Culturally Connected Communal Goals: Latino and Native Americans in Biomedicine

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We hypothesize that talented students struggle to maintain interest and develop a strong identity as a scientist when they feel that their communal goals are not being met.

“There is no question that the need for a diverse workforce permeates all aspects of the nation's health-related research effort” (NIH, 2008).

Defining the Problem

- Access to resources, a faculty mentor, and skill training is not sufficient
- **We focus on two specific URM**
  - Native Americans
  - Latino Americans
- A White-Male cultural “norm” in biomedicine
- We focus on the culturally connected reasons for why URM students choose to pursue biomedical research careers
  - Task vs Purpose Goals
- **Communal Orientation and Goal Congruency Theory**

We hypothesize that talented students struggle to maintain interest and develop a strong identity as a scientist when they feel that their communal goals are not being met.
Communal Goal Congruency

Explicit awareness of the potential cultural connection of doing science → Feelings of Communal Goal Congruency and Academic Belonging → Enhanced Interest in, Motivation for, and Pursuit of Careers in Biomedical Science

A Communal Sense of Self

Diagram showing relationships between different roles such as Mother, Father, Sibling, Friend, Co-worker, and Self, illustrating both independent and interdependent views of self.
Research Questions

Do perceived levels of cultural connection to research in faculty mentor’s labs (and changes in these levels over time) influence Latino and Native American undergraduate science research assistants’ (RA) motivation for and pursuit of biomedical careers and graduate study?

Does greater perceived congruency between communal purpose goals and science research task goals mediate the influence of perceiving great cultural connection to research on interest in and pursuit of Biomedicine for Latino and Native American RAs?

Can RAs’ perceptions of cultural connection to research be increased through a guided exercise to explicitly connect science lab duties to culturally relevant purpose goals and faculty mentor lab setting?
Participants
• 720 undergraduate research assistants in biomedical laboratories and their faculty advisors

Procedure
• Longitudinal survey design
• Intervention in Year 3

Level of Analyses
• Between (ethnic) group comparisons
• Within group comparisons (between those who do and do not feel their culturally connected communal goals are congruent with their science task goals)
Figure 2. Conceptual and Methodological Overview

Time 1 (week 8) and Time 2 (week 15)
Lab RA Experience

Lab Assignment
Duties and Lab
Composition
Survey #7

Perceptions of culturally
connected research
New Scale
Development

Feelings of Communal
Purpose Goal
Congruency
Survey #8

Academic
Belonging
Survey #9

Faculty Perceptions
of Culturally Connected Research Agenda
New Scale Development

Interest in and
Motivation for
biomedical
careers
Subjective
Outcomes
Surveys #10-12
Objective
outcomes
Survey #13-14

Background and Predictor
Variables
- Ethnicity
- Gender
- Regional Upbringing
- SES
- Interpersonal Orientation
- Work Values and Goals
- Achievement Goals
- Communal Goals
  Surveys #1-6

Guided Cultural Connection
Writing Manipulation
Condition 1: Write essay on how your lab
duties have a broad impact on health
disparities in your community
Condition 2: Write essay on your lab duties
Time 1 Only

Once per Semester
follow-up for 2 years
<table>
<thead>
<tr>
<th>Time 1: Fall Mid-semester</th>
<th>Time 2: Fall End of Semester</th>
<th>Time 3: Spring Mid Semester</th>
<th>Time 4: Fall Mid Semester</th>
<th>Time 5: Spring Mid Semester</th>
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<tbody>
<tr>
<td><strong>Introductions To Research Team</strong></td>
<td><strong>Survey</strong></td>
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<td><strong>Survey</strong></td>
<td><strong>Intervention Random Assignment</strong> (Year 3 only)</td>
<td><strong>Student RA Measures:</strong></td>
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<td><strong>Academic Belonging</strong></td>
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<td><strong>Background Items</strong></td>
<td><strong>Perceptions of Cultural Connection</strong></td>
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<td><strong>Lab Duties</strong></td>
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<td><strong>Work Goals</strong></td>
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<td><strong>Time 5 (or semester of graduation) also includes</strong></td>
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<td><strong>Demographic makeup of the RAs</strong></td>
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<td><strong>Transcript inspection</strong></td>
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<td><strong>Lab duties assigned</strong></td>
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<td><strong>Description of research agenda</strong></td>
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<td><strong>Self-perceptions of cultural connection of research agenda</strong></td>
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<td><strong>$25 incentive</strong></td>
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<td><strong>Recruitment/Tracking</strong></td>
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<td><strong>Social Networking Page Established</strong></td>
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<td><strong>Birthday card sent with follow-up reminder. Contact updates. Social Network updates</strong></td>
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<td><strong>Post Card, email, and phone reminder of upcoming follow-up. Contact updates. Social Network Updates</strong></td>
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Moving Forward:
Challenges we have identified

1. Longitudinal tracking of participants. We plan to track participants even after they graduate and leave the research lab, using social networking tools (e.g., Facebook) as a means for tracking. Using social media appropriately to track participants will be a key challenge.

2. For the randomized trial, because students will be randomized within research labs, the issue of potential cross-contamination has been identified. Minimizing this cross contamination will be a key challenge.