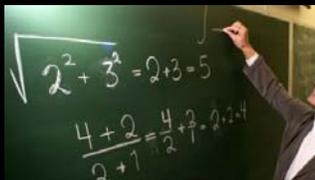Activate

Not Activate

?

The Mechanics of Motivation:
Increasing College and Academic Striving Through Motivation Design

Tom Bartholomay
Tobias Leuthner

College Readiness and Success: Dimensions

What is college-going motivation?
(our definition)

Motivation is NOT:
- A psychological/emotional quality
- Simply a goal or aspiration

Motivation is:
- A mental and physical RESPONSE to the world
- The result of a complex evaluative thinking process
- ACTUAL STRIVING, energy applied to achieve a task (objective)

Motivation:
- Can change quickly, when the world changes or a perception of the world changes.

Typical approach to motivation is not research-based

Typical Approach To Generating College-Going Motivation
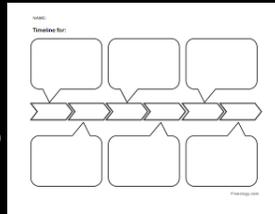
College Knowledge + College Planning + College Encouragement = Strive for College

Knowledge does not reliably lead to motivation.

Planning helps with strategy, but not motivation.

Positive thinking (without clearly acknowledging personal barriers) actually reduces motivation.

Research-Based Theories
of Motivation

Demonstration Activity

Wish

Think of an important wish that you want to accomplish in the next four weeks.

Your wish should be challenging but feasible.

Outcome

What will be the best result from accomplishing your wish? How will you feel?

Hold it in your mind. Take a moment to really imagine it.

Obstacle

What is the main obstacle in you that might prevent you from accomplishing your wish?

What are you doing or feeling that is preventing you from achieving your wish?

Hold it in your mind. Take a moment to really imagine it.

Motivational Result

1. What was the first step of the activity?

2. What came next?

3. What was the last step?

What might have happened **beneath your awareness** during this exercise:

      1) You might feel MORE energized.

      2) You might feel LESS energized.

High expectation of accomplishing your wish = more energization.

Low expectation of accomplishing your wish = less energization.

Why does this matter?

Energization is the mechanism of behavior change.

Mental Contrasting (Theory)

You just conducted *mental contrasting.*

Wish — Obstacle > CHANGE
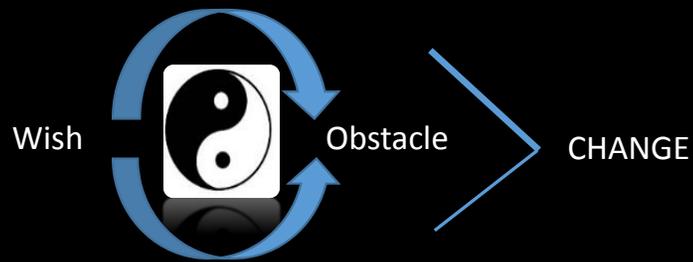
The future links to the reality, revealing that in order to realize the "wished for future" one has to act on the current obstacle. At this point the expectation of being able to overcome the obstacle determines behavior. High expectations leads to increased effort, low expectations leads to decreased effort.

Oettingen, G., & Schwörer, B. (2013). Mind wandering via mental contrasting as a tool for behavior change. *Frontiers in Psychology*, *4*, 562. http://doi.org/10.3389/fpsyg.2013.00562

