

# Understanding the Effect of an Intervention Program on College Participation: The Access and Opportunity Program in St. Cloud, Minnesota, A Longitudinal Analysis

INTERNATIONAL SOCIETY FOR EDUCATIONAL PLANNING ANNUAL  
CONFERENCE

CHARLESTON, SOUTH CAROLINA USA

OCTOBER 9, 2018

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# Major Findings

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This research is part of a series of analysis of the Access, Opportunity, and Success program (AOP) following the participants from 9<sup>th</sup> grade to college.

Compared to similarly situated students, AOPstudents were more likely to:

- Stay in high school (previous work)
- Graduate from High School (previous work)
- Participate in Dual-Enrollment Programs (PSEO) (previous work)
- Enroll in College: especially public institutions and in 2 yr programs.
- Have timely enrollment in college: the first 3 years after HS graduation (even after considering GPA differences)

# St. Cloud Center for Access, Opportunity and Success : A Review

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St. Cloud Access, Opportunity and Success Center, a partnership consisting of

- **St. Cloud State University (SCSU)**
- **St. Cloud Technical and Community College (SCTCC)**
- **St. Cloud School District (District 742)**

for the purpose of

- improving academic achievement
- improving high school graduation rates
- increasing rigorous college preparatory course-taking behavior
- increasing post-secondary participation

among underrepresented students in grades 8-12 in District 742, in order to better prepare them for success in college.

# AOP components

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Intrusive academic advising

Academic curriculum planning

Intensive tutoring

Dual-enrollment options

Mentoring

Tracking and monitoring

Aid in employment and career planning

Summer programs

Test preparation programs

English language learning services

# DATA

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## Four main sources

- MARSS
- AOP Program
- School District
- National Student Clearinghouse

## Time Periods:

- HS Graduation between 2009-2013
- College Enrollment between 2009-2017

# Population and Sample

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Senior students in District 742 from 2008 to 2013 = 4,030

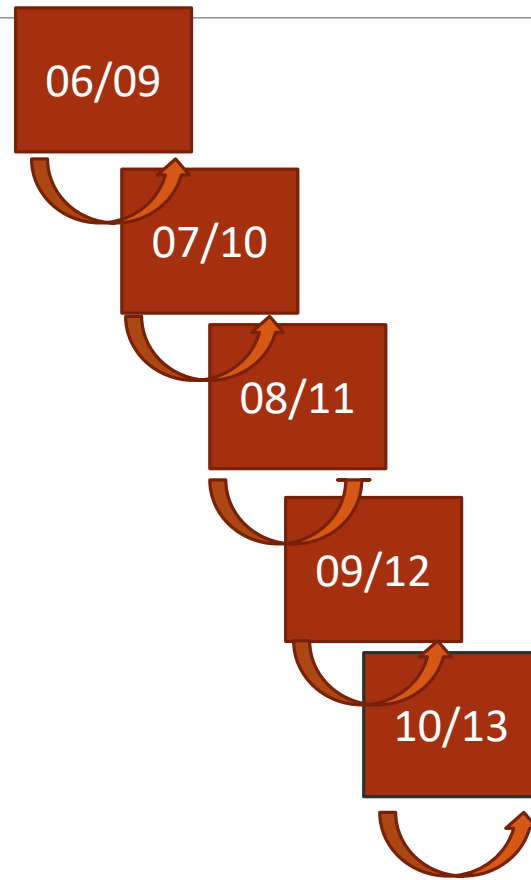
High school graduates at some point = 3,110

Graduated in 4-year-cohort (68.4%) = 2,757

At-Risk students among these graduates = 1,049

# 4-YEAR COHORT GRADUATION RATE

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Total number of students who are AOP and AOP-eligible and 4-yr cohort graduates= 1,049

# Definition of groups

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The implementation of the program results in three relevant groups

- Not at risk: Non-eligible students who are not identified in need of resources nor being in target population.
- AOP-Eligible: Students who qualified for the program but do not participate (mix of SOC and non-SOC).
- AOP Participant: Students who qualified and participate.

For comparison purposes, AOP-eligible and AOP Participants are our focus of interest.



