



WHAT DO 40 YEARS OF DATA TELL US ABOUT STUDENT PERSISTENCE?

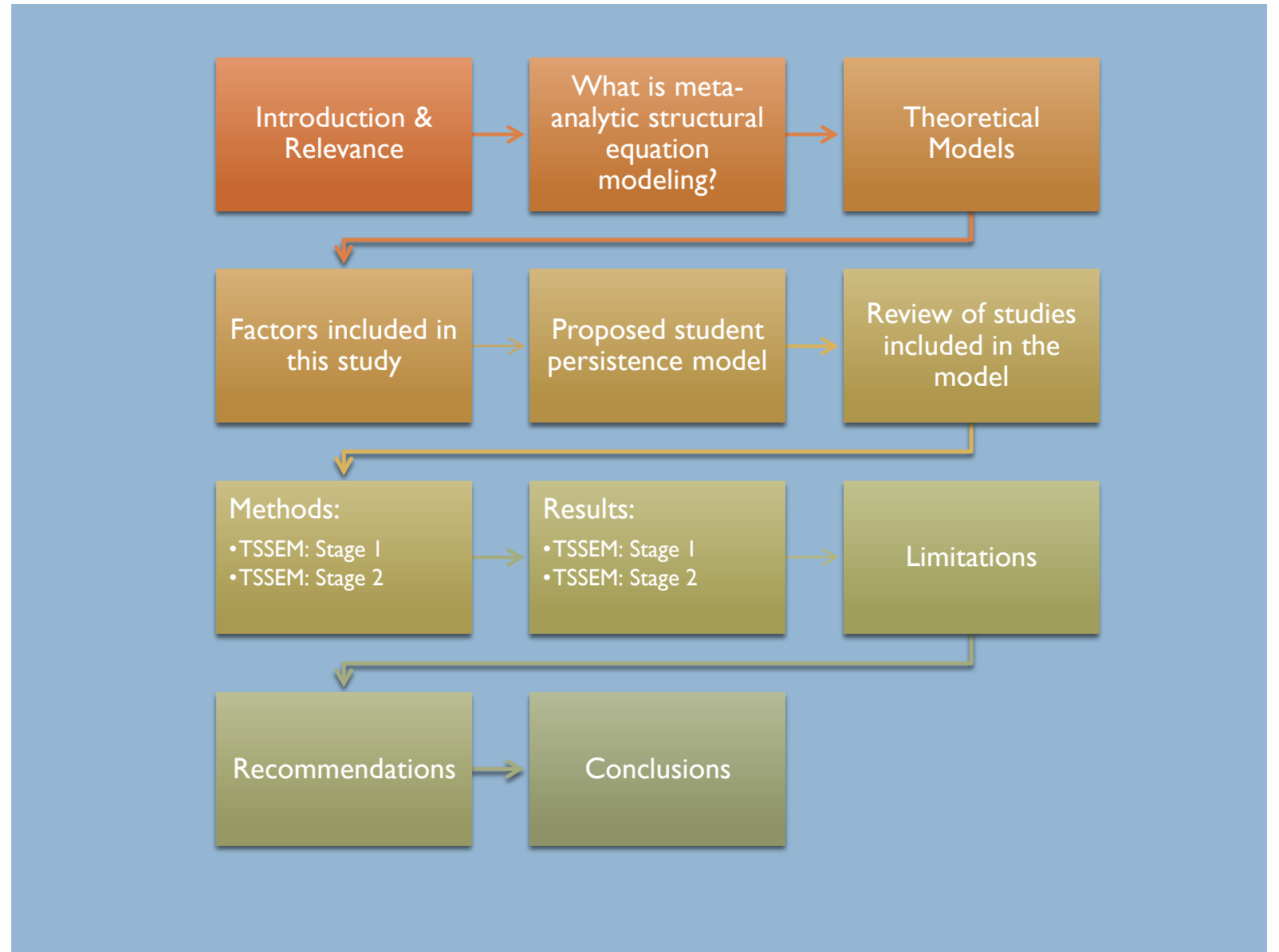
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AT

ASHTABULA

OUTLINE OF PRESENTATION





Historical Research

Creation of prediction models
Molding a successful student body



Relevance

Institutional funding

- Enrollment-based funding
- Performance-based funding

Economic impacts

INTRODUCTION

SYNTHESIZING COLLEGE STUDENT PERSISTENCE: A META-ANALYTIC STRUCTURAL EQUATION MODEL

- How do we empirically test whether theoretical models are accurate across different samples?
- Are the models accurate across different types of students and types of institutions?
- What type of analysis is appropriate for this type of research?

WHAT IS A META-ANALYSIS?

- Meta-analysis is a term created by Glass (1976) and is used to describe “the statistical analysis of a large collection of analysis results from individual studies for the purpose of integrating the findings” (p. 3).