Mental Contrasting

Desired Future

Mental Contrasting

Present Reality

Expectation is Activated

Strengthen goal pursuit

Weaken goal pursuit
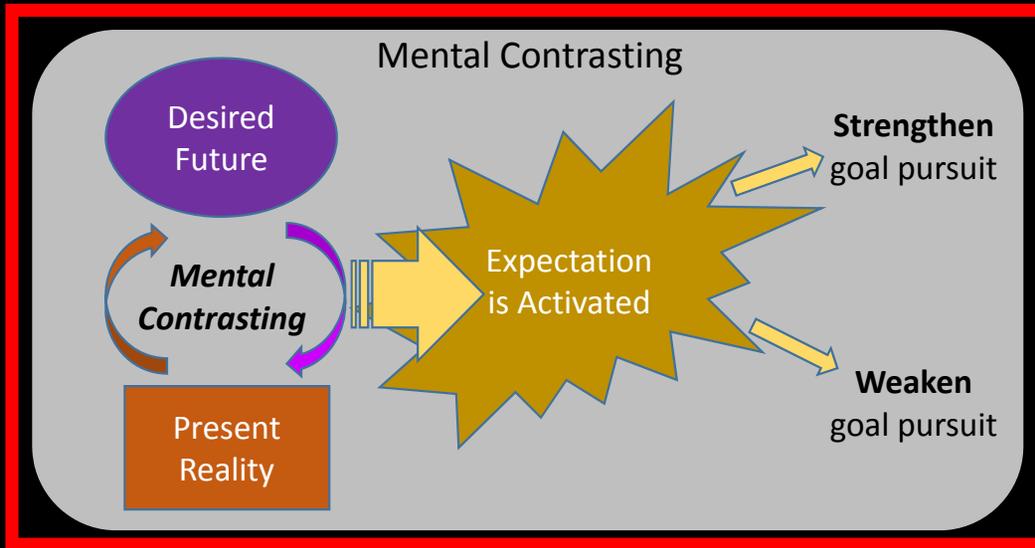
Mental Contrasting: Sample of Research

Blood Pressure Study: Participants who were prompted to positively fantasize (indulge) on a defined wish experienced reductions in blood pressure. Participants who were prompted to mental contrast about the wish experienced increased blood pressure.

Kappes, H. B., & Oettingen, G. (2011). Positive fantasies about idealized futures sap energy. *Journal of Experimental Social Psychology*, *47*(4), 719-729.

Brain Scan Study: Participants who were prompted to positively fantasize (indulge) without mental contrasting showed no change in brain activity. Participants who were prompted to mental contrast showed strong activity in areas of intention formation, working memory, and episodic memory, and visual imagery – indicating that mental contrasting draws on performance history to generate purposeful problem solving. Fantasizing and resting were oblivious to past experiences.

Achtziger, A., Fehr, T., Oettingen, G., Gollwitzer, P. M., & Rockstroh, B. (2009). Strategies of intention formation are reflected in continuous MEG activity. *Social Neuroscience*, *4*(1), 11-27.

Two Studies: Students from low-income neighborhoods who were taught mental contrast a desired future with its present reality resulted in better academic performance than teaching students to only think about the desired future.

Gollwitzer, A., Oettingen, G., Kirby, T. A., Duckworth, A. L., & Mayer, D. (2011). Mental contrasting facilitates academic performance in school children. *Motivation and Emotion*, *35*(4), 403-412.

Three studies: Positive fantasies predicted low academic achievement (including low effort) among male vocational school students, even when adjusting for academic competence.

Kappes, H. B., Oettingen, G., & Mayer, D. (2012). Positive fantasies predict low academic achievement in disadvantaged students. *European Journal of Social Psychology*, *42*(1), 53-64.

