

Hostos Oasis for Parents' Education (HOPE): A Quantitative Methodology to Determining the Effects of an Educational STEM Program

Norberto Michel Hernández Valdés-Portela, M.A.
Hostos Community College, City University of New York

Introduction

HOPE is a five-year Two-Generation (2Gen) STEM summer program which begins in summer 2022 at Hostos Community College, a two-year Hispanic-Serving Institution (HSI) in the South Bronx. The program focuses on student parents, a segment of the community college population where the motivation for college completion is strong. However, they face multiple barriers that conspire against their academic performance.

This analysis aims to construct a quantitative methodology that can evaluate the effectiveness of the Hostos Oasis for Parents' Education (HOPE) program's 3D model to increase credit accumulation and graduation and to better position student parents to transfer to four-year institutions or the workforce.

Research Question

What impact will the HOPE 3D model have on the academic performance of student parents?

General Goal

To determine the effectiveness of HOPE's 3D model in increasing academic persistence (credit accumulation), shortening degree completion time (graduation), and/or better positioning student parents to transfer to four-year institutions and/or the workforce.

Population

Part-time student parents who are not eligible for programs that require full-time status.

Operational Matrix

The aspiration of these students to graduate or transfer to a four-year college is impacted by the necessity to balance their parental responsibilities with work-school-household obligations, leaving them with very little time to dedicate to schoolwork. Time poverty (the low quality and quantity of time) is the factor mentioned in the relevant literature as the fundamental barrier that affects their college outcome.

HOPE anticipates that providing these students with family, academic, and social and professional support will help mitigate the low quality and quantity of time left after non-schoolwork obligations and, as a result, improve their academic performance.

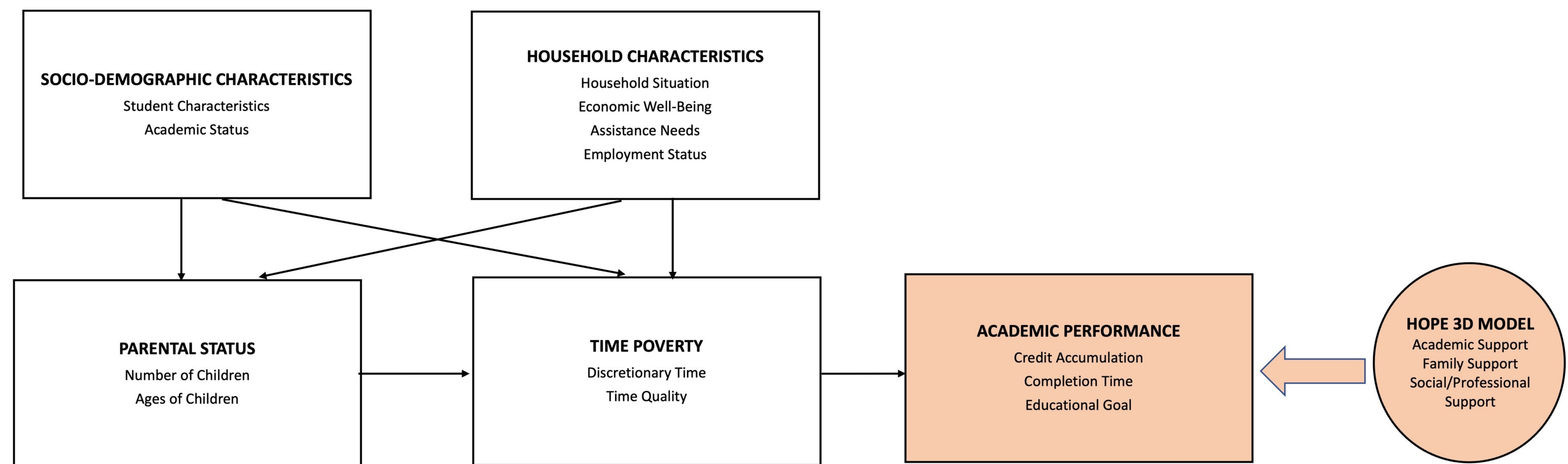


Chart 1. HOPE's 3D Model's Operational Matrix.

Methodology

To evaluate the effectiveness of the HOPE 3D model intervention, the program required the development of a quantitative methodology.

