

How

DEAF STUDENTS' PERSONAL FACTORS INFLUENCE

Their First-Year Experience and Beyond: Data on Three Cohorts 2007, 2008, 2009

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R·I·T National Technical
Institute for the Deaf

NTID: THE COLLEGE AND THE STUDENTS ★

Who are we, anyway?

- *RIT: Private technical university, 8 colleges, 16,450 hearing students*
- *NTID: Founded by Congress in 1965;
first class of 70 Deaf and Hard of Hearing (D/HH) students in 1968
1,266 deaf and hard-of-hearing students enrolled in 2009*

59% in 2-year Associates programs at NTID (direct instruction)
41% in Bachelors & graduate degree programs in another RIT
college (with support services)
- *First-year D/HH persistence and graduation rates:*
75% in Associates and **52%** graduate
86% in Bachelors and **73%** graduate

top photo: NTID associate degree level students in lab (photo by Ben Liddle)

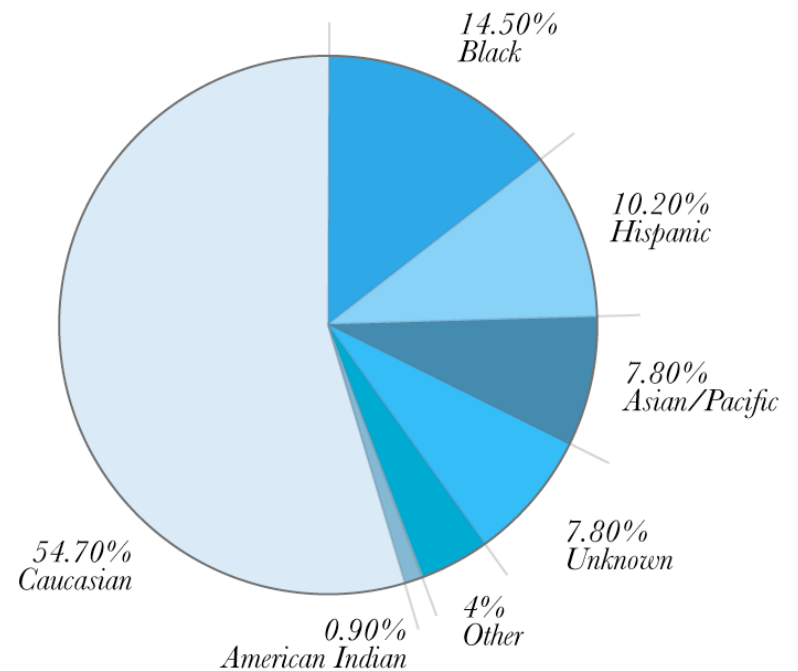
*bottom photo: Cross-registered RIT deaf students supported by “Remote” C-Print
real time speech-to-text & printed notes. (Photo by Mark Benjamin)*



OUR PARTICIPANTS

Who are we studying?

- Participants were representative of the entire **D/HH** entry classes
- Gender divided up among the participants as follows:
 - MALE** 56.7%
 - FEMALE** 43.3%
- Our participants included a variety of ethnicities
- Our students went to both traditional and integrated schools:
 - MAINSTREAM** 56.3%
 - RESIDENTIAL** 43.7%
- **NO** significant differences on entry skills
 - California **READING** Grade Level
 - ACT** scores and subtests (English, Reading, Math, Science)
 - NTID** Placement tests for Reading, Writing, and Math



ETHNICITIES OF PARTICIPANTS 2007-09

*The **GOAL** of this longitudinal study is to **IDENTIFY PERSONAL**
and **ACADEMIC** factors that contribute to **DEAF** students' **SUCCESS**
in the first-year and beyond in college.*

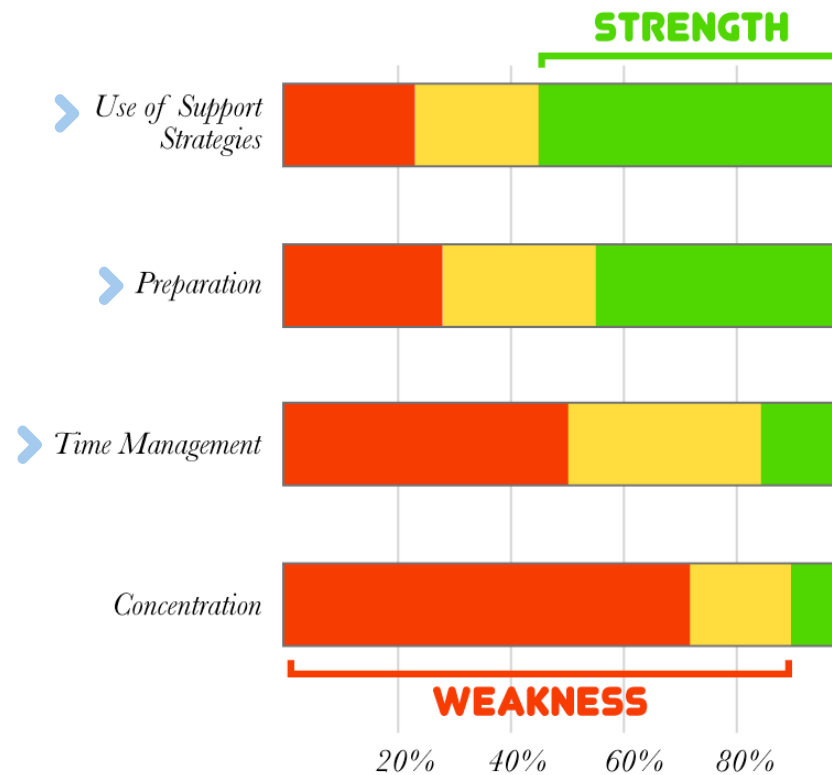
VARIABLES COMPARED

How did we measure the students?