10th Grade, Low GPA

Expectancy

Indulging

Mental Contrasting patterns in our population

Value
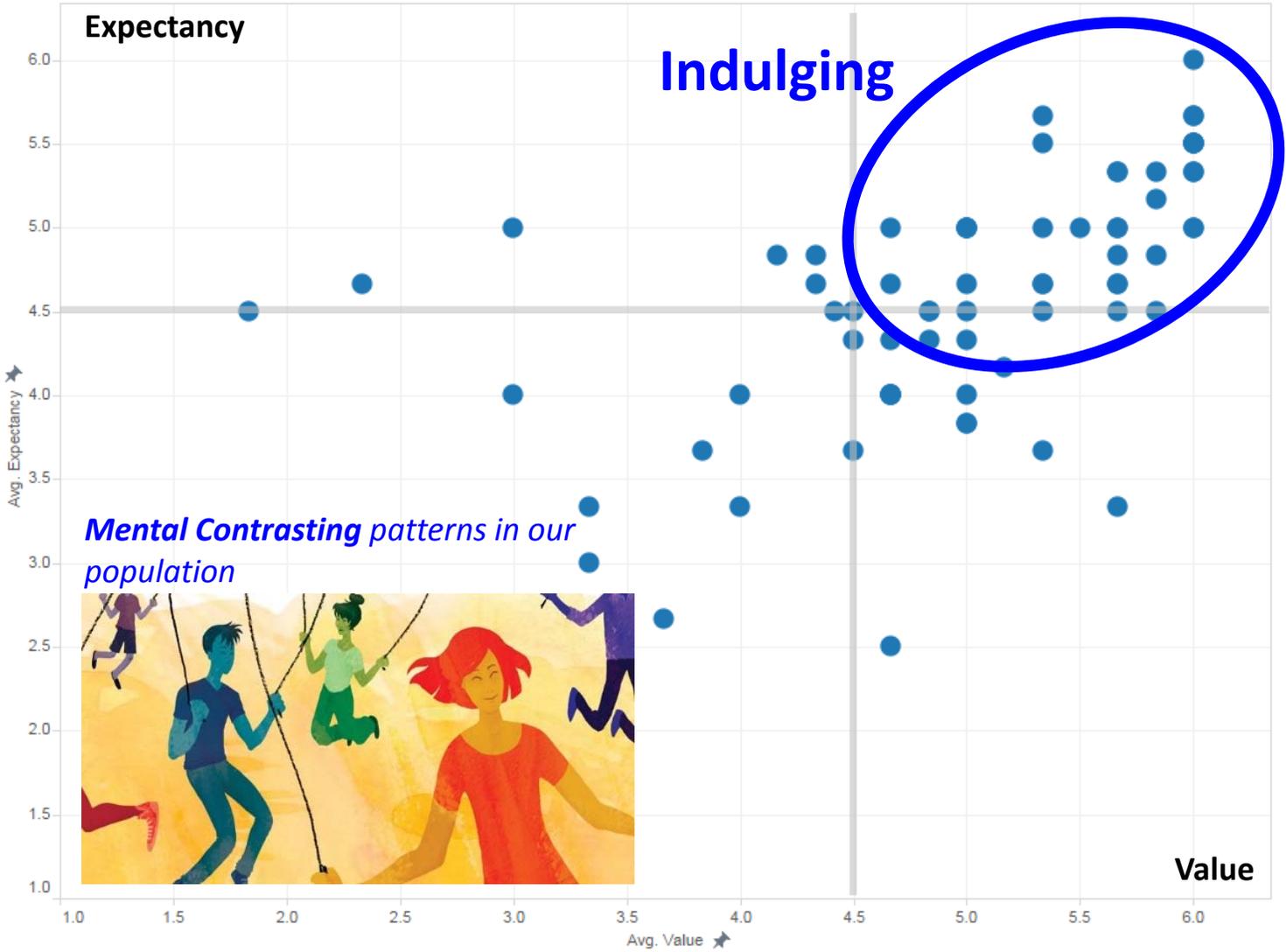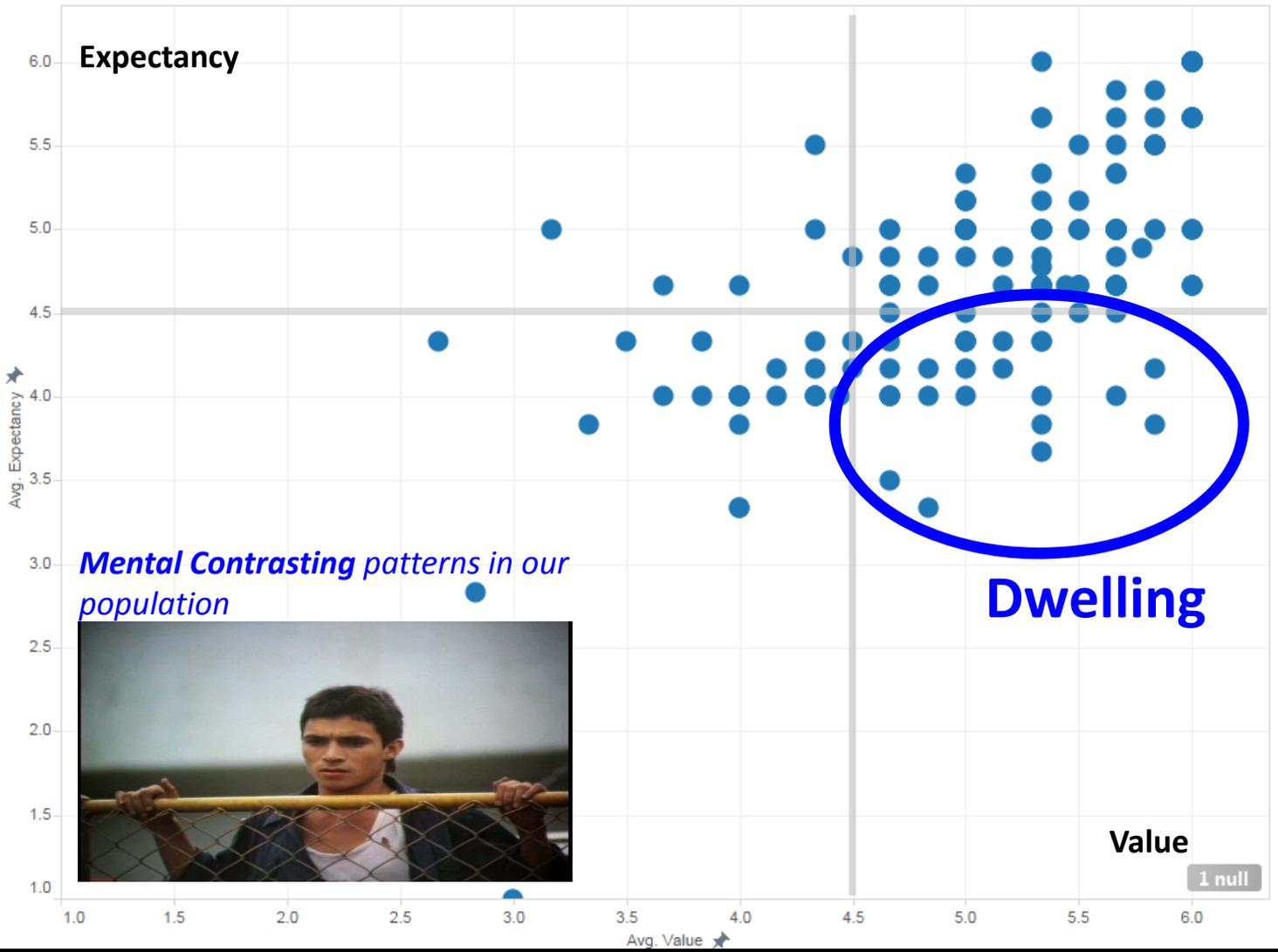
Possible selves (Theory)

