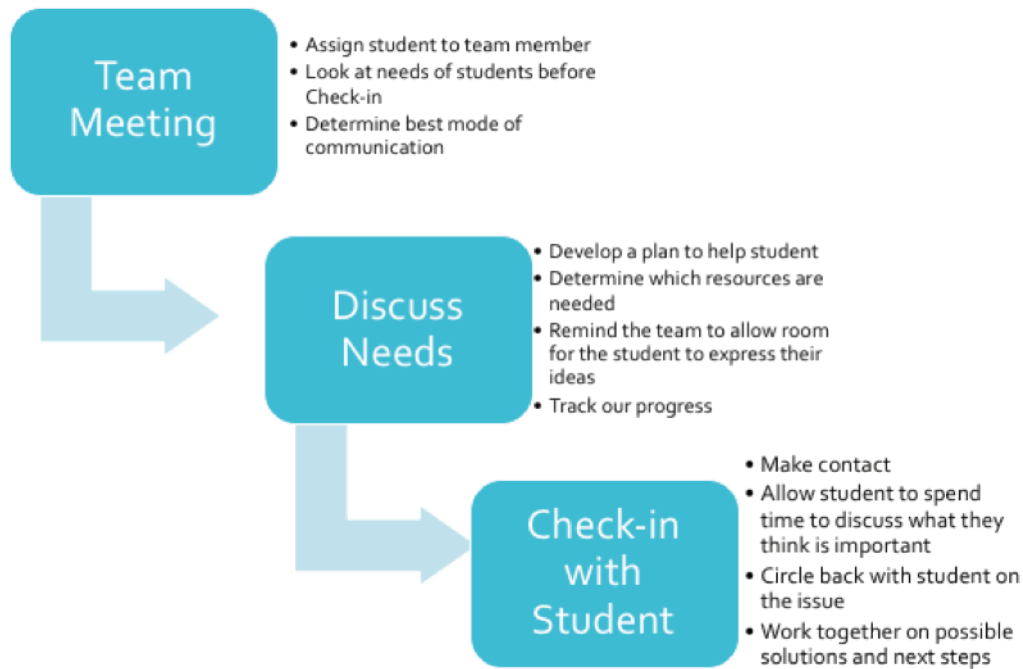
A Framework for Promising Practice of Reciprocal Literacy Partnerships

Assess Program Beliefs

As a result of the pandemic, the Upward Bound Program had to transform how programming would be delivered throughout the schools. All of the programming that had been done face-to-face was now halted. The Upward Bound staff was highly concerned about reaching our objectives which included (a) students earning GPAs above 2.5, (b) students scoring well on standardized tests, (c) seniors graduating, (d) students remaining in school, (e) seniors enrolling in college or a training program, (f) students remaining in a rigorous program at their schools. To ensure that Upward Bound reaches benchmarks established by the Department of Education, each program must report on these objectives annually.

Each school district executed distance learning based on their needs and resources. This meant that students from one target school had a different experience from a student attending another target school. The team formulated a plan to assist our students based on these circumstances. The team reviewed the list of all our participants to determine which team member had a positive relationship with which students. Afterward, each member of the team was assigned a group of students. The Upward Bound Team maintained contact with these students by making phone calls, conducting one-on-one virtual meetings, sending texts, emails, etc. The team coined these weekly contacts as “check-ins.”

Figure 1 - Upward Bound Student Support Protocol



During these check-ins, the students shared their anxieties about living through a pandemic and their struggles with distance learning. Each week the Upward Bound Team met to discuss the current status of the “check-ins.” After our discussions, we would identify which students needed the most help and work with those students first. On a check-in with a senior, he said, “I am tired and I want to quit school. Wi-Fi does not work well where I live. If I want Wi-Fi I have to drive about 20 minutes from where I live.” Once we identified their immediate needs, the team started to create scaffolding to support the students, such as making more than one check-in per week, providing hotspots and laptops so that students could keep up with their school work, assisting with assignments, informing them about community resources, conducting UB Facebook Messenger group chats, etc. Students welcomed this additional support, but they still needed more help academically and, as it turned out, personally.

