



EXPANDING STEM TALENT THROUGH UPWARD TRANSFER: FACTORS INFLUENCING TRANSFER IN STEM FIELDS OF STUDY FROM TWO-YEAR TO FOUR-YEAR INSTITUTIONS

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EXPANDING STEM TALENT
through Upward Transfer

Introduction

- Transfer from two- to four-year colleges in science, technology, engineering, and mathematics (STEM) fields represents both an opportunity and a challenge in broadening the participation of individuals and institutions in STEM.
- Public two-year colleges, enrolling nearly 50% of all undergraduates, play an indispensable and unique role.
- STEM transfer rates remain limited due to roadblocks two-year college students encounter along the way.
- STEM transfer as a national policy priority has not been matched by enough scholarly understanding of what specific factors facilitate STEM transfer.

Study Design

- Partnering with Madison College, Milwaukee Area Technical College (MATC), and UW Colleges
- Follow first-time students beginning in STEM programs or courses in Fall 2014 for four years
- Mixed methods approach consisting of a longitudinal survey and a combination of individual and focus group interviews following each wave of survey data collection

Research Questions

1. What is the impact of person inputs, learning experiences in STEM, motivational attributes, and contextual factors (as depicted in the theoretical model) on STEM transfer?
2. For students who transfer into a 4-year STEM field, what is the relationship between transfer receptivity and post-transfer learning experiences, persistence, and aspirations in STEM?
3. How do the relationships examined in Questions 1 and 2 vary by student background characteristics such as gender, race/ethnicity, and age?
4. How do the relationships examined in Questions 1 and 2 vary across STEM disciplines of study and different institutions?
5. To what extent and in what ways do qualitative interviews with students contribute to a more nuanced understanding of the relationships identified in Questions 1 through 4?

Progress to Date (since Fall 14)

- Fall 2014 survey data collection completed, with response rates of 60.7% for Madison College, 52% for MATC, and 56% for UW Colleges, for an overall response rate of 56.6%
- Analysis of survey data ongoing; descriptive reports being prepared for partner institutions
- Qualitative interviews under way

For Further Information

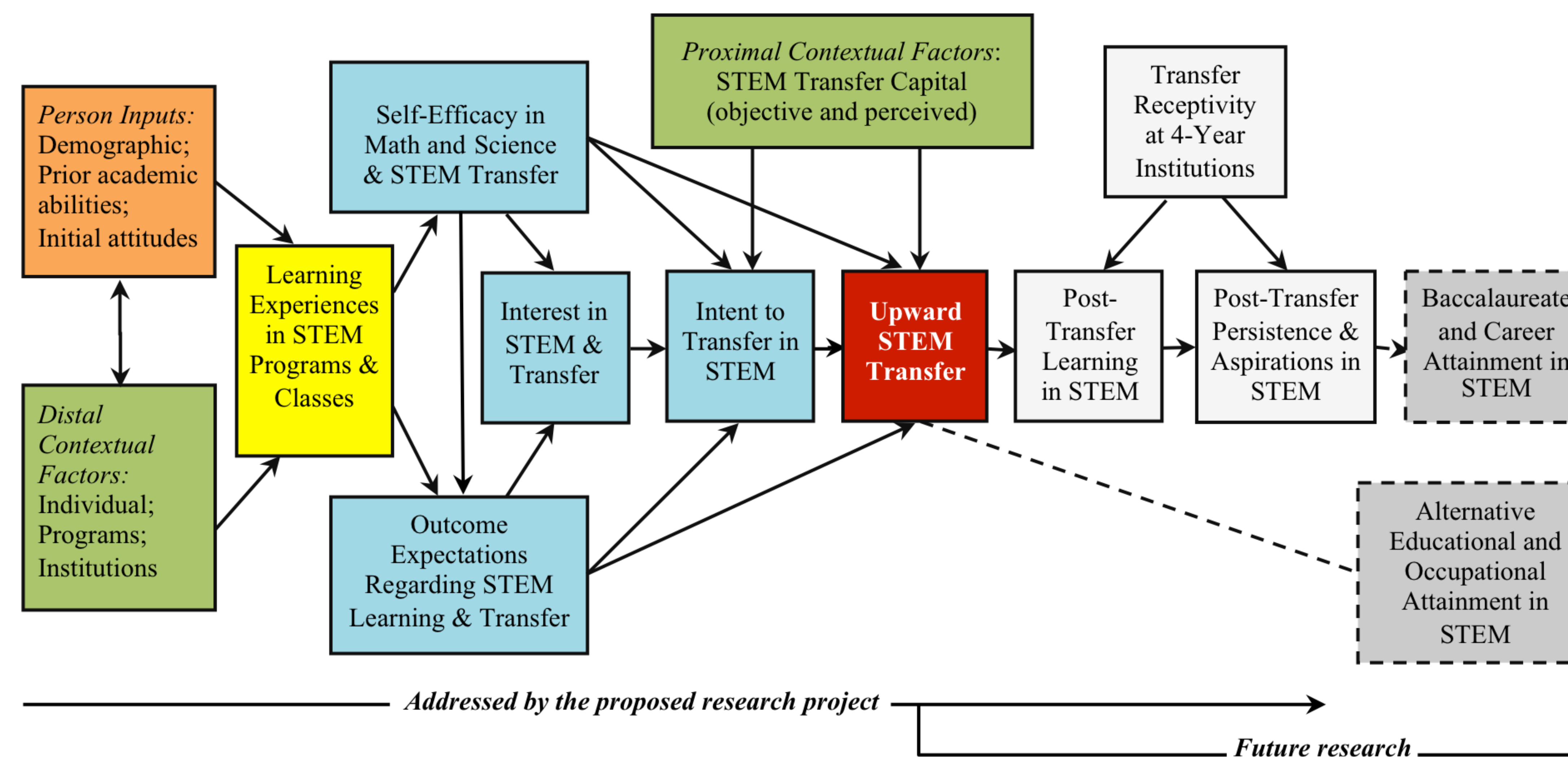
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- Upward STEM transfer outcome
- Person inputs
- Contextual factors
- Learning experiences in STEM
- Motivational factors
- Post-transfer factors and outcomes in STEM
- ▤ Alternative and post-transfer outcomes to be explored in future research