Research Project Description

Growth mindset interventions, which aim to increase individuals’ perceived abilities to learn, have been shown to reverse downward grade trajectories among low-performing students in junior high school, reduce stereotype threat for African-American college students and increase overall performance in high school math and English for students across the United States. In this 2017 Bass Connections project, we will conduct the first test of a growth mindset intervention in a developing country, and will attempt to answer some key questions as to how and why growth mindset is effective. Partnering with 5 secondary schools with a total of ~2000 students in Dhaka, Bangladesh, we will conduct and evaluate the intervention using a randomized controlled trial design. Students’ grades will be tracked for one year and students will be surveyed before and after the intervention to illuminate the mechanisms responsible for any intervention effects.

Research Assistant Role Introduction

Though you are signing up to participate in the same way that you would sign up for a class, this will be more like a part time job than a class. There will be no regular class instruction. For one full credit, you will be expected to work 10-12 hours per week (holidays not included). I will do my best to assign you work that will be beneficial to the project and to your own development, though at times you may be asked to do work that you find boring or monotonous as it is in the best interest of the project. This is all part of the research experience.

We will check in weekly to review your progress and plan next steps. In these meetings, you should feel free to voice your preferences over work options and I encourage you to share any general ideas or questions you have regarding the research that are or are not directly related to your assigned work.

Description of Work – Fall 2017

As the fall semester at Duke begins, the intervention in Dhaka secondary schools will be nearly complete. Study subjects will continue to be tracked for the final three months of the year and an endline survey will be administered in November. The project goals in the fall will thus be centered around analyzing incoming data and preparing for final data collection and analysis. When there is down time on these primary goals other work to further the research paper will be assigned (literature review, theory, etc...)

Here is a list of tasks you may be assigned:

- Clean data using Stata (taking raw data from the field and preparing it for analysis)
  - Label variables
  - Check for errors or outliers
  - Merge with other datasets
Description of Work – Fall 2017, continued

- Plan and execute data analysis using Stata (and possibly R)
  - Overall goals
    - Create complete list of questions to explore and tables to make
    - Write code to answer these questions and produce the tables for the paper
  - Specific examples
    - Baseline data:
      - Do we see the patterns we expect in baseline data (beliefs related to performance)?
      - What patterns do we find that we did not expect?
      - How balanced was our randomization?
    - Incoming grade data:
      - Do we see the hypothesized increase in performance for treated students?
    - Social network data:
      - We have some cool social network data on the students and I don’t know exactly how I’ll use yet, you might get to help me figure this out
- Develop endline survey (if any changes/additions are needed from baseline)
- Develop supplementary data collection to measure intrinsic effort for learning (to be discussed)
- Literature review: search for, read and summarize relevant articles. Synthesize summaries.
- Data entry: code scanned paper data from the field
- Theory: develop a theoretical model to explain hypotheses and alternate outcomes

Learning Objectives for Research Assistants

- Learn the following essential research skills in Stata
  - Cleaning data
  - Merging datasets
  - Regression analysis
  - How to write clear do-files that document your work on all of the above
- Learn to create paper worthy tables in LaTeX
- Gain experience in survey development and the general process of going from research questions to data collection to analysis
- Gain experience in conducting literature reviews
- Increase awareness of and appreciation for interdisciplinary, multi-level teamwork, including honing the ability to talk to colleagues from different disciplines and understanding the contribution that each team member brings to the team as a whole

Attendance and Participation

As I (Tom, your team leader) will be in Bangladesh for the fall semester, there are no planned in person meetings at this time. We will however check in once per week, on a mutually agreed upon day and time, to review the work priorities, what progress has been made, what next steps should be, and to discuss any other research related items. At minimum, this will take place over email each week in the form of a progress update from you and a response from me. When it is beneficial and feasible, we may arrange phone calls in addition to email updates.

These weekly check-ins are mandatory. If you anticipate not being able to complete your check in, please notify me in advance.
Credits
Students will receive one credit for successfully completing each term.

Grading
Grading for the fall semester will be based on objective criteria such as responsiveness to emails (within 24 hours Monday through Friday), attendance in meetings when planned, submission of weekly progress updates, submission of simple assignments as well as subjective criteria such as whether you appear to apply effort to the assigned tasks and whether you attempted to make creative, problem solving contributions when needed. Subjective assessments will be provided regularly so corrections can be made when necessary.

I will happily give everyone an A if these expectations are met and I will make sure to discuss with you if at any time I feel expectations are not being met, so nobody should end up with a grade they don’t expect. I understand that you may be asked to perform tasks that are totally new to you so if you are not able to finish something by the planned date from time to time that is ok as long as you explain what you did with your time to work towards that goal, so I can see that you made an effort.

Required Materials
All required reading will be discussed and exchanged in meetings or via email.

Academic Dishonesty
Adherence to the Duke Community Standard is expected. To uphold the Duke Community Standard:

I will not lie, cheat, or steal in my academic endeavors;
I will conduct myself honorably in all my endeavors; and
I will act if the Standard is compromised

Anyone found in violation of the Standard will be reported to the Office of Student Conduct.

Accommodations
If you need special accommodations due to physical or learning disabilities, medical needs, religious practices, or other reasons, please inform us as soon as possible so we can work to accommodate those needs.

Team Leaders
These faculty/staff will attend all team meetings and be available for students regularly.

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<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas Polley, PhD</td>
<td><a href="mailto:thomas.polley@duke.edu">thomas.polley@duke.edu</a></td>
<td>Economics Department</td>
</tr>
<tr>
<td>Candidate</td>
<td></td>
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Team Mentors
These individuals will occasionally attend team meetings, and be available to support the team as needed.

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<tr>
<th>Name</th>
<th>Email</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erica Field, PhD</td>
<td><a href="mailto:field.erica@duke.edu">field.erica@duke.edu</a></td>
<td>Economics, Duke Global Health Institute</td>
</tr>
</tbody>
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About Bass Connections

The vision of Bass Connections is to create a distinctive new model for education, one that explores societal and cultural challenges through collaborative, problem-centered learning.

The goal is to elevate the importance of exploring societal and cultural challenges in higher education by:

- Engaging faculty and students of all levels – undergraduate, professional, and graduate – in teamwork
- Integrating different disciplinary approaches and professional practices within teaching, learning, and research
- Teaching students to apply knowledge, research, and skills from across the disciplines to solve real-world problems

Project teams are an essential and novel element of Bass Connections. Teams connect students and faculty throughout campus, along with partners from outside the academy, to engage with complex issues of societal import. Participants in Bass Connections experience the complexity of global, societal problems in their real-world form, the value of integrating bodies of specialized knowledge, and the imperative of teamwork to finding solutions to the most pressing problems of the day.