



# Measure by measure

Review of Reform Efforts at DMACC

Iowa Organization for Student Success, 2022

Dan Nelson

Not what  
everyone  
thinks



The mystery:  
Cats?  
A hawk?  
Has one  
squirrel  
evolved?



The true  
culprits

We need data  
and  
knowledge



# We know our students

- Quiz:
- Which of the following is correlated with living longer without heart disease?
- A. Eating blueberries regularly
- B. The ability to do forty push ups
- C. A consistent diet of Spudnuts and West O beer

## Know your sample

- In a set of firefighters, the ability to complete forty pushups indicated longer life without heart disease. (“More Pushups”, 2020)
- Firefighters? Only men were in the sample. Are they really like the rest of us? How accurate might this really be?
- Just to assuage your concern, being able to do eleven also correlated to lower risk



# What exactly are Guided Pathways and Multiple Measures?

GOOD QUESTION!

- Guided Pathways: Building clear, direct pathways which guide students to their goal with as few “barriers” as possible.
- Multiple Measures: using more than one metric to place students in the course which match their levels

# Why are we talking about this?

- *Redesigning America's Community Colleges* (2015) Bailey, Jaggars & Jenkins
  - Advocated guide Pathways as an alternative to “cafeteria” college
    - “Cafeteria” format poorly defined
  - Course choices were unclear and overwhelming, serving as a barrier
    - Mostly based on student surveys and responses
  - Placement was inaccurate and preparatory classes were a barrier; students “stuck”
    - This is mostly implied, not directly stated
  - Teaching quality is not consistently good; students are bored
  - Complete College America used as a basis for a political action program, Bridge to Nowhere



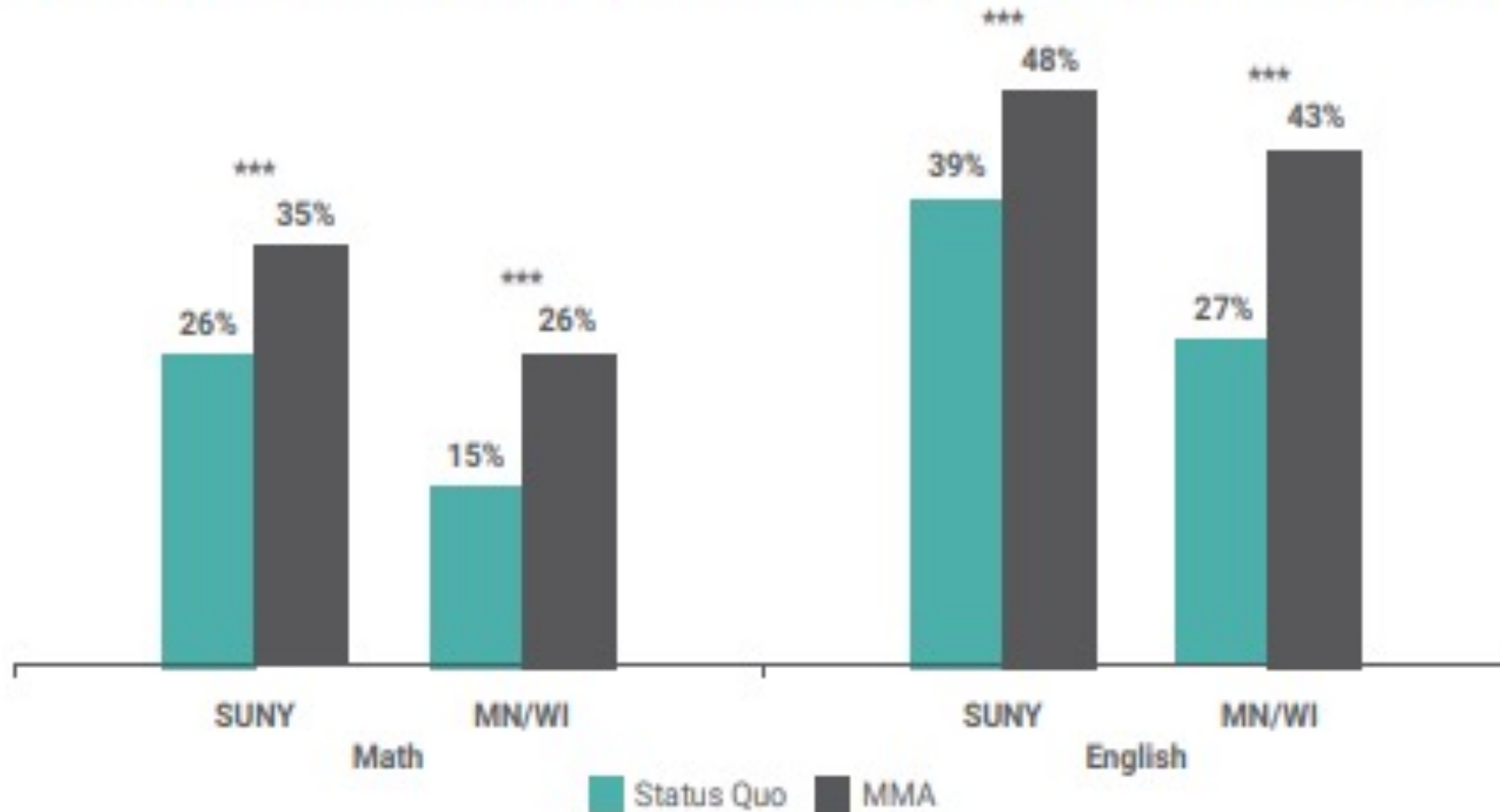
# Samples of Guided Pathways from the book

- **Arizona State:** students select a major path or “exploratory” path (no undecided); students follow a prescribed set of courses; “exploratory” must take one credit career exploration courses; clear transfer pathway. CC student following the designated path, including preparatory courses, were most successful compared to other transfers (p. 46). Relationship with Maricopa County CC.
- **CUNY:** students chose a themed “academy,” such as STEM or business; use a learning goal rubric; 15% actually change academies (Bailey et al., 2015, p 42)
- **Florida State:** program maps of default line of study with designated milestone courses; undecided students enter an exploratory major
- **I-Best:** designed for students with a clear vocational path

# Placement with multiple measures

- In the book, the authors mostly address the **unreliability of placement tests** to predict future success or “readiness.”
- Research noted in the book suggested the reliability of high school transcripts, but there were problems
- Center Center for the Analysis of Postsecondary Readiness noted the relative success of mixed models using a placement test, high school gpa, and other data. SUNY created an algorithm, and a set of colleges in Minnesota and Wisconsin used placement tests and noncognitive assessments Learning and Study Strategies Inventory (LASSI) and the GRIT Scale Cullinan. & Kopko, 2022, p. 3).

