

# Cognitive Information Processing Theory: Applying Theory and Research to Practice

Debra Osborn, Ph.D.  
Florida State University  
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# Today's Goals:

- Review key elements of CIP
- Present practical CIP tools and strategies
- Share research findings on CIP and its service delivery model

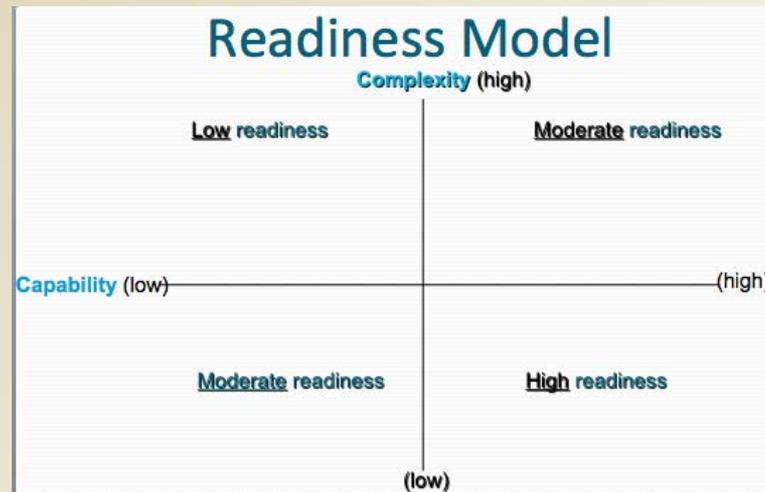
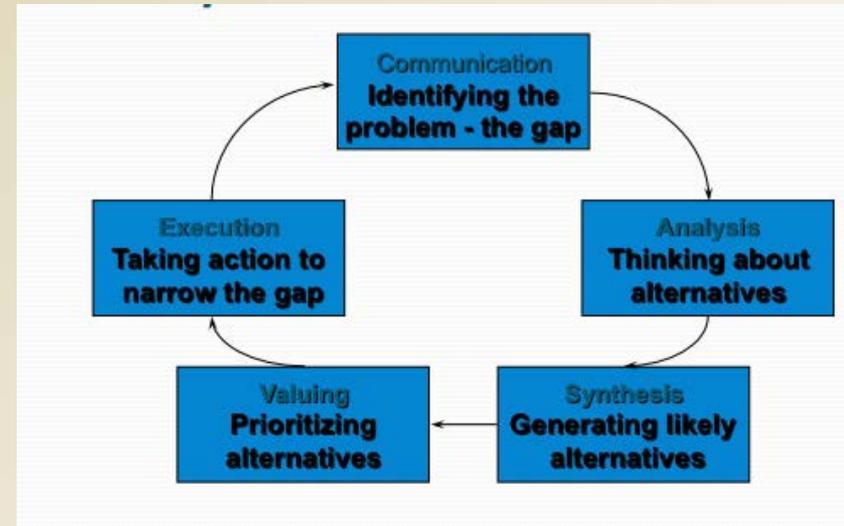
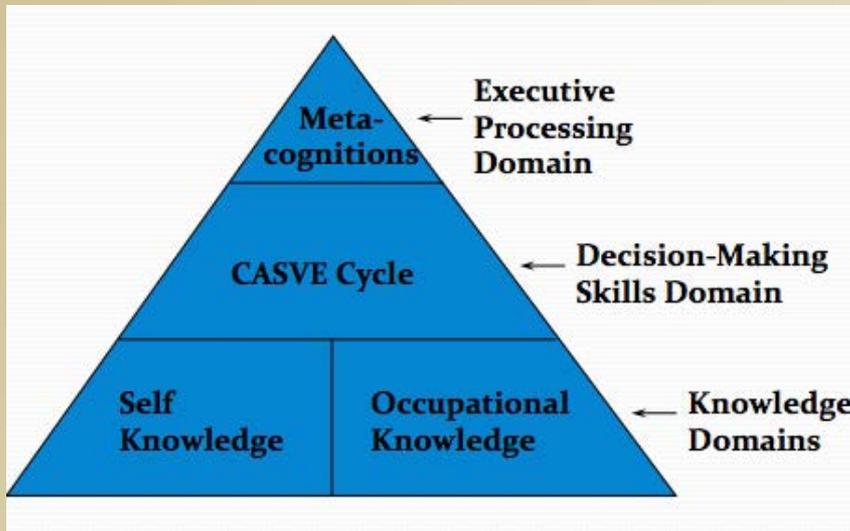


# CIP Theory Proposition

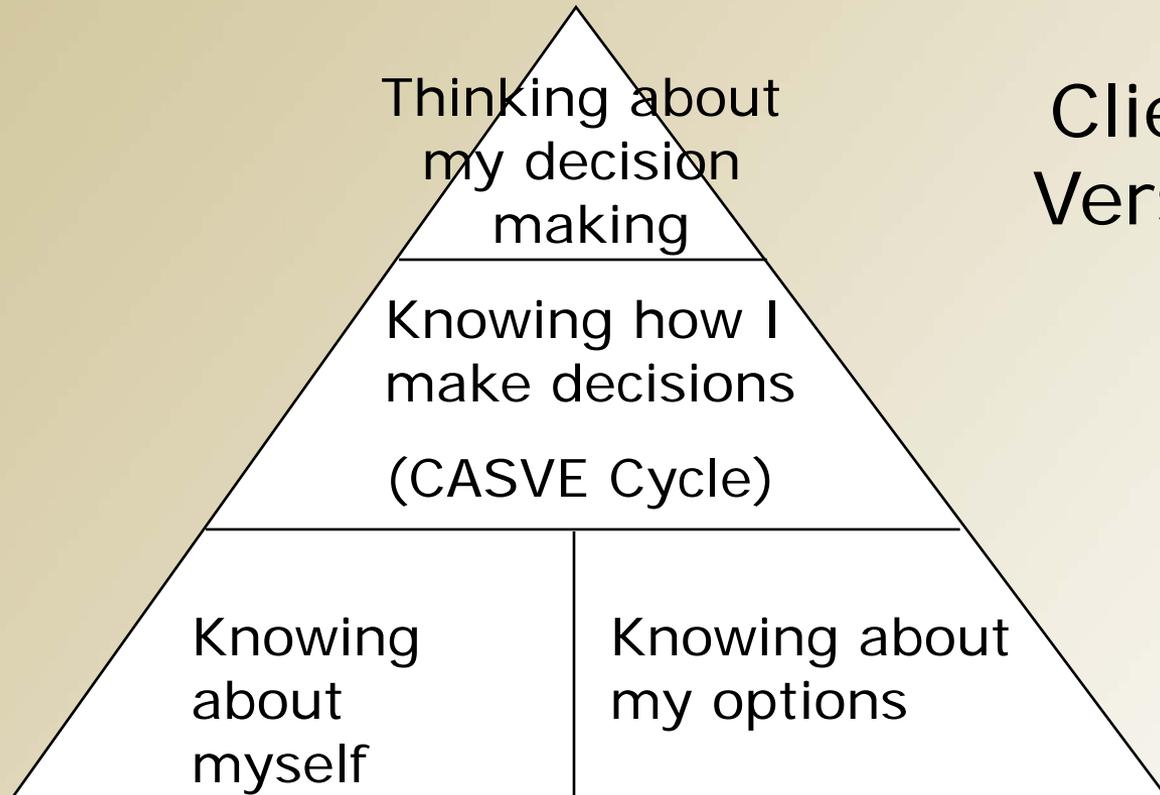
The *aim* of CIP interventions:  
enhance one's *capability* as  
a *career problem solver* and  
*decision maker*