- 2 personal surveys and 2 visual reasoning assessments
 - LASSI and Noel-Levitz*
 - Nonverbal Reasoning and Culture Fair Intelligence Test*
- The tests compared:
 - Will, **SKILL**, and Self-regulation (LASSI)*
 - Academic **MOTIVATION**, Motivational Assess, General Coping (Noel-Levitz)*
 - Non-verbal **REASONING** (Corsini) and **INTELLIGENCE** (Cattel & Cattell)*
- We also compared data from their academics at RIT/NTID:
 - Entry data from **ACT SCORES**, English, Math, Writing, and Vocabulary*
 - Early **ALERTS** from throughout the quarter*
 - GPA*
 - PERSISTENCE** in RIT/NTID programs*

THE RESULTS: SELF-PERCEIVED SELF-REGULATION

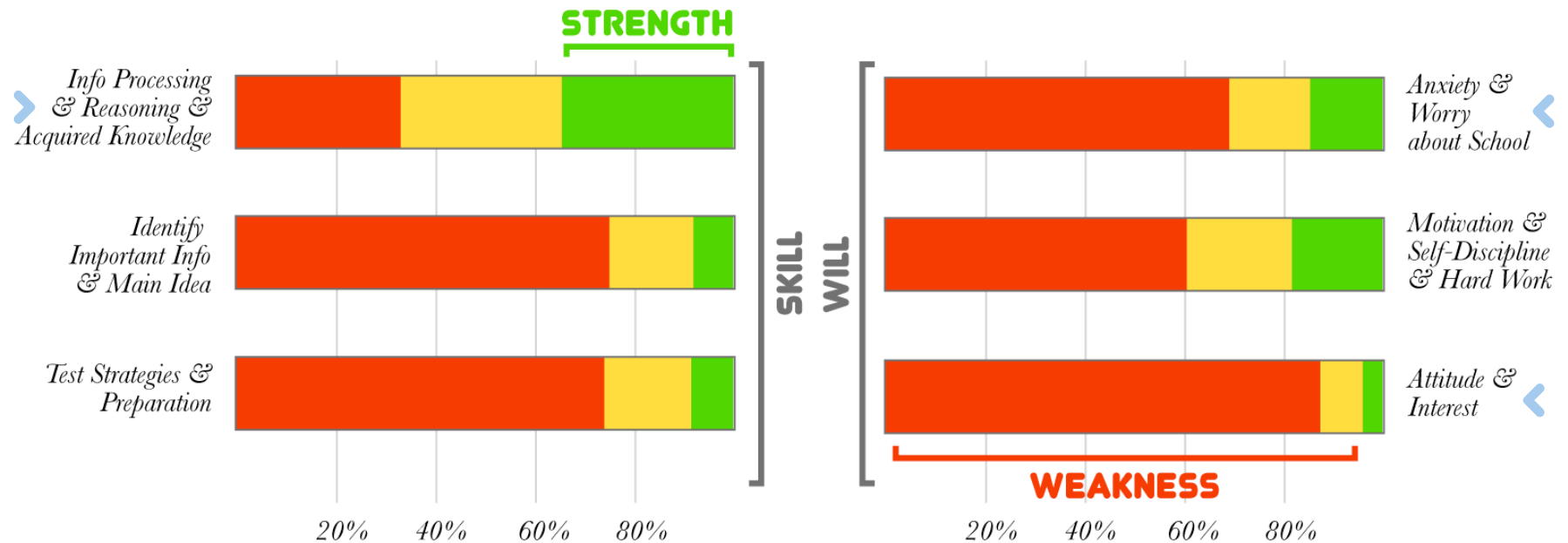
Do our students think they have the skills for class preparation?



LASSI RESULTS: ACADEMIC SELF-REGULATION

THE RESULTS: SKILL + WILL COMPONENTS

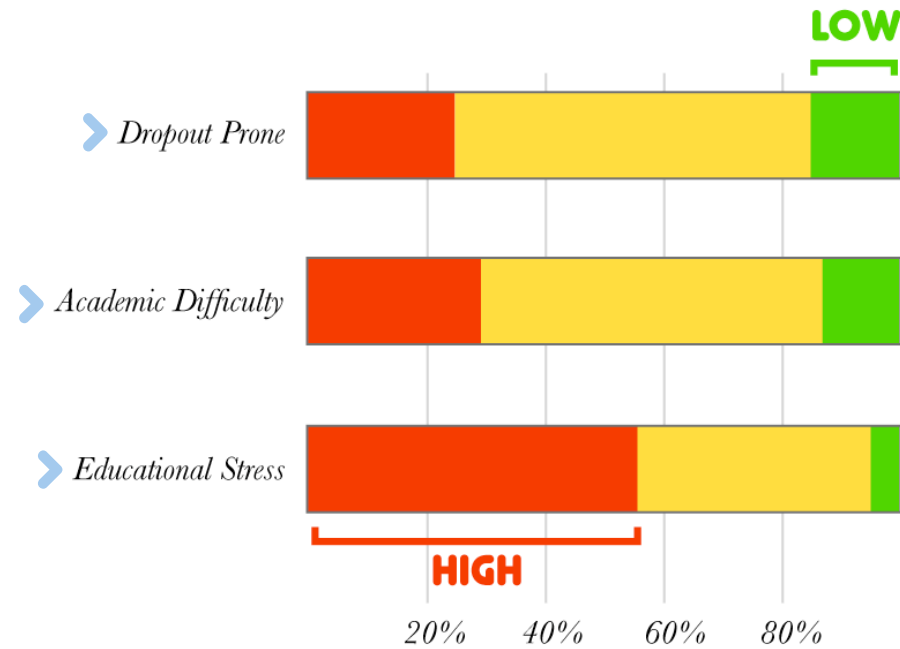
Do our students have the skill and drive to do it?



