Improving College Persistence by Developing Students’ Noncognitive Skills

- Brian Galla, Ph.D., University of Pennsylvania
- Donald Kamentz, YES Prep Public Schools
  - Laura Keane, uAspire
What makes students successful?

Cognitive

IQ, memory, knowledge, vocabulary, etc.

Non-Cognitive

Literally everything else
What makes students successful?

- Cognitive: IQ, memory, knowledge, vocabulary, etc.
- Non-Cognitive: Literally everything else
Grit at Its Best

Not Getting Off the Treadmill
Gates-CMO College Grit Committee Approach

**Build Knowledge:**
- Deep dive into the research
- Define framework for non-cogs

**Design Research-Based Practices**
- Partner with researchers to create strategies to build non-cogs

**Field-Test Theories:**
- Conduct interventions and measure impact
Non-Cogs - The Research Mosh Pit

Motivation
Belonging
Attainment
Non-cognitive
Goal-setting
Volition
Self-efficacy
Self-control
Grit
Mindset
Resilience
Fixed
Growth
Capital
Perseverance
Social
DK-LK Practitioner Framework

Key “Non-Cognitive” Habits

- Motivation and Volition
  the “want” and “will”
  - Mindset
  - Self-Control
  - Grit & resilience

- Learning Strategies
  the “know-how”
  - Goal setting and attainment
  - Meta-cognition

- Social Capital
  interpersonal skills
  - Belonging
  - Self-advocacy
## Current Research: National College Persistence Study

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Agenda

• Define It: The Research on Noncognitive Skills

• Doing It: Putting Research Into Practice

• Discuss It: Question & Answer Time
Agenda

- **Define It**: The Research on Noncognitive Skills
- **Doing It**: Putting Research Into Practice
- **Discuss It**: Question & Answer Time
IQ Alone Doesn’t Cut it!

Delay of Gratification: “Marshmallow Test”

Now vs. Later
What is Self-Control?

The ability to voluntarily regulate thoughts, emotions, and behavior in the service of a valued goal.
Try it!

Self-Control Scale

$N = 15,455$, $Mage = 22$ years
Mean score = 3.26 ($SD = 0.58$)
Range = 2.87 to 4.26

What the scale predicts:
Higher GPA
Less psychopathology and emotional problems
Less binge eating, alcohol abuse
Better relationships and interpersonal skills
Better responses to stress and provocation
Can’t have too much!

(Tangney, Baumeister, & Boone, 2004: Cited: 1,070)
Why is Self-Control Related to Academic Success?

The roots of education are bitter, but the fruit is sweet

-Aristotle

VS.

vs.

15
The Diligence Task

- Do math
  - 8
  - 7
  - 2
  - -6
  - -8

- Play game or watch movie

- Play game or watch movie

- Do math
The Diligence Task

Performance: Number of Correct Math Problems Solved

Do math

Play game or watch movie

8
- 1
7
2
-6
-8

Play game or watch movie

Do math
Study 1

$M = 279.8 \quad SD = 180.9$

Study 2

$M = 229.6 \quad SD = 177.4$
Diligence Task Performance

\[ B = -5.59, \ p < .001 \]

\[ B = -5.44, \ p < .001 \]
Self-Control Predicts Diligence Task Performance Better than IQ

IQ: $\beta = .11$, $p = .06$, $ns$

SC: $\beta = .25$, $p < .001$
Diligence Task Explains More Variance in GPA compared to IQ

IQ: $\beta = .10, p = .09, ns$

DT: $\beta = .21, p < .001$
Diligence Task Predicts High School Graduation

$t = 3.76, p < .001$

$t = 1.43, p = .15, ns$
Self-Control Predicts College Success

(N > 70,000; Poropat, 2009)
Research Take Home Message

• Self-Control important (sometimes, more so) for academic achievement compared to IQ

• Results found across the entire age spectrum:
  ◦ School readiness/pre-K
  ◦ K-12
  ◦ College

• Can be changed/improved, whereas IQ is less amenable to meaningful improvements
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Baseline Survey Assessment – Student Beliefs

- **Mindsets about Intelligence**: Does failure mean I’m “dumb?”
- **Trust**: Is this a safe environment to learn from my mistakes?
- **Belonging Uncertainty**: Will people respect me and value me in this school?
- **Self-Control**: Can I resist the temptation to quit hard or tedious tasks?
- **Grit**: Do I have passion and perseverance for long-term goals?