WHAT IS A META-ANALYSIS?

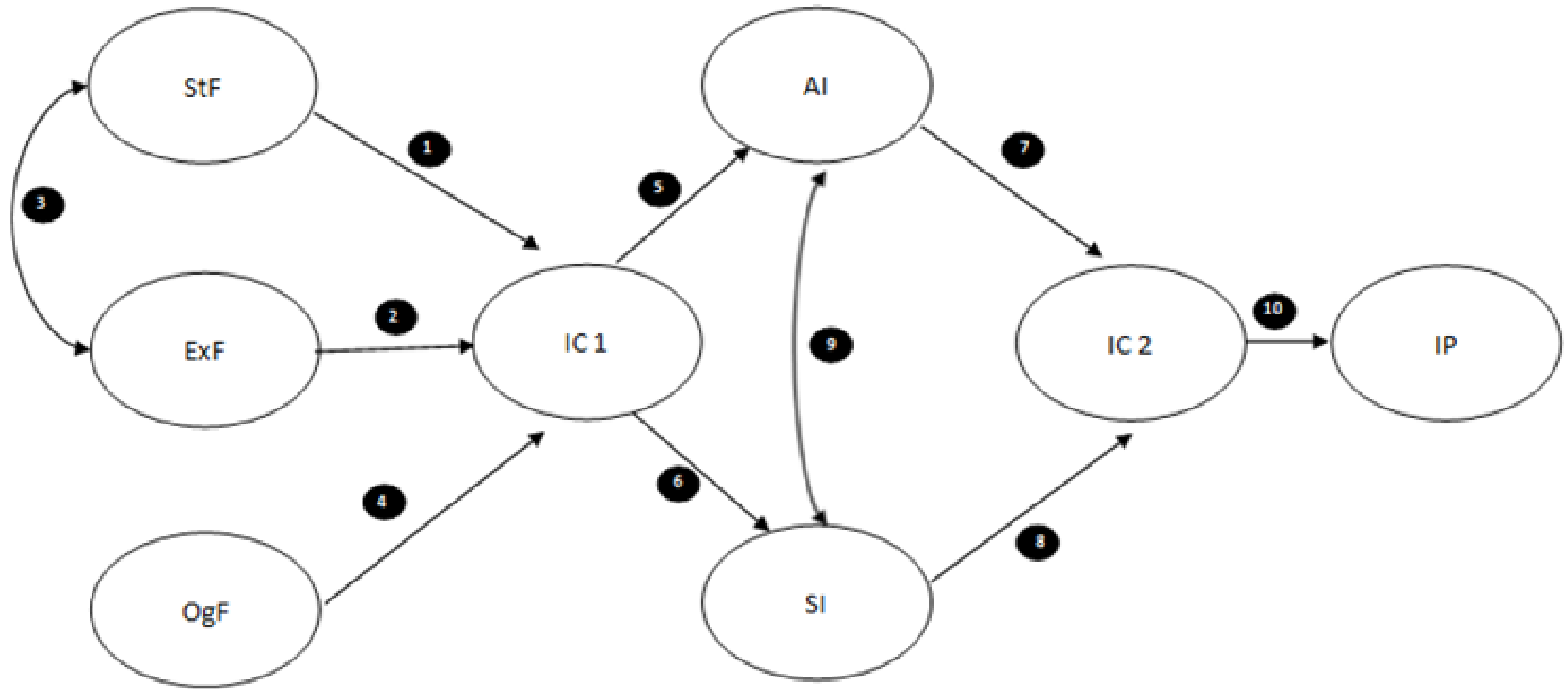
- **Systematic Review**
 - 10,678 studies in search results
 - 1,076 abstracts reviewed
 - 179 full text studies reviewed
 - 46 studies included: 47 matrices

IV's must include 3 of the following:

- **Student background characteristics**
- **External factors**
- **Organizational factors**
- **Initial institutional commitment**
- **Subsequent commitment**
- **Social integration**
- **Academic integration**

DV's must be ONE of the following:

- **Student persistence**
- **Intent to persist**
- **Retention**
- **Graduation**
- **Drop-out**