## College-Level Course Completion Rates Among Students in the Bump-Up Zone



*NOTE: SUNY rates include the completion of any college-level course in math or English; MN/WI rates include the completion of only introductory courses in these subjects. \*\*\* $p < .01$*

# High School has a stronger correlation to success in college

- Across the high schools studied, students with high school GPAs under 1.5 had around a 20% chance of graduating from college. For students with GPAs of 3.75 or higher, those chances rose to around 80%. -- Elaine M Allensworth <https://news.uchicago.edu/story/test-scores-dont-stack-gpas-predicting-college-success#:~:text=Across%20the%20high%20schools%20studied,chances%20rose%20to%20around%2080%25>.
- Reliance on standardized tests in high school may provide inaccurate perceptions of readiness
- Large impact of different high schools across the economic and demographic spectrum <https://www.aera.net/Newsroom/Research-Finds-that-High-School-GPAs-Are-Stronger-Predictors-of-College-Graduation-than-ACT-Scores>

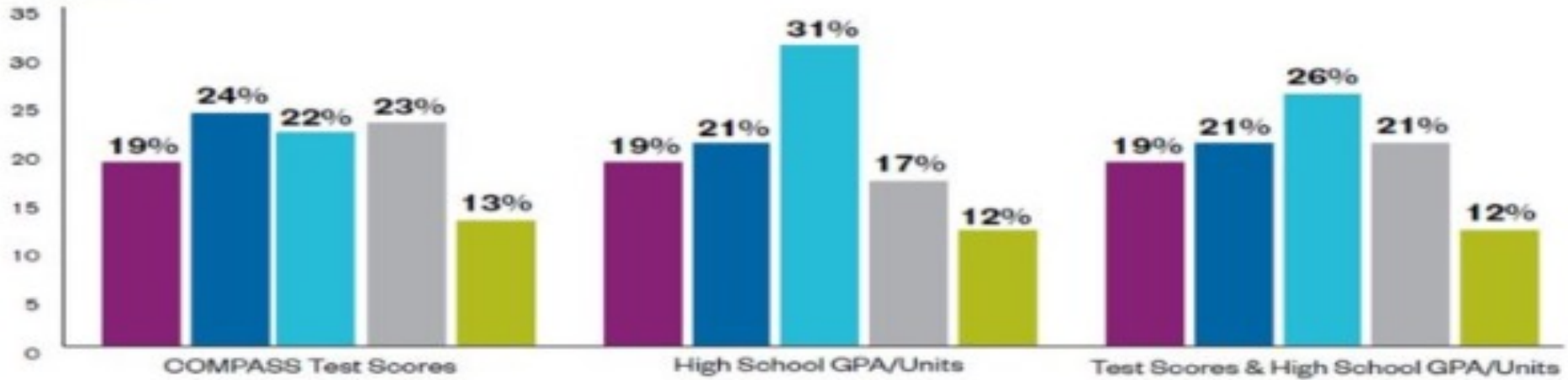
## 2.6 and ready to go!

- At one point, CCRC recommended 2.6 high school gpa as a college readiness score—potentially based on the average differences between student high school and college grades (Goudas, 2019)
- Florida and North Carolina adopted this standard
  - No magic completion result

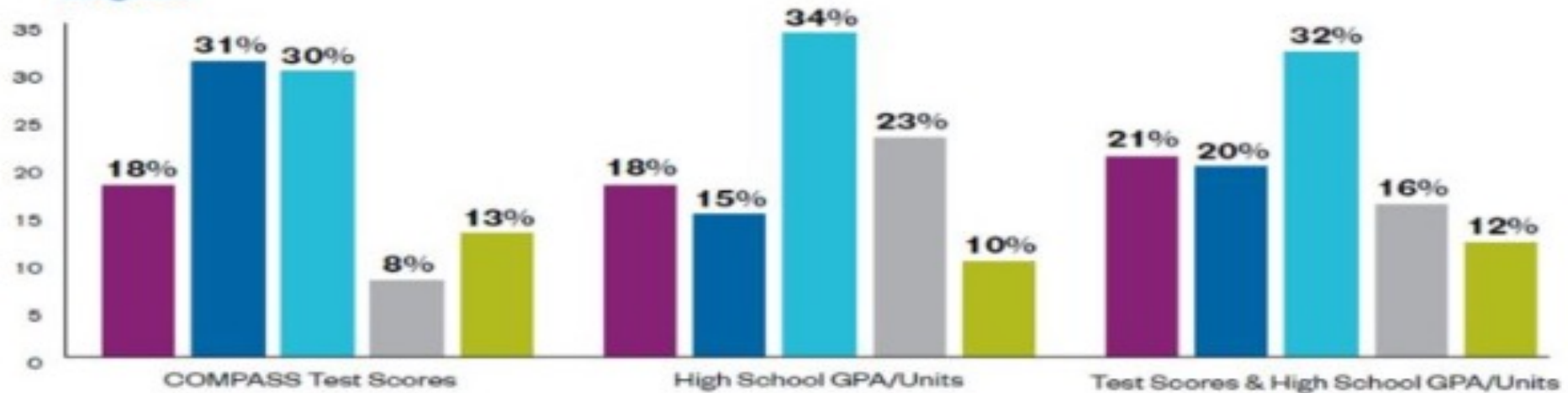
## Predicted Racial/Ethnic Composition of Introductory College-Level Courses by Assessment Method (Urban Study)<sup>9</sup>

White Black Hispanic Asian Other/Unknown

### Math



### English



(Goudas, 2019)

# Good, bad, ugly?

- What do you think?