**Learning and Persistence**
Baseline Survey
Year 1 Findings

This project included 1403 majority low-income, urban students across 10 schools in 4 states.
Mindset Pilot Intervention

“...Not all students know that the brain can get smarter, even though it may help them succeed...

Write a letter to your friend telling them about what you just learned about the brain and why they shouldn’t be discouraged...”
“The most difficult transition from high school to college was coming from a situation where I knew every student for the past seven years to a new situation where I did not know one student before I arrived… I was pretty homesick, and I had to remind myself that making close friends takes time…”
Intervention Enrollment Results
Year 1 Findings

These results included 332 majority low-income, urban students across 4 schools in 2 states.
Intervention Social Integration Results
Year 1 Findings – FT Enrollment

Yeager & Walton (in prep)

These results included 332 majority low-income, urban students across 2 schools in 1 state.
Agenda

- Define It: The Research on Noncognitive Skills
- Doing It: Putting Research Into Practice
- Discuss It: Question & Answer Time
Implementation: Putting Theories Into Practice

- **What to implement?**
  - A psychological experience
  - **NOT** a handout

- **How do you change psychology and make it matter over time?**
  - “Stealthy”
  - Self-reinforcing through school experience

- **What do you need to design and implement?**
  - Student-centered approach
  - Continued evaluation
Putting Theories Into Practice

- Educator as Coach: Making Them Thirsty
- MCII: Senior Grit Case Studies
- College Non-Cog Knowledge and Standards
- “Stealthy” Messaging
- Culture Rituals
- PD: “Wise Feedback”
- Experiential Learning
Mastery’s College Advising Philosophy

Advisor as Coach

◦ High bar – want to win (graduate TWICE!)
◦ High support – want to motivate and encourage
◦ Customized
◦ Honest appraisal
◦ Provide clear directions
◦ STUDENT is on the field. Self-sufficiency

VS.
C3: College Completion Coaches

Network C3 Coordinator

- HS Staff C3
- College Peer C3
- IHE Staff C3
MCII: Senior Grit Case Studies

- Plan for College Persistence WHILE in HS
- Senior Project: Grit College Study
  - Theory: Based on Oettingen and Duckworth’s MCII work

<table>
<thead>
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<tr>
<td>Case Study Analysis</td>
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<tr>
<td>Campus Support Chart</td>
</tr>
<tr>
<td>Off Campus Support Team</td>
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<tr>
<td>Campus Map complete with all services labeled</td>
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Educator as Coach

“You can lead a horse to water, but you can’t make it drink.”

But how do we make it thirsty?
## YES Prep’s “To & Through” Approach

### College Non-Cog Knowledge and Standards

<table>
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<tr>
<th>Freshmen</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
<th>Transition 1</th>
<th>Transition 2</th>
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<tr>
<td>1.a. Develop a college-going identity where they believe that college is right for them (pp. 64);</td>
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<td>Develop a college-graduate identity where they believe that college graduation is right for them;</td>
<td>Develop a post-college identity where they believe that a college degree lends itself best to gainful employment or graduate school;</td>
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<td>1.b. View themselves as “college material” (pp. 64):</td>
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<td>View themselves as earning of their place in college;</td>
<td>View themselves prepared for gainful employment or graduate school;</td>
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<td>1.c. Aspire to obtain a college degree (pp. 64);</td>
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<td>1.d. Explore elements of identity through “Who Am I?” activities (pp. 86):</td>
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<td>Re-explore: Use courses to explore opportunities.</td>
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<td><strong>FRESHMEN:</strong> Myers Briggs Type Indicator (MBTI) Great Discovery Book</td>
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<td>1.e. Connect identity around who they are and what they hope to be in the future (pp. 68);</td>
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<td>Further connect identity around who they are and what they hope to be in the future;</td>
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<td><strong>SOPHOMORE</strong> Conduct surveys on majors and careers</td>
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<td>□ ORA Personality Profiler (strengths, learning preferences, motivations, development opportunities)</td>
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<tr>
<td>□ Research careers on Naviance and College Board Big Future ©</td>
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<tr>
<td>□ List skills and educational training requirements,</td>
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<tr>
<td>□ List responsibilities,</td>
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<tr>
<td>□ Evaluate pros and cons,</td>
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<tr>
<td>□ Identify roles within a career,</td>
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<tr>
<td>□ Identify growth potential,</td>
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<tr>
<td>□ Describe typical work environments</td>
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<tr>
<td>□ List compensation,</td>
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<tr>
<td>□ Research college majors □ List the kinds of classes taken past introductory level and types of research projects</td>
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<tr>
<td>□ Identify ways to prepare for a specific major in high school</td>
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<td>□ Connect majors to careers</td>
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“Not-so-stealthy” Messaging