LASSI RESULTS: SKILL + WILL TOWARDS ACADEMICS

SELF-PERCEIVED ACADEMIC STRESSES

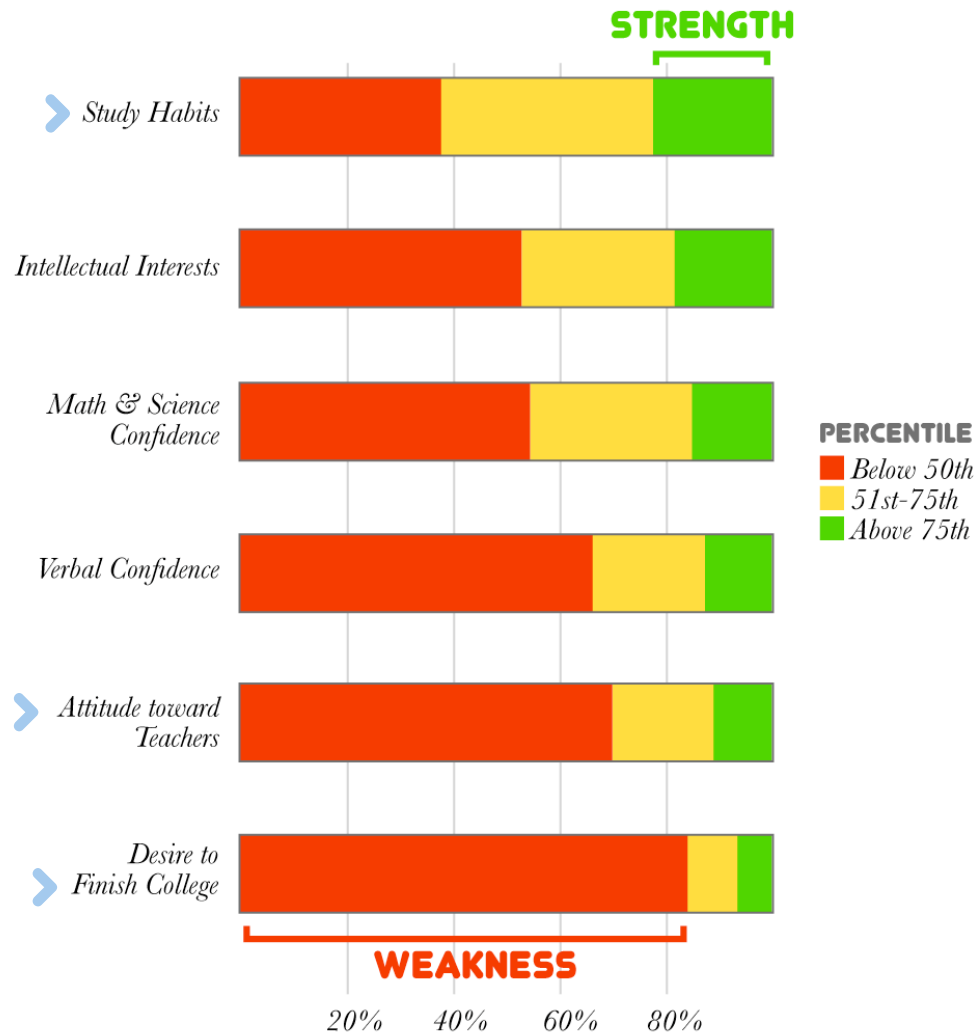
How stressed are our students?



NOEL-LEVITZ RESULTS: ACADEMIC STRESSES

SELF-PERCEIVED GENERAL MOTIVATION

Do the results show they're motivated for academics?



NOEL-LEVITZ RESULTS: GENERAL MOTIVATION

SELF-PERCEIVED GENERAL COPING

Do they feel like they can cope with college?

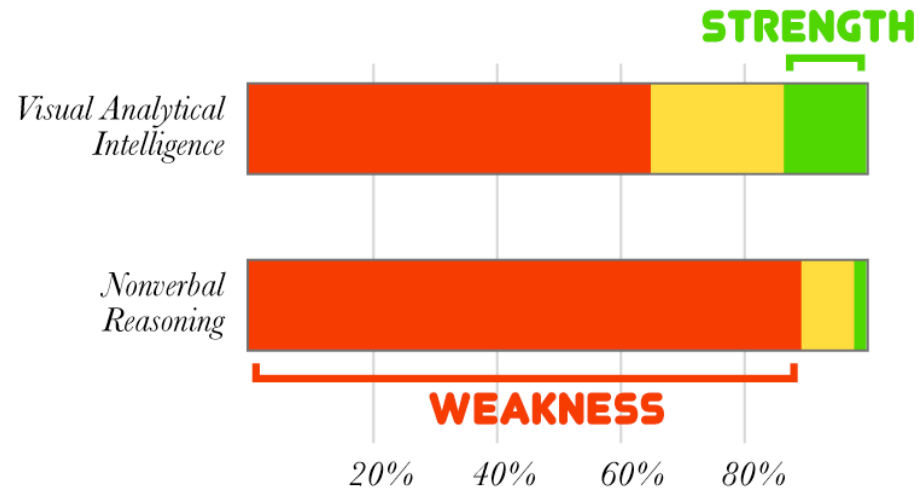


NOEL-LEVITZ RESULTS: GENERAL COPING

NONVERBAL REASONING + VISUAL ANALYTICAL INTELLIGENCE



How smart are they without words?