# Theoretical Foundations: CIP Theory



# CIP Pyramid Domains



Client  
Version

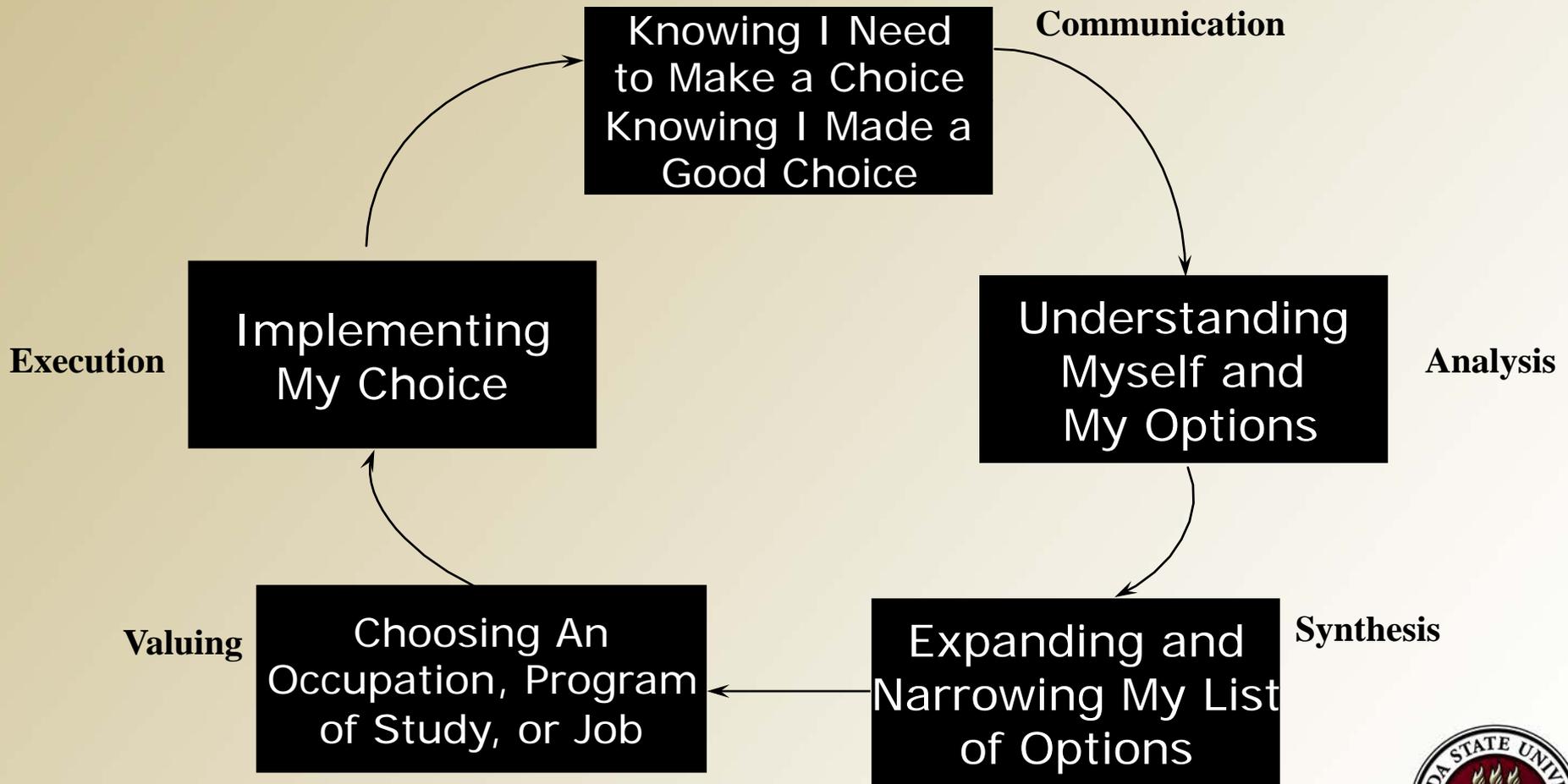


# Research on Pyramid Components

- Multiple studies correlating DCT to career constructs (indecision, anxiety, depression, impulsivity, neuroticism)
- Recent study on the relationships among the pyramid (Osborn et al., in press).
- Impact of CIP-based courses on reducing DCT and increasing career decidedness (multiple studies)



# CASVE Cycle



# Research on CASVE Cycle

- Osborn et. al (in press) found all students start in earlier stages, but those in career course more likely to move to later stages by the end of the course.
- Bullock-Yowell currently testing instrument on CASVE Cycle.



# Readiness

The **capability** of an individual to make appropriate career choices taking into account the **complexity** of family, social, economic, and organizational factors that influence career development

Readiness also includes possessing adequate language skills and literacy skills for communication and learning

Source: Sampson, J. P., Jr., Reardon, R. C., Peterson, G. W., & Lenz, J. G. (2004). *Career counseling and services: A cognitive information processing approach*. Pacific Grove, CA: Brooks/Cole.

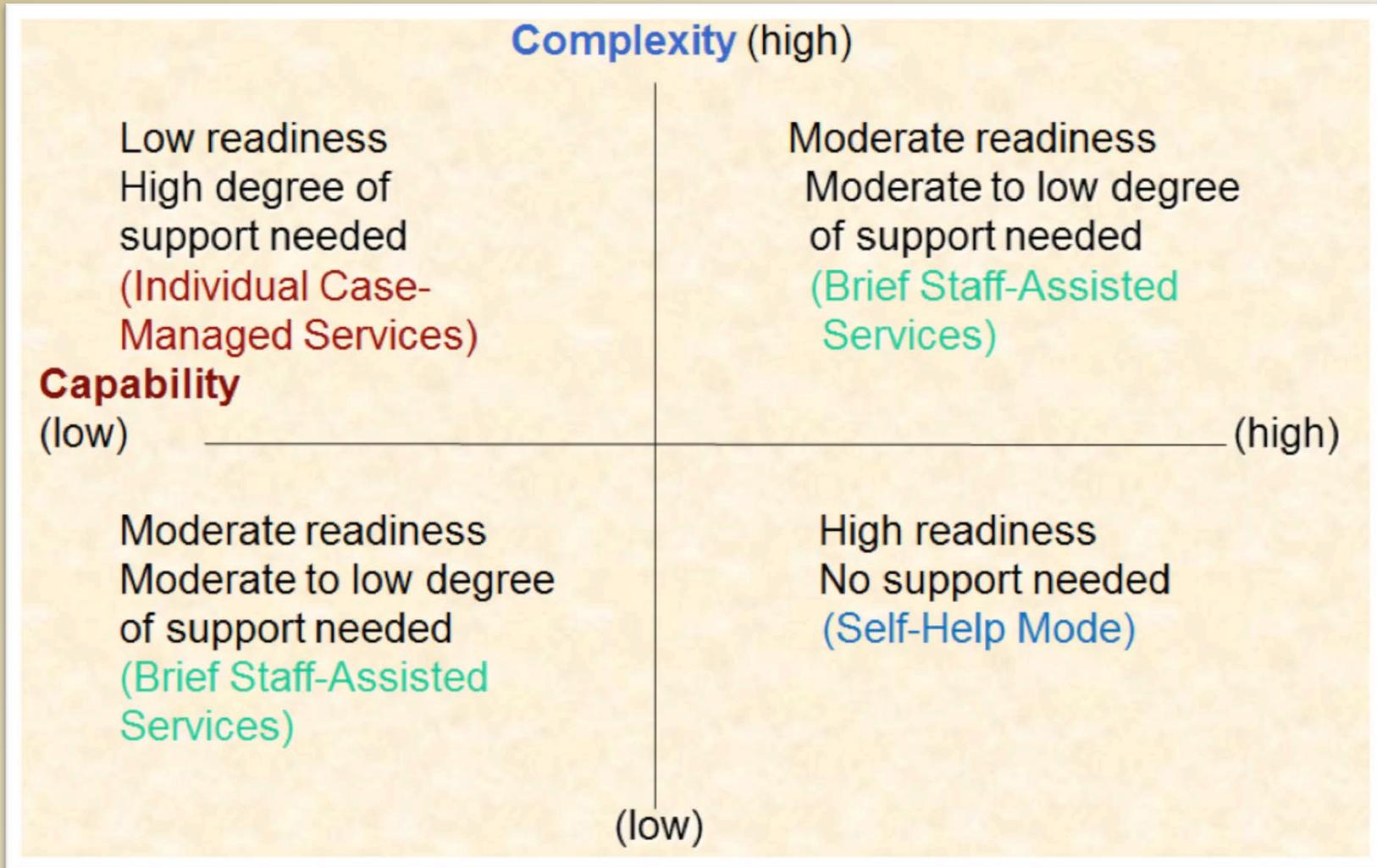


# Accurate Assessment of Individual Needs

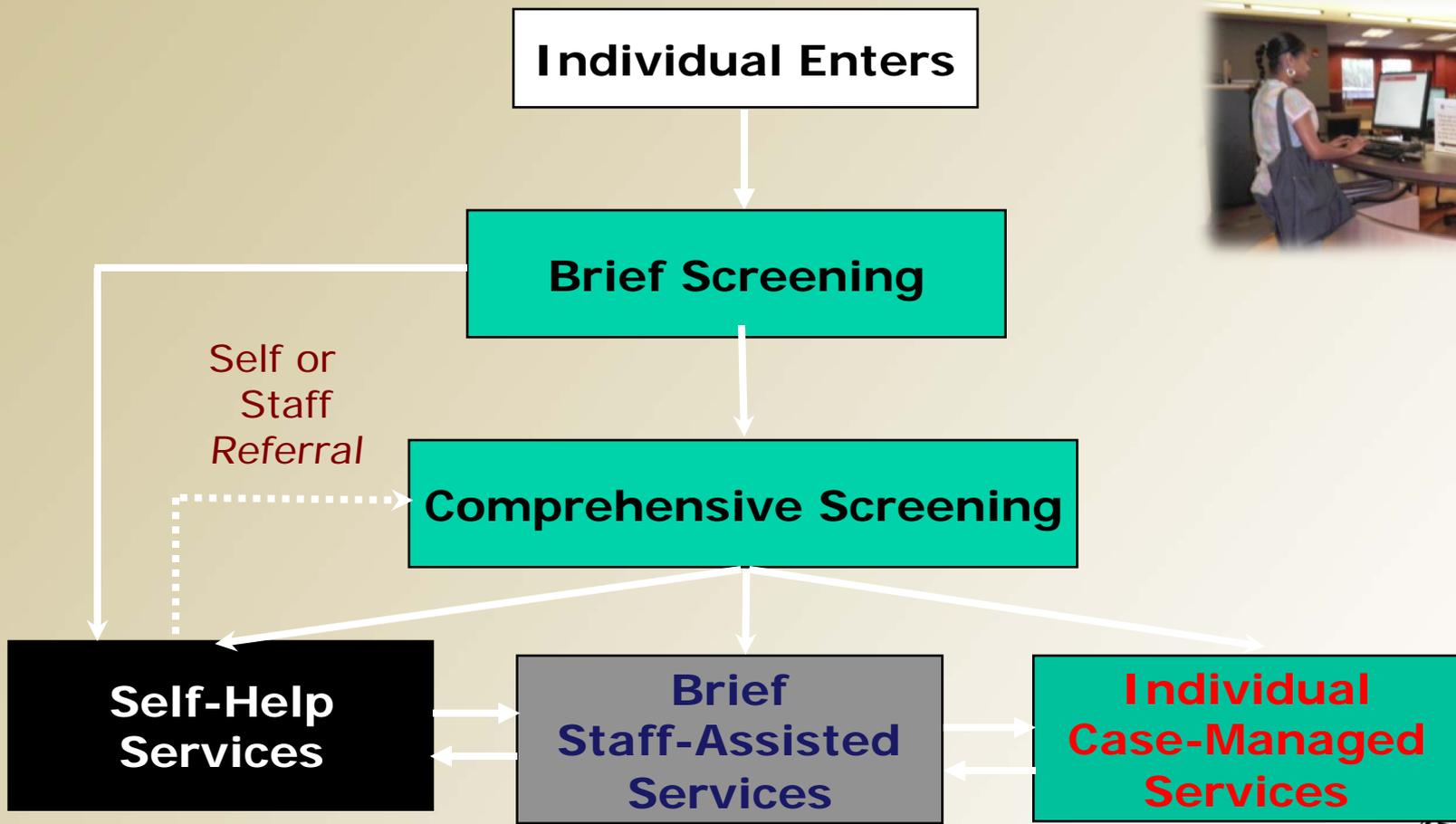
- **Capability** concerns internal factors that make it more, or less, difficult to decide about occupational, educational, training, or employment options
- **Complexity** concerns external factors that make it more, or less, difficult to decide, such as the family, society, the economy, or organizations