Their greatest challenge was learning in schools as they attempted to adjust to the pandemic. The students expressed that their teachers were making every effort to assist them. However, the students expressed that the teachers were experiencing difficulty with the constant shifts in teaching. Additionally, some of their teachers who were novices to using technology found it challenging to learn all the new online systems. One student stated, “My teacher does not know how to use Zoom and I keep trying to show her how to use it.” Other factors that impacted their teachers included adapting to the constant changes from the administration, transforming all their teaching material to be used virtually, changing their teaching style to match the online platform, maintaining an accurate record of attendance, etc. This caused the students to worry about their GPAs, scoring well enough on the ACT for college admission, graduating on time, whether their work was being graded, etc. Besides these issues, the students informed us of other issues that impacted their ability to do well in school. The obstacles they faced included: (a) working too many hours at their part-time job to help their family and attempting to save for college, (b) not having a strong enough Wi-Fi signal for virtual learning, and (c) trying to have a positive attitude when life was hard to take, etc. After hearing this from our students, the Upward Bound team scrambled to meet their needs.

Initially, we followed the course of action of most Upward Bound programs by purchasing online tutoring services for our students that cost 7,500 dollars. Needless to say, the staff discovered quickly that online

services were not working for our students. The students refused to use the service even after we purchased hotspots and loaned them laptops. The staff attempted to hold onboarding meetings about how to use the online services. Representatives from the online service companies spoke with our students and even offered them incentives. All of our due diligence did not equal success. Afterward, the students stated they were “tired” of virtual learning and could not handle another online learning platform. Through many personal one-on-one conversations, the Upward Bound staff discovered that the students missed the social interaction of the school day, which included: (a) learning from a teacher in a face-to-face classroom; (b) attending sporting events at school, (c) interacting with their friends at lunch, etc. Even though the online services provided students with the best tutors and experts, they lacked the personal interactions they craved so desperately.

At a meeting with the Vice President of the Division of Institutional Diversity, the Upward Bound staff shared our stories about the students. The Upward Bound staff was advised to reach out to the Randall and Carol White Reading Mathematics Center (RMC) on campus. The partnership was a perfect match. The Upward Bound students needed tutoring and the preservice teachers needed field experience.

Look for Growth Opportunities

Each week the Upward Bound students met with preservice teachers through Zoom. The session lasted approximately one hour. These sessions included instruction on reading and writing skills. From this match also emerged an informal mentoring relationship. The Upward Bound students connected emotionally to the preservice teacher. This was different from the online program that we had purchased for them. Research demonstrates that mentored youth are better equipped to handle interpersonal issues that may occur at school and/or at home. In addition, a mentee’s exposure to positive role models can motivate the youth to seek educational and social opportunities on their own. The mentoring experience can also be beneficial in assisting the mentee in creating realistic goals (Eby et al., 2008).

Stories from the preservice teachers and Upward Bound students emerged from these weekly sessions about the challenges of living through a pandemic. In these sessions, they discussed how difficult learning can be when you are doing it virtually, personal challenges they faced like the death of a friend, the lack of social interactions, etc. The preservice teachers also shared their feelings about being a teacher, future aspirations, and college experience. The preservice teachers were open to discussing their personal lives with the students—this freedom allowed Upward Bound students to share their most personal thoughts. The preservice teachers were concerned about the issues that the students faced, and the students were also concerned about the preservice teachers.

Through shared stories, mentoring that has a reciprocal approach between the mentor and the mentee can be life-changing. When the mentor and mentee verbalize their shared stories with each other, this provides emotional support, motivation, encouragement, and assistance with setting goals and overcoming challenges (Adjei, 2016).

This emotional connection in learning was the key to success for the students returning each week to meet with their preservice teacher. Preliminary research revealed that mentoring relationships that utilized a developmental approach experienced more satisfaction than those in a prescriptive one. In a developmental relationship, the mentors were more concerned with meeting their mentee’s needs. Hence, the mentors were more willing to be flexible and consider the youth’s interests (Eby et al., 2008; Styles & Morrow, 1992). The Upward Bound staff regularly conducted check-ins with students to gauge their experience working with the preservice teachers. The students expressed how much they were learning from the preservice teachers regarding the content, but they also expressed how much they were looking forward to the meetings each week.

In the next section, we share the theory-to-practice framework for the tutoring sessions as a promising practice of Upward Bound programs beginning with an invitation and leading to preservice teachers (PT) training.