REASONING + INTELLIGENCE RESULTS

LASSI: IMPACT ON ACADEMIC PERFORMANCE ★

How do the LASSI results predict grades?

SELF-PERCEIVED ANALYSIS:

- *Will component reflects*
ATTITUDE and interest in academic topics
*Motivation, **SELF-DISCIPLINE**, and hard work*
- *Skill component reflects*
*Information **PROCESSING**, reasoning, and **ACQUIRING** knowledge*
- *Self-regulation*
Time management
SUPPORT strategies & materials
Self-testing, review, and preparation for class



STRENGTHS ON LASSI

—> *Significantly higher **GPA***

WEAKNESSES ON LASSI

—> *Significantly lower **GPA***

NOEL-LEVITZ: IMPACT ON ACADEMIC PERFORMANCE

How do their academic self-analyses show in their grades?

SELF-PERCEIVED ANALYSIS:

— General motivation

Study habits

ATTITUDE towards teachers

Desire to finish college

— Academic stresses

Dropout prone

*Academic **DIFFICULTY***

Educational stress

STRENGTHS ON NOEL-LEVITZ

—> *Significantly higher **GPA***

WEAKNESSES ON NOEL-LEVITZ

—> *Significantly lower **GPA***

REASONING AND INTELLIGENCE: IMPACT ON MATH PERFORMANCE

Do their reasoning scores impact their math performance?

— Nonverbal Visual **REASONING** Test

— Culture Fair **INTELLIGENCE** Test (g)



HIGHER SCORES

—> Higher NTID **MATH** placement scores

LOWER SCORES

—> Lower NTID **MATH** placement scores

VISUAL INTELLIGENCE: MATH AND READING OUTCOME



Where is their intelligence (g) score reflected?

HIGHER SCORES
on the Culture Fair Intelligence Test (g)

SIGNIFICANTLY HIGHER
math, science, and reading test scores

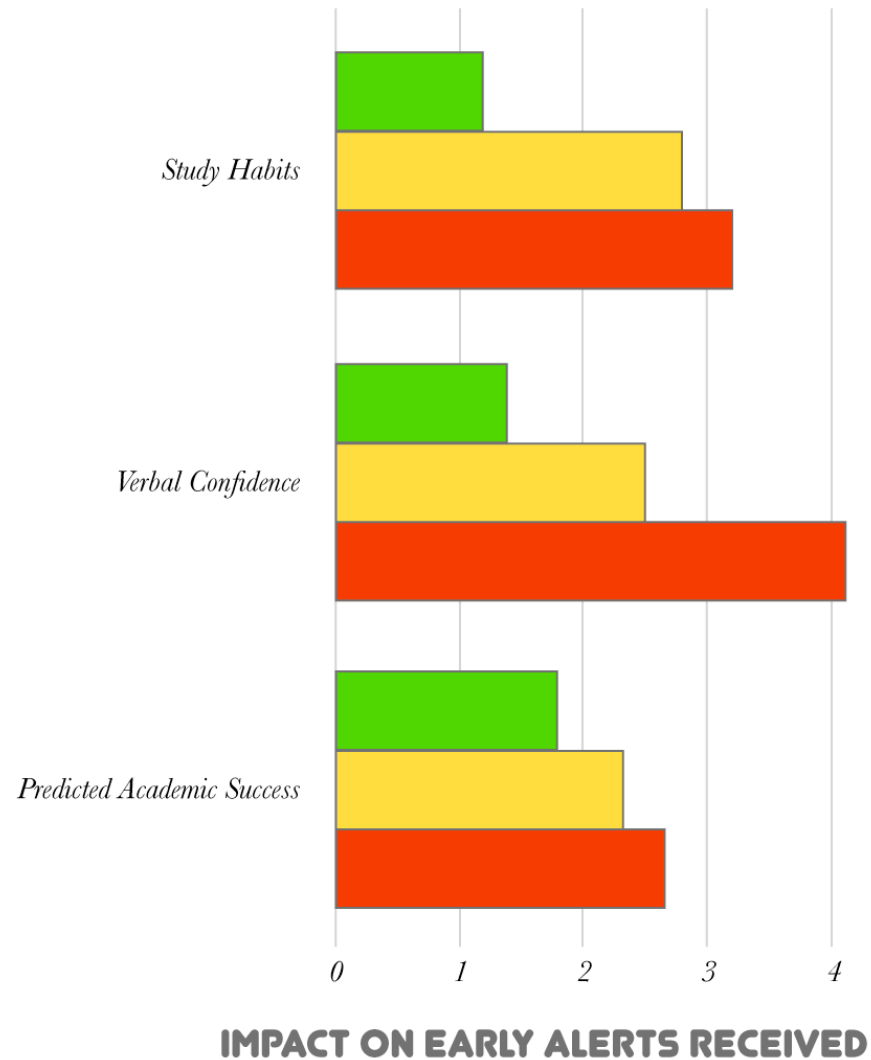
LOWER SCORES
on the Culture Fair Intelligence Test (g)

SIGNIFICANTLY LOWER
math, science, and reading test scores

IMPACT OF NOEL-LEVITZ FACTORS ON EARLY ALERTS



How do the scores relate to the academic warnings?