# Good things

- The researchers pointed out the vast, unconnected variation among community colleges involving their relationships with high schools and universities.
- The researchers highlighted the longtime problem of unreliable placement tools
- They actually did not reject preparatory courses, although they implied they are not preferable or good, although they also recognized this population.
- They highlight the value of advising, student support, and student choices and autonomy



# Side eyes

- They do not really prove the pathway model is better or that a nonpathway model caused retention and success problems. They just noted many colleges seemed disorganized or did not have strong advising, which suggests problems for students
- They misrepresent preparatory work: ready for the course vs. success in the course (this is used to reject all preparatory work)
- They offer vague, general suggestions with little certainty or conviction
- They do not highlight the foundational value of advising, student support, or student autonomy, but present them as secondary to the pathway structure, despite the basis for the researched models
- Their discussions of placement focus on research almost entirely from students above or below the cut scores, which is a very small segment of our population

# Why do we have to deal with this?

- Preparatory courses actually OK
- Chen (2016) showed students performed just as well or better than non preparatory students.
- ASU and CUNY showed preparatory students were very successful in their programs (Bailey et al., 2015)
- Bailey et al (2015) recognized that preparatory students performed poorly in courses other than math and English and suggested the need for some sort of support or intervention, but do they expect coreqs for every subject?

# Prep courses are not evil

- Their report entitled "[Remedial Coursetaking at U.S. Public 2- and 4-year Institutions: Scope, Experiences, and Outcomes](#)" (Chen, 2016) showed that half of all remedial students in their sample (n=12,800) completed their entire remedial course sequence (p. 22). Of those who completed these courses, 42.6% of them graduated from a two-year or a four-year college after six years, which is higher than the graduation rate of nonremedial students (38.9%) in the same time frame (p. 162). Goudas, 2018
- <http://communitycollegedata.com/articles/remediation-is-not-a-barrier/>

# Problems everywhere

- Furthermore, Zeidenberg et al. (2012) showed that many general courses taken in the first semester or first year of college, besides remedial English and mathematics, are equally likely to be correlated with low pass rates and stopouts. Data from universities show similar findings (Yeado et al., 2014). All of this data point to the fact that [remedial courses are no greater of a barrier than other college courses](#) (Goudas, 2019).
- <http://communitycollegedata.com/articles/false-narratives-not-data-drive-reforms/>

# Why do students leave? MONEY and WORK. Life.

- Alexander Astin (1993): Factor among the highest correlations to leaving college was the number of hours working outside of the college (not work study)
- Georgia State instituted an emergency fund for students near the end of their degree to improve completion (*Panther Retention*, 2020)
- Money and work had the highest correlation to leaving college (Johnson et al, 2011)
- Hours
- Distraction
- Priorities
- Stress



# Cash-strapped

- As presented by Alexandros Goudas (2020), leader of the NOSS Research Network:
- “Moreover, Zhai & Monzon (2001) noted that **“financial difficulties (22.8%)”** and **“conflict with work schedule (22.3%)”** were the top two reasons students did not enroll in college after applying. Regarding students who withdrew, “conflict with work schedule (31.0%)” and “personal reasons (21.1%)” were the two responses that characterized the majority of students who left college. “Dissatisfaction with instruction (14.3%)” took the sixth and lowest-ranked spot among reasons for stopouts (p. 13).”

# What are the barriers?

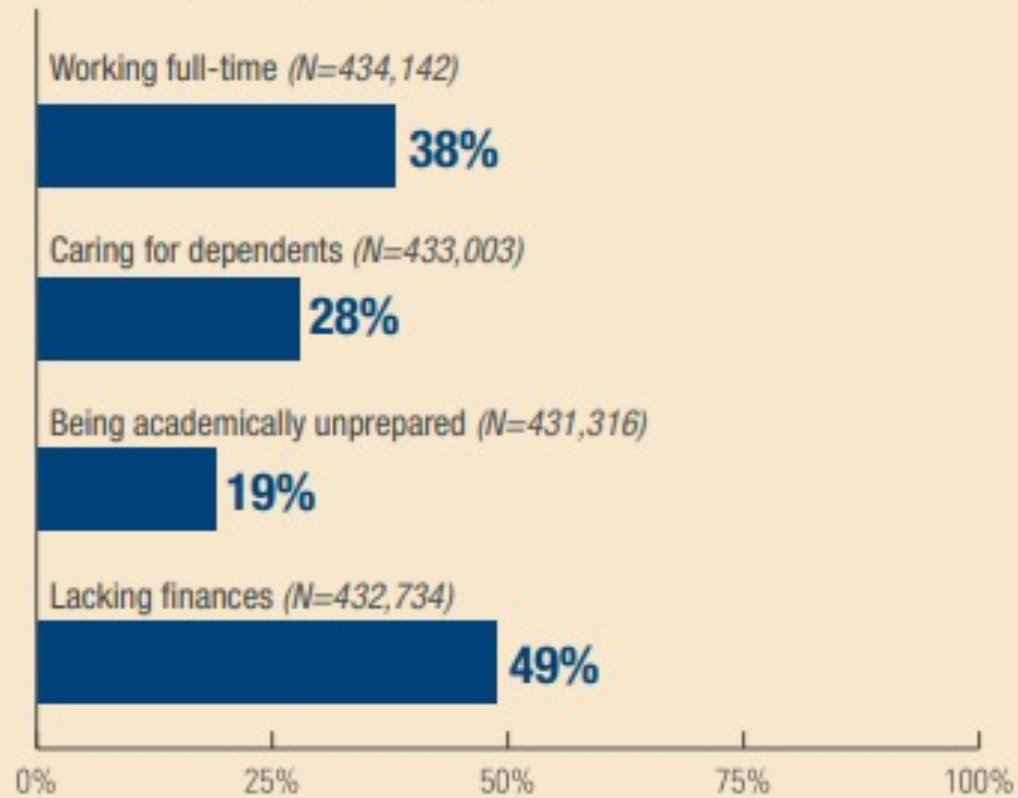
- Lastly, the Center for Community College Student Engagement (2012) surveyed college students to find out how likely it would be that they would withdraw from college due to various constraints. Overwhelmingly, the top two responses were “**lacking finances**” (49%) and “**working full-time**” (38%). Again, “being academically unprepared” (19%) came in fourth and last among reasons cited for student withdrawal (p. 7).
- Goudas, 2021

## Student and Faculty Views: What Stands between Students and Their Aspirations

CCSSE and CCFSSSE data indicate that many faculty are more likely than students to believe that various circumstances, including working full-time, caring for dependents, or being academically underprepared, would be likely causes for students to withdraw from classes or college.

How likely is it that the following issues would cause you to withdraw from class or this college?

