Piloting a ‘Growth Mindset’ intervention for student success.

Murphy, Hyland, Hyland, Frazer, Reid, Walsh & Dickerson.

PSI Conference 2014
OVERVIEW

• Non-Cognitive Traits
• About HIP
• Educational interventions
• The current study
• Preliminary data
• Issues for consideration
• General issues and future direction
• Questions
Non-Cognitive Traits

• Delaney, Harmon & Ryan (2013)
  – ‘Conscientiousness’ and ‘Future-orientation’ important determinants of classroom attendance and increased topic study hours.

• Educational Research Institute of America white paper (April, 2014)
  – 6 main non-cognitive traits important in prediction of student success
    • Growth Mindset (e.g. Dweck, 2006)
    • Locus of Control and Agency (Farrington et al 2012)
    • Goal setting (Zimmerman, 2002)
    • Grit (e.g. Duckworth et al., 2009)
    • Social Intelligence (Durlak et al., 2011)
    • Delayed Gratification and Self-control (e.g. Duckworth, 2011)
Why target non-cognitive factors?

- Help students manage emotions, attain greater self-awareness or self-control, reduce stress, resolve conflicts, establish and maintain positive relationships, or set and attain goals

→ improved student success

- Heckman (2008) - noncognitive factors such as motivation, time management, and self-regulation are critical for later life outcomes, including success in the labour market.

- Non-cognitive factors may also be a focus of professional development for staff.

  - Academic staff have had a positive transformative impact on students’ learning.
Non-cognitive traits

Figure 1. Noncognitive Framework

Nagaoka et al. (2013)
About HIP

- Founded by Dr. Philip Zimbardo, Professor Emeritus of Psychology at Stanford University.

- Headquartered in San Francisco.

- Non-profit organisation that teaches people how to take effective action in challenging situations.
Educational Interventions

“Over the last thirty years, a number of powerful social-psychological interventions have been developed that target processes within students that are critical to their academic success in educational settings...such targeted interventions can create lasting positive changes in students’ motivation, enjoyment of school, rates of attendance, standardized test scores, and grades.”

(Dickerson, Wilkins, Zimbardo, 2013)
Educational Interventions

• 6 Areas
  – Adaptive attributions and stereotype threat
  – The growth mindset
  – Situation blindness and automatic social reactivity resiliency
  – Social conformity resiliency
  – Bystander inhibition resiliency
  – Prejudice and automatic group attributional bias resiliency

• Dickerson-Zimbardo Intervention Framework
  – Activity one: What would you do?
  – Activity two: Explore the psychology of situations.
  – Activity three: Think of a time...
  – Activity four: Decide for yourself.
  – Activity five: Learn effective change-making strategies.
  – Activity six: Plan for the next challenge.
  – Activity seven: Reflect on your personal take-aways.
  – Activity eight: Spread the word.
The current study

- Focusing on ‘growth mindset’
- Piloted with first year psychology students
- N=61
- Double-blind true experiment
- Conducted with full-time and part-time students
Preliminary data

• IVs
  – Time (Time 1/ Time 2)*
  – Group (Intervention / control)

• DVs
  – Motivated Strategies for Learning Questionnaire (MSLQ)
    • Intrinsic Value (IV), Self-efficacy (SE), Test Anxiety (TA), Cognitive Strategy Use (CSU), Self-Regulation (SR)
  – Mindset*
    • Academic, Group dynamics, Personality others, Personality self, Personality both, Perceived LOC

* Mindset was only measured post intervention at Time 2
Preliminary data

- MSLQ

- Series of Mixed ANOVAs
  - Factor 1: time               Factor 2: Group
  - No sig. group x time interaction for

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Observed Power (time x group)</th>
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<td>Intrinsic Value</td>
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<td>Self efficacy</td>
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<td>Cognitive Strategy Use</td>
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<td>Self Regulation</td>
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- **BUT...Sig Group x time interaction** for Test anxiety
  - $F(1, 59) = 4.11, p = .047$
  - Fell in intervention group with notable rise in control group
Preliminary data

- Sig effect of group on mindset.
  - Wilk’s Lambda F (5, 58) p = .002, partial eta sq .28
  - Subscales

<table>
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<th>Mindset Subscale</th>
<th>Sig</th>
<th>Partial Eta Sq</th>
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<tr>
<td>Perceived LOC</td>
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Issues for consideration

- Statistical Power
- Choice of time points
- Streamlining questionnaire and OMR software
- Placebo intervention
- Inclusion in Employability (first year)
- Training staff
General Issues and future directions

• Scalability?
  
  – The Stanford University Project for Education Research That Scales (PERTS)

• Farrington et al. (2012) identified issues for research:
  2. Direct evidence.
  3. More research on educational context in students’ development and demonstration of non-cognitive factors.
  4. The need for coherent, actionable strategies for developing students as learners in the context of regular classroom instruction

• Virtue can result only from a long pursuit of learning
  (In Xunzi’s “Encouraging Learning”)
Thank You

Any Questions?