Possible selves is a vision of one's *future self* that informs and guides a person's present goal-oriented choices and behaviors. This research says that a sense of *future self* is critical for goal-oriented motivation and achievement.

Current Self ————— *Alignment* ————→ Future Self

Striving or Restructuring Goals

Fukada, Y., Fukuda, T., Falout, J., & Murphey, T. (2011). Increasing motivation with possible selves. In A. Stewart (Ed.), *JALT2010 Conference Proceedings*. Tokyo: JALT.

Possible Selves: Sample of Research

Students were asked to complete a 45 minute questionnaire that elicited desired and feared possible selves. Students who were able to elaborated on their possible selves and included in their description work that would need to be done to accomplish the vision academically outperformed the other groups.

Leondari, A., Syngollitou, E., & Kiosseoglou, G. (1998). Academic achievement, motivation and future selves. *Educational Studies*, *24*(2), 153-163.

Middle school students who detailed specific school-focused possible selves and included strategies to attain them were more likely to do well in school than those who did not include these items in the excersize.

Oyserman, D., Bybee, D., Terry, K., & Hart-Johnson, T. (2004). Possible selves as roadmaps. *Journal of Research in personality*, *38*(2), 130-149.

School focused possible selves was positively correlated with endorsement of academic goals among students.

Anderman, E. M., Anderman, L. H., & Griesinger, T. (1999). The relation of present and possible academic selves during early adolescence to grade point average and achievement goals. *The Elementary School Journal*, 3-17.

Achievement Motivation (Theory)

Mastery Goal Orientation = Effort based on personal interest.

Performance Goal Orientation = Effort based on demonstrating to themselves and others that they can do something.

Performance Avoidance Goal Orientation = Effort based on avoiding exposing to others their inability to do something.

Schools primarily support *performance-goal orientation*, which is associated with academic performance in high school.

Mastery goal orientation is associated with more stable interest and protection from maladaptive *avoidance goal orientation,* and stronger career intentions and academic aspirations.

Note: Similar theories include self-determination theory, interest theories, intrinsic-extrinsic motivation theories, self-worth theory.

