



A Forum on Next Generation STEM Learning For All

COLLEGE AMBITION PROGRAM

| NSF

| NOVEMBER 9 2015

Dr. Barbara Schneider

Michigan State University

College Ambition Program is funded by the National Science Foundation (Grant No. 815295)

What is the College Ambition Program?

- CAP is an intervention with a staggered rollout
- Highlights STEM college programs
- Began with two treatment and two control high schools in 2010
- Fifteen in 2015-2016
- Whole school design
- Public high schools
- Includes rural schools
- Built on relationships
- Scale-up potential



CAP Description



- CAP Center open to all students
- CAP coordinates with school counseling staff and teachers
- Staffed by a site coordinator
- Offers: (1) tutoring and mentoring; (2) course-counseling and advising; (3) financial aid planning; and (4) college visits

CAP Site Coordinators



Measures and Materials

Site Coordinator Manual

Compiled and Edited By
Julie Codd
With Contributions From
Clay Bragg
Kris Burkholder
Justina Judy

Field Manual

Edited by
The National Science Foundation
P. J. Burkholder
Michigan State University
425 River Lane, Room 215
East Lansing, MI 48824

Student Survey

The following questions are about your goals and ambitions in life.

- A1. How important is each of the following to you in your life?
- Finding the right person to marry and having a happy family life
 - Being successful in my line of work
 - Having lots of money
 - Having strong friendships
 - Being able to find steady work
 - Helping other people in my community
 - Being able to give my children better opportunities than I've had
 - Living close to parents and relatives
 - Getting away from this area of the country
 - Working to correct social and economic inequalities

Not at all important Somewhat important Important Very important

CAP Mentor Contact Form

Please use this form to record your contacts with students in the CAP program.
* Required

Date of Contact *
(DD/MM/YYYY)

Your Name *
(First and Last)

First Name of Contact *

Contact's Position *

Student

If Student, grade in school:

- 9th
- 10th
- 11th

Sample

- Treatment criteria - lower than state average college enrollment rates
- Identified with state administrative data, census data, and data from the Common Core of Data
- Each treatment school matched with five control schools using propensity score matching techniques

```
Nov6PM Untitled.do
15 tab `var' minority if treatment==1, col chi nokey
16 tab `var' minority if treatment==0, col chi nokey
17 }
18
19 *Recode Barrons
20 recode most_selective_nsc (-8=.) (0 2 = 1) (3=2) (4 5 6=3), gen(barrons3)
21 label define barindex 1"Less Comp" 2"Comp" 3"High Comp"
22 label values barrons3 barindex
23 tab most_selective_nsc barrons
24
25 *Recode Barrons Dummy
26 recode barrons (-8=.) (0 2 = 0) (3 4 5 6=1), gen(barronsD)
27 label define barD 0"Less Comp" 1"Comp"
28 label values barronsD barD
29 tab barrons barronsD
30
31 **Barron's Table**
32 log using "Y:\SchneiderOffice\CAP\Data\ADMINISTRATIVE\MCER\BarronsTableNov6
33
34 global barronsD two_four four_four
35
36 foreach var of global barronsD {
37 **Treatment**
38 tab `var' barronsD if TREATMENT==1, col chi nokey
39 **Control**
40 tab `var' barronsD if TREATMENT==0, col chi nokey
41
42 **Male Treatment**
43 tab `var' barronsD if F1MALE==1 & TREATMENT==1, col chi nokey
44 **Female Treatment**
45 tab `var' barronsD if F1MALE==0 & TREATMENT==1, col chi nokey
46 **Male Control**
47 tab `var' barronsD if F1MALE==1 & TREATMENT==0, col chi nokey
48 **Female Control**
49 tab `var' barronsD if F1MALE==0 & TREATMENT==0, col chi nokey
50
51 **Minority Treatment**
52 tab `var' barronsD if minority ==1 & TREATMENT==1, col chi nokey
53 **Non-Minority Treatment**
54 tab `var' barronsD if minority ==0 & TREATMENT==1, col chi nokey
55 **Minority Control**
56 tab `var' barronsD if minority ==1 & TREATMENT==0, col chi nokey
57 **Non-Minority Control**
58 tab `var' barronsD if minority ==0 & TREATMENT==0, col chi nokey
59 }
60
61
```

School Matching Criteria



Postsecondary enrollment rates, school size, census designation, poverty rate, and racial/ethnic diversity

Participants

- Urban schools serve a **racially diverse** population of students; while rural schools serve a predominately white student population
- Sizes vary from around 700 to 1,200 students for the urban sites and between 300 and 600 students at the rural schools
- Schools serve a majority of **economically disadvantaged** students, with 70 percent of their students eligible for free and reduced lunch
- All treatment schools have a substantial number of students who would be the **first in their family to go to college**



Research Design

	2010-2011	2011-2012	2012-2013	2013-2014
Treatment Schools	2	4	7	13
Matched Comparisons	10	20	31	51
Total Schools	12	24	38	64

Power analysis using Optimal Design Plus (Spybrook et al. 2011) shows that for 2012-2013, a total of 38 schools put us close to 90% power and that in 2013-2014, we will exceed 90%.

Sample Size and College Enrollment Rates for CAP Treatment Estimation, 2012–2013

Variable	CAP Schools ($n = 7$)	Control Schools ($n = 31$)
Number of Students	872	3180
Post-treatment college enrollment rate		
4 year	30.9%	30.9%
2 year	35.4%	27.1%
Non-enrollment	33.8%	42.0%

Research Take Aways

- Schools are dynamic places that are changing
- Partnerships are key for research in schools
- Changing student behaviors/and plans depends on personal interaction with a trusted knowledgeable individual
- College interventions should be low-cost and designed to be scaleable

Pictures of CAP Participants



Sophia Bozzo
Michigan State University
Majoring in Food Science

Michael Rogers
Michigan State University
Majoring in Food Science



Kenny Heindel
University of Michigan
Science of Information

Zahna Woodson
Alma College
Majoring in Communications
Minor in Cultural Studies



Nate Hall
University of Michigan
Double majoring in Economics
and Informatics