# Ethnicity and Groups

Ethnicity	Program participation			Total
	Not at risk	Eligible	AOP	
White	1,642	454	153	2,249
SOC	66	121	321	508
Total	1,708	575	474	2,757

# Some Summary Characteristics of At-Risk Students (AOP and AOP-Eligible)

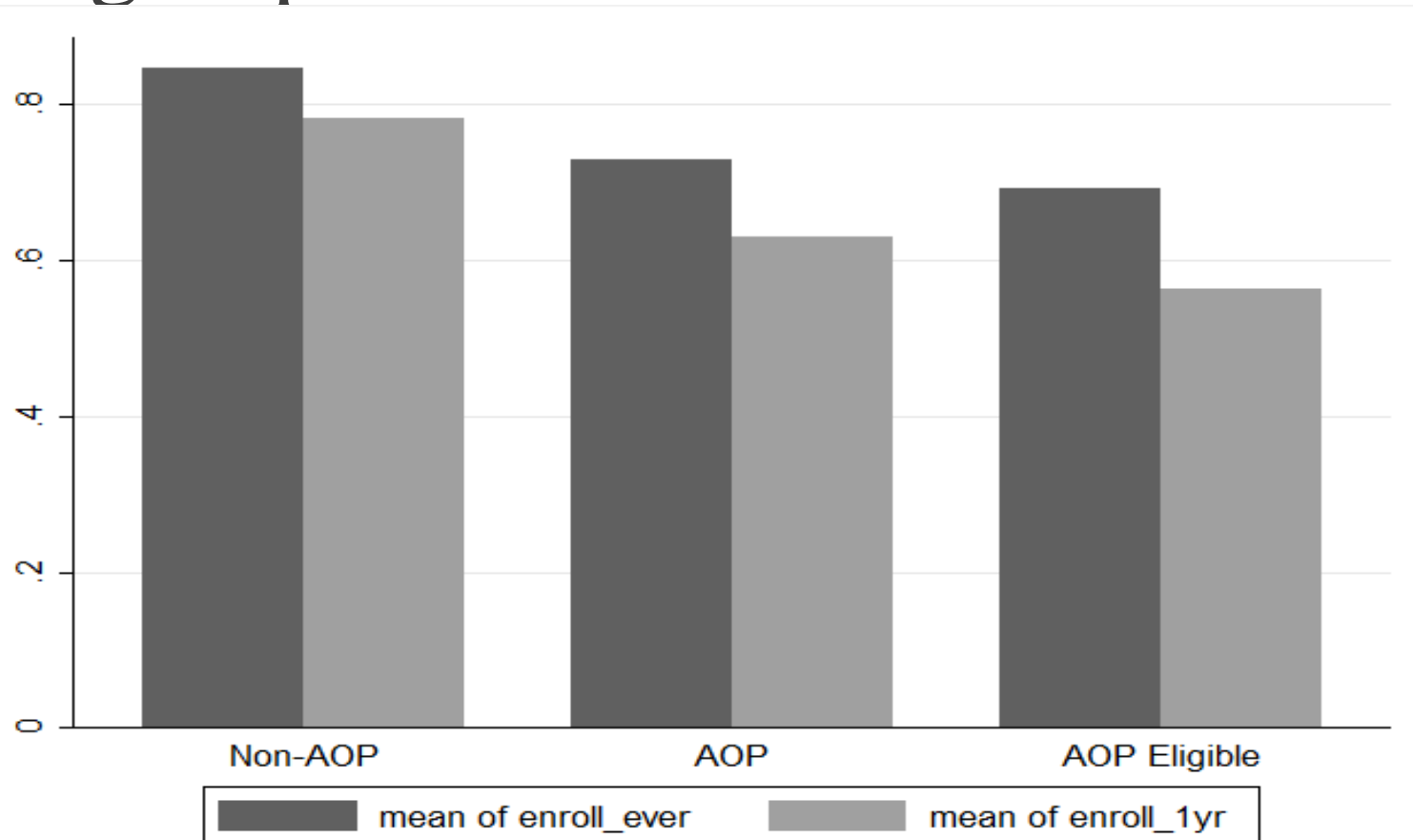
Variable	AOP		Eligible		Sample	
	Mean	SD	Mean	SD	Mean	SD
Female	0.516	.500	0.518	.500	0.517	.499
SOC	0.677***	.468	0.210	.407	0.421	.494
LEP	0.456***	.498	0.076	.266	0.248	.432
FRL	0.789***	.408	0.970	.169	0.888	.314
N	474		575		1,049	

Note: Two sample t-test statistical difference from zero: \*\*\*  $p < 0.1$ , \*\*  $p < 0.05$ , \* $p < 0.01$

# Results

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Compared with similar group, AOP participants are more likely to enroll. Yet, still a gap with not at risk group.