# CIP Readiness Model



# Differentiated Service Delivery Model



Complete differentiated model of delivering career resources and services



# Poll question

Which of the service delivery styles has demonstrated effectiveness via empirical research?

- a) Brief-assisted model
- b) Self-help services
- c) Individual case-managed approach
- d) All of the above



# Research on Differentiated Model

## ALL OF THE ABOVE:

- Kronholz (2015) provided case study/report on effectiveness of self-help career services.
- Osborn et al. (2016) demonstrated effectiveness of brief-career assisted model.
- Whiston et al. (2017) found individual career counseling sessions had the largest effect size.



# CIP-related & created resources

- Decision Space Worksheet
- Individual Career Learning Plan
- Guide to Good Decision Making
- Career Thoughts Inventory/Workbook

Available at:

[http://career.fsu.edu/tech-center/  
resources/service-delivery-handouts](http://career.fsu.edu/tech-center/resources/service-delivery-handouts)



# Decision Space Worksheet (DSW)

## Decision Space Worksheet (DSW)

Name \_\_\_\_\_ Date \_\_\_\_\_

The career decision you are considering \_\_\_\_\_

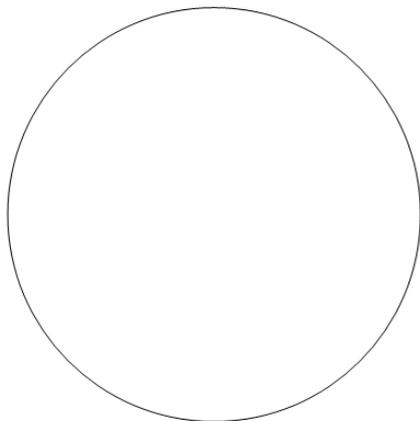
List all thoughts, feelings, circumstances, people, or events that bear on the career decision you are making. Then, for each factor indicate whether it has a specific negative, positive, or neutral impact on your decision by circling the corresponding symbol at the end of each line.

	Negative	Neutral	Positive
1. _____	-	0	+
2. _____	-	0	+
3. _____	-	0	+
4. _____	-	0	+
5. _____	-	0	+

## The Decision Space

### Directions:

- The large circle below represents the total decision space.
- Within the large circle, draw smaller circles that represent the magnitude or the relative importance of each item listed on the Decision Space Worksheet (DSW).



Center for the Study of Technology in Counseling & Career Development, Florida State University, Tallahassee, FL. Please do not reproduce without permission.

## Decision Space Worksheet (DSW) Activity Manual

Gary Peterson, PhD  
Janet Lenz, PhD  
Debra Osborn, PhD

August 2016

- Assessing personal and social context
- A measure of complexity

Available at:

[http://career.fsu.edu/tech-center/  
resources/service-delivery-handouts](http://career.fsu.edu/tech-center/resources/service-delivery-handouts)

or <http://tinyurl.com/fsu-handouts>



# Purpose of the Decision Space Worksheet (DSW)

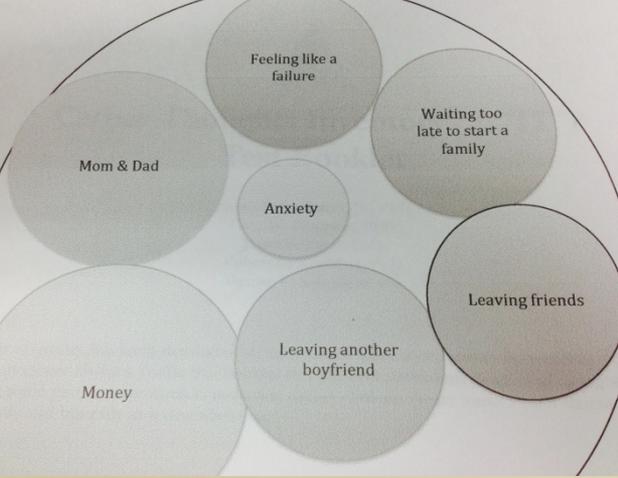
- Cognitive mapping task
- Helps clients reveal thoughts, feelings, persons, circumstances associated with career decision
- Helps clients prioritize importance of contextual influences
- Can be used with middle school through college level students and adults



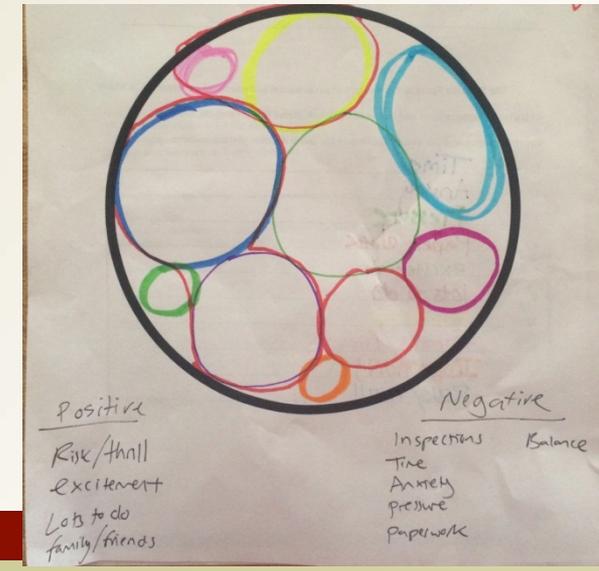
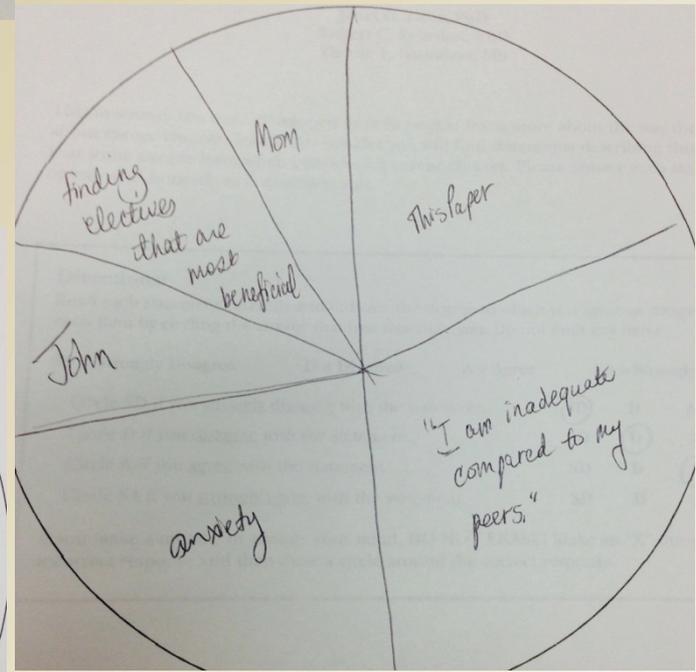
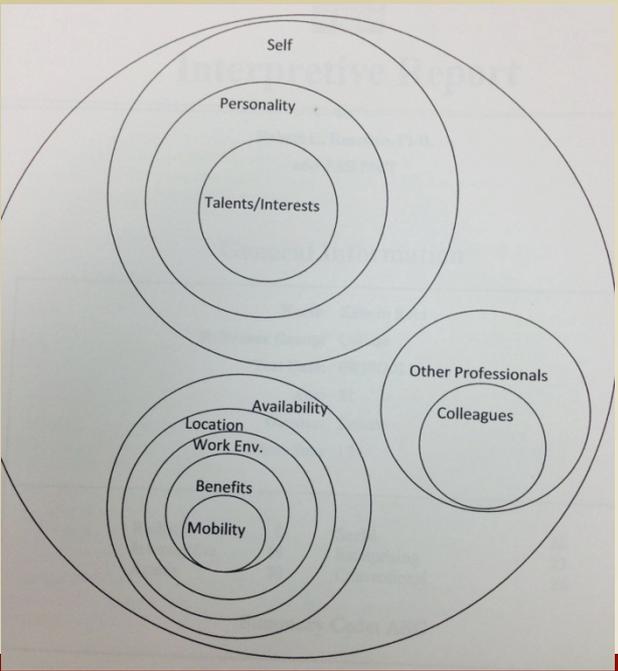
# Types of Issues Revealed