Barron, K. E., & Hulleman, C. S. (2015). Expectancy-Value-Cost model of motivation. In J. D. Wright (Ed.), International encyclopedia of the social & behavioral sciences, 2nd edition (Vol. 8, pp. 503-509). Oxford: Elsevier Ltd. doi:10.1016/B978-0-08-097086-8.26099-6

Achievement Motivation: Sample Research

The achievement orientation 143 undergraduate students attending a Human Development course was identified and compared with their eventual course grade. Only students with high levels of mastery orientation (not performance orientation or a combination of orientations) performed better than the other orientations.

Mattern, R. A. (2005). College students' goal orientations and achievement. *International Journal of Teaching and Learning in Higher Education*, *17*(1), 27-32.

A multi-year study that followed college students from beginning to graduation found that *mastery goals* predicted continued interest in a subject area, whereas *performance goals* predicted performance. Ability measures and prior school performance predicted academic performance but not subject interest.

Harackiewicz, J. M., Barron, K. E., Tauer, J. M., & Elliot, A. J. (2002). Predicting success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. *Journal of Educational Psychology*, *94*(3), 562.

The achievement orientations of 311 of college students taking the same class were assessed. Results found that students with *mastery goals* were protected from "work avoidant goals" and had higher levels of interest in the class. Students with *performance goals* performed better.

Harackiewicz, J. M., Barron, K. E., Carter, S. M., Lehto, A. T., & Elliot, A. J. (1997). Predictors and consequences of achievement goals in the college classroom: Maintaining interest and making the grade. *Journal of Personality and Social psychology*, *73*(6), 1284.

Expectancy-Value Theory

Personal Value of College

College Value
- Going to college...
- I think I will...
- I think col...

(...Value)

Expectancy of College Success

Expec...
- I k...
- I b...

(...ccess)

Opportunity Cost of College

Oppor...
- College...
- College wi...
- I have to give...
- College will be to...
- I have too many other ... enough time for college. **(Obligations)**
- I can find a way to pay for college. **(Financial Cost)**

Activate

Not Activate

?