Note: Values are statistically different from 0 at less than 1%. (N=2,757)

# AOP more likely to enroll immediately after high school; enroll in public institutions, 2-yr programs than eligibles

Variable	AOP (N=474)	Eligible (N=575)
1-year after HS Enrolled	0.630 (0.483)	0.563 (0.496)**
2-year after HS Enrolled	0.681 (0.466)	0.613 (0.487)**
Ever Enrolled	0.729 (0.444)	0.692 (0.461)
Ever in public	0.947 (0.222)	0.904 (0.294)**
Ever in private	0.173 (0.379)	0.231 (0.422)*
Ever in for profit	0.092 (0.290)	0.123 (0.328)
Ever in 2 Year Program	0.644 (0.479)	0.575 (0.494)*
Ever in 4 Year Program	0.690 (0.462)	0.673 (0.469)
Ever in state of Minnesota	0.942 (0.233)	0.929 (0.256)
Ever in UMN system	0.026 (0.159)	0.060 (0.238)**
Ever in MnSCU system	0.893 (0.309)	0.824 (0.381)***

Note: Std. Dev. in parenthesis. \*\*\*  $p < 0.1$ , \*\*  $p < 0.05$ , \* $p < 0.01$

# Likelihood of enrollment AOP vs. AOP-Eligible in terms of Demographic Factors

Odds Ratios	(1) Ever enrollment	(2) 1-yr enrollment	(3) 2-yr enrollment
AOP	1.303 (.224)	<b>1.416**</b> (.224)	<b>1.462**</b> (.239)
SOC	1.042 (.202)	0.932 (.165)	0.945 (.172)
Female	<b>1.767***</b> (.222)	<b>1.630***</b> (.208)	<b>1.773***</b> (.233)
FRL	1.079 (.251)	1.235 (.263)	1.254 (.274)
LEP	0.874 (.192)	1.060 (.213)	1.036 (.215)
	N = 1,049 Prob > Chi2 = 0.0041 Log Likelihood = -615.35	N = 1,049 Prob > Chi2 = 0.0081 Log Likelihood = -893.75	N = 1,049 Prob > Chi2 = 0.0012 Log Likelihood = -664.84