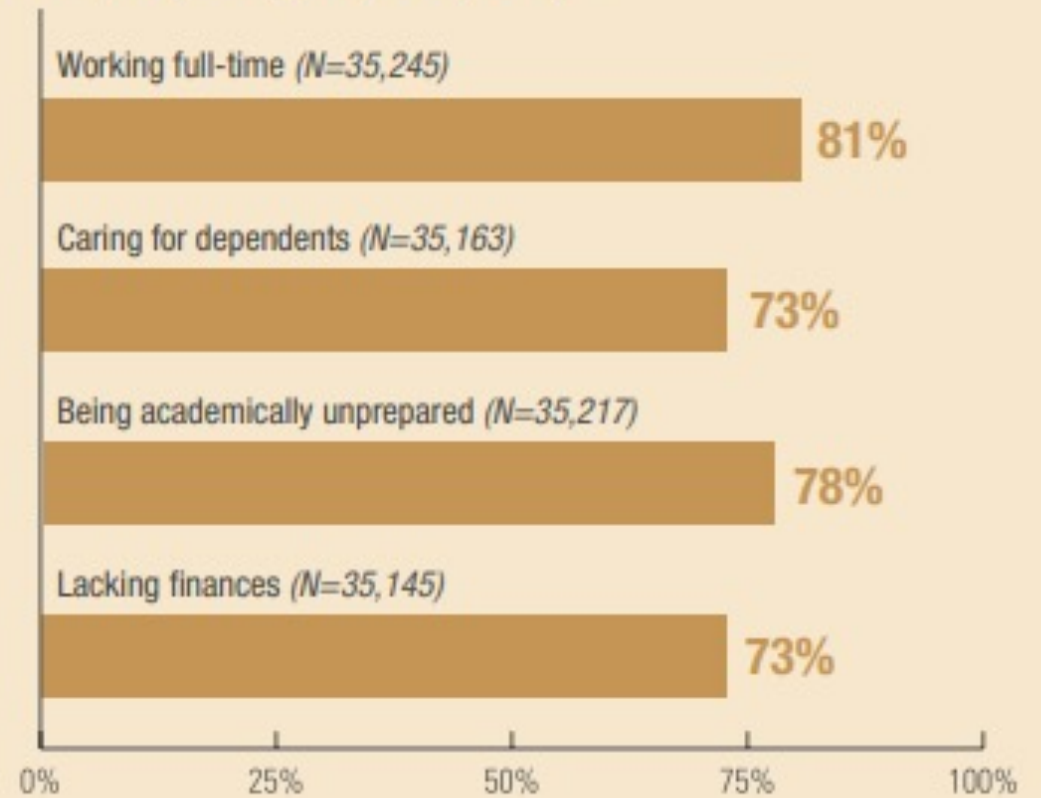
Students responding *likely or very likely*



Source: 2011 CCSSE Cohort data.

How likely is it that the following issues would cause students to withdraw from class or this college?

Faculty responding *likely or very likely*



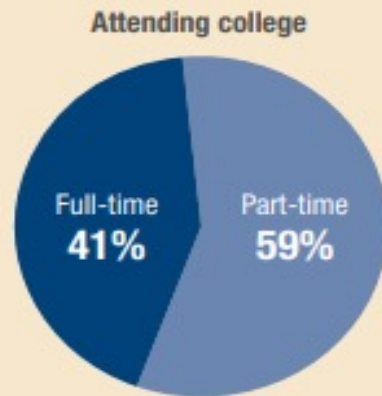
Source: 2011 CCFSSSE Cohort data.



# Characteristics of Community College Students

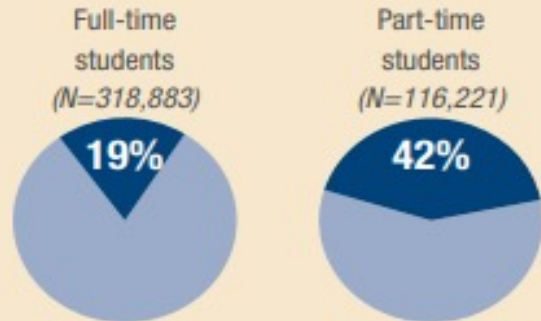
## Students Balance Priorities

Most students attend classes and study while working; caring for dependents; and juggling personal, academic, and financial challenges. Colleges can help students plan their coursework around their other commitments and help students develop skills to manage the demands on their time.



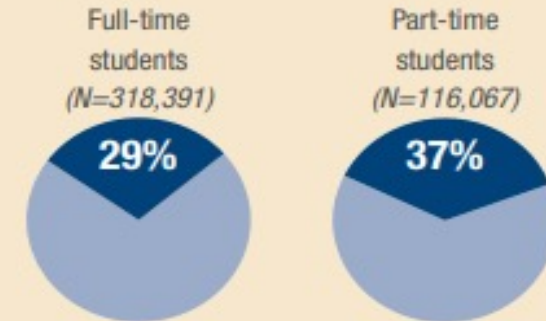
Source: IPEDS, fall 2009.

### Working more than 30 hours per week



Source: 2011 CCSSE Cohort data.

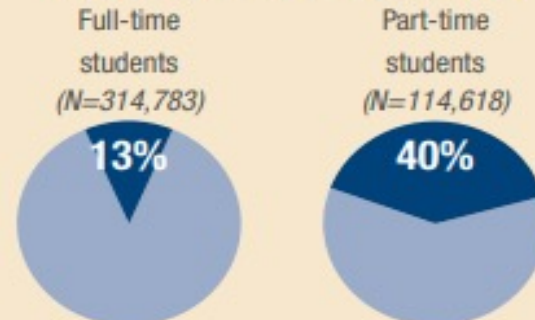
### Caring for dependents 11 or more hours per week



Source: 2011 CCSSE Cohort data.

**67%** of full-time students and **78%** of part-time students work at least one hour per week while taking classes.  
**53%** of full-time students and **60%** of part-time students care for dependents at least one hour per week.

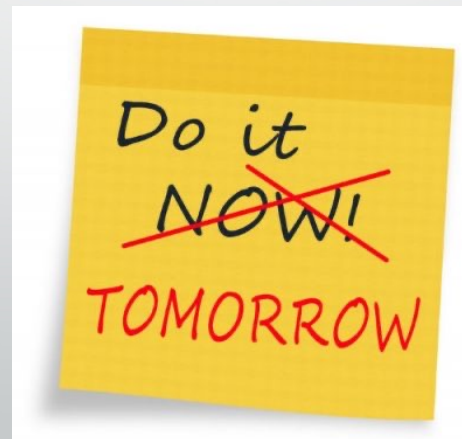
### Taking evening and weekend classes



Source: 2011 CCSSE Cohort data.