Value

Expectancy of Success

Opportunity Cost

Value

Expectancy of Success

Opportunity Cost
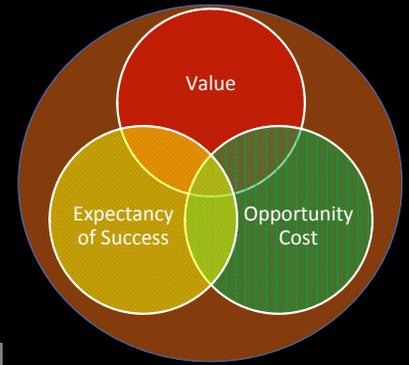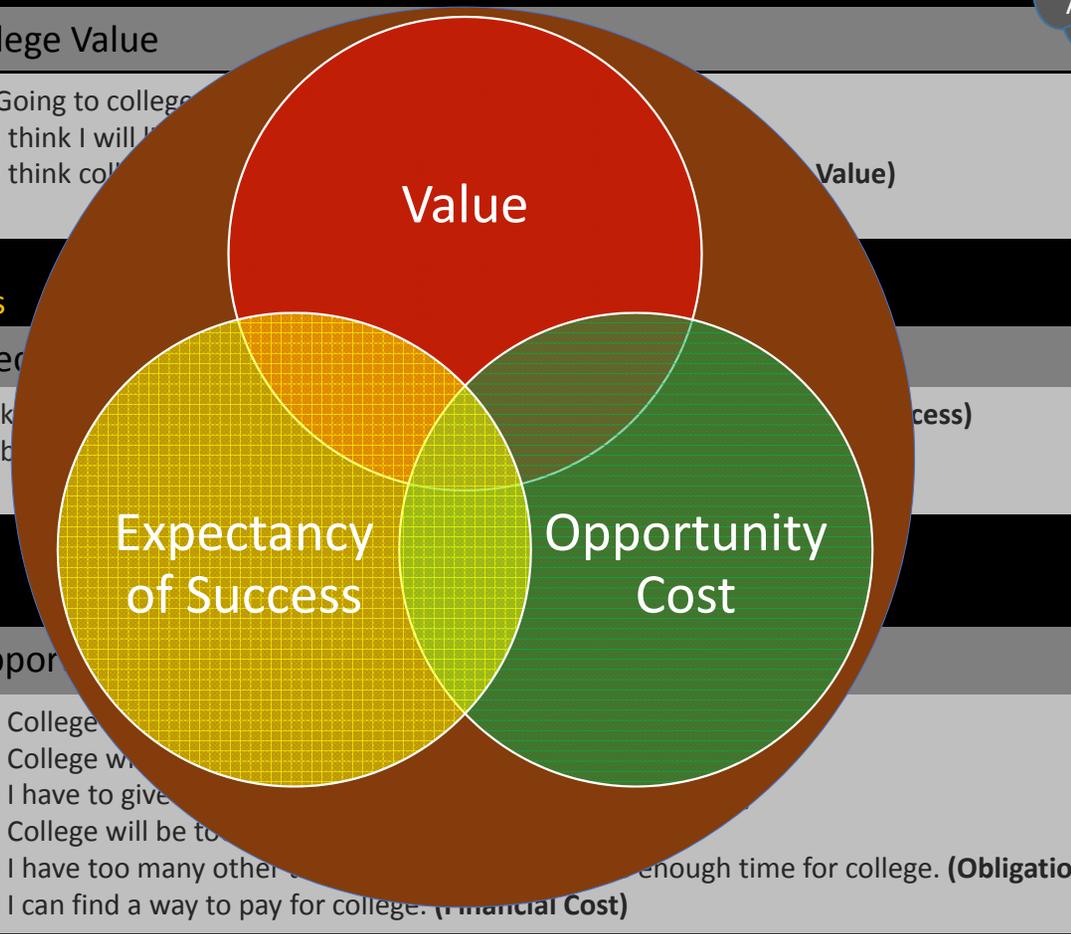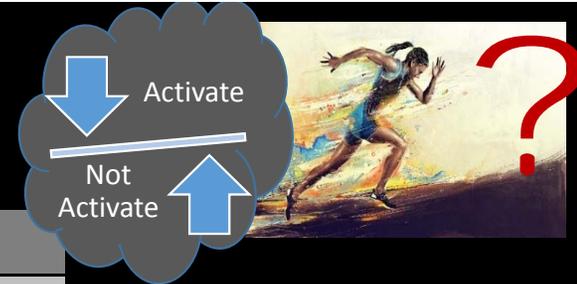
Expectancy-Value Components of College Motivation

Typical Approach To Generating College-Going Motivation

Emphasis is on ACTION

College Knowledge + College Planning + College Encouragement = Strive for College

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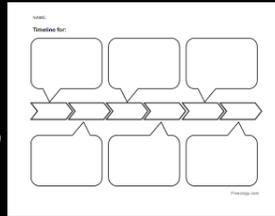
Expectancy-Value Approach To Generating College-Going Motivation

Emphasis is on DECISION

Personal Value of College + Expectancy of College Success + Opportunity Cost of College = Strive for College

Expectancy-Value: Sample Research

Two questionnaires were given to 697 six to eighth grade students and eventually math grades were collected. Expectancy-value variables predict achievement-related outcomes. And expectancies and task-values predicted a stronger adoption of mastery and performance goals.

Plante, I., O'Keefe, P. A., & Théorêt, M. (2013). The relation between achievement goal and expectancy-value theories in predicting achievement-related outcomes: A test of four theoretical conceptions. *Motivation and Emotion*, *37*(1), 65-78.

Expectancy-value data was collected regarding math from 7,378 fifteen year old students from 314 schools, and these students were surveyed each year for 10 years (n=868 for last year). Student math value and expectancy predicted achievement.

Guo, J., Parker, P. D., Marsh, H. W., & Morin, A. J. (2015). Achievement, motivation, and educational choices: A longitudinal study of expectancy and value using a multiplicative perspective. *Developmental psychology*, *51*(8), 1163.

Two questionnaires were given to 2637 first year university students. A year and a half later student academic performance was collected. Expectancy-value had the greatest affect on a student's intention to continue with college, next to student certainty about their college major.

Neuville, S., Frenay, M., Schmitz, J., Boudrenghien, G., Noël, B., & Wertz, V. (2007). Tinto's theoretical perspective and expectancy-value paradigm: A confrontation to explain freshmen's academic achievement. *Psychologica Belgica*, *47*(1).