Structural Equation Model

THEORETICAL MODELS

Three major theorists

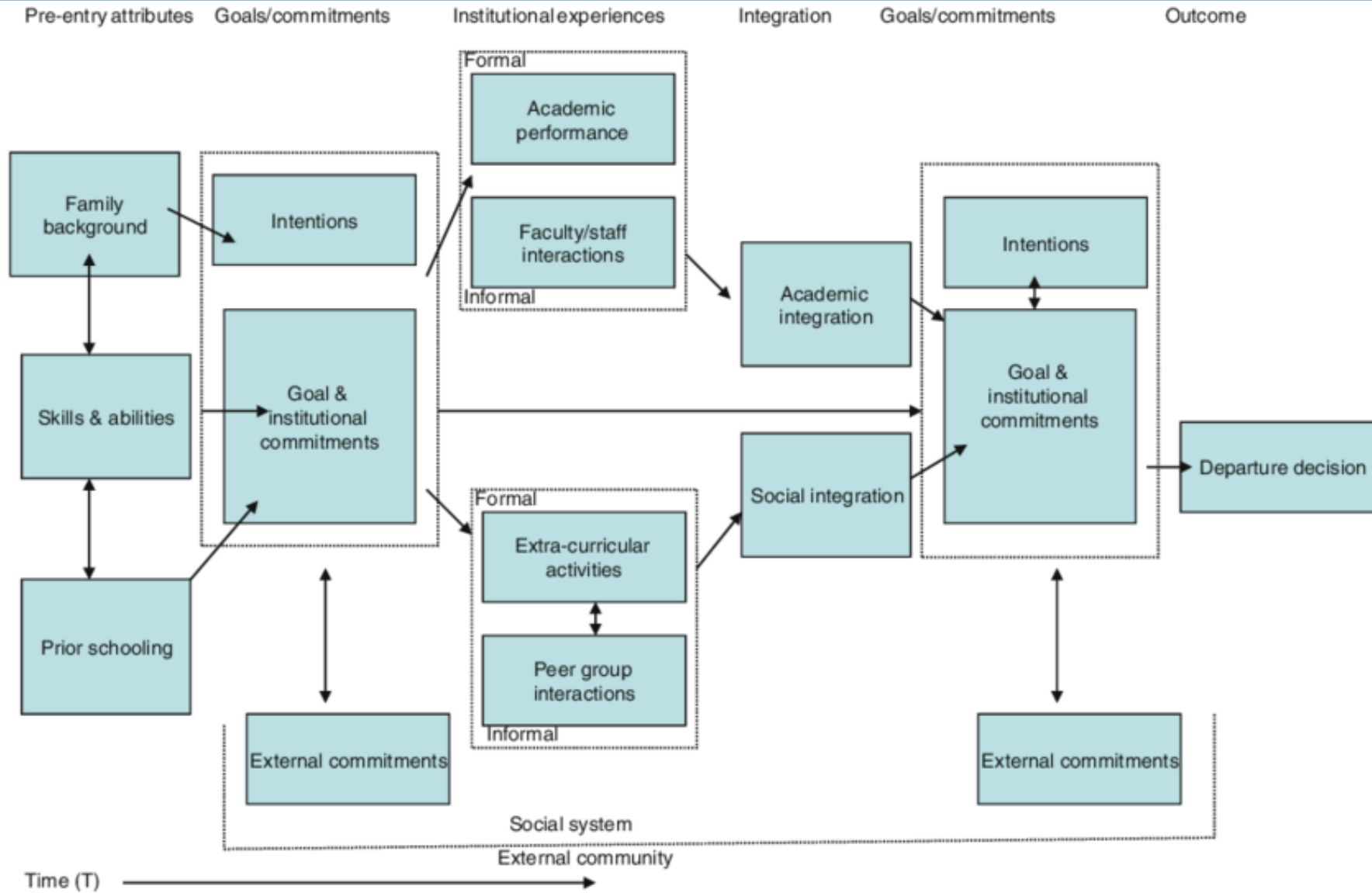
Astin (1965)
Spady (1970)
Tinto (1975, 1987, 1993)



Notable Theorists

Bean & Metzner (1985) – adult students
Pascarella (1980) – student/faculty interactions
Kuh (2000) – student engagement

TINTO'S MODEL (1993)



FACTORS INCLUDED IN THE MODEL

> Student Characteristics

- Age
- Gender/Sex
- Ethnicity/Race
- SES
- **High School GPA**
- Test Scores

> External Factors

- External commitments
- **Family/parental support**
- External peer support
- Financial concerns
- **Work obligations**
- Family obligations

FACTORS INCLUDED IN THE MODEL

- › Organizational Factors
 - Campus size
 - Culture/Climate
 - Sense of belonging
 - **Fairness of policies**
 - **Communication**
 - Satisfaction with college as an organization

- › Institutional Commitment
 - **General institutional commitment**
 - Initial motivation to earn a college degree
 - Plans to continue enrolling at current college
 - Whether the school was the students' first choice.
 - Confidence in major and/or career choice
 - **Commitment to educational goals**

FACTORS INCLUDED IN THE MODEL

› Academic Integration

- **Global academic integration**
- **Interactions with faculty in and out of the classroom**
- **Quality of instruction**
- **Faculty expressing concern**
- **Academic self-concept**
- **Academic self-efficacy**
- **Academic involvement**
- **Academic Satisfaction**
- **GPA**

› Social Integration

- **Global social integration**
- **Peer relationships**
- **Number of friends**
- **Social activities and organizations**
- **Social adjustment**

