Long-term Impacts of a Cohort Model
Providing Leadership Development to Underrepresented Students in Technology & Engineering

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Summer 2020 Cohort

Leadership Academy

Bennington College  
Clark University  
Harvard University  
MIT  
Merrimack College  
Mount Holyoke College  
Northeastern University  
Simmons University

Smith College  
Tufts University  
UMASS Amherst  
UMASS Dartmouth  
UMASS Lowell  
Wheaton College  
Worcester Polytechnic Institute  
Worcester State University

1st Gen College 26%

White 15%

Black 28%

LatinX 19%

Asian 35%

Mixed 3%

Other 3%

Male 31%

Female 66%
Leadership Academy

Summer 2020: 10 weeks, 3 afternoons/week

**Tactical Knowledge + Inspiration**

**Monday**

Conversations and Exercises led by Distinguished Leader in Practice

Sample Sessions

“Excelling on Your First Workplace Assignment”

“Highly Valued Skills in the Workplace”

**Wednesday**

**Speaker Series**

Sample Topics

“Preparing to Thrive (vs. Survive)”

“Developing Your Professional Identity”

**Friday**

**Negotiation Class**

Sample Sessions

“Power in Negotiation”

“Creating Win-Wins”

**Small-Group Workshop**

Sample Sessions

“Reducing Ambiguity about What’s Negotiable and How to Negotiate”
Negotiation Examples Relevant to Your Life and Aspirations

- Your educational choices: 71%
- Focus of a team project: 67%
- Role in a team project: 62%
- Extra-credit assignment: 56%
- OTHER: 42%
- Gain research experience: 35%
- Role in an internship: 27%
- NONE: 2%
How hard was it for you to think of a personally relevant negotiation example?
Students express interest in applying to program

Announce Program

April-May

June

Application Deadline

Some students apply

LA Program Begins

July ($T_0$)

LA Program Ends

August ($T_1$)

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Leadership Academy students (blocked random sample lottery)

Comparison Control Group

Leadership Academy students (blocked random sample lottery)

Comparison Control Group

Leadership Academy students (blocked random sample lottery)

Comparison Control Group

Academic Year Ends

May/June ($T_2$)

2020

2021

What worked?

What lasted?
What Worked?

2020 July ($T_0$)
LA Program Begins

2020 August ($T_1$)
LA Program Ends

Leadership Academy students (blocked random sample lottery)

Comparison Control Group

Direct Effects

Tactical Knowledge
- “Actively learn from mentors, sponsors, and coaches”
- “Deliver stand-out results”

Negotiation Confidence ("integrative self-efficacy")
- “I am confident in my ability to negotiate…”
- “When I negotiate, I look for agreements that are as good as possible for both parties.”

Propensity to Negotiate
- “I am someone who recognizes opportunities to negotiate”

Propensity to Stretch
- “I try to stretch myself by speaking up…”

Professional Identity
- “I can see myself as a successful professional in a career relevant to my major.”
What Worked?

2020
July ($T_0$)
LA Program Begins

2020
August ($T_1$)
LA Program Ends

Leadership Academy students (blocked random sample lottery)

Comparison Control Group

Leadership Academy students (blocked random sample lottery)

Comparison Control Group

Comparing end of August to beginning of July

Comparison Control Group

Leadership Academy

Knowledge
Negotiation Confidence
Propensity to Negotiate
Propensity to Stretch
Professional Identity
What Lasted?

2020
July \((T_0)\)
LA Program Begins

2021
May/June \((T_2)\)
Academic Year Ends

Leadership Academy students (blocked random sample lottery)

Comparison Control Group

Comparing Academic Year End 2021 to July 2020

- Knowledge
- Negotiation Confidence
- Propensity to Stretch
- Propensity to Negotiate
- Professional Identity

Control
Leadership Academy
What Lasted?

Indirect Effects

Opportunity Seeking
“It is important to me to:
- participate in an internship
- conduct job search
- take on leadership role…”

Leadership Academy
(vs. comparison control group)

Tactical Knowledge ($T_1$)
of how to advance professionally in Tech & Engineering

Opportunity Seeking ($T_2$)
for professional advancement in Tech & Engineering

Hayes’ PROCESS Model 4 with 5,000 bootstrapping samples
Indirect effect: 95% CI [.05, .46]

\[
0.39^* \quad 0.66^{***} \quad -0.22 \quad (-0.05)
\]
What Lasted?

Indirect Effects

Opportunity Seeking
“It is important to me to:
- participate in an internship
- conduct job search
- take on leadership role…”

Leadership Academy
(vs. comparison control group)

Negotiation Confidence (T₁)
to find win-win solutions

Opportunity Seeking (T₂)
for professional advancement in Tech & Engineering

Hayes’ PROCESS Model 4 with 5,000 bootstrapping samples
Indirect effect: 95% CI [.05, .46]
What Lasted?

Indirect Effects

Motivation to Persist
- “I will be able to overcome any difficulties I experience in pursuing a career in Tech & Engineering.”
- “I have what it takes to pursue a career in Tech & Engineering.”

Leadership Academy
(vs. comparison control group)

Negotiation Confidence (T₁)
to find win-win solutions

Motivation to Persist (T₂)
in Tech & Engineering

Hayes’ PROCESS Model 4 with 5,000 bootstrapping samples
Indirect effect: 95% CI [.05, .46]
Looking Forward

• Encouraging preliminary results indicate leadership development may help to advance under-represented students in Tech & Engineering
  • Increased tactical knowledge of professional norms may enhance the potential for opportunity seeking
  • Increased negotiation confidence may enhance opportunity seeking and confidence in one’s ability to overcome barriers to advancement

• Research continues along with development of transferable teaching materials (e.g., cases, online resources, etc.)