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# Survival analysis

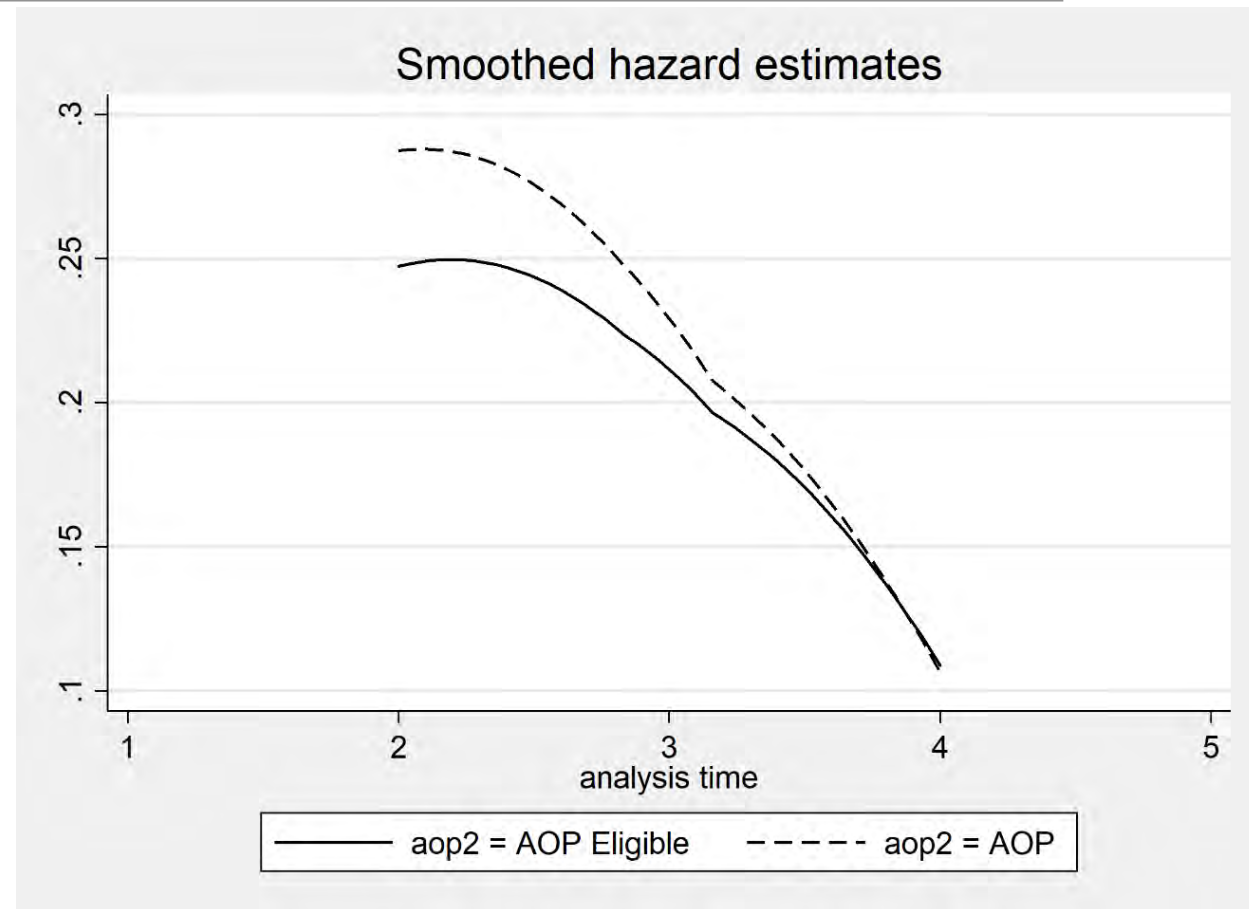
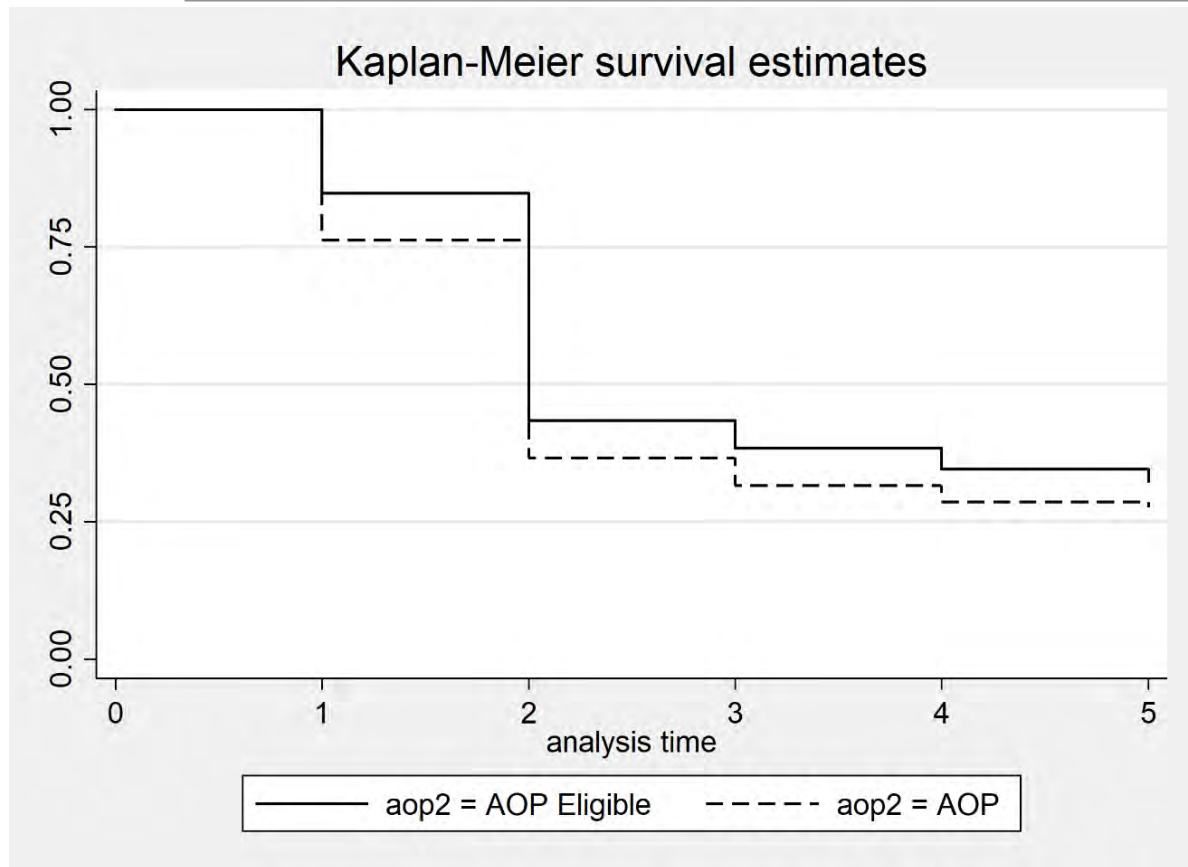
Timing on college enrollment matters