- Cognitive distortion
- Disabling emotions
- Financial
- Family
- Education
- Interests
- Self doubt
- Employment
- Quality of life





# Sample DSWs



# Next Steps with the DSW

- Further readiness assessment?
- Develop a treatment plan or Individual Learning Plan
  - Readiness assessment
  - Career assessment
  - Options information
  - Referrals for mental health concerns



# Individual Learning Plan

## Individual Learning Plan

Goal(s) #1 Clarify interests and ascertain readiness for career counseling

#2 Explore options for a graduate degree

#3 Improve peer networking skills at work

#4 Increase social interactions among family members

Activity	Purpose/Outcome	Estimated Time Commitment	Goal #	Priority
Individual career counseling to foster self exploration	Enhance knowledge of self and career options	On-going	1, 2, & 3	2
Complete the Career Thoughts Inventory	Ascertain potential dysfunctional career thoughts	15 minutes	1	1
Complete Self-Directed Search	Enhance self knowledge	45 minutes	1	3
Explore potential graduate degree programs of interest	Enhance knowledge of options	On-going	2	4
Practice interacting with other people at work and in neighborhood	Gain self-observation skills and experience in interactions with peers	On-going	3	5
Carry out referral to university counseling center for family counseling <sup>a</sup>	Improve quality of family relationships related to career choice and support	One week	4	6

Ned

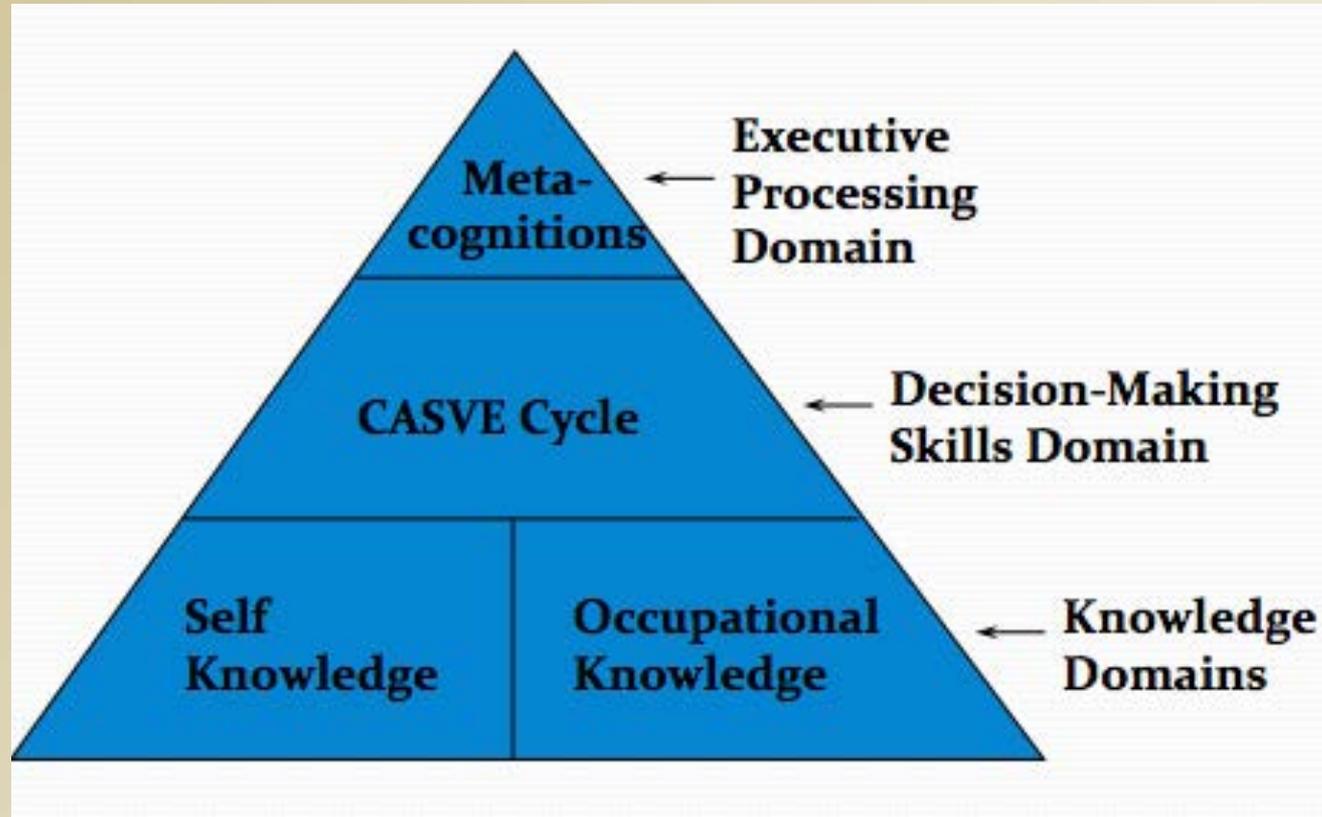
Student/Client

Date

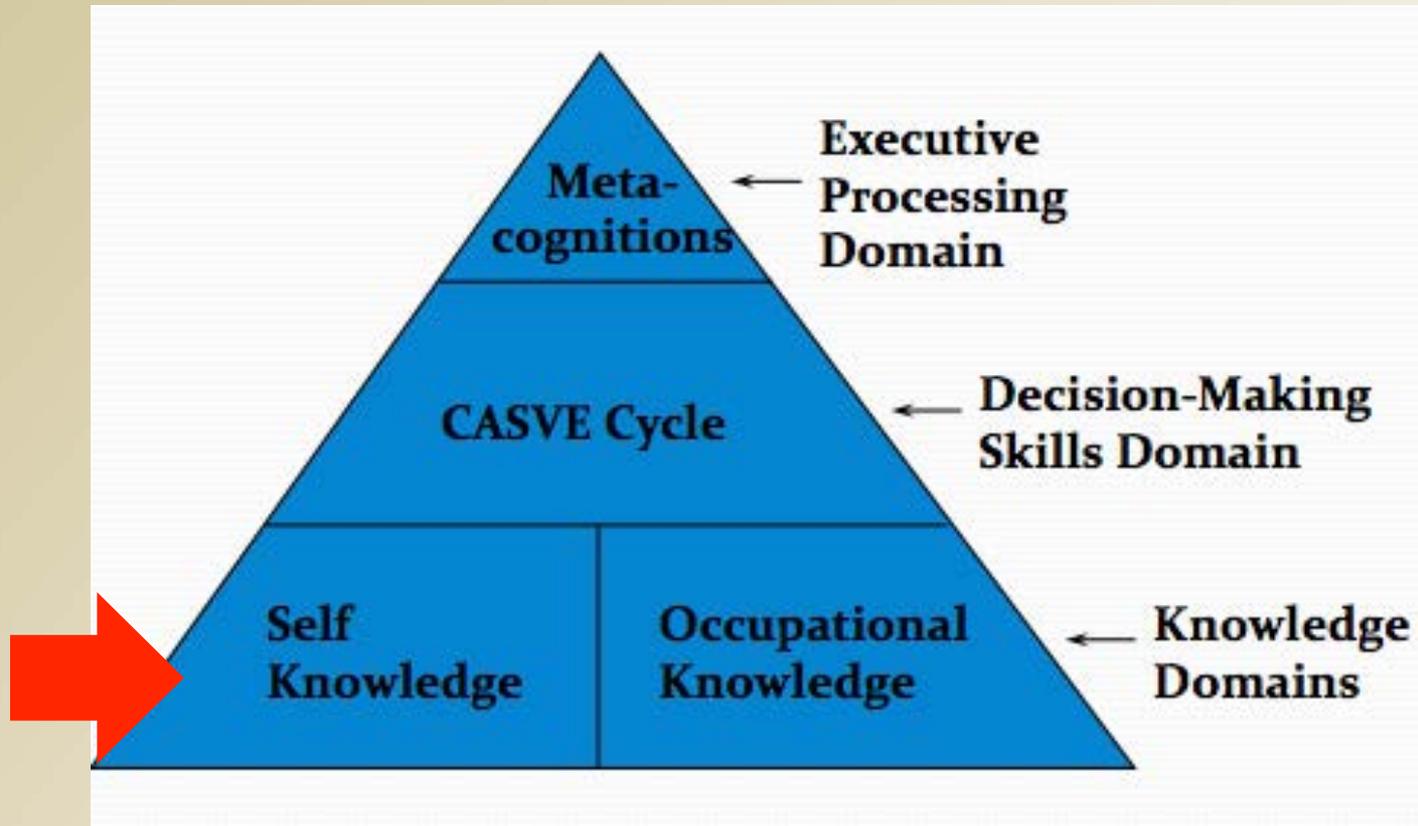
<sup>a</sup> This activity may be conducted in a career center if counselor possesses appropriate skills and training