## Interesting to note...

- DMACC in a 2014 study found late registration to correlate with lower success rates (along with a few other factors). (DeHart, 2015, internal research)
- Center for Community College Student Engagement (2021) also focused on this as a notable predictor.



# Registration: Students Register Late

## Student Responses

More than one in 10 *CCSSE* respondents (11%) report they registered late (after the first class meeting) for at least one class.

*(26,828 of 238,504 respondents)*



Fewer than 1 in 10 *SENSE* respondents (8%) say they registered late (after the first class meeting) for at least one class. *(2,629 of 34,266 respondents)*



*Source: 2011 CCSSE Promising Practices data and 2011 SENSE Promising Practices data.*

# Basically...

- Students need more structure, active advising, and personalized guidance, and they need to get up to speed ASAP (mentally, emotionally, etc.)...
- Need for support or interventions across the curriculum
- This is different than **not needing** remediation, financial stability, or personal/emotional support

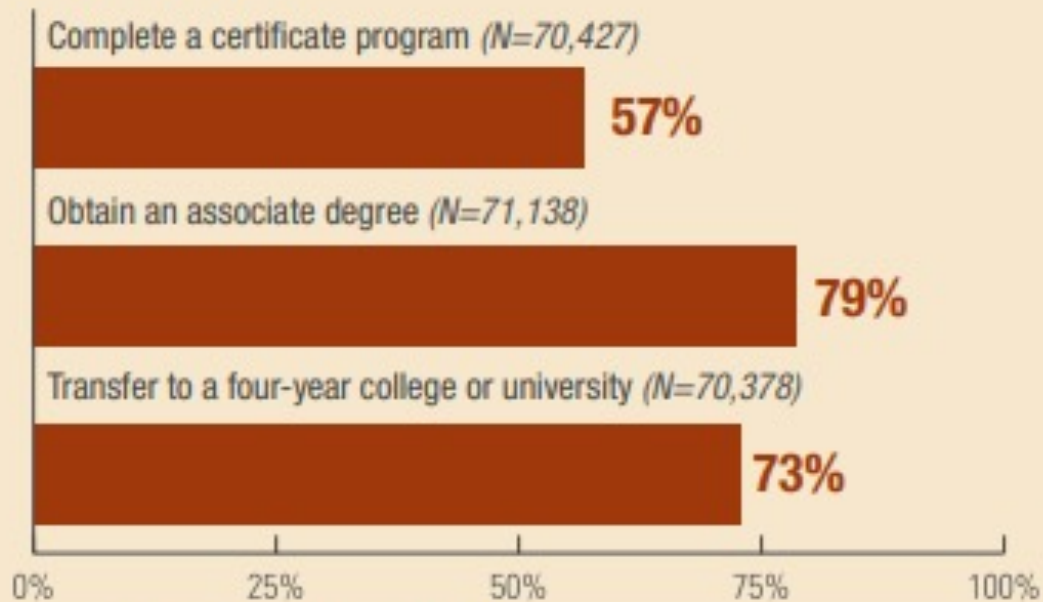
# Something to Think about

- What about ELL and ABE? If preparatory courses are eliminated what are their choices?
- What about adult students without high school gpas or many years between high school and college?
- Aren't corequisites and exploratory requirements barriers? It is not really acceleration, either. These are credits which require time, money, and scheduling.
- What about the noncognitive element?
- What about actual completion of the degree? Coreqs help a student through that course, but do not raise completion rates. (Jenkins et al., 2021)

## Entering Students' Aspirations

The data show a sizable gap between the percentage of students who aim to complete a credential and the percentage of those who actually do.

Please indicate whether your goal(s) for attending this college include the following:



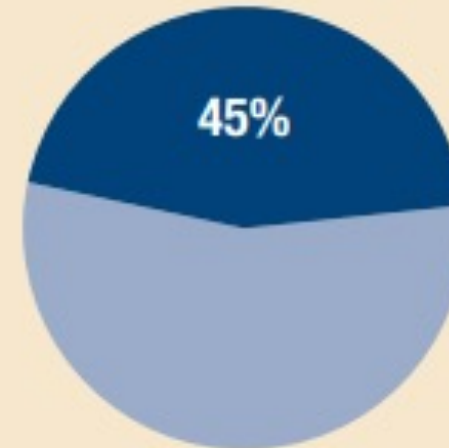
Respondents may indicate more than one goal.

Source: 2010 SENSE Cohort data.

## Fewer than Half of Students Reach Their Goal

Fewer than half of entering community college students with a goal of earning a degree or certificate meet their goal within six years after beginning college.

Met their goal within six years



Source: U.S. Department of Education, NCES (2001). *Beginning Postsecondary Students Longitudinal Study 1996–2001 (BPS:96/01)*. Analysis by Community College Research Center.

## How CCRC's Thinking About Guided Pathways Has Evolved

AREA OF PRACTICE	REDESIGNING AMERICA'S CCs	CURRENT THINKING
Program organization and design	Organize programs into meta-majors and create default program maps for students	Build academic and career communities and make sure every student has an individualized educational plan
New student onboarding	Ensure new students receive career and transfer information and advising	Ensure new students participate in guided exploration to choose a pathway of interest, and help them make connections with other students and faculty in academic and career communities
Remediation and academic support	Use multiple measures to place students into appropriate developmental or college-level courses and provide corequisite remediation when possible	Teach students to be effective college learners in college-level program foundation courses (not just math and English)
Ongoing student advising	Provide holistic wraparound advising and other supports	Provide case-management advising by meta-major and use students' educational plans to schedule classes and monitor progress
Teaching and learning	Establish program learning outcomes and promote faculty development through collaborative inquiry	Embed active and experiential learning in all programs

## Some of our overall efforts at DMACC

- **First year seminar course** (in existence in some form already)
- **Early alerts** system
- Changing **placement tools** for guidance (only math required)
- Paired **support courses** for writing and math (not required, in progress)
- **Pathway “major” categorization** for student access and planning interface
- Prospective integration of studying and reading strategies **across the curriculum**
- **Reading?** TBD
- (We have already had a substantial achievement center and tutoring program in place)