Non-Parametric approach

Semi-parametric Approach : Cox proportional hazard model

- 5 cohorts
- Time zero is HS Graduation and follow 5 years.
- Identify first time enrollment

# Non-Parametric: AOP students are more likely to enroll in college during the first three years after HS graduation





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Enroll in College (1.41 OD)

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Enroll in Public, 4 yrs and 2 yrs Institutions.

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Timely enroll in college (within the first two years after HS graduation)

16-19% more likely

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Given GPA, they are almost 30% more likely to enroll in college in first years

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Compared to similarly situated students, Access and Opportunity Program students were more likely to:

# Some Lessons Learned

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- AOP Model rooted in theory, practice and research
- Emphasis on “Intrusive Advising”, intervention with a purpose; mentoring, tutoring
- P-12 and Higher Education collaboration is possible, desirable and probably necessary in addressing the achievement gap
- Create a culture of high expectations and high performance
- Dual-enrollment programs expose students to college life and rigor
- Pre-college programs can help prepare students with the skills and preparation needed for college persistence and success

# Future work

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- Use of the more dynamic framework of the information and consider re-enrollments (entry and exits).
- Consider separately the effect of core versus additional AOP components.
- Identify a timing strategy that addresses the issue of self-selection.
- Retention
- College graduation
- Labor Market performance (future partnerships)

# Thank You

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# Male and SOC students enroll in public schools, Women enroll in 4-yr programs

% of enrolled	Male	Female
Public	92.92	90.00***
Private	17.45	27.14
For Profit	3.93	10.27***

% of enrolled	White	SOC
Public	90.75	94.36**
Private	23.36	19.01***
For Profit	6.57	10.56**

% of enrolled	Male	Female
Less than 2yrs	0	2.78***
2yrs	50.85	49.58*
4yrs	71.44	75.23***

% of enrolled	White	SOC
Less than 2yrs	1.38	1.87**
2yrs	47.20	64.08***
4yrs	74.73	67.60***