DEAF STUDENTS' PERSONAL FACTORS
2007-2009 | RIT + NTID

2007 PARTICIPANTS
+ NON-PARTICIPANTS

n = 299

GOOD METACOGNITIVE SKILLS ARE CRITICAL

What do students need to be able to do?

*The capacity to **DISTINGUISH** accuracy from error.*

*The capacity to recognize one's own **STRENGTHS** and **WEAKNESSES**.*

*The ability to operate and **RESPOND** accurately to one's metacognitive assessment of self, situation, and events.*

STUDIES IN METACOGNITION

Is this unique to deaf students?

DEAF college students show a pattern **SIMILAR** to **HEARING** college students for how they **PERCEIVE** their own academic performance relative to their **ACTUAL** academic performance.

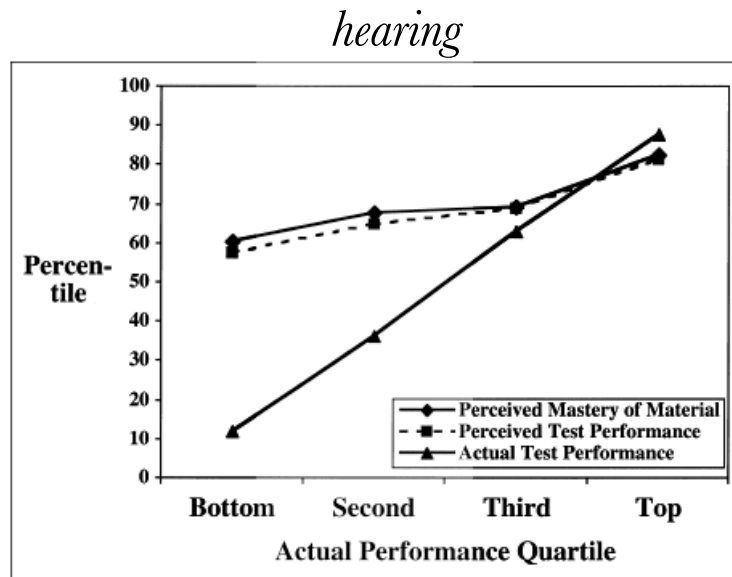
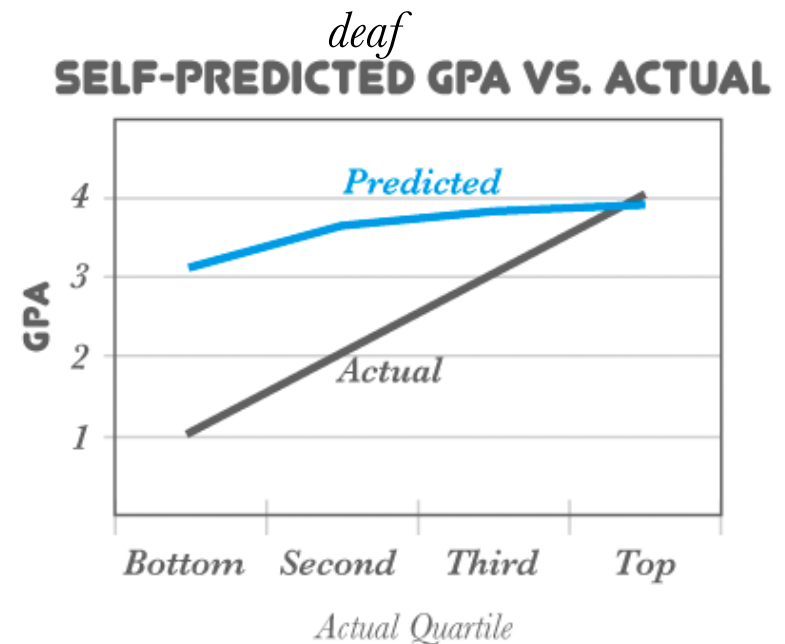


Fig. 1. Perceived percentile rankings for mastery of course material and test performance as a function of actual performance rank.



SOURCE:

