

Using the *Transition to College Inventory* to Identify and Treat Freshmen At-Risk for Academic Difficulty and Attrition

CSRDE

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Presenters

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Research Question

How can we identify, as early as possible, which admitted first year students might experience academic difficulty and/or attrition in order to make the most timely intervention?

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Background

Our research was informed by many scholars, especially:

- Vincent Tinto's retention studies
- Alexander Astin's body of research on the CIRP Freshman Survey
- William Sedlacek's work with the Noncognitive Questionnaire

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Background

- More than 50 % of all freshmen leave without a degree
- Greatest attrition occurs between freshmen and sophomore years
- Most freshmen who leave are in academic difficulty
- The first six weeks are critical to freshmen success

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Alexander Astin
Chronicle of Higher Education
October 2004

"...most institutions' degree-completion rates are primarily a reflection of their entering-student characteristics, and...differences among institutions' completion rates are primarily attributable to those differences... The obvious solution is for colleges to develop the habit of collecting relevant information on their students when they first enroll."

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Tinto (1988) Stages of Student Development

Our. . . actions should be concentrated on the very early stages of the students' college career, rather than on later stages after serious problems have surfaced...

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Cognitive Predictors

- SAT
 - High School Grade Point Average
- (Traditionally used as admission's criteria)

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Anderson (1999)

Historically, cognitive variables have only explained approximately 15 to 20% of the variance in student persistence.

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We admit students based on their cognitive predictors (high school GPA and SAT) because they measure students' skills and ability to do college level work. The question that remains is, do they have the appropriate attitudes and motivation to be successful?

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Demographic Predictors

- Gender
- Race
- Family Socioeconomic Status
- Residence (on/off-campus)
- Etc.

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Noncognitive Predictors

- Attitudes
- Characteristics
- Opinions
- Behaviors

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Cognitive and demographic data are usually available on the institutional student data base.

Noncognitive data must be collected.....

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TCI

Transition to College Inventory

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TCI

The *Transition to College Inventory (TCI)* was developed to measure noncognitive factors that might contribute to freshman academic difficulty and related attrition.

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TCI

Topic Areas

- ✓ Reasons for Attending College
- ✓ Reasons for Choosing This College
- ✓ Experiences During the Senior Year of High School
- ✓ Self Ratings of Abilities and Traits
- ✓ Attitudes About Being a College Student
- ✓ Predictions About Academic Success at College
- ✓ Predictions About Involvement in College

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TCI

Administration and Scoring

- Scannable Forms
- Administered during Orientation
- ~30 minutes to complete
- 112 Items provide descriptive profile of Freshmen Class
- 47 Items in TCI Index
- Cognitive and Non-cognitive data merged into database
- Profiles generated and in advisor folders with other placement results on 2nd day
- Interpretation with advisor early in fall semester

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TCI

TCI Index

The *TCI Index* was developed by identifying those items related to higher chances of academic difficulty during the freshman year.

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TCI

TCI Index

The *TCI Index* was recalibrated in 2004-05 based on a pilot study of 4 institutions ($N = 2734$). The revised *TCI Index* more accurately identifies at-risk students at a variety of institutions

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TCI

TCI Index

The higher the *TCI Index*, the greater the chance for academic difficulty.

The *TCI* adds significantly to the prediction of academic difficulty using cognitive factors alone.

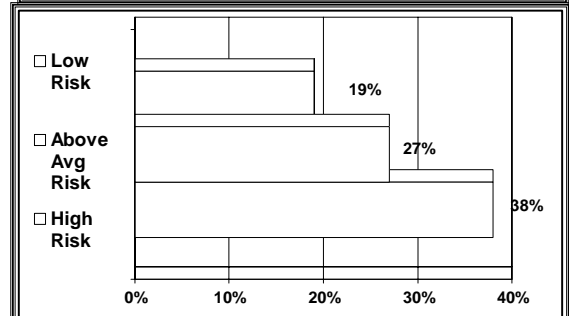
20

TCI

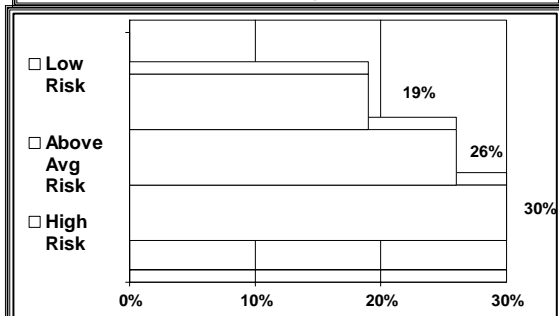
Index Risk Categories

- **0-5** Low Risk for Academic Difficulty and/or Attrition
- **6-8** Above Average Risk – Caution Range
- **9 +** High Risk for Academic Difficulty and/or Attrition. Early Intervention Strongly Recommended