% of enrolled	Male	Female
MnSCU system	79.85	79.93
UMN system	10.38	8.91***

% of enrolled	White	SOC
MnSCU system	78.12	88.02***
UMN system	10.73	4.46***

# Enrollment by type of institution

Odds Ratios AOP vs. AOP- eligible	(1) 1yr Enrolled (in public college)	(2) 1yr Enrolled (in private college)	(2) 1yr Enrolled (in profit college)	(4) 1yr Enrolled (in Two Years Program)	(5) 1yr Enrolled (in Four Years Program)
<b>AOP</b>	<b>1.386**</b> (0.215)	0.938 (0.264)	1.267 (0.542)	<b>1.680***</b> (0.302)	1.069 (0.169)
<b>SOC</b>	0.948 (0.164)	1.064 (0.298)	1.058 (0.435)	1.022 (0.202)	0.831 (0.150)
<b>Female</b>	<b>1.345**</b> (0.169)	<b>1.671**</b> (0.383)	<b>3.374***</b> (1.372)	1.203 (0.175)	<b>1.296**</b> (0.166)
<b>FRL</b>	1.399 (0.293)	0.552* (0.193)	0.836 (0.482)	1.250 (0.306)	1.352 (0.296)
<b>LEP</b>	1.355 (0.267)	<b>0.269***</b> (0.115)	<b>0.074**</b> (0.079)	0.696 (0.157)	<b>1.529**</b> (0.308)
	N = 1,045 Prob > Chi2 = 0.0149 Log Likelihood = -711.38	N = 1,045 Prob > Chi2 = 0.0018 Log Likelihood = -288.23	N = 1,045 Prob > Chi2 = 0.0001 Log Likelihood = -146.46	N = 1,045 Prob > Chi2 = 0.1986 Log Likelihood = -575.66	N = 1,045 Prob > Chi2 = 0.1096 Log Likelihood = -691.40

# Cox Proportional Hazard Ratios

Variables	(1)	(2)	(3)	(4)	(5)
AOP	<b>1.169***</b> 0.069	<b>1.174***</b> 0.076	<b>1.192***</b> 0.083	<b>1.253***</b> 0.088	<b>1.241***</b> 0.087
Female		<b>1.313***</b> 0.079	<b>1.313***</b> 0.079	<b>1.322***</b> 0.079	<b>1.327***</b> 0.079
SOC		0.995999 0.065	0.978 0.0769	1.002 0.079	1.002 0.081
FRL			1.088 0.106	1.153 0.114	1.154 0.115
ELP			1.024 0.094	1.051 0.096	1.057 0.098
Technical				0.907 0.080	0.899 0.081
ALC				0.596*** 0.052	0.592*** 0.053
South				0.686*** 0.072	0.68** 0.105
North				0.725*** 0.064	0.722** 0.103
HS-2010					1.186* 0.106
HS-2011					1.095 0.098
HS-2012					1.124 0.158
HS-2013					1.062 0.148
Wald chi (2)	6.86	28.03	28.48	71.71	73.79
Log pseudolikelihood	-4876.9	-4870.18	-4869.91	-4856.47	-4855.34
# of subjects	1,045				
# of failures	730				