Create Space for Voices to Be Used and Heard

In the past, Upward Bound programming has primarily relied on face-to-face interactions with students to meet the objectives outlined in the grant. As a result of the pandemic, all face-to-face programming was abruptly stopped, and the Upward Bound team searched for different methods to render services. The collaboration between Upward Bound and the College of Teaching and Learning was an excellent fit for both programs. The College of Teaching and Learning needed field experience for their PTs, and the Upward Bound students needed learning that had a personal touch. This collaboration was the best use of not only government funding but also an excellent example of how resources at the host institution can help fill gaps in Upward Bound programming. The services rendered by the PTs also allowed Upward Bound students no longer enrolled at a target school to remain connected to the Upward Bound program. The target schools served under the grant are all rural, which means that travel to and from OSU can become a barrier. However, the PTs conducting sessions virtually allowed students who face long travel times to still be served.

Upward Bound students engaged in meaningful conversation about the PT's college experience. During the academic school year, this one-on-one with PTs provided the Upward Bound students with a deeper understanding of a college experience. The relationship between the PTs and students lasted longer than a typical one-hour or one-day college event. Through these interactions, Upward Bound students learned college-readiness skills such as organizing their notes, preparing for the tutoring session in advance, critical thinking, and discussing learning material. PTs have also discovered that teaching students must include a relationship-building component that they may not have found in a class of 30 students in a traditional teaching field experience. These early interactions with students also allowed the PTs to understand that there may be a myriad of issues that hinders a student from learning, such as limited technology, work schedules, personal challenges, etc. This allows both PTs and Upward Bound students to see the value in sharing information that may be useful and helpful in the learning process.

Each semester, new nuances have caused adjustments in how programming should be implemented. During the height of the pandemic, the schools shut down all of their extracurricular activities. Therefore, the Upward Bound students had a great deal of time to meet with a PT. As the pandemic continued, schools began to use health protocols to re-open extracurricular activities on their campus. The reopening of school activities has caused PTs to struggle to work with Upward Bound students to find time for their weekly sessions.

At the start of the collaboration, the main concern was assigning each PT an Upward Bound student. Over time, it was evident that there was a need to invest efforts in onboarding both the PTs and the Upward Bound students before their sessions started. The strategies utilized included: (a) discussions in the PT field experience course about the Upward Bound program and the collaboration, (b) field experience supervisor and PTs meeting Upward Bound students at an academic workshop on Saturday, (c) Upward Bound Director providing personal narratives about each student that was shared with PTs, and (d) Upward Bound Director attending virtually the field experience course to meet PTs. The plan of how programming should unfold will undergo several transformations as the discovery of best practices continues to evolve.

Responsive, Personalized Student Supports

Being a teacher requires the complexities of knowing. Cochran et al. (1993) wrote that teachers must have pedagogical content knowledge (PCKg), “a teacher’s integrated understanding of four components of pedagogy, subject matter content, student characteristics, and the environmental context of learning” (p. 266). Knowledge of these four components is insufficient without practice, and access to students within their learning contexts was stalled during COVID-19 (Shulman, 1981).

With Upward Bound students, preservice teachers (PTs) could engage in context-specific teaching and learning to apply theory to practice, focusing on rapport building with dialogic practices and culturally responsive pedagogy (Hammond, 2014; Ladson-Billings, 1994; Paris, 2012). While these are sound teaching practices across all learning environments, they became especially critical during the pandemic and in online spaces for

both the Upward Bound students and the PTs that may have lasting positive implications on their academic trajectories.

There were two different and repeating sessions: one focused on critical reading and the other on embodied writing (see Table 1). Both practices are part of culturally responsive pedagogy and include connecting readings and writing experiences to students' interests, life experiences, and global and local issues. It means beginning with students' present-day joys and concerns and then zooming out to look at the systems that perpetuate stress, inequities, and social injustice. For example, one UB student wanted the tutoring sessions to explore Puerto Rico so that he could learn more about his culture and understand what it would be like to live there. He wondered why Puerto Rico was never part of any classroom curriculum.

PTs guide UB students to choose valued topics and encourage them to write for real purposes and audiences, helping students set goals and monitor their progress. PTs co-write, share their own writing, discuss contrasting opinions and worldviews, and consider publication beyond the tutoring session (with a grant to publish a book). For example, one UB student wanted to write poetry. She said that poetry writing is not valued in school, but that writing poetry allowed her to process her life, and she wanted to read and listen to some great spoken word artists exploring mental health.

