Have Students Changed Since Orientation?: Using Multiple Surveys Sequentially in Retention Research

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Using Multiple Surveys Sequentially in Retention Research: IUPUI Entering Survey Context

Purposes of Entering Student Surveys

1. Assess changes in student populations over time

2. Identity risk factors

3. Determine student characteristics that predict student success and persistence

4. Provide institution-specific benchmarks for evaluating efforts to improve academic performance, persistence and degree attainment

5. Use information to implement new policies and interventions (at the individual student- level and institutional-level of analyses)

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Developing the Instruments

1. Consulted published research literature on factors that predict student success and learning

2. Met with key stakeholders in Enrollment Services, Student Affairs, Division of Undergraduate Education College, Faculty Members, New Student Orientation Services, Admissions, Advisors, Peer Mentors, etc.

3. Examined IUPUI's strategic planning documents and institutional priorities

4. Conducted focus groups with students to test and validate instruments

Instrument Content Domains

1. **Sense of Belonging**

2. **Self-Efficacy**

3. **Grit**

4. **Expected Time Commitments**

5. **Planned Campus Engagement Activities**

6. **Commitment to IUPUI**

7. **College Expectations**

8. **Reasons for Choosing IUPUI**

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Local Vs. National: Instrument Important Considerations

- Needed an instrument aligned with needs of
  - Commuting students
  - Transfer students
  - Returning adults

Administration Points During Students' Transition to College

During Summer New Student Orientation Sessions

2-4 Weeks After the Start of Fall Semester (used by peer mentors and advisors)

End of First Fall Semester

Orientation

- **Advantages**
  - Understand initial perceptions
  - Assess reasons why selected college
  - High response rate

- **Disadvantages**
  - Students have not experienced college
  - Students don't know what they don't know
  - High initial ratings may not be valid

2-4 Weeks In

- **Advantages**
  - Understand early risk factors
  - Allows for early intervention
  - Can be useful for peer mentors, advisors and RAs

- **Disadvantages**
  - Low response rate if not coordinated
  - May be too early to be a valid predictor of reenrollment plans

End of Semester

- **Advantages**
  - Students have experienced one semester
  - Can assess quality of students' experiences
  - More valid predictor of reenrollment plans

- **Disadvantages**
  - Low response rate if not coordinated
  - May be too late to intervene

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Sense of Belonging

1. "Social belonging. a sense of having positive relationships with others, is a fundamental human need. Social isolation, loneliness, and low social status harm not only subjective well-being but also intellectual achievement and immune function and health. Even a single instance of exclusion can undermine well being" (Walton & Cohen, 2011)

2. Worrying about belonging — "Do I belong? Will other students and teachers value me?" — is a chronic stressor. (Yeager, Walton, & Cohen, 2013)

A Question of Belonging: A Social-Psychological Approach to Understanding and Remedying Group Disparities in School Achievement

People may commonly question their belonging in new social and academic settings

- Especially when they are targeted by stigma and negative stereotypes

- This uncertainty ambiguates the meaning of adverse social events

- Sense of Belonging can change over time

(Walton & Cohen, 2007)

❖ Possible Implication: Students who are under-resourced and underrepresented may experience a sense of uncertainty and question if they belong particularly if they experience difficulties in their transition to college.

Slide adapted from: https://edpolicy.stanford.edu/sites/default/files/events/materials/walton-brown-bag-ppt.pdf Greg Walton, Stanford University

Entering Student Surveys Predictors of Student Success

Entering Student Survey Predictors of Student Success

Covariates
- HS GPA
- Unmet Financial Need
- Days Enrolled Before Census

Regression Analysis
- Linear-First Fall GPA
- Logistic-Retained One-Year

Entering Student Survey Predictors of Student Success

	Effect Size	B
1 Year Retention		
I feel connected with other IUPUI students	-0.05	-.102
First Fall Semester GPA		
I feel connected with other IUPUI students	-0.06	-.032

After Start
Predictors of Student Success (One-Year Retention)

	Effect Size	B
I feel a sense of belonging to IUPUI	0.07	.142
I feel that I am a member of the IUPUI community	0.06	.126
I feel that I fit right in on campus	0.01	.119
I feel connected with other IUPUI students	0.07	.125
I see myself as part of the IUPUI community	0.07	.139
The IUPUI campus community has made me feel welcome	0.06	.124

All items sig=.000

End of First Semester Survey Predictors of Student Success (One-Year Retention)

	Effect Size	B
I feel a sense of belonging to IUPUI	0.15	.249
I feel that I am a member of the IUPUI community	0.15	.263
I feel that I fit right in on campus	0.17	.278
I feel connected with other IUPUI students	0.15	.234
I see myself as part of the IUPUI community	0.15	.251
The IUPUI campus community has made me feel welcomed	0.12	.217

All items sig=.000

End of First Semester Survey Predictors of Student Success (Fall GPA)