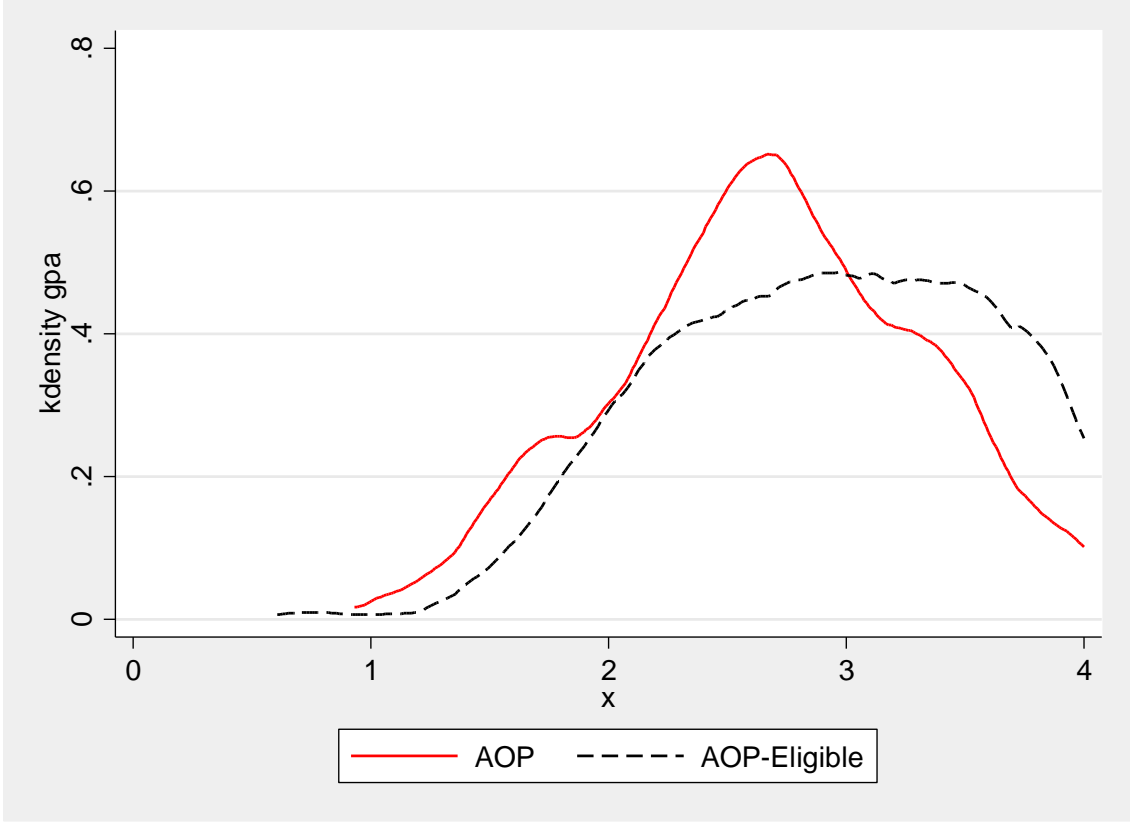
Variables	Hazard Ratios	Robust SE
AOP	1.318***	0.102
Female	1.094	0.074
SOC	1.081	0.099
FRL	1.188*	0.122
LEP	0.911	0.093
2011	0.987	0.098
2012	0.8121**	0.08
2013	0.8556*	0.08
GPA	1.867***	0.101
Wald chi (2)	148.61	
Log pseudolikelihood	-3558.068	
# of subjects	794	
# of failures	563	