PTs use explicit instruction of strategies to bring critical lenses to the tutoring space by following a gradual release model: *I do*—with a think-aloud; *we do*—noticing the process steps; and *you do* with PT observation of the UB student engaging in the strategy. Both the PT and UB student acknowledges that much of the reading in high school and college is assigned without any instruction as to how to read or how to understand the way a text is constructed, and yet professors expect students to know how to engage in critical discourse. Thus, the tutoring sessions offer space for the PT and UB students to be more critical in their reading habits while also improving their writing by recognizing the text structures that they may use in their own writing.

The “embodied” feature of the pedagogy means intentionally engaging and seeing the individual. The camera is on because we want to see facial gestures, essential to reading messages beyond words. We use notebooks so that students can see what their hands can create without the mechanized words devices create (Chavez, 2021). This may be uncomfortable initially, but it is a literal and figurative shift in humanizing education. Students read aloud and learned to ask follow-up questions—vocalizing their thinking, learning, and questions. This is so important to engaged learning. So many classrooms are dominated by teacher discourse without carving space for all student voices. When we use our voice to read our hand's writing, we center the learner, and the PT and UB reciprocate.

Table 1 - Preservice Teacher Virtual Pedagogical Content Knowledge and Knowing

Critical Reading	Embodied Writing
Cognitive Strategies: What do you do before, during, and after you read so that you can engage with the ideas and critique the parts and whole?	Paper Notebooks: Notebooks hold our own script rather than a mechanized font. They allow writers to draw, schedule, cross out, circle, and arrow their ideas to make visible the process. This demystifies the writing process.
Absolute Language: Why did the author use this phrasing? What are the implications? Is it accurate?	Digital spaces for publication: When we write in digital documents, we make a mental shift to think of our audience. In this way, we are critical of the implied audience— typically white mainstream English—and consider how we can draw on our linguistic heritage and choose authentic audiences for our work.
Quoted Words: Why did the author quote or cite this person? Whose perspective is not quoted, cited, represented in the writing?	Genre Theory: Writing is rhetorical, situated, and dynamic, so students need to learn, analyze and make choices within and across genres, including multimodal (visual, audio, gestural, text).
Word Gaps: Do I know this word from someplace else? Is it technical talk for experts? Can I find clues in the sentence to help me understand the word?	Mentor Texts: We bring diverse voices into the sessions so that students have access to many world views and recognize there are many ways to construct genres.
3 Big Questions: What did the author think I already knew? What surprised Me? What challenged, changed, or confirmed what I knew?	
Critical reading strategies adapted from Beers, G. K., & Probst, R. E. (2015). <i>Reading nonfiction: Notice & note stances, signposts, and strategies</i> . Heinemann.	

Attend to Protocols

As a program, literacy partnerships required several agile protocols. A protocol is typically an established procedure or process that ensures fidelity and/or routine. However, when working with youth, we found that every protocol needs to be agile without abandoning safeguards. In other words, we want to be responsive to the needs of our students using what we’ve learned through the different iterations of the program during the pandemic. Further, since we did not plan to abandon the literacy partnerships any time soon as the short and long-term implications of the pandemic are unknown, we wanted to continue to develop protocols that would improve the program so that we could ultimately study outcomes.

Safety

In working with youth, it is important to consider ethics and safeguards. Students and their families signed consent for sessions to be recorded for instructional purposes, but these recordings also document the sessions for safety. Routine monitoring of the sessions were executed as a safety precaution to ensure that the match between the students and preservice teachers were going well. Additionally, regular individual meetings with Upward Bound students occurred to make sure that they felt comfortable with their match. We asked that all email exchanges be copied to the program coordinators, but we are finding that text messaging is the preferred mode of communication with Gen Zers, and this has proved difficult to monitor. Still, when there have been issues, like a harsh tone in a text exchange, students have this data on their phones to share with program coordinators. PTs send a welcome letter at the beginning and a summary letter at the end of sessions to the families and program coordinators. The post email is printed on school letterhead and mailed to the families as

a thank you and summary of the collective tutoring experience. These steps keep in the PTs minds that the UB students are other people's children and that we are nurturing a path toward identity and career development.