Integrating the Theories to Inform Practice

Integrating Theories: Informing Design

Current Self → *Alignment* → **Future Self**

Value / Expectancy of Success / Opportunity Cost

Wish ⟳ Obstacle

Motivation Design (Research based)

Facilitate a sense of student "future self" so goals have high personal meaning, worthy of aligning current actions with.

Facilitate recognition and clarity of student perceptions… regarding college value, expectancy of success, opportunity costs, and financial costs… resulting in increased commitment or non-commitment.

Teach students to always connect and sequence each personal goal with its related obstacle(s). Obstacles serve the goal and are not to be evaluated on their own, *and* goals without obstacles are not motivating.

Nurture and reinforce "mastery orientation" by respecting and following the personally constructed realities and evaluative determinations of students. We want the *quality of commitment* to be "achievement orientation." This is a "muscle" we want students to develop.
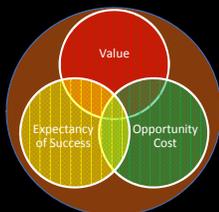
Connecting future self with current commitment

Personal GOAL + Perceived OBSTACLES = *STRIVING or CHANGE OF GOAL*
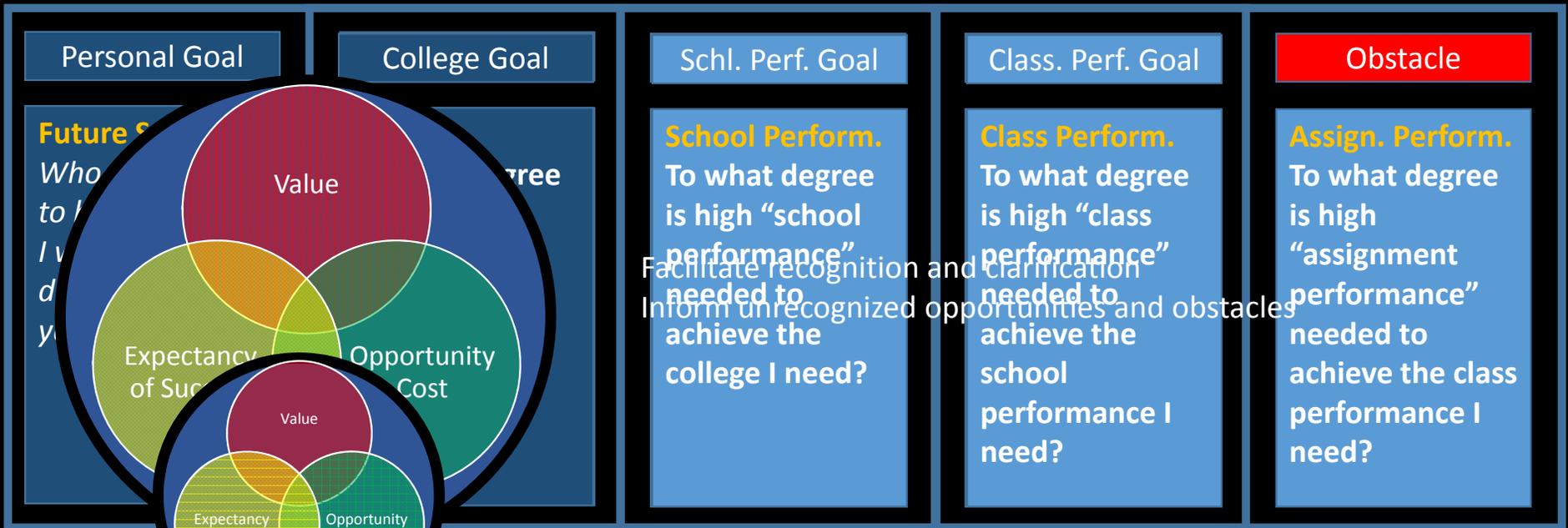
Cascading of interlocking goals/obstacles →

Personal Goal	College Goal	Schl. Perf. Goal	Class. Perf. Goal	Obstacle

Future S...
Who...
to...
I w...
d...
y...

Value

Expectancy of Suc...

Opportunity Cost

...ree

Value

Expectancy of Success

Opportunity Cost

School Perform.
To what degree is high "school performance" needed to achieve the college I need?

