

Explaining Success in Mentored Research Interventions: A Strength-Based Social Psychological Approach

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Abstract

Faculty mentored research programs have demonstrated significant efficacy in increasing the number of underrepresented students who enter graduate studies and embark upon research careers. Studies indicate that program participation can have positive effects on a range of academic and career development outcomes. However, the mechanisms underlying these interventions have not been well explicated.

We present a strength-based role strain and adaptation model that can be used to test theoretical pathways between program components and student outcomes. We apply the model to a hypothetical example to show how the model can be used as part of comprehensive strategies to improve the outcomes of underrepresented college students participating in mentored research career opportunity interventions.

Two assumptions underlying research career opportunity interventions

1. All participants who are provided with the formal opportunity to engage in a mentored research experience will receive similar benefits.

However, benefits for non-traditional students may be systematically restricted by structural obstacles (e.g., class, race, gender).

2. Formal faculty mentoring and other structured programmatic activities are sufficient to explain successful program outcomes.

However, reliance on structured activities neglects informal support systems and other social psychological strengths utilized by students.

Underrepresented students in interventions

1. Some underrepresented minority students (UMS) are differentially affected by non-normative role impediments (e.g., academic preparation, family poverty, psychosocial stress, etc)

2. Students of different backgrounds may mobilize specific adaptive resources (e.g., informal support, self-efficacy, motivation) to cope with such impediments.

3. Therefore, the success of UMS in interventions depends on both formal structured activities and other resources such as social psychological strengths.

Definitions

Student role strain - objective role difficulty (e.g., academic preparation deficits) and related cognitive appraisals (e.g., role conflict, role overload, role ambiguity, role discouragement).

Normative role strain - challenges (e.g., competitive academic demands) experienced by the majority of students facing important academic transitions

Non-normative role strain - challenges experienced by UMS and other non-traditional students, due to differences in social status

Student role adaptation - the process through which resilient students mobilize resources

Social psychological strengths - non-academic factors related to adaptive coping

Model Propositions

The model proposes pathways between inequality, role strain, adaptive strengths, coping processes, and successful program outcomes:

1. Structured inequalities (i.e., race, class, ethnicity, gender) combine with chronic role strain, multilevel stressors, and risky coping strategies to impede successful program outcomes.
2. Despite role strain, adaptive social psychological strengths can promote personal resiliency, more achievement-related coping strategies, and successful program outcomes.

Figure 1

A strength-based model of role strain and adaptation

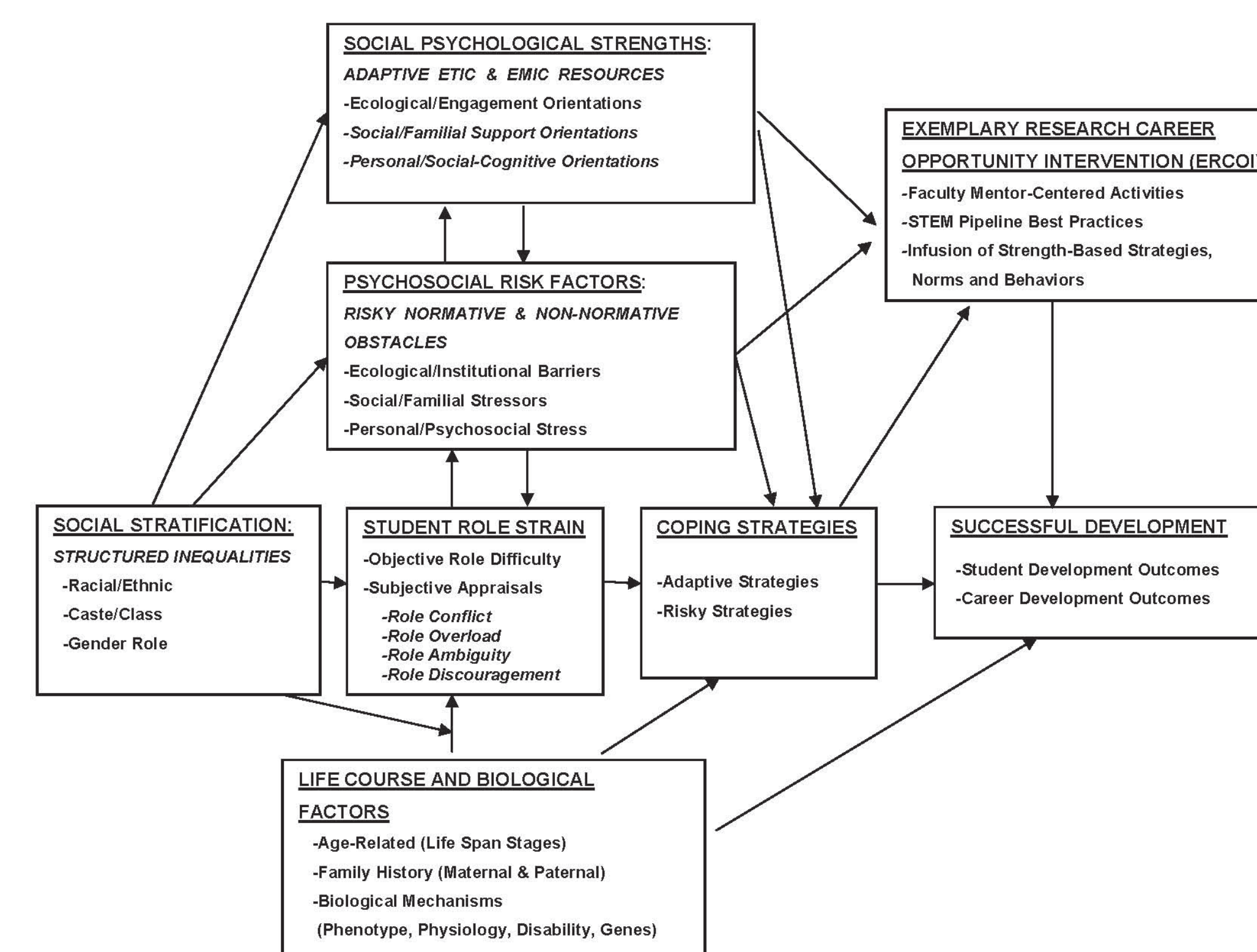


Table 1

Adaptive Social Psychological Strengths

A. Social and Familial Support Orientations

Formal mentor-centered support
Informal support from staff, cohorts, friends
Extended family support