All individuals working with minors on university property or under the authority and direction of the university must complete a training outlining appropriate interactions with youth (e.g., adult supervision in open, well-lit environments; established times to meet with parental authorization; and mandated reporting of suspected abuse or neglect). While this training seeks to protect minors from abusive emotional and physical treatment to some extent, we see the benefit of additional training related to boundary awareness to support the preservice teachers in understanding dimensions of healthy teacher-student relationships (Carnegie Mellon University, 2022). Students (high school and college) who may lack a close relationship with parents or have a history of neglect can exhibit low-self esteem and seek approval or validation in ways that may cross a boundary. Emotionally vulnerable students may not be aware of the legal and ethical implications of behaviors or know how to engage in healthy ways in the role of tutor-tutee, especially in the online setting. Features of this support will include establishing boundary parameters within their role as tutor-tutee; modeling professional discourse and personal disclosure; and discussing circumstances in which confidentiality will not be protected.

Learning Environment

During the live tutoring sessions, we gathered first-hand information about the UB students' learning environments at home. For example, even though students initially declined the need for a Chromebook or hotspot, the tutors often encountered UB students joining on their phones, unable to write on a shared Google Doc, or access a text for reading. The connection was often so poor that a large percentage of the session was spent reconnecting. In a weekly debriefing with tutors, Upward Bound staff was able to be responsive to these needs, sometimes running to the cell phone store in the morning and delivering a hotspot in person that afternoon. The tutors also had to spend some session time going through a learning preparation ritual such as adjusting the camera to eye level, clearing writing space on students' desks or beds, and announcing to family members that they'd be unavailable for the next hour. Of course, these were things the PT also had to do in their learning environments.

Despite our efforts to ensure that students have all the tools they need to be successful, there are times that we came up against what seems to be insurmountable issues. One student wanted to be a part of the program, and he is a student who participates in all of the Upward Bound programming. He had difficulty connecting with the PT due to Wi-Fi issues, so we purchased him a hotspot. The UB team communicated with him, and we decided to make a home visit to deliver the hotspot. We have never visited his home, but we assumed it was in the vicinity of the school that he attends. Later, we found out that he lives 30 minutes from the school. His house is located close to the Kansas border in a rural area of Oklahoma that is very isolated. The UB staff member conducted a home visit and provided him with the hotspot. Fifteen minutes later, he called to inform her that the hotspot was not working. The UB team checked with the hotspot provider, only to find out that the device would not work in the area where the student resides. In his community, there are no community centers, libraries, or non-profit agencies where he could drive to ascertain a Wi-Fi connection. There is an idealized perception that the US wireless network system can reach anyone, anywhere, which is not true. Since the pandemic, the UB staff has realized that offering UB programming without actually putting "boots on the ground" so that we can understand the needs of our students is no longer acceptable. Going to their neighborhoods and finding out what their physical landscape looks like, provide us with valuable information to assist them in a greater way.

Scheduling

Scheduling was also a struggle. At first, the UP student and PT arranged the tutoring sessions week-by-week according to their school and work schedules. This worked well for a number of partnerships, but other partners struggled to align their schedules. In our most recent semester of this partnership, we have dedicated the same day and time each week, Tuesdays at 8:30 PM, for the sessions. This has worked well, but now the challenge is remembering, so learning how to use the alarm feature in the phones has become an important mini-lesson in the session.

Conclusion & Implications

The Upward Bound students had not engaged in this level of programming, which required them to be more proactive in the learning process. All of the programming prior to the collaboration required the Upward Bound students to attend an event. Now, Upward Bound students had to be more engaged in the steps leading up to their first session with a PT. The Upward Bound students communicated whether they needed hotspots or laptops to their PTs. The students were responsible for registering online to participate in the program. Once they had registered, the students needed to check their emails for a message from their PT. After they connected with their PT, the students needed to work out which day of the week they could meet.

Upward Bound students stayed in contact with their PT throughout the week. The students had to inform their PT if they were going to miss a session. The whole process hinged on the ongoing communication between both the Upward Bound student and the PT. The newness of this level of engagement for the Upward Bound students was difficult in the beginning. To streamline the process, the session time was changed from different days to one set day and time each week. To ensure that registration was not an obstacle to accessing services the Upward Bound staff handled the registration process. The elimination of this step positively impacted the start time for programming. Students were now receiving services more quickly and with less miscommunication around times and dates.

Still, we still have a long way to go to make the program accessible to all students and sustainable for both programs. For technology, the infrastructure is just not there for our rural students beyond the range of cell towers. And there are other student needs that defy concrete solutions and evade our knowing. Only with regular, proximate— even intimate—conversations can we begin to learn the complex lives of the youth we serve.