10,000 Students, College Ready

By providing you with a high-quality, college prep curriculum, YES Prep will undoubtedly prepare you to be a successful college student. YES Prep will also provide you with many opportunities and resources that you will be able to utilize throughout your college career.
“Stealthy” Messaging

YES Prep Alumna: I Have learned a great deal from many different role models in my life
April 11, 2011 by Tenesha Villanueva

Name the teacher/staff member who had the greatest impact on you and why.

I have learned a great deal from many different role models in my life. From Mr. D, I learned that math is the world! You will use math enormously in life, so learn it well. From Ms. Pagani (Hines), I learned that being well read helps you communicate with and understand others. From Mr. Kamentz, I learned to be pro-active and seek out answers instead of waiting someone to give them to you. Most importantly, I saw my role models excel in and love their profession, which in turn inspired me to do the same in mine.

How do you feel YES Prep best ensured you were college-ready?

When I started college, I was not overwhelmed with school work and classes because YES Prep helped develop my academic endurance. Majoring in engineering, I felt prepared with the math and sciences background that I had received from YES Prep. YES Prep also prepared me for college in ways other than academics. YES Prep introduced me to NACME (National Action Council for Minorities in Engineering) and their various resources which helped me throughout my college career.
“College is challenging, it’s supposed to be. However, it isn’t impossible. As long as you go to class, do your work and stay focused, it can be a lot easier than you may think.”
Senior Signing Day Celebration
MY HERO

Dear Mr. Warner Prouty,

My hero is Dr. Martin Luther King Jr. My hero has courage to do what he has to and when he has to do it. He is a testimony to others, and when he was tested he overcame it. He went through trials after trials and he did not hold a grudge.

First Dr. Martin Luther King Jr. has courage. He did not have to speak for "his people" but he did it because he cares. King lead some civil rights movements in his time. Dr. King also gave a speech in front of 200,000 of his supporters.

Second Dr. Martin Luther King is a testimony to me and others. He is a testimony to me because he did everything he could do to fight for the freedom for him, his family, and others. Now when I look at the simplest things and complain I think of what Dr. King would do.

Finally Dr. King is my hero because when he was tested he did not complain instead he overcame the worst. Dr. King had many good reasons to quit what he was doing and curse everyone, but he didn't. In the worst of times Dr. King kept his chin up. When King's home was bombed all he said was "We must learn to meet hate with love." Dr. King was a great man and he helped change our world as we know it.

In conclusion Dr. Martin Luther King Jr. is my hero because he had courage. He is a testimony to me and to others. Also he over came his troubles when he was tested.

"I have a dream that little black boys and little black girls will be able to join hands with little white boys and little white girls and walk together as sisters and brothers."
Control group: I’m giving you these comments so you have feedback on your essay.

“Wise feedback” group: I’m giving you these comments because I have high standards and I know that you can meet them.
Study 1

Percent Revising Essay

Control vs. High Standards + Assurance

White Students
- Control: 62%
- High Standards + Assurance: 87%

Black Students
- Control: 17%
- High Standards + Assurance: 72%
Experiential Learning to Build Social Capital

- Internships
- Summer Opportunities
- College Visits
Next Steps for the Field...

**SOLIDIFY** common definitions around the non-cognitive skills.

**VALIDATED** assessment tools that broadly captures non-cognitive ability versus discreet skills or traits.

**PROVEN** and **SCALABLE** interventions.
Additional Resources
Will Power

“I consider myself to be of basically average talent…”

“The key to life is on a treadmill…When I say I am going to run three miles, I run five. With that mentality, it is actually difficult to lose.”
"While the other guy's sleeping, I'm working…
While the other guy's eating, I'm working…
While the other guy's making love – I mean, I'm making love, too…

...but I'm working really hard at it!"
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Presenter Contact Information

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