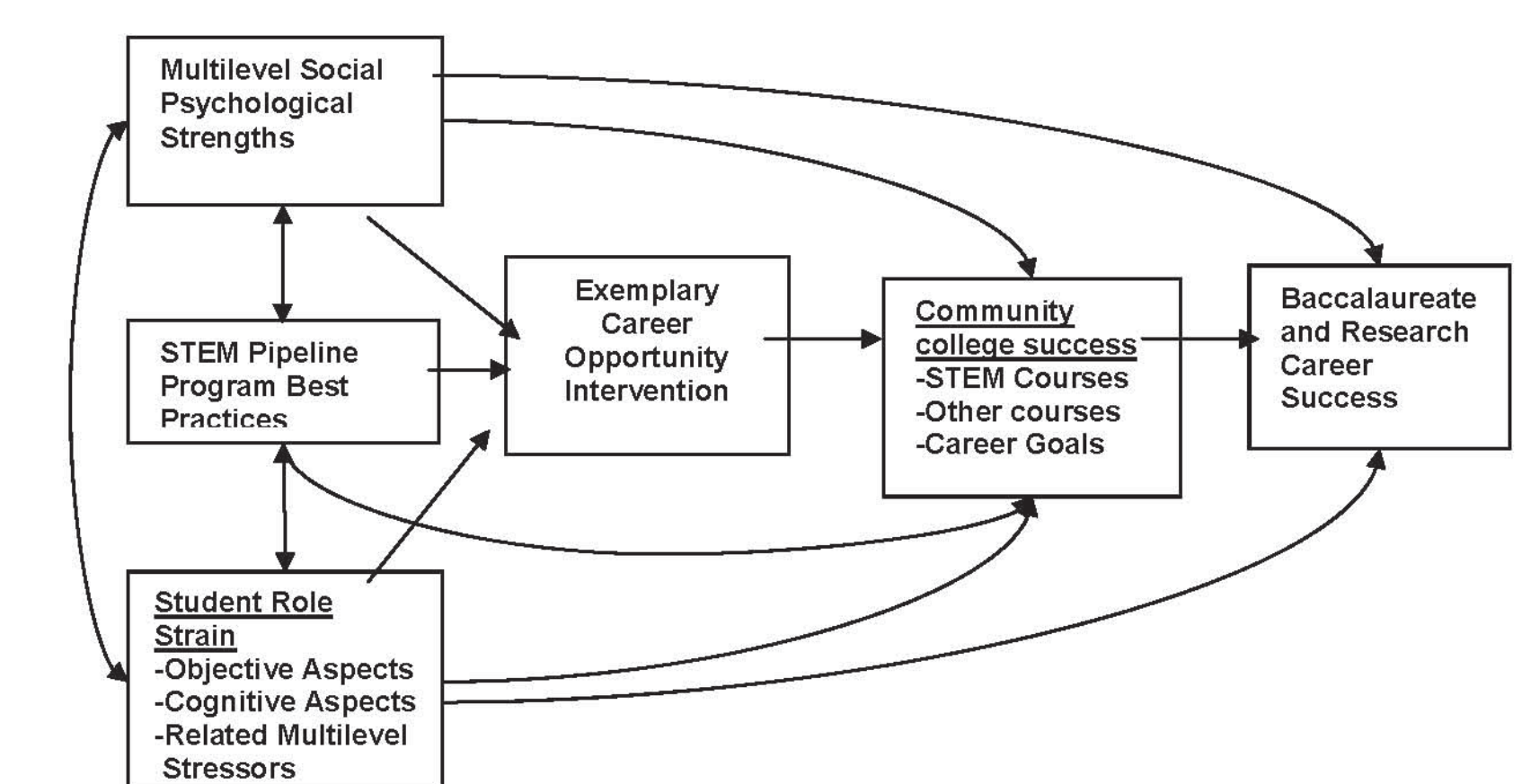
B. Personal and Social-Cognitive Orientations

Academic self-efficacy
Specialized career-related talent
Adaptive attributional style
Path-goal motivation

C. Ecological Engagement Orientations

Leadership orientation
Community service orientation
Diversity orientation

Hypothetical example: Promoting the success of underrepresented community college students in STEM disciplines



Some hypotheses from the model

1. Social psychological strengths can affect students' experiences of role strain.
2. Students' social psychological strengths and their experiences of role strain can affect their participation in research career opportunity interventions.
3. Despite role strain, adaptive social psychological strengths can directly and indirectly affect success in STEM courses and students' expectations for obtaining advanced degrees and achieving success in subsequent research careers

Conclusion

The strength-based role strain adaptation approach has advantages over existing deficit-based models. This approach:

1. takes into account the unique adaptive resources available to non-traditional students, including underrepresented students.
2. is useful at any stage of the academic pipeline, whenever students face challenging student role transitions
3. can aid in the development of strength-based assessment systems that be used within comprehensive intervention strategies (i.e., recruitment, selection, placement, retention, advising) to increase the success of non-traditional students in STEM disciplines
4. can improve the understanding of program staff and assist them in meeting the unique needs of underrepresented minority students

For additional information

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