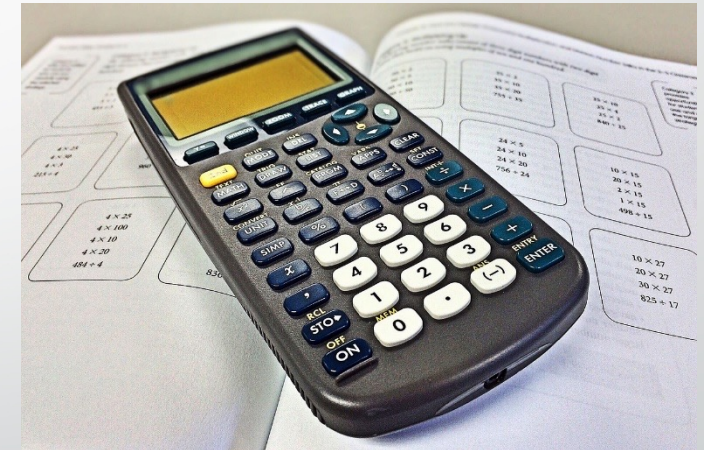
# First year course

- Required “**College Experience**” course
  - Completion plan
  - Studying habits
  - Registration
  - Finances
  - Wellness
  - College Resources



# Math placement and support

- Organized **pathways** for student guidance
- **ALEKS** selected as the [placement tool](#)
  - [Guide](#)
- We revised our general math progress structure
- Students take ALEKS on their own
- Support courses are being created now



# “Placement” for Writing...



[This Photo](#) by Unknown Author is licensed under [CC BY-NC-ND](#)

- Replaced Compass with **Accuplacer**, only for advising guidance
- **LASSI** pilot
  - data is still out; however, due to cost, it probably will not be used comprehensively, but as a more targeted tool
- **Written assessment** in a Composition course
  - Students complete a written assessment, and the instructor may advise student to pick up a late start support course.

# Important factors for our writing

- **Student choice:** autonomy but student may not use the support
- **Guided by an instructor,** but not necessarily the student's Composition instructor.
  - Building of a social support system with a single instructor, and the instructors have a strong understanding and commitment to the process
- **Late start**
  - Improves the ability to catch student issues without relying on test scores based on relevant actions and provides an intervention before too much time passes
- **Cohort environment** with a closer, more personal connection to the instructor
- **Cost covered**
  - Attempts to remove one barrier to the support course

# Things we like in math:



- The math department feel the ALEKS system appears to offer more **accurate placement**, and they utilize the **support modules**.
- **Cleaner, clearer** math direction and choice structure

# Things we like in Writing

- **Strong performance:** Students taking the support course appear to be performing well...data to come (Hopefully at our next conference)
- **Catching problems** before too much time passes
- **Convenience** for students (for the most part)
- **Social networks** :A means to build strong social connections with other students and an instructor

# Pathways



- DMACC organized our study areas into ten categories, which ideally provide smoother, clearer decisions for students:

<https://www.dmacc.edu/pathways/Pages/welcome.aspx>

**+ Agriculture, Animals, & Natural Resources**

*Produce, treatment, sustainability, management, care*



**+ Building Trades & Transportation**

*Tinker, repair, transport, build, construct*



**+ Business**

*Manage, lead, market, discover trends, support*



**+ Design, Media, & the Arts**

*Create, develop, capture, share, perform*



**+ Education, Communication, & the Humanities**

*Educate, inspire, communicate, connect, discover*



**+ Engineering & Manufacturing**

*Innovate, build, hands on, weld*



**+ Health Science & Fitness**

*Care, heal, healthy, wellness, long-term care*



**+ Information Technology**

*Develop, investigate, connect, secure, code*



**+ Math & Science**

*Calculate, study, explore, inquire, discover*



**+ Public & Community Services**







## Credit

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**Athletic Coaching, Certificate**

**Aging Services Management, Adult Services, AAS**

**Aging Services Management, Long-Term Care, AAS**

- Adult Services Specialist, Certificate
- Gerontology Specialist, Certificate
- Long-Term Care Administrator, Certificate
- Long-Term Care Administrator-Practicum Specialist, Certificate

**Dental Assistant, Diploma**

**Dental Hygiene, AAS**

**Exercise Science & Kinesiology: Transfer Major, AA**

**Fitness/Exercise Management, AAS**

- Fitness Specialist, Certificate

**Health Information Technology, AAS**

- Health Information Technology for Healthcare Professional, Certificate
- Health Information Technology for Information Technology Professional, Certificate

**Medical Assistant, Diploma**

**Medical Billing and Coding, Diploma**

**Medical Laboratory Technology, AAS**

**Medical Office Specialist, AAS**

**Nursing**

- Nursing, AAS
- Practical Nursing, Diploma
- Nurse Aide, Certificate
- Advanced Nurse Aide, Certificate

**Patient Access Specialist, Certificate**

**Phlebotomy, Certificate**

**Respiratory Therapy, AAS**

**Surgical Technology, AAS**

**Liberal Arts AA**

**Liberal Arts AS**

# Pathways in progress

- Offers a **quick and easy access** to related courses, potential degrees, noncredit options, and clubs
- **Questions:** how do we decide the organization? What about undecided students? What about students just getting their credits before transfer? What about electives which do not fall in a pathway? Is there an intention to cut courses?

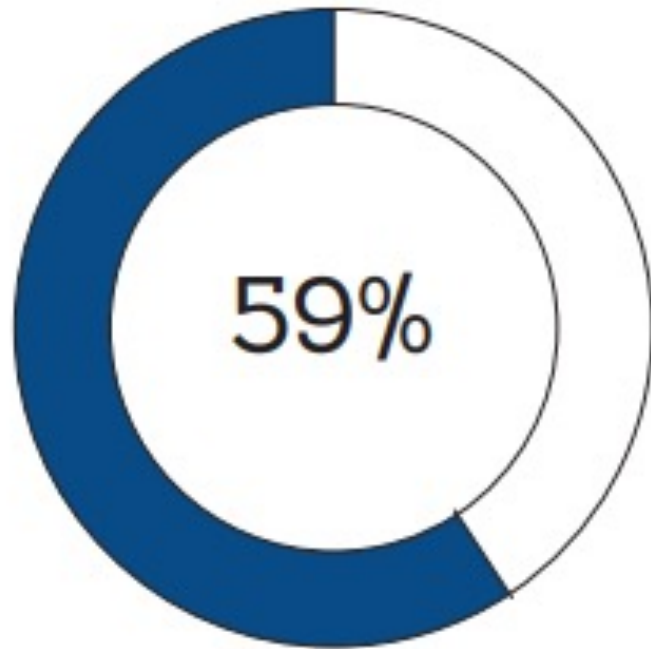
# Ambivalence/Uncertainty/Loathing

- One thing, two things: **Not really multiple measures**; subjectivity
- **Honor system**: With ALEKS, students are able to cheat. One department dropped ALEKS and returned to a grade in a high school course due to student math skills.
- **Continued funding?** Will the cost continue to be covered for support courses?
- **Extra hours**: How will it be staffed? How will the credits be covered?
- **Choices**: What about the students who do not want to do this? Results skewed by student motivation.
- Are we tailoring the system to the **benefit of some** and the inconvenience of others?