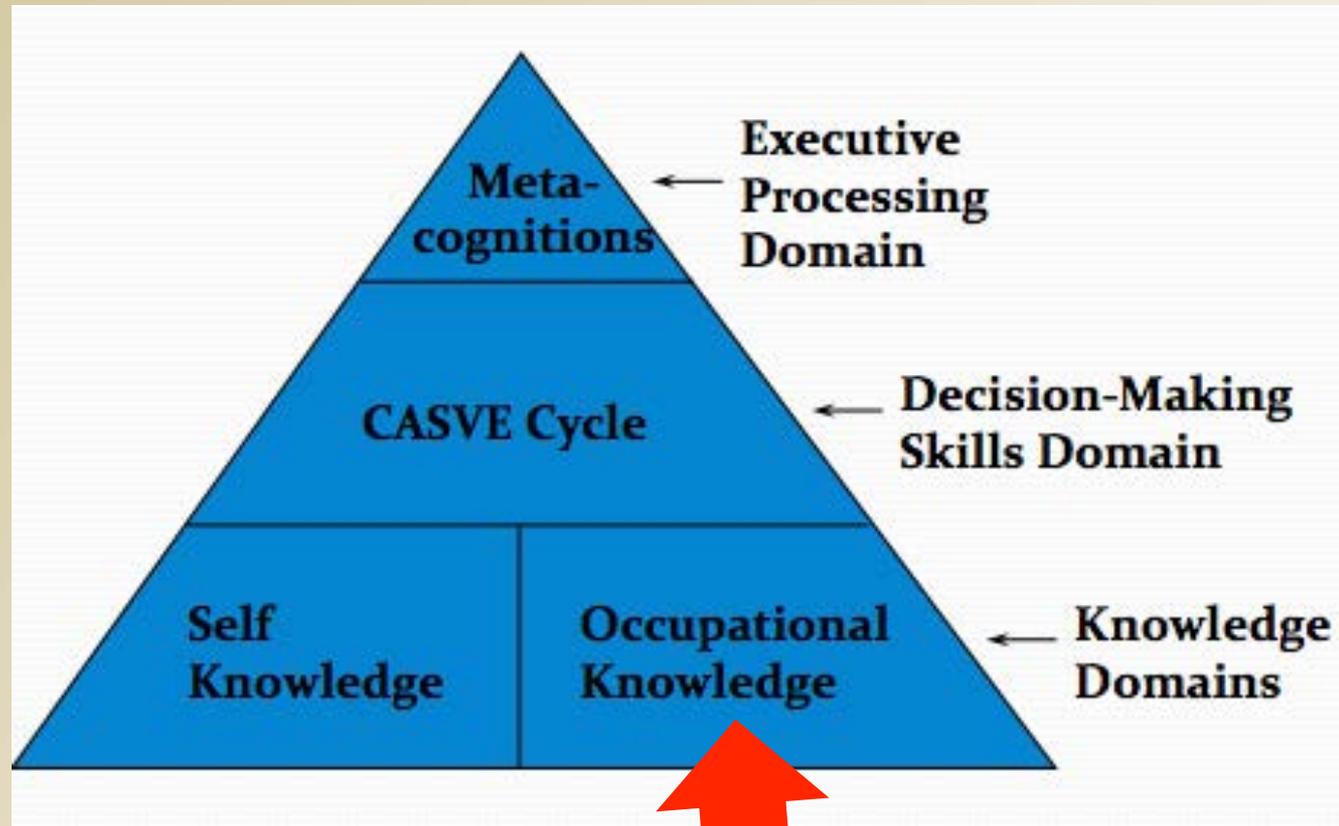
# CIP Strategies & Interventions



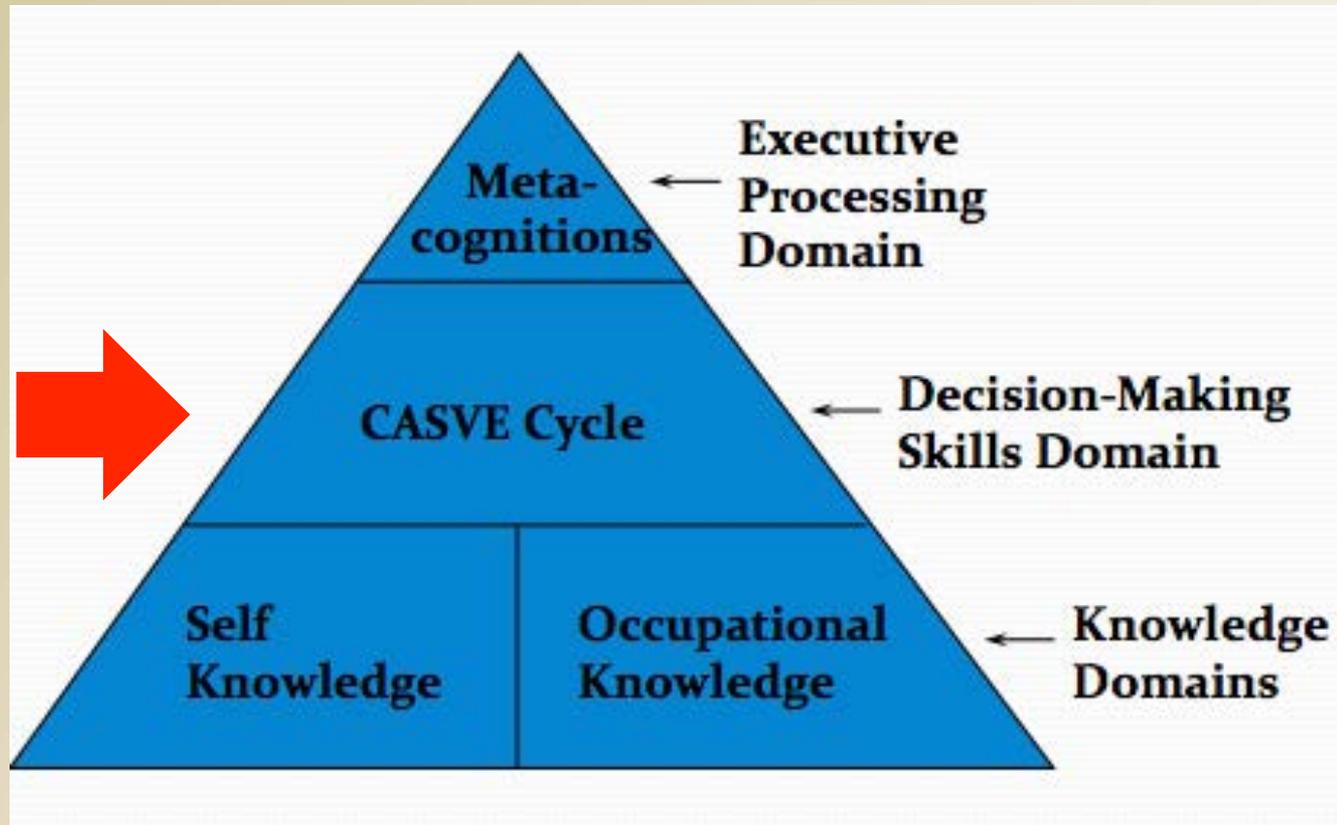
# Practical Strategies for Building Self-Knowledge?



# Practical Strategies for Building Options Knowledge?



# Practical Strategies for Building Decision Making Skills?



# EXAMPLES

## Valuing Prioritizing My Options

Occupation, program of study, or job	Benefits to myself? My family? Friends? Cultural group? Community? Society?	Costs to myself? My family? Friends? Cultural group? Community? Society?

## Guide to Good Decision Making Exercise<sup>1</sup>

A cycle can be used to show the steps in making a career choice. Use the blank spaces below to note your thoughts and feelings about your career choice.

### Communication

*Knowing I Need to Make a Choice*

Events - things that happen to me  
Example: "I need to choose a major by next semester."

Comments from my friends and relatives  
Example: "My roommate said that I'll have problems if I don't make a decision soon."

### The way I feel

"I'm scared about committing myself."

### Avoiding my problems

"I'll get started next week."

### Physical problems

"I'm so upset about this, I can't eat."