FACTORS INCLUDED IN THE MODEL

› 2nd Institutional Commitment Measure

- **General institutional commitment**
- **Confidence in major and/or career choice**
- **Continued motivation to earn a college degree**
- **Commitment to educational goals**

› Persistence

- Intent to persist/re-enroll
- Confirmed persistence
- Confirmed retention
- Graduation
- Dropout

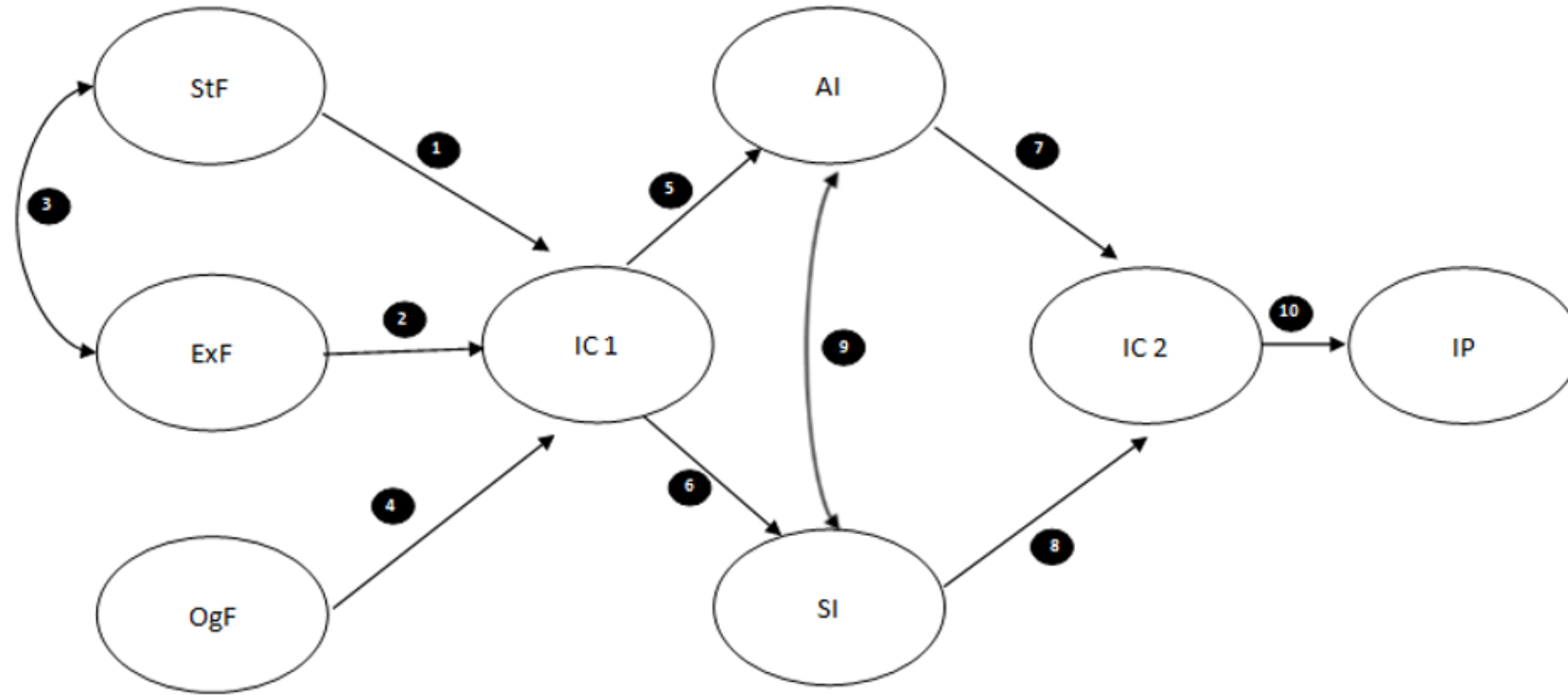


Figure 1: Proposed MASEM Model

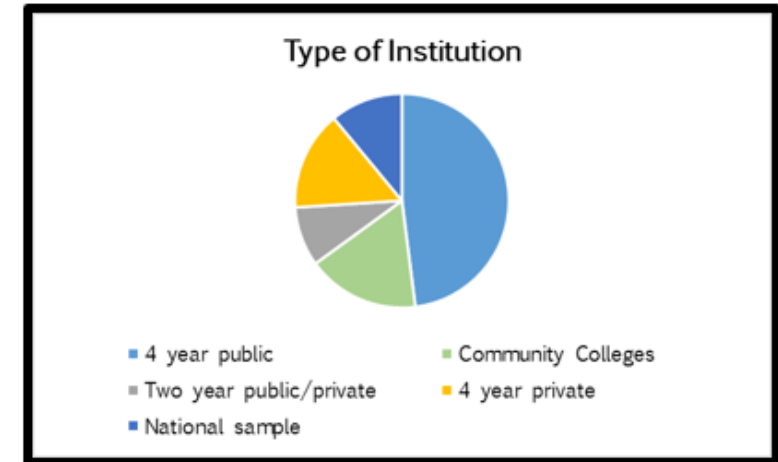
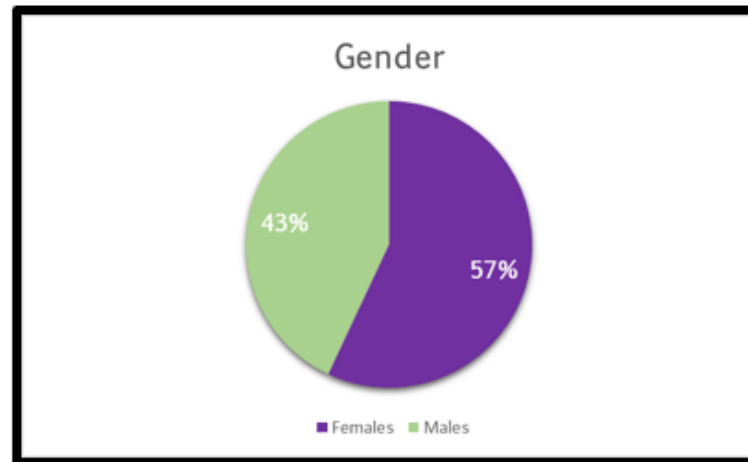
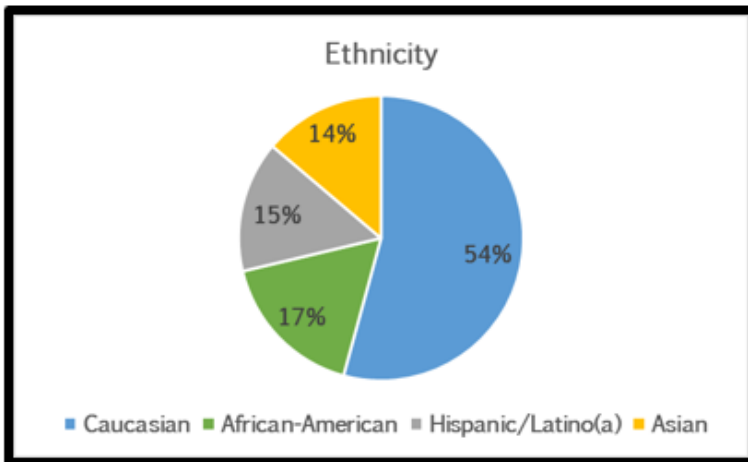
StF: Student factors, ExF: External factors, OgF: Organizational factors, IC1: 1st measure of institutional commitment, SI: social integration, AI: Academic Integration, IC2: 2nd measure of institutional commitment, IP: Intent to persist

Proposed Student Persistence Model

REVIEW OF SAMPLE

- Sample: 129,000 undergraduate college students
 - Mean: 1,918
 - Range: (45 - 58,294)

Age: 90% under 24 years old



METHODS:TSSEM

Two-Stage SEM (TSSEM) method

TSSEM: Stage 1

- All relevant correlations recorded for each study
- Estimate the pooled or common covariance matrix

TSSEM: Stage 2

- The pooled covariance matrix is used to fit the structural model
- The discrepancy function is used to evaluate how well the data fit the proposed model
- WLS estimation method