The implications for TRIO programs include:

1. Leveraging university in-kind resources and services to expand programming for Upward Bound students.
2. Developing partnerships within your university with departments such as the College of Education, First Year Experience, Math Department, etc. that can assist Upward Bound.
3. Sharing your programming gaps with high level management who can provide you with connections to others on your campus or in your community that can provide additional resources assistance.
4. Creating an open dialogue and feedback loop so that the voices of the students can guide programming.
5. Searching for programming that adds a social emotional component to learning.

A future study examining the impact of the RMC services on Upward Bound students could provide practitioners with information about how to better meet the needs of the students:

1. Determining if the Upward Bound students' ongoing interactions with PTs affected their self-efficacy about attending college may aid Upward Bound staff in searching for programming that specifically addresses this area.
2. Investigating the link between social connections and academic progress may aid Upward Bound staff in procuring programming that simultaneously offers an academic and social component throughout the academic year.

What does it take to complete a secondary education today? To imagine and engage in a post-secondary vocational or academic path? Our youth has a lot to teach our programs about school, learning, technology, identity, family, and especially “good” teaching. We need to develop spaces that allow our programs to trace our students' school and life practices, embedded in and often complicated by familial, social, political, and very adult contexts in which they live, work, and learn.

References

- Adjei, L. (2016). *Participant perceptions of the effectiveness of two school based mentoring programs for at-risk African American female high school students* (Publications No. 1030778) [Doctoral dissertation, Oral Roberts University]. ProQuest Dissertations and Theses database.
- Apple, M. (2004). *Ideology and curriculum* (3rd ed.). Routledge Falmer.
- Alvarez, A. (2020). The phenomenon of learning at a distance through emergency remote teaching amidst the pandemic crisis. *Asian Journal of Distance Education*, 15(1), 144–153.
- Atherton, M. C. (2014). Academic preparedness of first-generation college students: Different Perspectives. *Journal of College Student Development*, 55(8), 824-829. <https://doi.org/10.1353/csd.2014.0081>
- Bhabha, H. K. (1994). *The location of culture*. Routledge.
- Beers, G. K., & Probst, R. E. (2015). *Reading nonfiction: Notice & note stances, signposts, and strategies*. Heinemann.
- Behrman, E. (2006). Teaching about language, power, and text: A review of classroom practices that support critical literacy. *Journal of Adolescent and Adult Literacy*, 49, 490-498.
- Carnegie Mellon University. (2022). Boundaries when working with minors. *Training and Resources*. <https://www.cmu.edu/hr/assets/act-153/boundaries-booklet.pdf>
- Chavez, F. R. (2021). *The anti-racist writing workshop: How to decolonize the creative classroom*. Haymarket Books.
- Comaroff, J., & Comaroff, J. L. (2000). Millennial capitalism: First thoughts on a second coming. *Public Culture*, 12, 291-343
- Eby, L. T., Allen, T. D., Evans, S. C., Ng, T. & Dubois, D. L. (2008). Does mentoring matter? Multidisciplinary meta-analysis comparing mentored and non-mentored individuals. *Journal of Vocational Behavior*, 72(2), 254-267.
- Falk-Ross, F. (2008). Helping literacy centers come alive for teachers: Transitions into use of interactive small group reading stations. *College Reading Association Yearbook*, 29, 237-247.
- Fischer, C. (1999). An effective (and affordable) intervention model for at-risk high school readers. *Journal of Adolescent & Adult Literacy*, 43, 326–335.
- Fitzgerald, J. (2001). Can minimally trained college student volunteers help young at-risk children read better? *Reading Research Quarterly*, 36, 28–46. <https://doi.org/10.1598/RRQ.36.1.2>
- Flower, L. (2002). Intercultural inquiry and the transformation of service. *College English*, 65(2), 181–201.
- Flower, L. (2008). *Community literacy and the rhetoric of public engagement*. Southern Illinois Press.
- Gee, J. P. (2002). Millennials and bobos. Blue's Clues and Sesame Street: A story for our times. In D. E. Alvermann (Ed.), *Youth's multiliteracies in a digital world*. Peter Lang.
- Hammond, Z. (2014). *Culturally responsive teaching and the brain: Promoting authentic engagement and rigor among culturally and linguistically diverse students*. Corwin Press.
- Hidi, S. (1990). Interest and its contribution as a mental resource for learning. *Review of Educational Research*, 60, 549–571.
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *EDUCAUSE Review*.
- Holmberg, B. (2005). *The evolution, principles and practices of distance education*. BIS-Verlag Carl von Ossietzky Universitat.
- Ivey, G., & Broaddus, K. (2001). "Just plain reading": A survey of what makes students want to read in middle school. *Reading Research Quarterly*, 36, 350–377. <https://doi.org/10.1598/RRQ.36.4.2>

