



EXPANDING STEM TALENT
through Upward Transfer



Measuring Sources and Influences of Social Capital Among Community College Students: Does Age Matter?

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<http://stemtransfer.wceruw.org>

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Introduction

- Social capital a promising theoretical lens, yet limited intentional work and weak measurement
- Attention to heterogeneities within cc student population, e.g., students of varying age may exhibit and utilize capital differently

An Empirical Example

(Xueli Wang, Kelly Wickersham, Yen Lee, & Hsun-yu Chan)

A 3-step approach

1. What are the major sources of social capital?
2. How do sources of social capital vary based on age?
3. How do different sources of social capital influence success?

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Data and Sample

- Part of a longitudinal (2014-2018), mixed methods study seeking to examine what influences student transfer in STEM fields, supported by the NSF (DUE-1430642)
- Research sites including all public 2-year colleges/campuses with *upward transfer* as part of their institutional missions, located in a Midwestern state
- Target study sample drawn using two strata : race/ethnicity and STEM fields, and includes a cohort of roughly 3,000 first-year students beginning in STEM programs or courses
- Survey data: Expanding STEM Talent Survey (Wang, 2015)
- Final study sample size: 1,668 (for a response rate of 56.6%)
- Combined survey and administrative data

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1. What are the major sources of social capital?

- Approach: Exploratory factor analysis (EFA) with the entire sample
 - to investigate the common factor structure among 18 survey items that capture relationships, networks, and interactions
 - Example items: How often do you contact your instructors to discuss matters related to transfer? How supportive of your school work are your family members? How often do courses require you to work in groups?
- Findings: A 5-factor solution; BUT, structural invariance does not hold across the three age groups, under 24, 24 to 29, over 30 years of age





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2. How do sources of social capital vary based on age?

- Approach: Explored the factor structure separately based on age
- Findings
 - For students under 24 years of age, a 6-factor structure
 - For students aged between 24 and 29 years, a 5-factor solution
 - For students who over 30 years of age a 6-factor solution

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Under 24 years of age

- (I) Learning Network
- (II) **ACADEMIC INTERACTION: INSTRUCTOR AND PEER**
- (III) **Significant other's support for school and transfer**
- (IV) Transfer discussion network: Classroom and home
- (V) Academic interaction: advisor
- (VI) **Transfer knowledge**

25 to 29 years of age

- (I) Learning network
- (II) **Academic interaction: Instructor, peer, and advisor**
- (III) **SIGNIFICANT OTHER'S SUPPORT FOR SCHOOL**
- (IV) Transfer discussion network: School and home
- (V) Transfer knowledge and significant other's support for upward transfer

Over 30 years of age

- (I) Learning network and academic advisor interaction
- (II) **Academic interaction: Instructor and peer**
- (III) **SIGNIFICANT OTHER'S SUPPORT FOR SCHOOL**
- (IV) Significant other's support for upward transfer
- (V) Transfer discussion network: school and home
- (VI) Transfer knowledge





3. How do different sources of social capital influence success?

Next Steps

Approach: A logistic regression analysis to examine the relationship between social capital and student interim outcomes

- Separately for students within each age group
- Accounting for a set of covariates
- Interaction terms between age groups and social capital measures





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Some Takeaways

- Conceptualize social capital differently for traditional-age and adults students attending community colleges
- A deeper look at community college students' social capital's forms and contexts for a more fine-grained understanding of the specific contexts in which capital is being formed and for what purpose
- Cultivating a sense of agency is as important as developing the networks and structures that facilitate the process of building social of cc students.

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Directions for Future Research

- Study capital as more authentically exhibited in relationships than static characteristics
- Move beyond measuring “exposure” to measuring actual accumulation of capital
- Mixed methods research to lend deeper insights
- A longitudinal approach to studying capital

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Thank you! For more information, check out our Expanding STEM Talent study

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