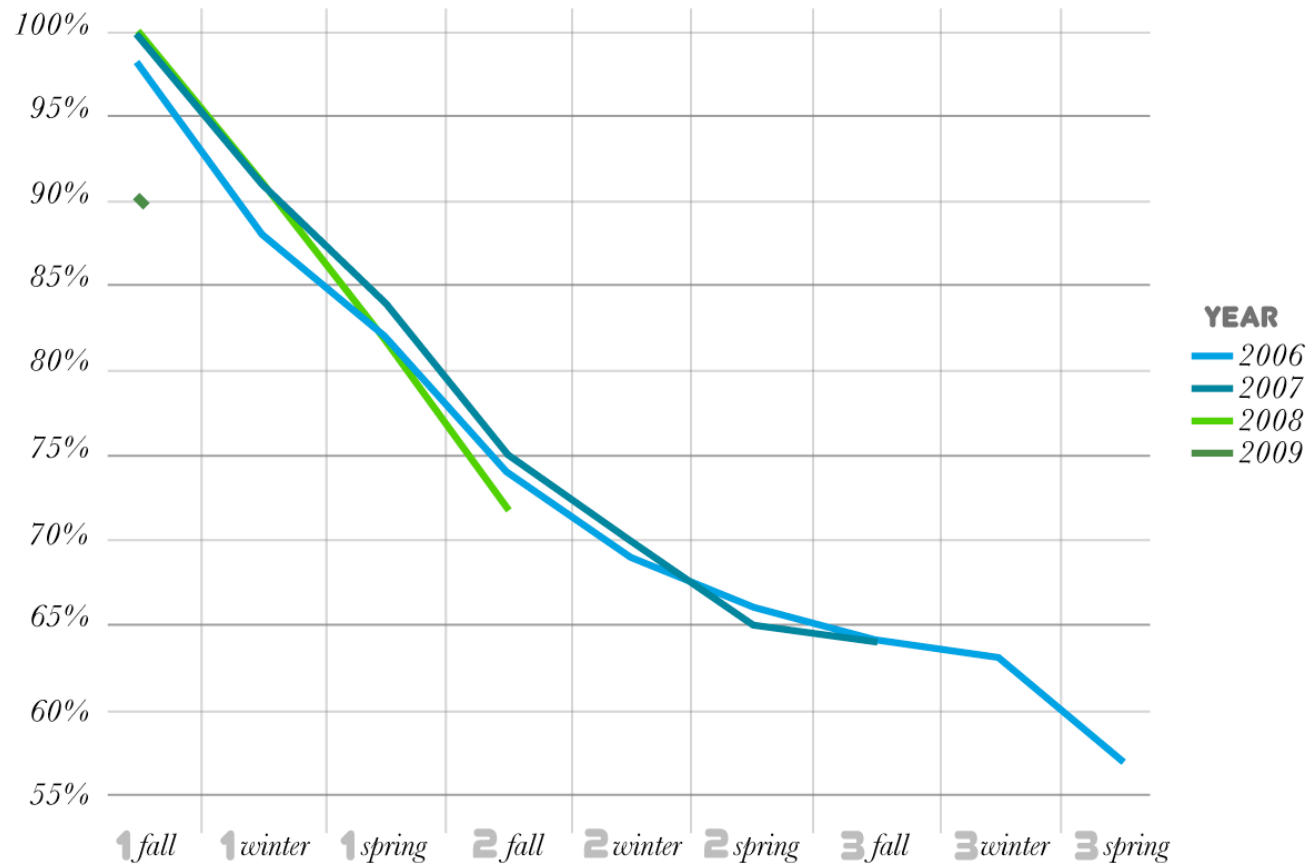
Kruger & Dunning, 1999; Dunning, et al. 2003
Optional survey by n = 174 NTID students

*More **SUCCESSFUL** students **REALISTICALLY ASSESS** their own abilities and what they know, and manage their time and studying accordingly.*

***LESS** successful students tend to **CONSISTENTLY OVERESTIMATE** their abilities and what they know, which influences what they may or may not study.*

PERSISTENCE OF ALL NTID STUDENTS

What percentage of our students stay through the years?



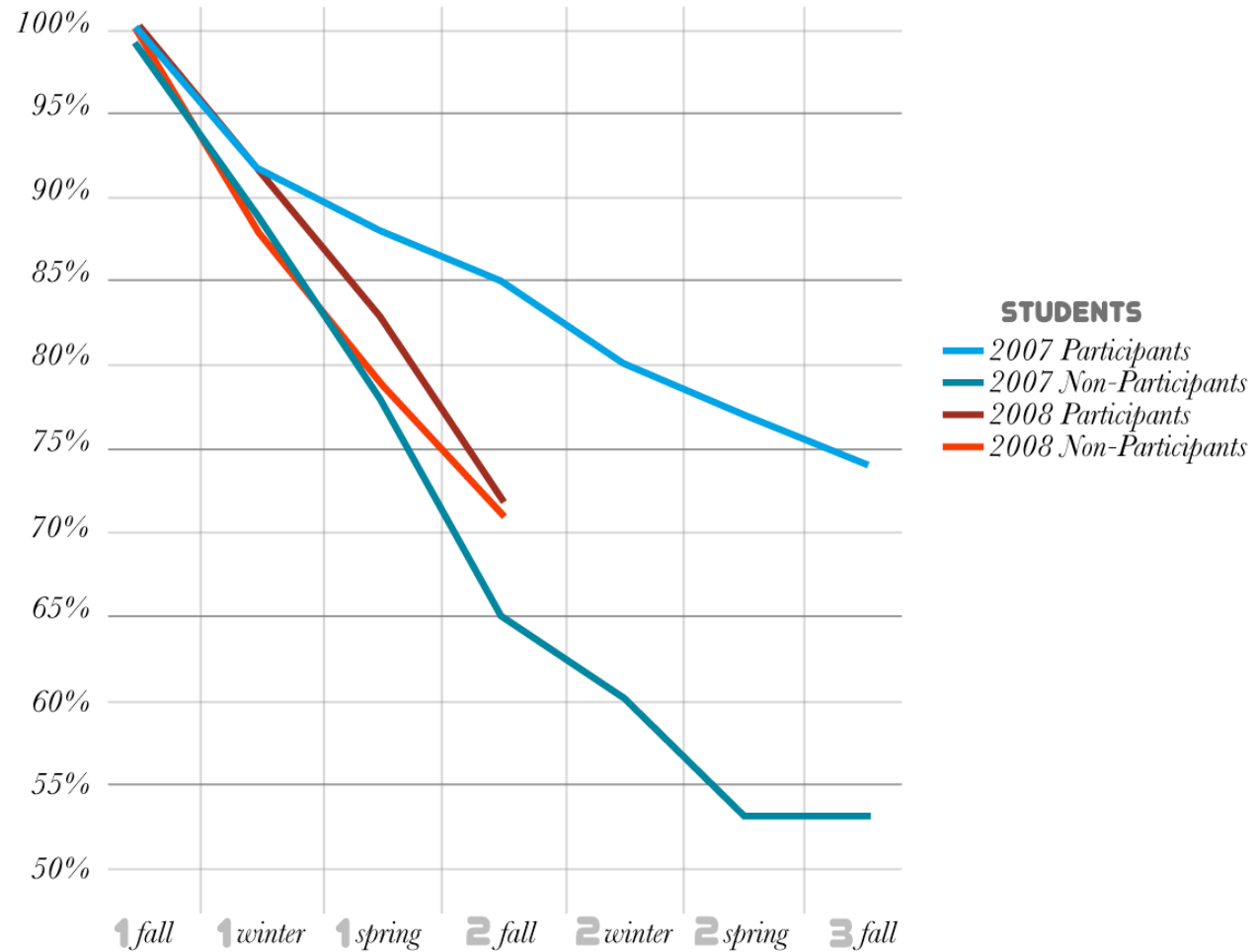
**PERSISTENCE OF ALL NTID ENTRY STUDENTS IN
2006 (CONTROL) AND 2007-09 ACROSS 3 YEARS**