### Analysis

*Understanding Myself, Options, Decision Making, and Thoughts*

Understanding myself, such as  
My values  
Example: security

### My interests

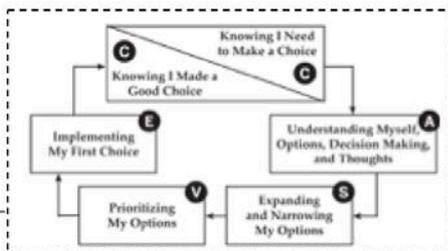
Example: working with people

### My skills

Example: using a computer to plan a budget

### My employment preferences

Example: limited travel



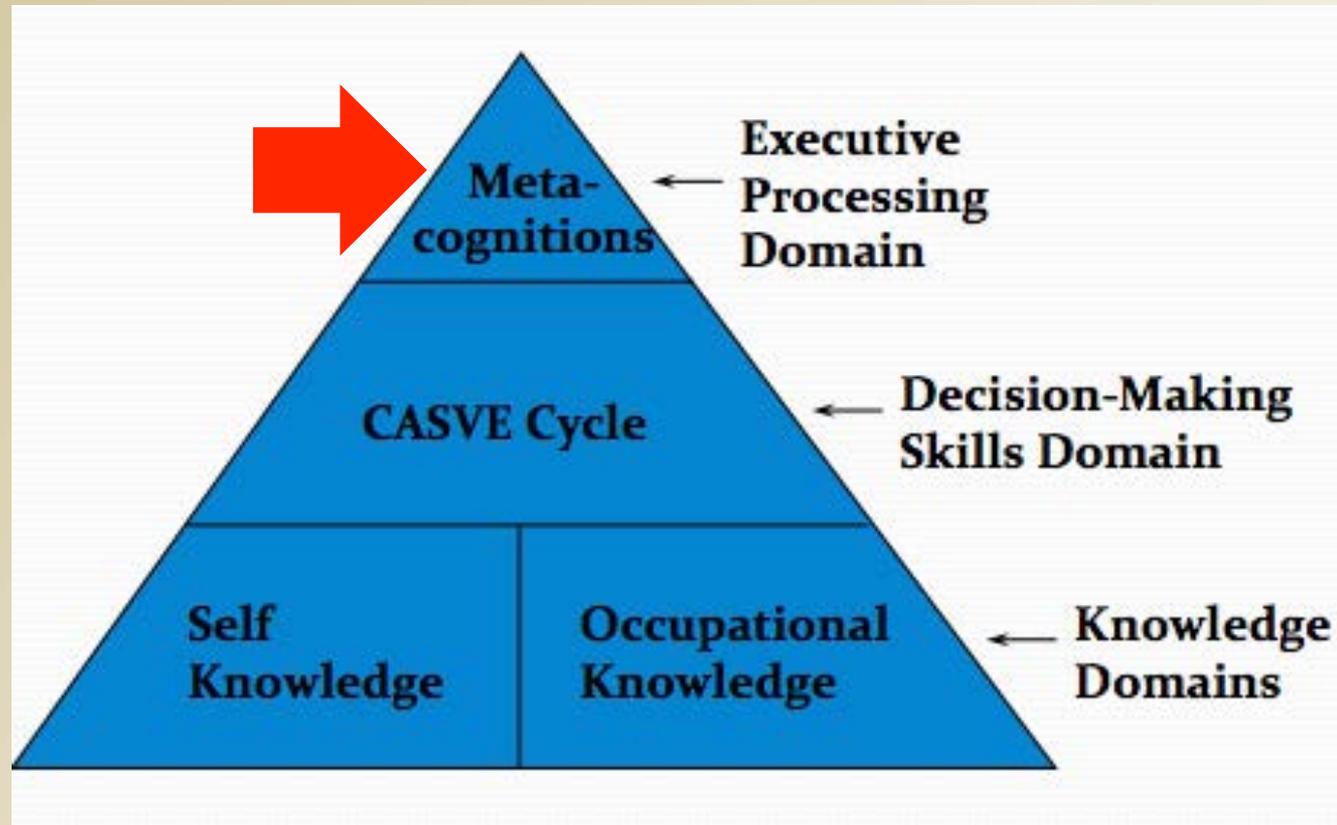
## Diverse Decision Makers

Adapted from Donald & Carlisle, 1983

Rank	Name	Description	Pros of making decisions this way	Cons of making decisions this way
	<i>Hasty Harry</i>	Makes a decision immediately, no matter what. He wants to eliminate the discomfort of ambiguity as soon as possible.		
	<i>Last Minute Louie</i>	Always waits until the very last possible second before deciding on anything.		
	<i>Stubborn Susan</i>	Makes a firm decision and refuses to consider any other alternative.		
	<i>Mia Fraid</i>	Delays any decision for fear of being wrong or appearing foolish.		
	<i>Wilbur the Worrier</i>	Avoids deciding because he lacks self-confidence in his ability to live with the consequences of the decision.		

<sup>1</sup> Adapted from Sampson, J. P., Jr., Peterson, G. W., Lenz, J. G., & Reardon, R. C. (1992). A cognitive approach to career services: Translating concepts into practice. *The Career Development Quarterly*, 41, 67-74.

# Practical Strategies for Assessing Metacognitions (Self-Talk)?



# Poll Question

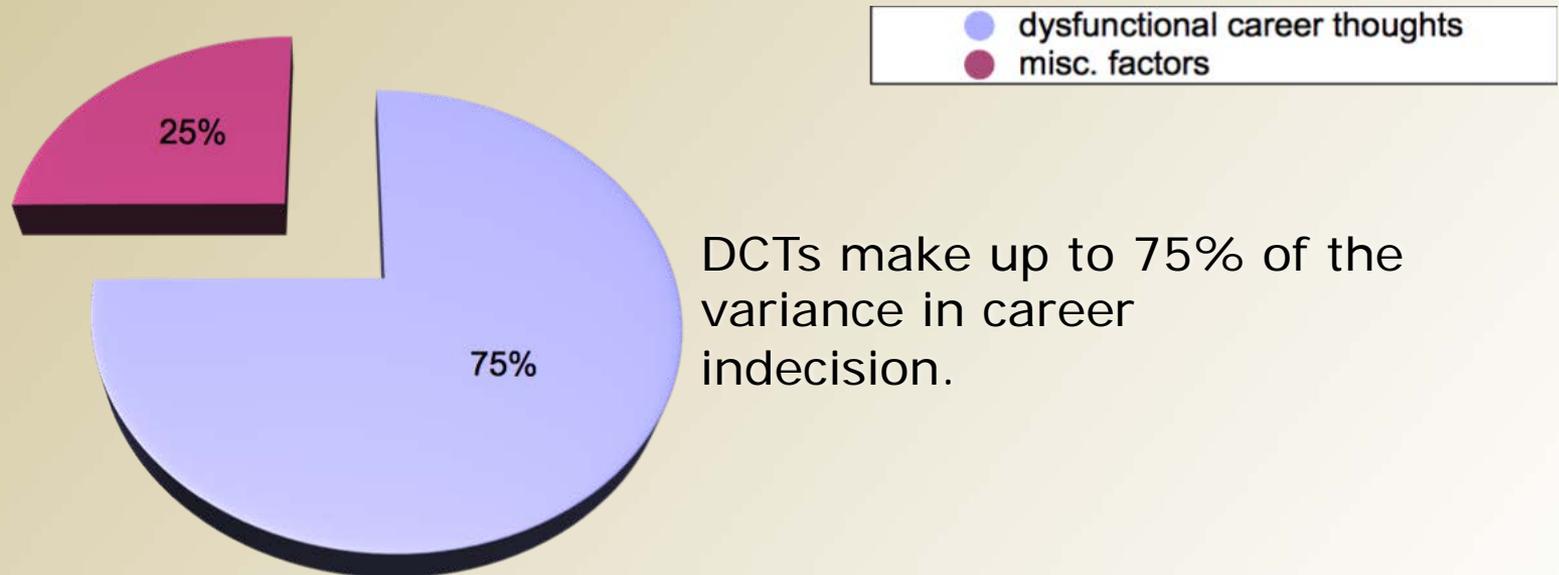
• What % age of career indecision is attributed to dysfunctional career thinking?

- a) 25%
- b) 50%
- c) 75%
- d) 100%



# Career Thoughts Inventory

- Measures dysfunctional career thoughts

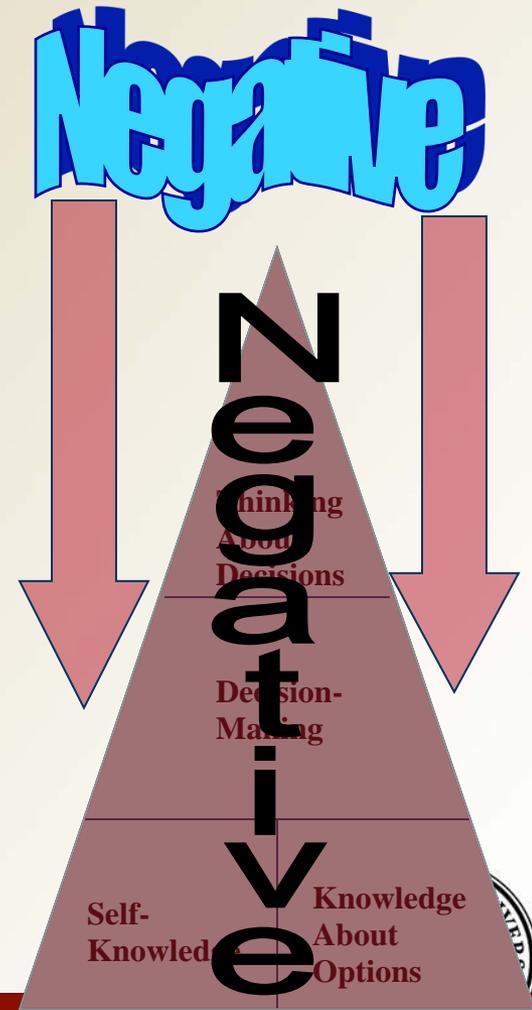


- Based on Cognitive Information Processing (CIP) theory



# Impact of negative thinking?

- # They **color**:
  - A client's perception of interests and abilities
  - Whether they think a certain career is a good choice
  - How the client evaluates options
  - How the client make career decisions
- # Negative thoughts trickle down into all other components of career decision making



# Career Thoughts Inventory (CTI)



## Career Thoughts Inventory™ (CTI™) Test Booklet

James P. Sampson, Jr., PhD  
Gary W. Peterson, PhD  
Janet G. Lenz, PhD  
Robert C. Reardon, PhD  
Denise E. Saunders, MS

This inventory has been developed to help people learn more about the way they think about career choices. Inside this booklet you will find statements describing thoughts that some people have when considering career choices. Please answer each statement openly and honestly as it describes you.