Class Perform.
To what degree is high "class performance" needed to achieve the school performance I need?

Assign. Perform.
To what degree is high "assignment performance" needed to achieve the class performance I need?

Facilitate recognition and clarification
Inform unrecognized opportunities and obstacles

Future Self ← *Alignment* — *Striving or Restructuring Goals* — **Current Self**

College Motivation Interview

10th Grade, Low GPA

Dialogue
- Think about yourself five years from now. What will you be like and what will you be doing?
  - In five years, I expect to be . .
  - In five years, I want to avoid being . . .
- What role might college play in you being like this/doing this in the future?

Debrief
- Student articulates hoped-for and feared possible selves.
- Interviewer listens and asks questions with the focus on understanding student vision of future self.
- *If you don't know where you are going, any road will take you there.*
- This step helps student recognize hoped-for career selves to anchor the reality of college and high school in (Wish/Desired Future of Mental Contrasting).

Back

Dialogue
- Let's talk about the college survey you took recently.
- You indicated that you see a lot of VALUE in going to college. Is this true? Please tell me more.
  - *What would you like about being a college student?*
  - *How important is it to you to graduate from college someday?*
  - *How important is it to your family that you graduate from college someday?*
  - *How would college help you reach your career goals?*

Debrief
- When students believe they value something, they are more likely to engage in that behavior.
- This step of the interview asks students to articulate WHY or WHY NOT they would take action to go to college.
- Interest value can strengthen continued pursuit of educational and career goals.
- When college education has attainment value, it affirms valued aspects of an individual's identity.
- The usefulness (utility) value of college has to do with how well it helps students achieve career goals and other goals.

Dialogue

- You indicated that you expect to be very successful in college. Is this true? Please tell me more.
  - *Are there any subjects that you have difficulty with in school right now?*
  - *What subjects might you have difficulty with in college?*
  - *What is your current grade point average (GPA)?*
  - *What type of college do you hope to attend?*
  - *What type of grades do these colleges look for when they accept new students?*
  - *How close are your grades to meeting these requirements?*
  - *What courses do you need to take to become a(n) _____?*
  - *How confident are you that you can learn the material in these courses?*

Debrief

- When students believe that they can do something, they are more likely to engage in that behavior.
- This step of the interview asks students to answer the question, "Can I do this?"
- Students that are not confident they will succeed in college, but are actually on track to do so, could benefit from clarification about the academic requirements of their colleges of interest.
- Students that believe they will succeed in college, but are not academically on track to do so, could benefit from recognizing that their academic performance could be an obstacle to their goal of going to college.
- Overall purpose of this step is to help students recognize their expectations of success and adjust their expectations if needed.

Opportunity Costs

Dialogue

- **You indicated that college might take too much from you. Is this true? Please tell me more.**
  - *How might college require too much effort?*
  - *How might college be too stressful?*
  - *How might your other responsibilities prevent you from putting in the effort needed for college?*
  - *How might you have to give up too much of what you like doing to do well in college?*

Debrief

- When students feel that they are free of barriers preventing them from investing time, energy, and resources into college, they are more likely to feel that (1) they can succeed, and (2) college has value for them.
- Students that have low expectancy of success in college may perceive a high cost from anxiety and stress from feeling like college is too much work.
- The most important thing in this step is for the interviewer to fully listen and understand student concerns, and provide information that may help student recognize sources of support (e.g. tutoring, intentional learning communities, etc.).

Dialogue

- **You indicated that college might cost too much for you. Is this true? Please tell me more.**
  - *What do you think your situation is about your ability to pay for college?*
  - *If you had to figure it out today, how would you pay for college?*

Debrief

- Student perceptions about their ability to pay for college can greatly affect the energy they put into planning for and preparing for college.
- The emphasis in this last step is to reassure concerned students that there is a pathway to college and career through financial aid, that the costs of college are offset by their future career earnings and health outcomes, and that they have many options.

Back

How can your program use these principles?

Current Self → *Alignment* → Future Self

Value / Expectancy of Success / Opportunity Cost

Wish — Obstacle

Facilitate a sense of student "future self."

Facilitate recognition and clarity of student perceptions (let students chart their own course).

Teach students to always connect and sequence each personal goal with its related obstacle(s).

Nurture and reinforce "mastery orientation."

QUESTIONS?

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