DEAF STUDENTS' PERSONAL FACTORS
2007-2009 | RIT + NTID

PERSISTENCE OF PARTICIPANTS AND NON-PARTICIPANTS



How many study participants and non-participants do we lose?



NTID STUDY PARTICIPANTS' PERSISTENCE TO NON-PARTICIPANTS FOR 2007-08 ENTERING FIRST-YEARS

DEAF STUDENTS' PERSONAL FACTORS
2007-2009 | RIT + NTID

NTID RETENTION COMMITTEE: CURRENT ISSUES

What are we already working on?

- *Study/Time* **MANAGEMENT** *skills*
- *Organizational skills*
- **COPING** *skills*
- *Decision-making skills*
- *Transition/***ADJUSTMENT** *issues (Transfer, Older, and AALANA students)*
- *Interpersonal skills (roommate, peer, and faculty/student* **RELATIONSHIPS** *)*

INTERVENTION STRATEGIES

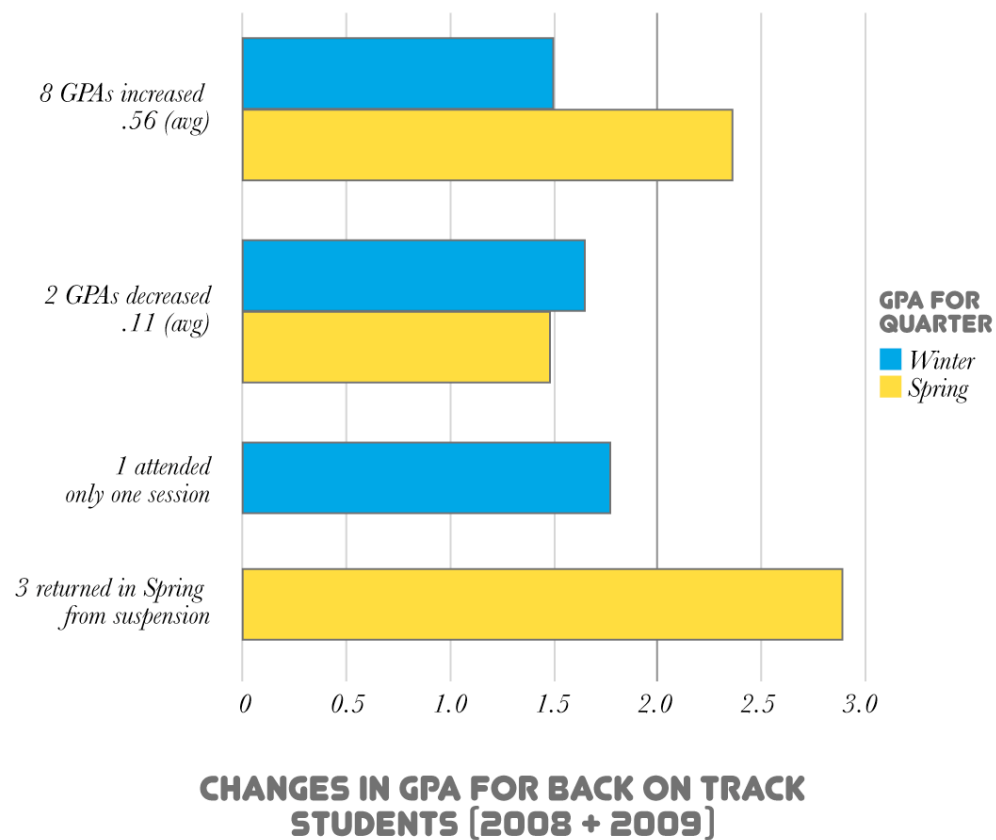
What are we already doing to help students?

- Back **ON TRACK** program
- Big Brothers/Big Sisters program
- COACHING** program
- Academic Excellence
- MENTORING** program for AALANA students
- Study Hall with **FACULTY** at midterm and final exam weeks

BACK ON TRACK PROGRAM RESULTS

Does it work for the engineers?