Ten variables were identified of importance to be estimated. They will control for the student sample's sociodemographic and time poverty profile, the academic, family, and social and professional support provided by the program, and the sense of belonging to the program.

$$\text{ACADEMIC PERFORMANCE} = f \left[\begin{array}{l} \text{ACADEMIC SUPPORT, FAMILY SUPPORT,} \\ \text{SOCIAL/PROFESSIONAL SUPPORT, STUDENT} \\ \text{CHARACTERISTICS, HOUSEHOLD CHARACTERISTICS,} \\ \text{ACADEMIC STATUS, TIME POVERTY, HOPE STATUS,} \\ \text{HOPE STUDENT PERCEPTION} \end{array} \right]$$

CONCEPT	VARIABLES	SUBDIMENSIONS	INDICATORS
Student Sociodemographic Profile	Student Characteristics		1 Gender 2 Age 3 Ethnic/Racial Background 4 Residence
		Household Characteristics	1 Household Situation
2 Parental Status			
3 Economic Well-Being			
4 Assistance Needs			
5 Employment Status			
Academic Status		1 Admissions Status 2 Academic Program/Major 3 Educational Expectations	
	HOPE Status	1 HOPE Status	
	Student Time Poverty Profile	Time Poverty	1 Discretionary Time 2 Time Quality

Student Academic Performance Profile	College Persistence	1 Pre-HOPE	1 Credit Accumulation 2 Time to Completion 3 Educational Goal
		2 Post-HOPE	1 Credit Accumulation 2 Time to Completion 3 Educational Goal
Student Academic Support Profile	Academic Support	1 Pre-HOPE	1 ELOs 2 Campus Advising 3 Campus Academic Support
		2 Post-HOPE	1 ELOs 2 Campus Advising 3 Campus Academic Support
Student Family Support Profile	Family Support	1 Pre-HOPE	1 Childcare 2 Parenting Workshops 3 Food
		2 Post-HOPE	1 Childcare 2 Parenting Workshops 3 Food
Student Social/Professional Support Profile	Social/Professional Support	1 Pre-HOPE	1 Lunchtime Workshop/Colloquia 2 Peer/Career Mentoring
		2 Post-HOPE	1 Lunchtime Workshop/Colloquia 2 Peer/Career Mentoring
Student Program Perception	HOPE Program Expectation	1 Pre-HOPE	1 Perception
		2 Post-HOPE	1 Perception

Estimation

The information will be collected through the distribution of pre- and post-program surveys.

An analysis will be carried out in three steps to determine the statistical significance of these variables.

First, a paired sample t-test will examine whether mean differences exist in pre- and post-HOPE summer program ratings.

Second, we will explore the characteristics of participants in the HOPE program. A two-way repeated-measures ANOVA will compare the differences between groups split into two within-subjects factors (e.g., men vs. women, completers vs. control group).

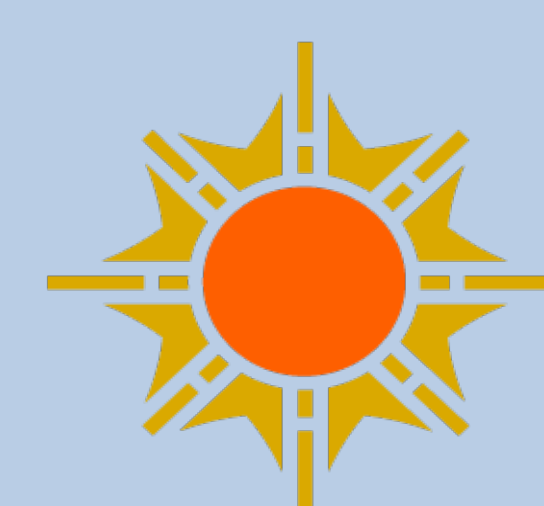
Third and finally, a logistic regression using backward elimination will be performed to determine the significant variables that explain the success of the HOPE model.

References

1. Claire Wladis, Alyse C. Hachey & Katherine Conway (2018) No Time for College? An Investigation of Time Poverty and Parenthood, The Journal of Higher Education, 89:6, 807-831, DOI: 10.1080/00221546.2018.1442983

Contact

Norberto Michel Hernández Valdés-Portela
Hostos Community College, City University of New York
Email: nvaldes-portela@hostos.cuny.edu
Phone:(718) 518-6574



Hostos Community College

HOPE
Holistic Oasis for Parents' Education Program