# More to think about

Figure 4. **What Share of Attrition Occurs in the Second Year or Later?**

First-Time, Full-Time (FT/FT) Students at AASCU Colleges and Universities (N=86)

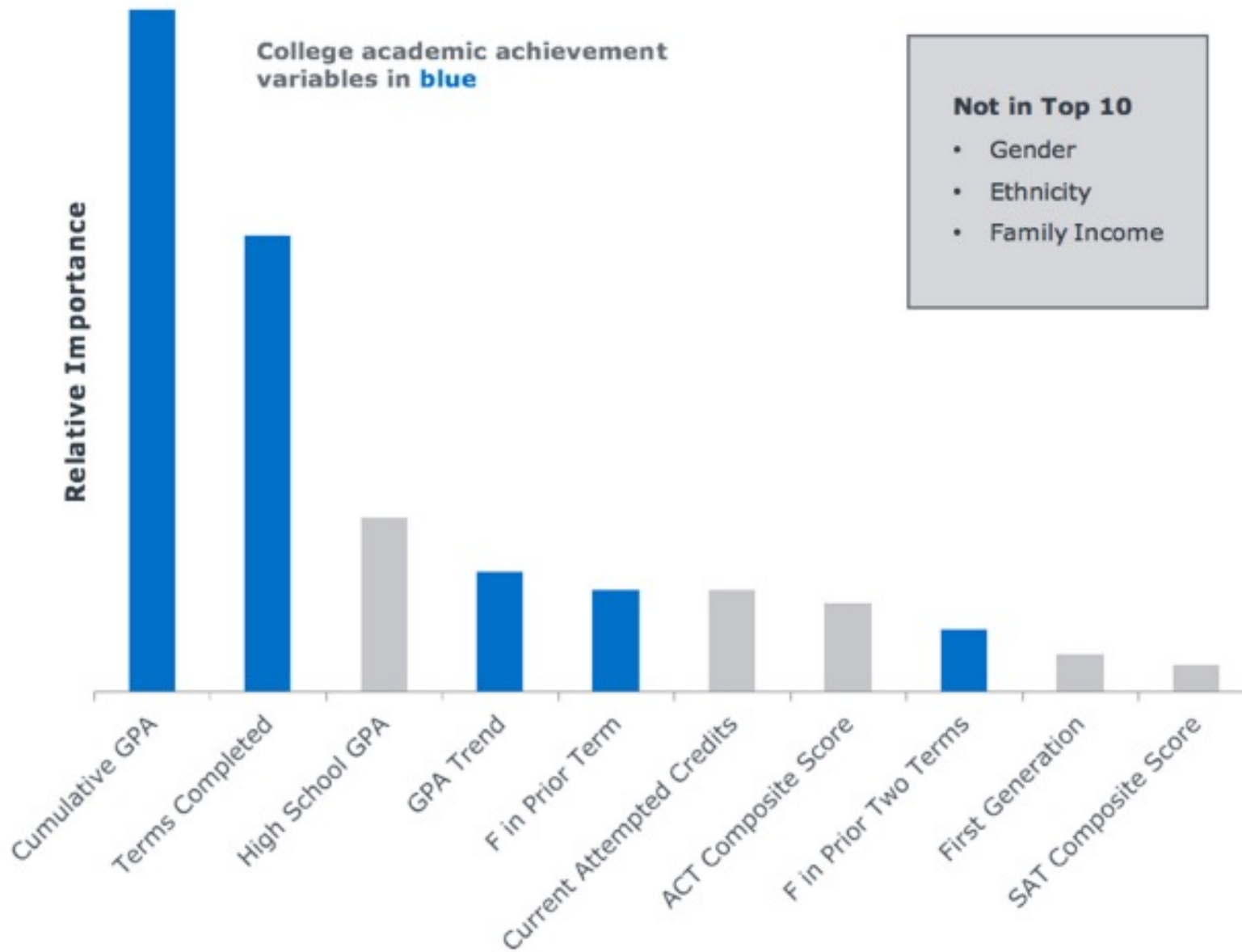


## Student departure at AASCU institutions

- First-Year Departures
- Second-Year or Later Departures

(EAB, n.d., p. 6)

Figure 7. **Top 10 Factors Predicting Sophomore+ Attrition**



(EAB, n.d., p. 9)

We are where  
the wheels hit  
the road

- Quiz
- I recently took over a study strategies course in the middle of a semester. About two-third of students were getting A's and B's. About one third were failing. Why?
- A. The rigor of the curriculum
- B. Lack of high school preparation
- C. Students were not completing or turning in work

## Even strong students leave

- “Murky Middle”
- Even among students with a B average, about 40% will not complete their degree within six years. Almost 70% of students with a 2.2 GPA (Tyson, 2017)
- Georgia State found a correlation between particular grades in specific courses signaled a lack of success in later program courses (Treater, 2017)
- My own college found little difference in “success” rates for students with ACT scores between 16 and 25 (DeHart, 2015, internal research)
- In our state DOE Dev Ed project, Dev Ed students exhibited better retention and persistence than non-Dev Ed students, but completion remains a problem (Developmental Education, 2020)