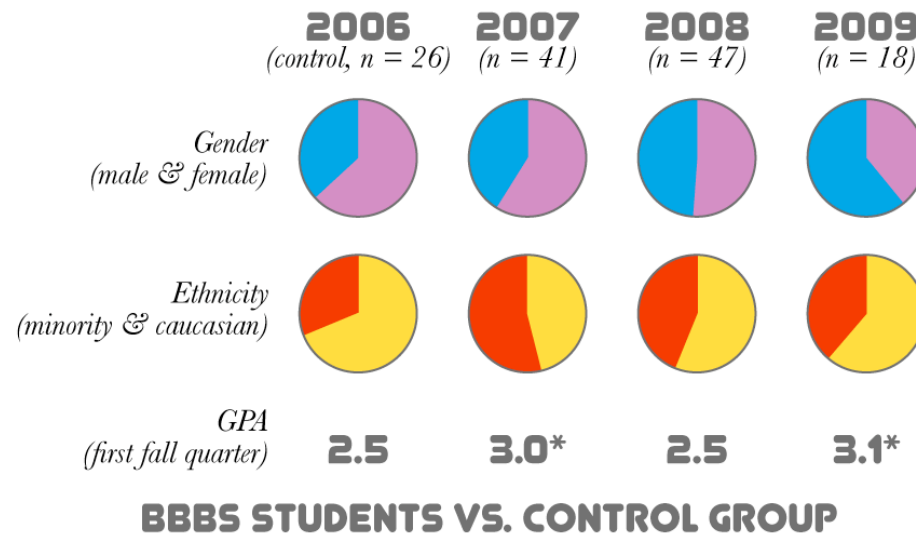
— *Intervention program for engineering students on academic probation (with a GPA under 2.0)*



BUSINESS STUDIES' BIG BROTHERS/BIG SISTERS RESULTS

Does it work?

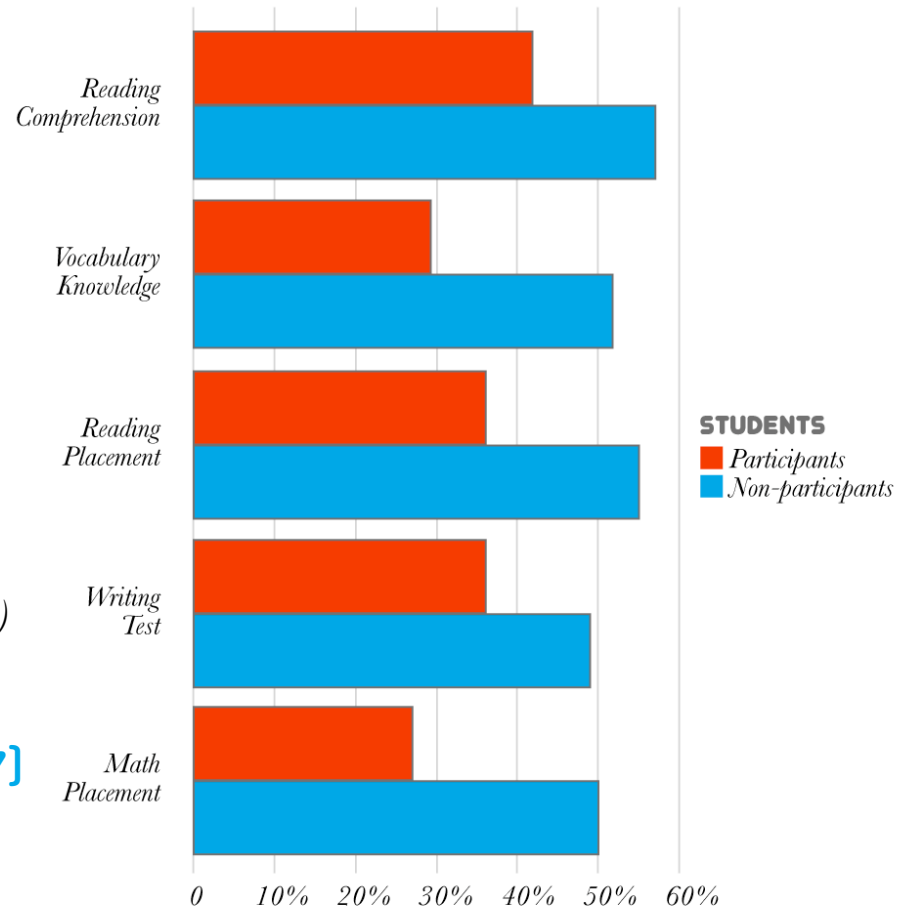
- Students in the control group were **EQUAL** at college entry for:
HEARING LOSS in the better ear, based on pure tone avg.
ACT composite and subtest **SCORES**
- 2 of 3 groups (2007 & 2009) had a statistically significantly higher **GPA** in the first quarter of college



STEP UP MENTORING FOR DEAF AALANA ★

Bringing the low scorers' GPA up to par for the 2009 students.

- 23 students with **LOWER** entry scores on the following:
 - California Reading Grade Level [6.7 vs. 8.4]*
 - California Reading Comprehension Percent Correct*
 - California Vocabulary Percent Correct*
 - NTID Reading Placement Test*
 - NTID Writing Test*
 - NTID Math Placement Test*
- **HIGHER SCORES** were consistently achieved by
 - the other 100 entering AALANA deaf students*
 - and the 45 deaf with same ethnicity (Black & Hispanic)*
- The **STEP UP** program brought GPAs up **[2.4]** to a statistically equal average with the non-participants **[2.7]**



**COMPARISON OF STEP UP 2009 STUDENTS
[PARTICIPANTS AND NON-PARTICIPANTS]**

CONCLUSION

In the end, what did we find?

*Personal factors **CONTRIBUTE** to persistence and success of deaf students in college.*

*Intervention strategies may **INFLUENCE** personal factors.*

*Students' performance and feedback will **HELP SHAPE** future intervention strategies.*

CONTACT INFORMATION

For a PDF of this presentation, please visit:

http://people.rit.edu/rrkncp/FirstYear_2010

*How Deaf Students Personal Factors Influence Their First-Year
Experience and Beyond: Data on Three Cohorts 2007, 2008, 2009*

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