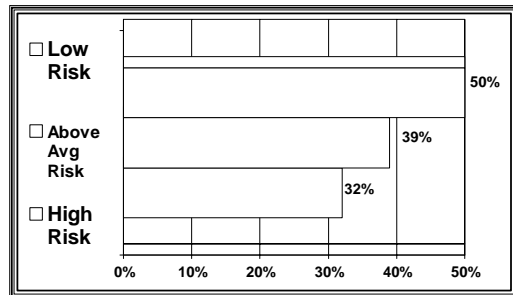
First Semester Academic Difficulty Rate by TCI Index Grouped by Risk Categories (2003 Class)



Freshman to Sophomore Attrition by TCI Index Grouped by Risk Categories (2003 Class)



6-Year Graduation Rates by TCI Index Grouped by Risk Categories (1998 Class)



High Risk Students vs. Low Risk Students Experience:

- Higher rates of academic difficulty (38% vs. 19%)
- Higher attrition rates (30% vs. 19%)
- Lower 6-year graduation rates (32% vs. 50%)

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Based on the *TCI Index*, advisors can recommend:

- Participation in curricular interventions such as U101 courses or Learning Communities.
- Follow-up advising/counseling at the beginning of the Fall Semester.

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Interpreting and Using the Individual *TCI Student Profile*

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The image shows a sample of the TCI Transition to College Inventory form. The form is titled "TCI Transition to College Inventory" and includes fields for Name, TCI Index, Rank, SAT Verbal, SAT Math, HS GPA, Most Likely Course, and Major Scale. Below these fields are sections for "Choosing This College" (with a scale from "Very Important" to "Not Important"), "High School Experiences" (with a scale from "0 hrs." to "> 20 hrs."), and "High School Experiences" (with a scale from "Frequently" to "Occasionally/Never"). The "High School Experiences" section lists activities such as "Socializing with friends", "Talking with Teachers outside class", "Organized Sports", "Partying", "Working for pay", "Watching TV", "Playing computer/video games", "Using the internet", and "Doing Hobbies". The "High School Experiences" section lists "Failed to complete a homework assignment on time" and "Drank alcoholic beverages".

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Factor Analysis of the *TCI*

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Factors

- College Involvement
- Influences on College Choice
- Student Role Commitment
- Athletic Orientation
- Personal / Academic Concerns
- Self Confidence
- Institutional Commitment
- Socializing Orientation
- Independent Activity Focus

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Results of Logistic Regression Analysis Predicting Academic Difficulty at the End of the First Semester

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Factors Related to Freshmen Academic Difficulty at the End of the First Semester

1. Socializing Orientation (+)
2. Self Confidence (-)
3. Independent Activity Focus (+)
4. Student Role Commitment (-)
5. Athletic Orientation (+)

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Sample Items for Each Factor
Significantly Related to
Academic Difficulty

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Socializing Orientation

"Partying"
"To participate in college social life"
"Drank alcoholic beverages"

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Self Confidence

"General academic ability"
"Drive to achieve"
"Interpersonal communication skills"
"Study skills"

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Independent Activity Focus

"Playing computer / video games"
"Watching TV"
"Doing hobbies"

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Student Role Commitment

"I expect to work hard at studying in college"

"It is important to me to be a good student"

"I will be proud to do well academically in college"

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Athletic Orientation

"Participate in varsity sports"

"Use campus athletic facilities for individual or group recreational activities"

"Exercising on my own"

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Sample Items for Each Additional
Factor

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Personal / Academic Concerns

"Time management skills"

"Failed to complete homework assignments on time"

"Had difficulty concentrating on assignments"

"Feel overwhelmed occasionally by all I have to do"

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College Involvement

- “Participate in campus clubs and organizations”
- “Talk with faculty informally outside of class”
- “Have serious discussions with students whose beliefs and opinions are different from yours”
- “Participate in cultural events (art, music, theater) on campus”

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Influences on College Choice

- “Open House / Visitation Days”
- “The college’s good social reputation”
- “The college’s good academic reputation”
- “This college’s graduates get good jobs”

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Institutional Commitment

- “Transfer to another college at the end of my freshmen year”
- “I was not accepted by my higher choice college(s)”
- “Be satisfied with this college”

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TCI Freshman Class Profile

In addition to the early identification of potentially at-risk students, the *TCI* can be used to develop a profile of each year’s incoming freshmen class based on their salient noncognitive characteristics.

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For Further Information
on the *TCI*

Please go to:

<http://www.odu.edu/tci>