### Directions:

Read each statement carefully and indicate the degree to which you agree or disagree with each item by circling the answer that best describes you. Do not omit any items.

SD = Strongly Disagree    D = Disagree    A = Agree    SA = Strongly Agree

- Self-administered
- Objectively scored
- 48-Item measure of dysfunctional thoughts in career choice
- 3 Subscales:
  - Decision Making Confusion
  - Commitment Anxiety
  - External Conflict

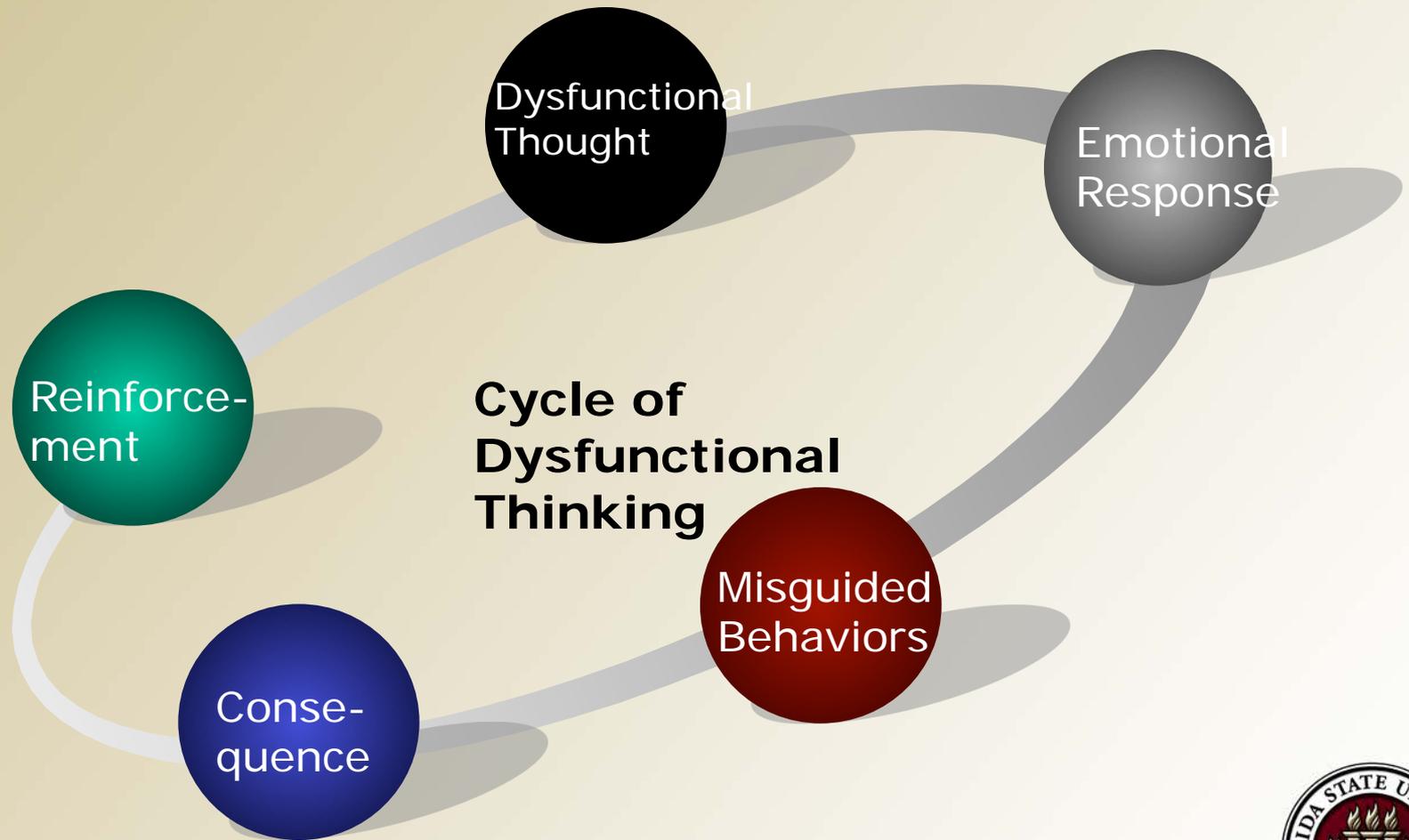


# Sample Items

- Finding a good job is just a matter of luck.
- I'm embarrassed to let others know I haven't chosen a career.
- I know what job I want, but someone's always putting obstacles in my way.



# Dysfunctional Thinking Cycle



# How can we go from this...?

**I should have made up my mind about a career by now.**

**I'm not smart enough to go into that field.**

**I'll never be able to decide**

**My interests are always changing**

**I can't make good decisions.**

**If I change my mind now, Everyone will think I Wasted my time & money.**

**I'm so anxious, I know I'll make the wrong choice.**

**I always regret the decisions I make.**

**I have to make the right decision.**

**There are too many options to choose from; it's too overwhelming to even get started.**



...To this???



# Poll question

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Which of the following is an evidenced-based approach to addressing dysfunctional thoughts?

- a) Cognitive restructuring
- b) Diaphragmatic breathing
- c) Paraphrasing
- d) Reflective Listening



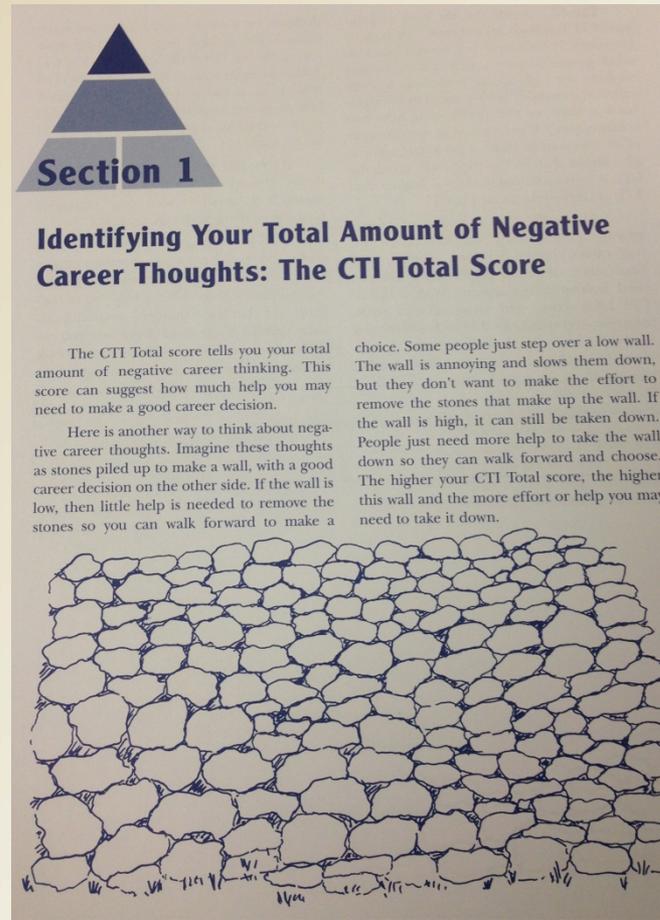
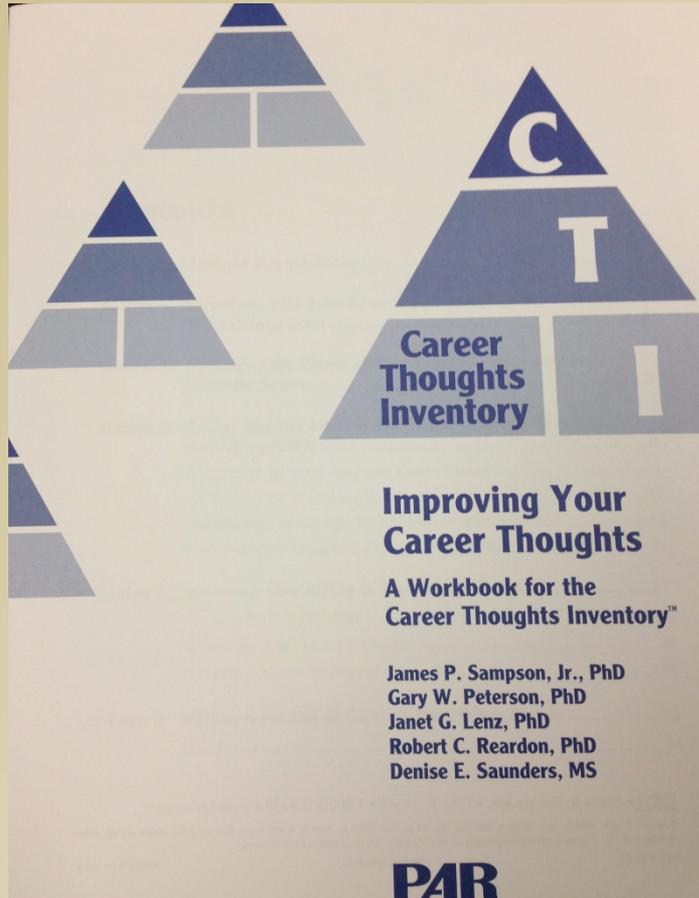
# Poll question

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- a) **Cognitive restructuring**
- b) Diaphragmatic breathing
- c) Paraphrasing
- d) Reflective Listening



# CTI Workbook





# CTI Workbook

## Decision Making Checklist

1. Place a check mark (✓) next to each item with which you *Strongly Agreed* or *Agreed* on the CTI.
2. Add up the number of check marks for each group of CTI items. Focus your attention on sections with a higher number of checks. A human service professional can help you review these *knowing* and *doing* elements of decision making. This professional can also help you apply what you are learning to a specific career choice.