TSSEM: STAGE I RESULTS

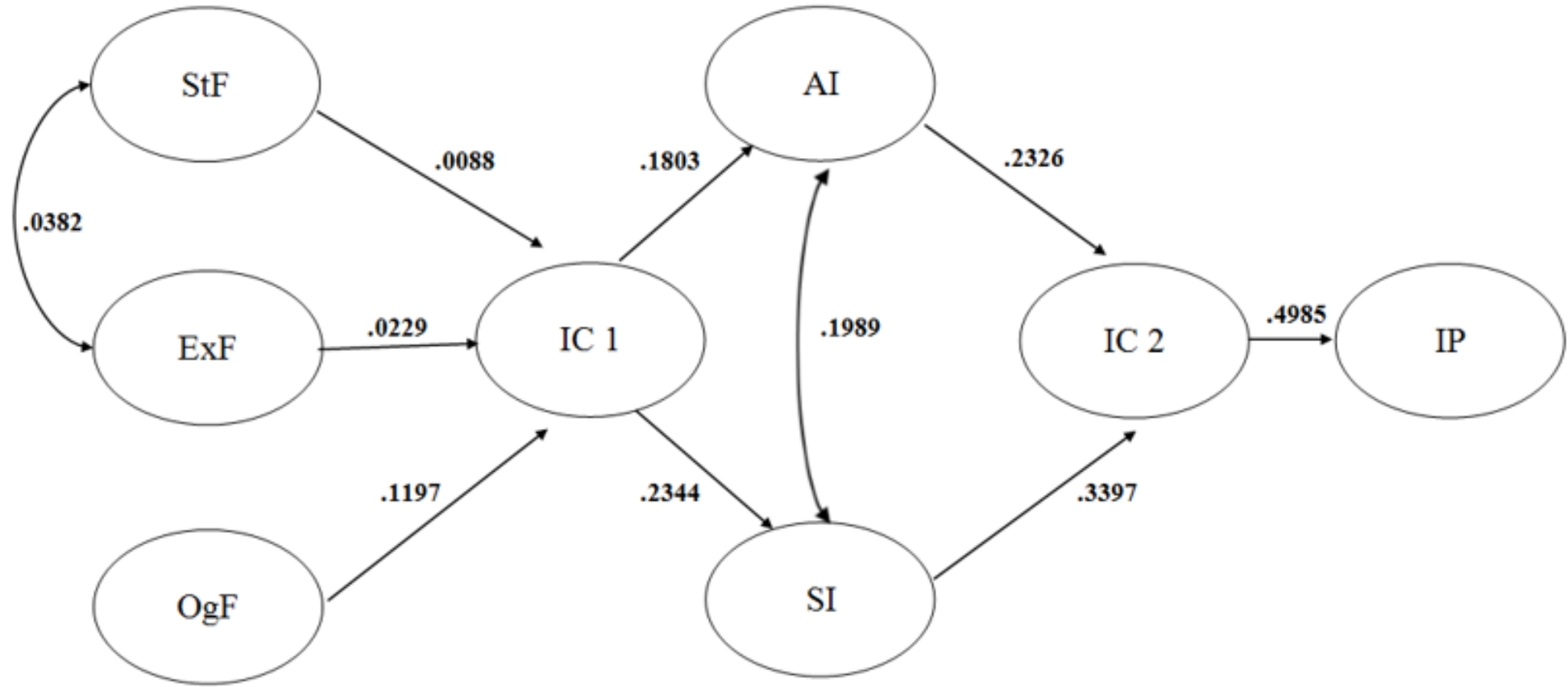
TSSEM Stage 1: Pooled Correlation Matrix (df = 534)

	Stf	ExF	OgF	IC	AI	SI	IC2	IP
Stf	1							
ExF	0.03842	1						
OgF	0.02825	0.09959	1					
IC	-0.0036	0.0148	0.10613	1				
AI	0.07029	0.03177	0.1789	0.16405	1			
SI	0.04328	0.06715	0.3616	0.19743	0.24452	1		
IC2	0.00949	0.01997	0.14754	0.22007	0.21667	0.36616	1	
IP	0.03634	0.06125	0.20206	0.13554	0.1735	0.18804	0.38029	1

StF: Student factors, ExF: External factors, OgF: Organizational factors, IC1: 1st measure of institutional commitment, SI: social integration, AI: Academic Integration, IC2: 2nd measure of institutional commitment, IP: Intent to persist

TSSEM: STAGE I RESULTS

- Homogeneity of Variance
- Q statistics
 - $Q = 9442.766, p < .001$
 - Percentage of total variance that can be explained by the between study effect, is between 47.0% and 98.7%. Both suggest there is a wide range of between-study heterogeneity, confirming the use of the random-effects model (Card, 2012; Cheung, 2015a; Cheung & Chan, 2005)
 - I^2 used as an index to measure the heterogeneity of the effect size



StF: Student factors, ExF: External factors, OgF: Organizational factors, IC1: 1st measure of institutional commitment, SI: social integration, AI: Academic Integration, IC2: 2nd measure of institutional commitment, IP: Intent to persist

