



DUSTING OFF THE DATA:  
USING THE 2007 CIRP DATA TO PREDICT  
FIRST-YEAR STUDENTS' OUTCOMES

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# Welcome!

- Where are you from?
- What are you interested in gaining from this presentation today?

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# CIRP Freshmen Survey

- 200+ items
- Administered to all freshmen (first-year, non-transfer students) during Orientation
- Several themes of data:
  - Demographic
  - Pre-college experiences
  - Motivations for selecting this university
  - Political beliefs
  - Much, much more!



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# 2007 CIRP Survey

- 5,089 students answered at least one question
- 5,280 freshmen
- Problem: Students aren't great at knowing their IDs + early attrition = 4,800+ matched with institutional data



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# 2007 CIRP Survey

Are these 4,800 CIRP respondents representative of the Class of 2011?

	% CIRP Respondents	% Freshmen Class
Female	55.8	55.7
African American	4.7	5.0
American Indian	1.2	1.2
Asian	11.3	11.4
Hispanic	2.4	2.4
International	2.3	2.9
Retained to 2 <sup>nd</sup> Yr	88	88.5



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# Research Questions

- Using CIRP and institutional data, what factors, if any, predict freshmen students'
  - First-year GPA
  - Retention to second year
  - Four-year graduation
  - Four-year success (i.e. graduated or still enrolled)



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# Where to Start?

- Factor analysis of items
  - Reduces items into composite scores
    - Nine factors from 34 items
      - College has a good reputation
      - Academic engagement in HS
      - Engaging in risky behaviors
      - Parental involvement in college processes
      - Extrinsic pressures to attend the U
      - Political/civic engagement in HS
      - Likelihood of changing major/career
      - Cost as a motivation to attend the U
      - Volunteering in HS

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# Difficulties in Stage One

- Reduced sample size due to listwise deletion (n = 4,216)
- Challenges with original factor loadings when entering in the most amount of items
- Challenges in rationale for item loadings/factors
- In short: limitations, limitations, limitations!  
*Let's proceed with caution.*



# Running the Models

- **Demographics**
  - Institutional
  - CIRP-derived
- **College of enrollment**
- **Nine factors**
- **ACT/SAT**
- **College experiences**
- **Individual items:**
  - Likelihood of transferring
  - First-choice college
  - Additional parental influences
  - Financial factors
  - Graduated from a public high school
  - Residency



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# Demographics

Quick snapshot of the percent of students meeting these characteristics.

Data were derived from CIRP or institutional records.

(n ~ 4860)

	%
First-generation	16.9
Divorced parents, deceased parents	25.7
Student attended a public HS	89.0
U was a “first choice” for students	72.6
Parent(s) attended the U	25.3
In-state resident	66.2
Lived on campus FY	83.8

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# First-Year Retention

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# First-Year Retention

Variable	Direction
Female	-
First-generation	-
Parents' divorced; one parent (or both parents) deceased	-
ACT/SAT	+
In-state resident	+
Lived on campus FY	+



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# First-Year Retention

	Not Retained	Retained
Female	13.0	87.0
Male	10.8	89.2
First-generation	19.1	80.9
Non-first-generation	10.3	89.7
Divorced parents, deceased parents	17.9	82.1
Non divorced or deceased parents	9.9	90.1
In-state resident	11.6	88.4
Out-of-state resident	12.7	87.3

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# First-Year Retention

Variable	Direction
Involved in risky behaviors in HS	-
Likelihood of transferring to another college	-
Aid that must be repaid	-
Likelihood of studying abroad	+
Likelihood of making at least a "B" average	+
Volunteered in HS	+
Family resources for financial aid	+
Aid which need not be repaid	+



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# First-Year GPA

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# First-Year GPA

Variable	Direction
Female	+
Lived on campus FY	+
ACT/SAT	+
First-generation	-
Asian	-
URM	-
Parents' divorced; one parent (or both parents) deceased	-
In-state resident	-



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# First-Year GPA

	Mean GPA
Female	3.17
Male	3.10
Asian	2.87
URM	2.76
All other students	3.17
Divorced parents, deceased parents	3.01
Non divorced or deceased parents	3.18
Live on campus	3.18
Did not live on campus	2.92



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# First-Year GPA

Variable	Direction
Likelihood of making at least a “B” average	+
Likelihood of transferring	+
Likelihood of changing major/career	+
Aid which need not be repaid	+
Risky behaviors in HS	-
Aid that must be repaid	-



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# Four-Year Graduation

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# Four-Year Graduation

Variable	Direction
Female	+
ACT/SAT	+
Public HS	+
In-state resident	+
Lived on campus FY	+
Parents' divorced; one parent (or both parents) deceased	-
First-generation	-



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# Four-Year Graduation

	Not Graduated	Graduated
Female	42.2	57.8
Male	49.3	50.7
First-generation	60.4	39.6
Non-first-generation	42.0	58.0
Divorced parents, deceased parents	53.7	46.3
Non divorced or deceased parents	42.4	57.6
In-state resident	44.9	55.1
Out-of-state resident	46.1	53.9

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# Four-Year Graduation

Variable	Direction
Volunteered in HS	+
Public HS	+
Family resources for financial aid	+
Aid which need not be repaid	+
Risky behaviors in HS	-
Outside influences to attend	-
Likelihood of transferring to another college	-
Aid that must be repaid	-



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# Four-Year Success (Graduated or Still Enrolled)

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# Four-Year Success

Variable	Direction
First-generation	-
Parents' divorced; one parent (or both parents) deceased	-
ACT/SAT	+
In-state resident	+
Lived on campus FY	+



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# Four-Year Success

	Withdrawn	Graduated/Enrolled
Female	21.8	78.2
Male	22.1	77.9
First-generation	32.3	67.7
Non-first-generation	19.7	80.3
Divorced parents, deceased parents	29.9	70.1
Non divorced or deceased parents	19.2	80.8



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# Four-Year Success

Variable	Direction
Risky behaviors in HS	-
Likelihood of transferring to another college	-
Aid that must be repaid	-
Reputation	+
Likelihood of changing major/career	+
Public HS	+
Family resources for financial aid	+



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# Putting It All Together

- High School Experiences:
  - Students who volunteered in high school had higher retention/graduation
  - Students who engaged in risky behaviors had lower gpa, retention, graduation
  - Students who attended public schools had higher four-year graduation rates



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# Putting It All Together

- Incoming Characteristics:
  - In-state residents had higher retention/graduation
  - ACT/SAT—the higher, the better overall



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# Putting It All Together

- College Expectations
  - Expecting to earn at least a “B” average is positively associated with gpa and FY retention
  - The reputation of the college positively predicts students’ four-year success
  - When pressured by others to attend, students were less likely to graduate in four years



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# Putting It All Together

- College Experiences
  - Students who lived on campus had higher gpa, retention, graduation



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# Putting It All Together

- Finances:
  - When students pay with family resources, they have higher outcomes
  - When students pay with loans, they have lower outcomes
  - When students pay with grants/scholarships, they have higher outcomes



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# Putting It All Together

- Factors placing students at-risk for attrition:
  - Family:
    - First-generation students had lower gpa, retention, and graduation
    - Students with divorced/deceased parents had lower gpa, retention, graduation
  - Transfer intentions before they even start!



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# Final Thoughts

- What matters?
  - Pre-college behaviors
  - Demographics
  - Students' intentions on staying
  - Finances



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# Thank you!

- More information on CIRP:  
<http://www.oir.umn.edu/surveys/cirp>
- Krista Soria, [ksoria@umn.edu](mailto:ksoria@umn.edu)



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