	Effect Size	B
I feel a sense of belonging to IUPUI	0.22	.066
I feel that I am a member of the IUPUI community	0.20	.058
I feel that I fit right in on campus	0.25	.066
I feel connected with other IUPUI students	0.19	.046
I see myself as part of the IUPUI community	0.17	.047
The IUPUI campus community has made me feel welcomed	0.14	.049

All items sig=.000

Changes in Sense of Belonging over the semester

Sense of Belonging Scale

- I feel a sense of belonging to IUPUI

- I feel that I am a member of the IUPUI community

- I feel that I fit right in on campus

- I feel connected with other IUPUI students

- I see myself as part of the IUPUI community

- The IUPUI campus community has made me feel welcomed

Seven point scale

Cronbach's α = 0.90 (ESS), 0.95 (After Start), 0.95 (End of Semester)

Differences between survey respondents and all beginners

	N	High School GPA	Living in Campus Housing	Days enrolled before census	Average Unmet Need
Completed After Start and EoS	576	3.60	54.4%	57.8	$3,151
Completed ESS and EoS	581	3.62	54.3%	58.4	$3,364
All Indianapolis beginners	3,649	3.48	43.1%	53.1	$4,447

Increase or Decrease in Sense of Belonging

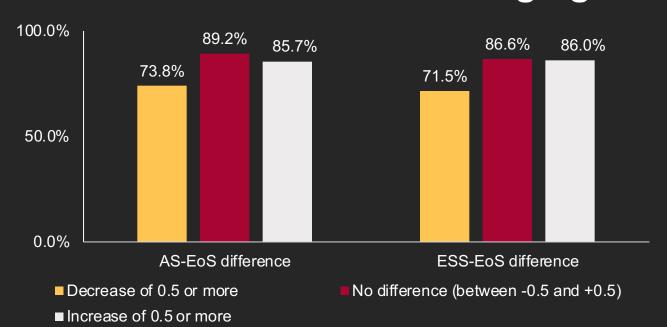**After Start (AS) – End of Semester (EoS) difference**
- Decrease of 0.5 or more (N=172)
- Between -0.49 and +0.49 (N=222)
- Increase of 0.5 or more (N=182)

Entering Student Survey (ESS) – End of Semester (EoS) difference
- Decrease of 0.5 or more (N=193)
- Between -0.49 and +0.49 (N=202)
- Increase of 0.5 or more (N=186)

Retention Rates by Increase or Decrease in Sense of Belonging

Chart showing retention rates:

AS-EoS difference
- Decrease of 0.5 or more: 73.8%
- No difference (between -0.5 and +0.5): 89.2%
- Increase of 0.5 or more: 85.7%

ESS-EoS difference
- Decrease of 0.5 or more: 71.5%
- No difference (between -0.5 and +0.5): 86.6%
- Increase of 0.5 or more: 86.0%

Legend:
- Decrease of 0.5 or more
- No difference (between -0.5 and +0.5)
- Increase of 0.5 or more

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Logistic Regression Fall-Fall Retention AS-EoS differences

	B	Std. error	Odds ratio
High school GPA (3.0 centered)*	1.453	0.362	4.27
Major in Nursing*	-1.161	0.323	0.31
Days enrolled before census	0.003	0.006	1.00
Unmet need ($1,000)*	-0.092	0.023	0.91
AS-EoS decrease of 0.5 or more*	-0.613	0.171	0.31
AS-EoS increase of 0.5 or more	0.054	0.182	0.60
Intercept	1.194		

*=Stat Sig at $\alpha \leq 0.05$; McFadden's $R^2 = 0.141$

Logistic Regression Fall-Fall Retention ESS-EoS differences

	B	Std. error	Odds ratio
High school GPA (3.0 centered)*	1.461	0.348	4.31
Major in Nursing	-0.592	0.347	0.55
Days enrolled before census	0.005	0.006	1.01
Unmet need ($1,000)*	-0.088	0.022	0.92
ESS-EoS decrease of 0.5 or more*	-0.619	0.161	0.34
ESS-EoS increase of 0.5 or more	0.157	0.179	0.74
Intercept	0.880		

*=Stat Sig at $\alpha \leq 0.05$; McFadden's $R^2 = 0.138$

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Who's Sense of Belonging is decreasing?

	Overall	Female	Af. Amr.	Latinx	First Gen	Received Pell
AS-EoS	30.0%	32.0%	35.0%	26.2%	31.7%	29.3%
ESS-Eos	33.3%	34.8%	40.0%	32.1%	39.1%	33.2%

Percentage of students who's Sense of Belonging decreased by 0.5 or more

No differences Stat Sig at $\alpha \leq 0.05$

Next Steps

Measuring Sense of Belonging at end of term best to predict

- "Just in time"

Decreasing Sense of Belonging matters

- Why is it decreasing?

Can we identify them in time? If so, what can we do?

- Get information to right people at the right time

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Questions?