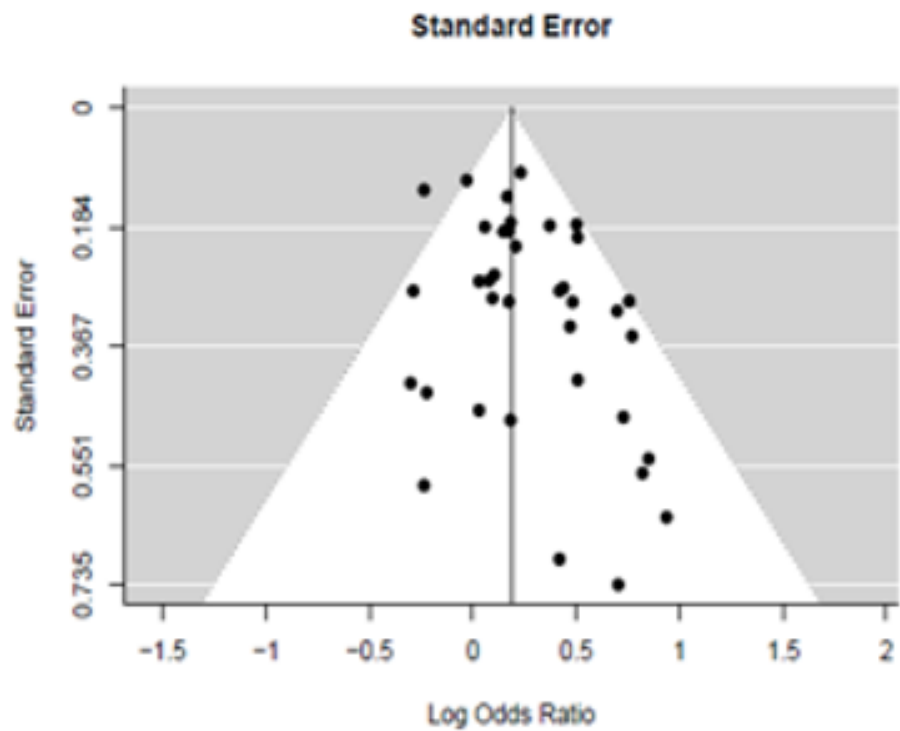
TSSEM Stage 2: Path Coefficients

TSSEM: STAGE 2 RESULTS

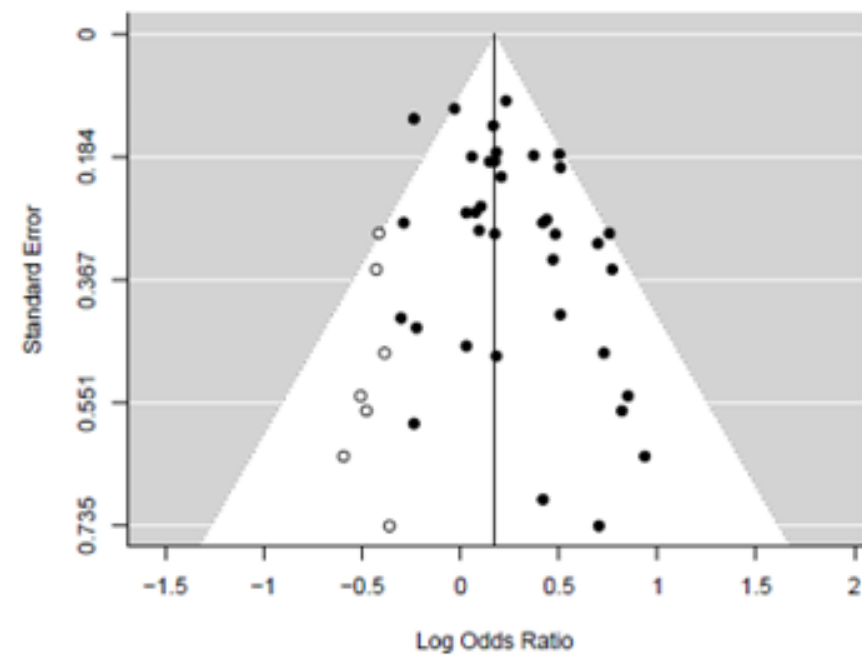
-
- Goodness of fit indices:
 - Chi-square
 - $(X^2 (df = 18, N = 129, 011) = 123.9153, p < .001.$
 - RMSEA
 - RMSEA = .0068
 - SRMR
 - SRMR = .0965
 - CFI
 - CFI = .787

Publication Bias

Results of funnel plot



Results of trim and fill



LIMITATIONS



SUBJECTIVE NATURE OF
THE CODING OF
VARIABLES



DECISIONS REGARDING
INCLUSION/EXCLUSION
OF STUDIES



“APPLES TO ORANGES”
PROBLEM (CARD, 2012)



MISSING DATA



MIXED RESULTS

CONTRIBUTIONS & IMPLICATIONS

Successful in reinforcing many aspects of major theoretical models proposed about college student persistence over the last 40 years of research.

- **Elements called into Question:**
 - **Student Background Characteristics**
 - **External Factors**
- **Elements reinforced:**
 - **Initial Institutional Commitment**
 - **Organizational Factors**
 - **Academic Integration**
 - **Social Integration**
 - **Subsequent Institutional Commitment**

CONTRIBUTIONS & IMPLICATIONS



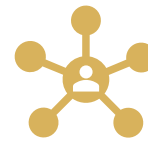
Academic Integration

Strong correlation across student factors
Further research on diverse ethnicities