# Murky Middle Treaster, 2017

## Graduation Rates by First-Year GPA

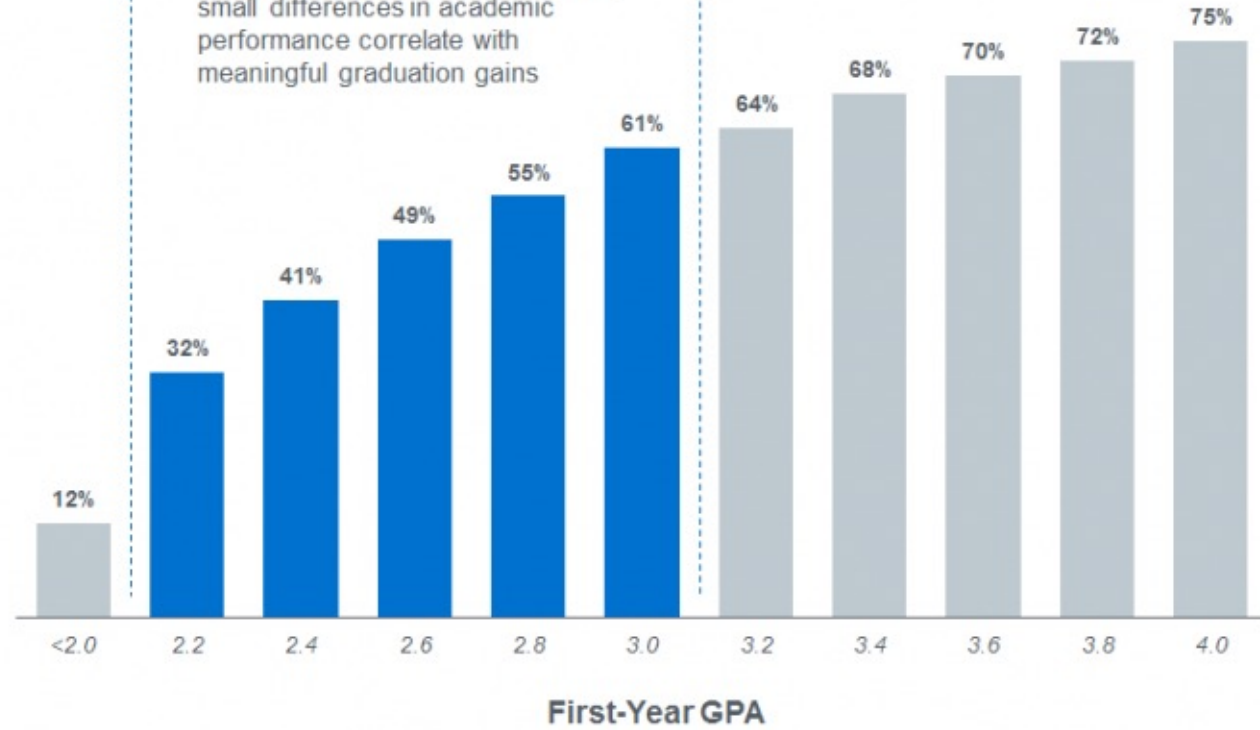
**Obvious Risk Cases**  
13% of all students

**The “Murky Middle”**  
43% of all students

**Likely Graduates**  
44% of all students

In this often-overlooked population, small differences in academic performance correlate with meaningful graduation gains

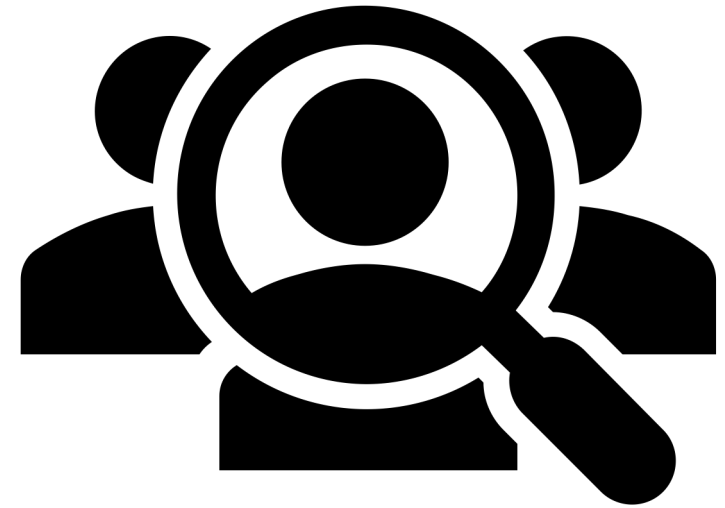
Six-Year Graduation Rate





## 4. You MATTER

Social connection, academic support, and interaction builds an environment to counter the various obstacles students confront.



# Useful research sources for you

- Jenkins et al. (2021). *How to achieve more equitable community student outcomes*. Community College research Center, <https://ccrc.tc.columbia.edu/media/k2/attachments/equitable-community-college-student-outcomes-guided-pathways.pdf>
- Goudas, Alexandros: Community College Data website
- "[Remedial Coursetaking at U.S. Public 2- and 4-year Institutions: Scope, Experiences, and Outcomes](#)" (Chen, 2016)
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# Are we alone? Social Capital at work

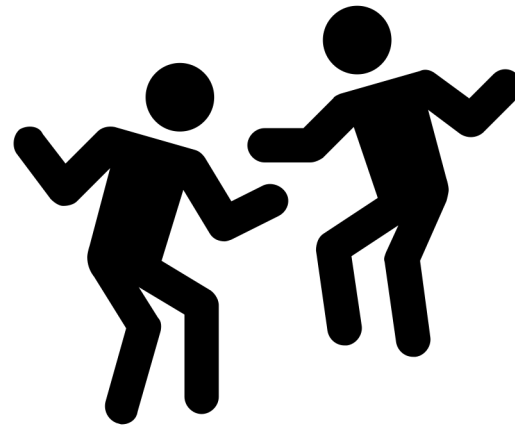


- *Bowling Alone* by Putnam (2000), in the 1990s observed that individual support and a broader sense of expectation within the community correlated to completion and student success (as well as other parts of social life). Uncertainty, division, and distrust corrodes the entire system.
- YOU are part of building a successful system. If those social supports erode, we see reduced success.
- Various success rates across states and nations exhibit this idea. The CUNY ASAP program relies on these ideas. You build success through your efforts. (Welcome, 2020)
- Not sure? Visit the Opportunity Atlas

# What May We Do?

Join the effort  
and stay  
connected

- Participation in groups such as IOSS and NOSS helps us to support each other and to help our students even as we confront a broad range of challenges all across the country:
- Research
- Support
- Connection
- Sharing



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