### ✓ Knowing About Myself

- 1. No field of study or occupation interests me.
- 9. Whenever I've become interested in something, important people in my life disapprove.
- 17. My interests are always changing.
- 25. Even though I've taken career tests, I still don't know what field of study or occupation I like.
- 33. I get upset when people ask me what I want to do with my life.
- 41. My achievements must surpass my mother's or father's or my brother's or sister's.

Total checks

### ✓ Knowing About My Options

- 2. Almost all occupational information is slanted toward making the occupation look good.
- 10. There are few jobs that have real meaning.
- 18. Jobs change so fast it makes little sense to learn much about them.
- 26. My opinions about occupations change frequently.
- 34. I don't know how to find information about jobs in my field.
- 42. I know so little about the world of work.

Total checks

Realiz-

- 11. I'm so frustrated with the process of choosing a field of study or occupation I just want to forget about it for now.
- 19. If I change my field of study or occupation, I will feel like a failure.
- 27. I'm so confused, I'll never be able to choose a field of study or occupation.
- 35. I worry a great deal about choosing the right field of study or occupation.
- 43. I'm embarrassed to let others know I haven't chosen a field of study or occupation.

Total checks

### ✓ Understanding Myself and My Options

- 4. I'll never understand myself well enough to make a good career choice.
- 12. I don't know why I can't find a field of study or occupation that seems interesting.
- 20. Choosing an occupation is so complicated, I just can't get started.
- 28. The more I try to understand myself and find out about occupations, the more confused and discouraged I get.
- 36. I'll never understand enough about



# Casting Off Negative Thoughts

1. Catch the negative thoughts when they come.
2. Ask:
  - What's the proof for this?
  - Is there an underlying theme?  
E.g., Fear of failure, perfectionism
  - How does this thought make me feel?
3. Reframe the thought into something more positive, truthful and productive.
4. Repeat process as necessary.

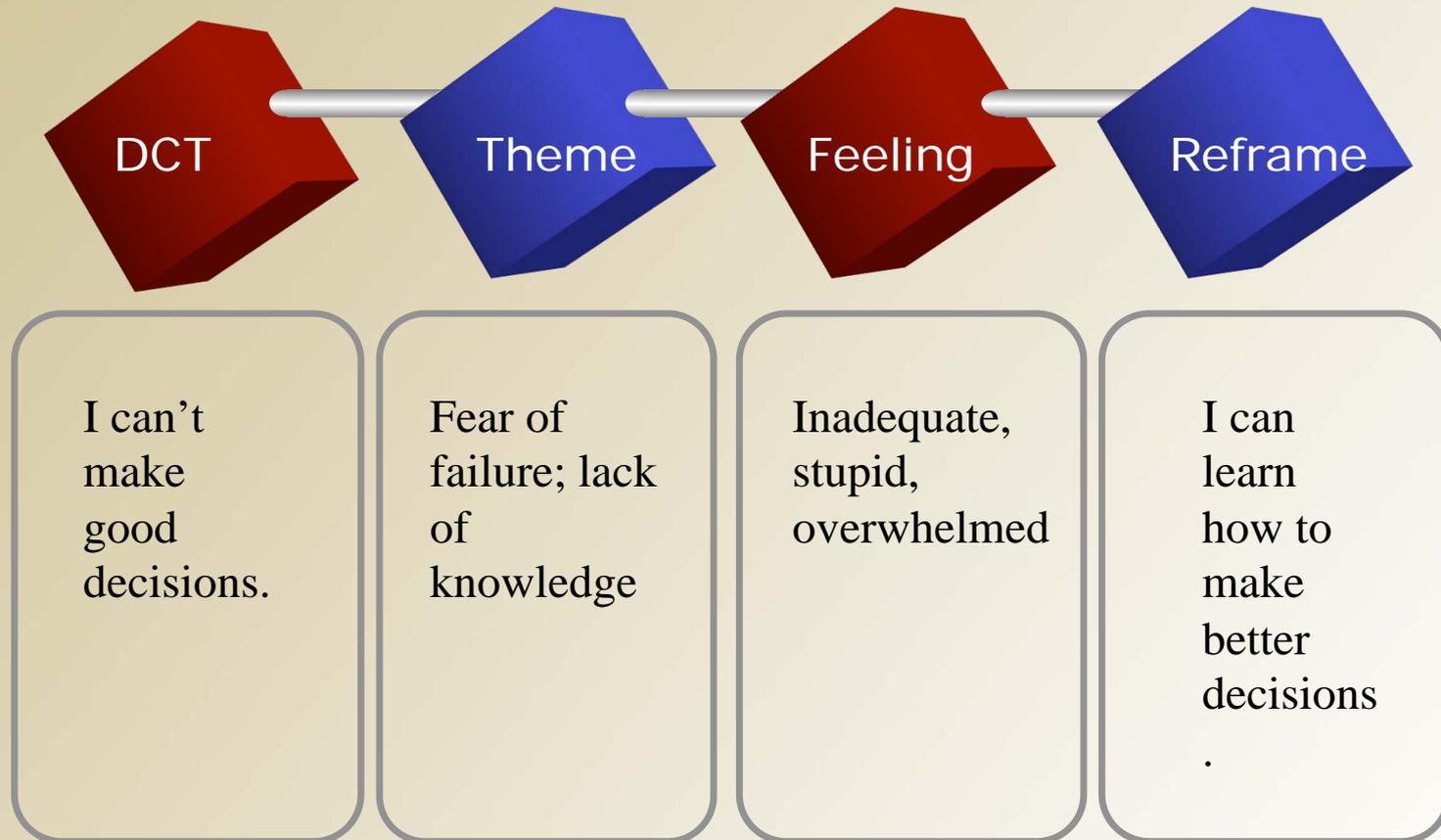


# DIBS Method

- Dispute Irrational Beliefs (Ellis)
  - Identify the irrational belief.
  - Ask: Can I rationally support it?
  - Ask: What evidence exists of the falseness of my belief?
  - Ask: Is there any evidence for the trueness of my belief?
  - Dispute:
    - What are the worst things that could happen if my belief is true?
    - What are good things that could happen if my belief is true?
- 10 minutes a day
- “So what if...?” versus “What if?”
- Identify, Challenge, Alter, Act



# Reframing



# Reframing Exercise

<b>Negative thought</b>	<b>Theme</b>	<b>Feeling</b>	<b>Reframe</b>



# Research on CIP theory-based interventions

- “Probably the most widely studied career interventions....cognitive information processing theory...”.
- “Studies in Iceland and Switzerland provide empirical support for the efficacy of CIP-based interventions.”

– Brown, S. (2015). Career intervention efficacy: Making a difference in people’s lives. APA Handbook of Career Interventions, Vol. 1.

*Comparisons between Pre-intervention and Post-intervention Scores on Brief Staff-Assisted Outcomes (n = 138)*

Dimension	Pre-intervention		Post-intervention		F	d	Percent of Change Scores <sup>c</sup>		
	M	SD	M	SD			Positive	Neutral	Negative
1. Knowledge of next steps	3.40 <sup>a</sup>	1.04	3.90	.81	36.22**	.51	38.4	55.8	5.8
2. Confidence in next steps	3.77 <sup>a</sup>	.89	4.01	.71	13.29**	.31	26.5	64.0	9.6
3. Anxiety about concern	3.46 <sup>b</sup>	1.10	3.20	1.03	9.20*	-.26	10.8	57.2	31.9

\*p < .01

\*\*p < .001

a. 5-point scale, 5 = Strongly agree, 1 = Strongly disagree

b. 4-point scale, 1 = not at all anxious, 2 = A little anxious, 3 = Moderately anxious, 4 = Very anxious

c. Change score = (post-intervention minus pre-intervention)

# Summary

- CIP offers simple structures to the sometimes chaotic and complex nature of career decision making.
- CIP provides a guide for understanding where a client is and for pinpointing relevant interventions.
- CIP offers tools to aid career practitioners in their work.
- CIP continues to generate research and has an ongoing bibliography.

## **BIBLIOGRAPHY: A COGNITIVE INFORMATION PROCESSING (CIP) THEORY-BASED APPROACH TO CAREER DEVELOPMENT AND SERVICES**

James P. Sampson, Jr., PhD; Gary W. Peterson, PhD; Robert C. Reardon, PhD; and Janet G. Lenz, PhD

Revised with the help of Andrew R. Morrison, Jacob A. Galles, Brittany R. Melvin, Jane Tyler Finklea, Mary Buzzetta, Vanessa F. Freeman, Adam K. Miller, and Ryan Sides

March 2017



# For More Information



A screenshot of the Tech Center website. The header includes the text "Tech Center" and a navigation bar with "Home" and "Tech Center". The main content area has a heading "Tech Center" and a welcome message: "Welcome to the Center for the Study of Technology in Counseling and Career Development. What brings you here today? Please select from the options below:". Below this is a list of user roles with corresponding links: Individual, Student, Instructor, Practitioner, Researcher or program evaluator, Policy maker or senior administrator, and Developer of computer applications. On the right side, there are buttons for "ABOUT US" and "SITE MAP", and a list of recent publications including "February 2015" and "June 2014".

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[dosborn@fsu.edu](mailto:dosborn@fsu.edu)