Social Integration

Strong correlation across student factors
Exceptions: age, ethnicity



Organizational Factors

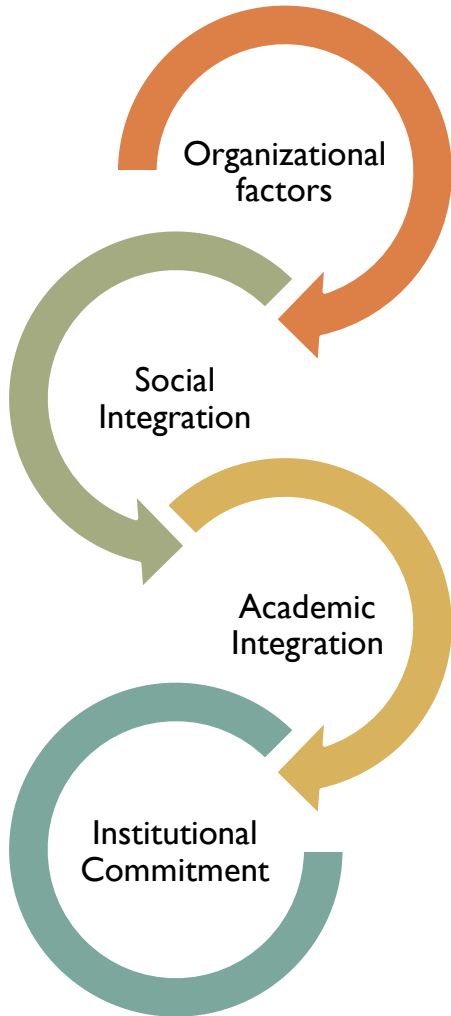
Moderate relationships with academic
integration, social integration, and
persistence
Further research



Institutional Commitment

Strong correlation with first measure and
academic and social integration
Missing data in second measure

RECOMMENDATIONS



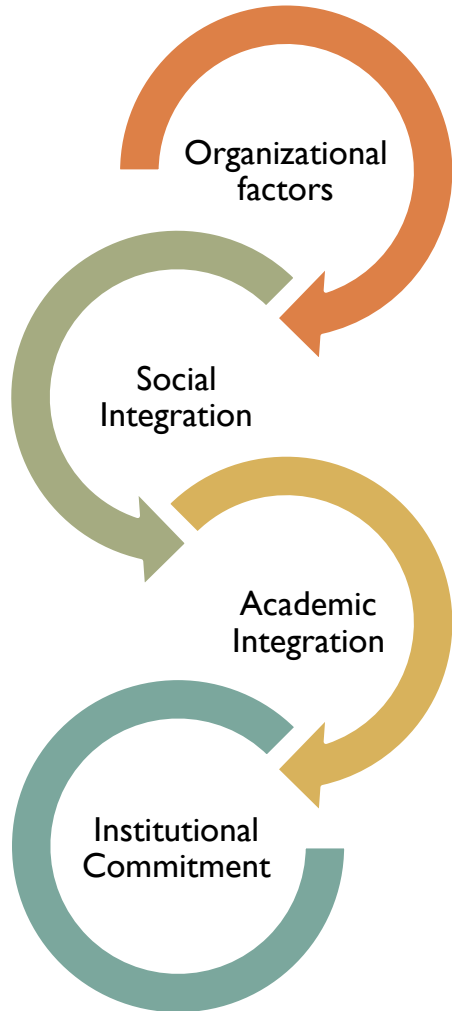
culture/environment • sense of belonging • fairness of policies • communication with students • satisfaction with college • participation in decision-making

quality of peer relationships • number of friends • social activities • membership in student organizations • social adjustment

relationships with faculty in/out of classroom • quality of instruction • faculty expressing concern • academic self-efficacy • quality of academic advising/support services

confidence in college choice • certainty of major/career choice • intent to graduate at current college • certainty in re-enrolling

COLLEGE PERSISTENCE & GEN Z



safety • inclusion • mental health • access to funding • shared voice in shaping policy

housing • safe spaces • 24/7 services • leadership development • community engagement • service learning

learning environments • socially conscious curriculum • research • collaborative teaching styles • flipped classroom • hybrid learning • social entrepreneurship courses

learning outcomes aligned with industry standards • connect purpose to practice • internships & experiential learning • global experiences

CONCLUSION

- Greater understanding of global factors of college student persistence
 - We have the power to mold organizational factors
 - Academic integration is key
 - Combine socio-academic programming
 - Institutional commitment through focus on
 - Enhancing relationship with the institution
 - Increasing academic and social integration

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STRATEGIC ENROLLMENT
MANAGEMENT CONFERENCE



INSTITUTIONAL
WELLNESS

AACRAO

OPERATIONAL
EFFICIENCY

STUDENT
SUCCESS

Grow Your **Enrollment.**
Develop Your **Career.**



November 3-6, 2019
Hilton Anatole • Dallas, Texas

QUESTIONS?

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For full list of references visit:

<https://search-proquest-com.proxy.library.kent.edu/dissertations/docview/2232196429/80789C6558F048B4PQ/1?accountid=11835>