- Jehangir, R. R., Stebleton, M. J., & Deenanath, V. (2015). *An exploration of intersecting identities of first-generation, low-income college students* (Research Report No. 5). University of South Carolina, National Resource Center for the First-Year Experience and Students in Transition.
- Juel, C. (1996). What makes literacy tutoring effective? *Reading Research Quarterly*, 31, 268–289.
<https://doi.org/10.1598/RRQ.31.3.3>
- Katz, Ogilvie, S., Shaw, J., & Woodhead, L. (2021). *Gen Z, explained: The art of living in a digital age*. University of Chicago Press.
- Kearney, M., Schuck, S., Burden, K., & Aubusson, P. (2012). Viewing mobile learning from a pedagogical perspective. *Research in Learning Technology*, 20(1), 14406.
- Ladson-Billings, G. (1994). *The dreamkeepers: Successful teachers of Black children*. Jossey Bass.
- Lane, H. G., Hudson, R. F., McCray, E. D., Tragash, J. R., & Zcig, J. L. (2011). Tutoring opened my eyes: Tutor experiences in the America Reads Challenge. *Mentoring & Tutoring: Partnership in Learning*, 19(2), 199-218.
- Laverick, D. M., & Paquette, K. R. (2017). Service learning through a literacy tutoring program. In L. Heider (Ed.), *Service learning as pedagogy in early childhood education* (pp. 151-168). Springer.
- Lohfink, M. M., & Paulsen, M. B. (2005). Comparing the determinants of persistence for first-generation and continuing-generation students. *Journal of College Student Development*, 46, 409-428.
- McElroy, E. J., & Armesto, M. (1998). TRIO and Upward Bound: History, programs, and issues past, present, and future. *Journal of Negro Education*, 373-380.
- Massey, D. D., & Lewis, J. (2011). Learning from the “little guys”: What do middle and high school preservice teachers learn from tutoring elementary students? *Literacy Research and Instruction*, 50(2), 120-132.
- Moje, E. B. (2002). Re-framing adolescent literacy research for new times: Studying youth as a resource. *Reading Research and Instruction*, 41(3), 211–228. <https://doi.org/10.1080/19388070209558367>
- Moje, E. B., Young, J. P., Readence, J. E., & Moore, D. W. (2000). Reinventing adolescent literacy for new times: Perennial and millennial issues. *Journal of Adolescent and Adult Literacy*, 43, 400-410.
- Moje, E. B., Ciechanowski, K. M., Kramer, K., Ellis, L., Carrillo, R., & Collazo, T. (2004). Working toward third space in content area literacy: An examination of everyday funds of knowledge and discourse. *Reading Research Quarterly*, 39(1), 38–70.
- Moore, M. G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical principles of distance education* (pp. 22–38). Routledge.
- Paris, D. (2012). Culturally sustaining pedagogy: A needed change in instance, terminology, and practice. *Educational researcher*, 41(3),93–97.
- Santa, C. (2006). A vision for adolescent literacy: Ours or theirs? *Journal of Adolescent and Adult Literacy*, 49(6), 466-476.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57, 1–22.
- Styles, M. B. (1992). *Understanding how youth and elders form relationships: A study of four linking lifetime programs*. Public/Venture.
- Vacca, R. T. (1998). Foreword. In D. E. Alvermann, K. A. Hinchman, D. W. Moore, S. F. Phelps, & D. R. Waff (Eds.), *Reconceptualizing the literacies in adolescents’ lives* (pp. xv-xvi). Erlbaum.
- Venezia, A., & Jaeger, L. (2013). Transitions from high school to college. *The Future of Children*, 23(1), 117-136.
<http://www.ulib.niu.edu:2535/stable/23409491>
- Zlotkowski, E. (1996). A new voice at the table? Linking service-learning and the academy. *Change*, 28(1), 21–27.

2022 VOL. 4

TRIO—THE NEXT FORTY YEARS

Opportunity Matters:
Journal of Access and
Opportunity in Education

THE PELL INSTITUTE

pellinstitute.org