With GPA

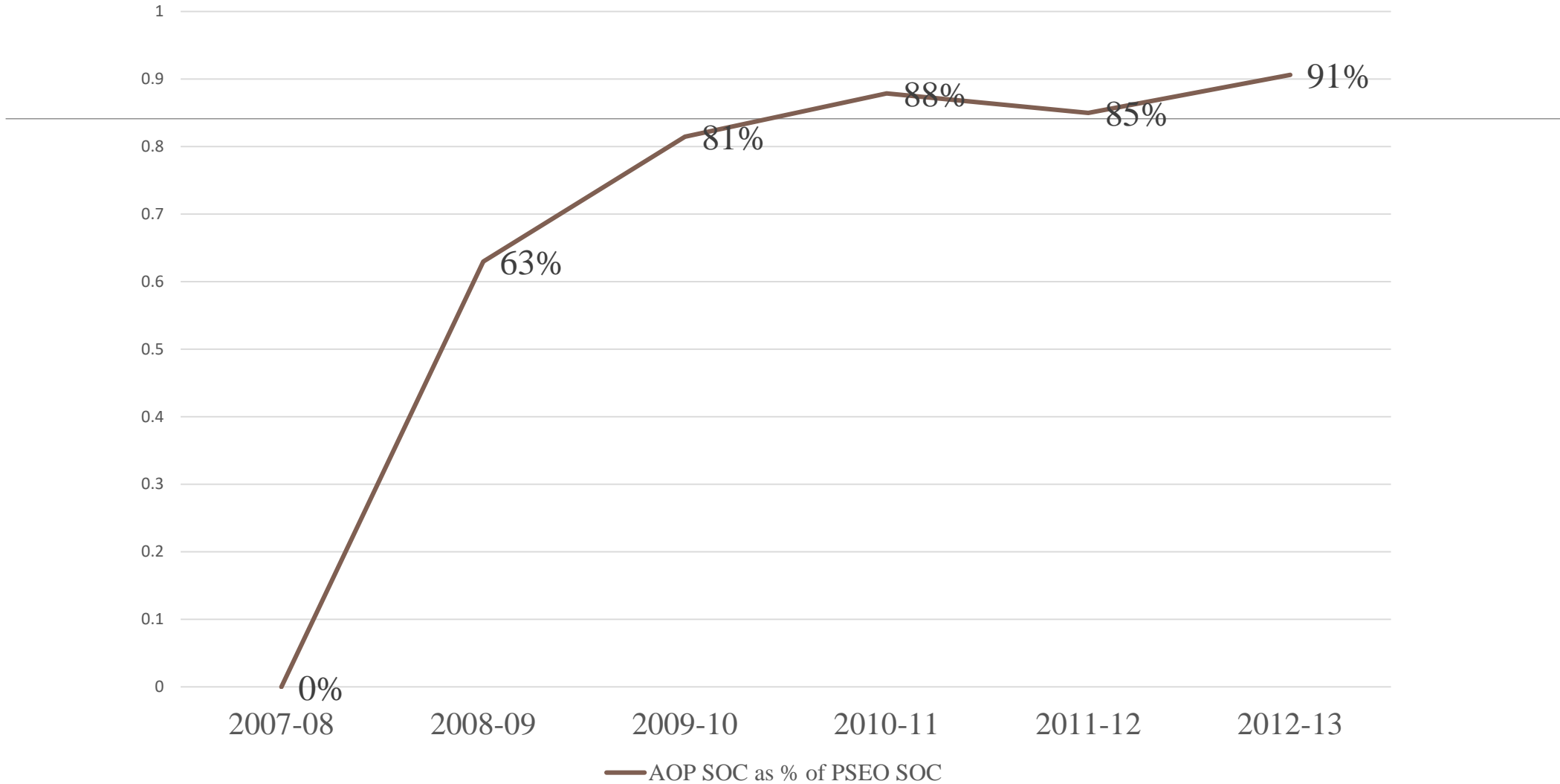


# GPA Distribution

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# AOP SOC as % of PSEO SOC



# Literature Review

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Education interventions: Perry Preschool Program (Rolnick & Grunewald 2003; Belfield et al. 2006; Heckman et al. 2010)

College enrollment: Decision based on long-term returns (Pyatt and Becker 1966, and Becker and Tomes 1986)

Timing on College enrollment: Nontraditional students delay enrollment, or part time enrollment, full time work while enrolled, has dependents other than spouse, single parents, or has a GED diploma (Horn & Carroll 1996).

Why it matters? Delayed enrollment increases the likelihood of delayed graduation or college drop out (Bozick & Deluca 2005).

# Most students enrolled in local institutions...

	Ever enrolled (%)	First enrollment (%)
Enrolled	58.93	58.93
Public/Private	91.41 / 22.64	86.86 / 14.47
in Minnesota	92.50	90.06
MnSCU	92.50	73.40
1 St. Cloud State University	58.64	52.40
2 St. Cloud Technical and Community College	46.04	37.32
3 Alexandria Technical and Community College	3.79	1.49
UMN	6.26	6.31
Twin Cities	59.38	55.33



(Students=4,028)

# Additional Information and Insight

These videos are documentaries providing more information on the Access and Opportunity Program, and give the perceptions and experiences of students, parents, teachers, school official, MnSCU staff, college access experts, AOP staff, community leaders and others relative to AOP..They are available on YouTube:

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*“Access + Opportunity Short Overview of Program”:*

<http://www.youtube.com/watch?v=jJm0pm6jjxc>

*“Access + Opportunity Module1 - Full Overview”:*

<http://www.youtube.com/watch?v=A-hNd3kgonc&list=UU7svANt91dXpfd-XPVpdQ2w>

*“Why AOP Works - Module 2”:*

[http://www.youtube.com/watch?v=kAKKDd6U\\_II&list=UU7svANt91dXpfd-XPVpdQ2w](http://www.youtube.com/watch?v=kAKKDd6U_II&list=UU7svANt91dXpfd-XPVpdQ2w)

*“Children + Opportunity = Community”:*

<http://www.youtube.com/watch?v=A4K4XSpml64&list=UU7svANt91dXpfd-XPVpdQ2w>

*“That's What Dreaming Means to Me”:*

<http://www.youtube.com/watch?v=EmnN93f1htQ&feature=youtu.be>