

# Using Critical Thinking in Our Work

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Pennsylvania  
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## Goals of Today's Training

- Explore our processes of learning, making choices and decisions
- Explore how we "buy into" ideas and theories
- Discuss why it can be so difficult to accept new ideas
- Evaluate some important current issues that affect us as people and as professionals
- Help you to intelligently choose from among different competing ideas and theories

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## Course Objectives

At the end of this training, participants will:

- Be able to identify and use critical thinking
- Apply critical thinking to professional issues
- Analyze your own personal treatment models for effectiveness in your work

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## Making Decisions and Choosing

- Decision: from Latin for "cutting off"
  - To determine
  - To make a judgment
  - To make up one's mind

A legal decision  
One or the other
  
- Choice: from Greek word *geúesthai* "to enjoy" and Latin word *gustāre* "to taste"
  - To want
  - To select
  - To prefer

The one I want    A choice steak  
I choose you

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## Making Choices

- How do we make choices?
- Evaluate the alternatives carefully and choose based on what we believe might give the best outcome
  - Choose what is familiar, or similar to other things we know
  - Go along with what our friends, peers, colleagues choose
  - Go with what "sounds" best

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## Marginal Utility

**We choose to gain greatest potential benefit (calculating the reward)**

- At a fair, you pay to play a game where you are presented with 3 cups. Under each cup there is either nothing or a prize. You are given the potential prize and chances of the prize:**
- The 1st cup has a 50% chance of containing 2 coins
  - The 2nd cup has a 25% chance of containing 2 coins
  - The 3rd cup has a 20% chance of containing 2 coins
- Which cup should you choose?**

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<https://www.psychologistworld.com/cognitive/choice-theory#article-citations-5>



## Understanding Critical Thinking

- **Critical thinking is the ability to think clearly and rationally about what to do or what to believe.** It includes the ability to engage in reflective and independent thinking. (Lau and Chan, 2017)
- *Critical thinking is disciplined thinking that is governed by clear intellectual standards.* This involves identifying and analyzing arguments and truth claims, discovering and overcoming prejudices and biases, developing your own reasons and arguments in favor of what you believe, considering objections to your beliefs, and making rational choices about what to do based on your beliefs. (Bassham, 2012)

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## Critical Thinking

- **Critical thinking** means making reasoned judgments that are logical and well-thought out. It is a way of thinking in which you don't simply accept all arguments and conclusions you are exposed to but rather have an attitude involving questioning such arguments and conclusions. It requires wanting to see what evidence is involved to support a particular argument or conclusion. (DeLeece, 2016)

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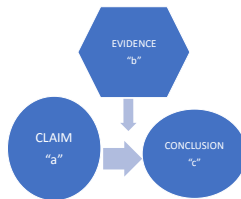
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## Critical Thinking

*“Critical thinking is **reflective thinking** involving the evaluation of **evidence** relevant to a **claim**, so that a **sound conclusion** can be drawn from the evidence.”* (Bensley, 1998).

**KEY TERMS:**  
“Reflective thinking”  
Evidence  
Claim  
Conclusion



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## Characteristics of Critical Thinkers

1. Knowledge of **logical reasoning**
  - Understanding of "logic" rules, concepts, terms
2. Set of **cognitive skills** involved in reasoning
  - Be able to apply logic to a real-life situation
3. **Knowledge** relevant to problem or question
  - Deeper knowledge of the topic
4. Set of **dispositions** to think critically
  - Tendency to use logic, rather than emotion or opinion, in evaluating situations and issue
  - (Is this a "character trait" or a "choice"?)

## Reasoning terms

**Claim:** an assertion of the truth; to say that something is true; also called a *proposition* or *premise*

Example: Shakespeare wrote *Hamlet*

*Note that this is NOT an argument, but merely an assertion*

*An assertion does not PROVE anything, but only states that it is true*

*The truth, or validity, or a claim must be shown for a valid conclusion to be drawn*

- *this is done through "evidence"*

## Reasoning terms

- **Evidence:** something that furnishes proof; verifiable facts helpful in forming a conclusion or judgment.
- *Example: external accounts that show the existence of a man named Shakespeare, in the correct geographical area, when the play, Hamlet, was written*

## Reasoning terms

- **Conclusion:** a judgment reached by reasoning; a reasoned deduction or inference
- *example: based on valid historical information, we can say that Shakespeare was the author of "Hamlet"*

## Reasoning terms

- **Argument:** "a connected series of statements intended to establish a definite proposition" (Monty Python, Argument Clinic sketch)
- "All men are mortal" —facts accepted on basis of empirical validity
- "Albert is a man" —verifiable by observation and acceptance of definition of "man"
- "Therefore, Albert is mortal." Valid premises lead to a valid conclusion.
- <https://video.search.yahoo.com/yhs/search?fr=yhs-mozilla-002&hsimp=yhs-002&hspart=mozilla&p=monty+python+argument+clinic+skit#id=1&vid=a85b0f7afb13026256dc1c2879ddf83a&action=click>

## What constitutes "evidence"?

In scientific fields, *empirical evidence* from well-conducted research

- "Evidence-based practice is the integration of best research evidence with clinical expertise in the context of patient characteristics, culture, and preferences." (Sackett et al., 2000)

*Clinical expertise* (competence, rather than experience) (Sexton, 1999),

- specific competencies needed to perform tasks
- Consensus among professionals who are appropriately trained, who can speak to a topic with expertise

# Models of Reasoning

How do we think through questions and come to conclusions?

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## Types of Reasoning Approaches

- Deductive reasoning
- Inductive reasoning
- Abductive reasoning

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## Deductive Reasoning

- Deductive reasoning: conclusions are drawn only from information in premises; goes from general to particular
  - Formulation of generalized rules that help prediction
  - Hold a theory, and based on it, we make prediction of its consequences

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<http://www.livescience.com/21569-deduction-vs-induction.html>

## Deductive Reasoning

- Something true of a class is also true for members of the class:
  - All men are mortal. Albert is a man. Therefore Albert is mortal.
  - For conclusion to be correct, premise must be correct.
  - if one premise is NOT true, our conclusion above is not necessarily true, as we see here:
    - *All bald men are grandfathers.* Harold is a bald man. Therefore, Harold is a grandfather.
      - logically valid, but untrue
- Given truth of premises, a valid deduction guarantees the truth of the conclusion
- But an incorrect premise can logically lead to an incorrect conclusion
- Monty Python: Deductive reasoning  
[https://www.youtube.com/watch?v=H9PY\\_3E3h2c](https://www.youtube.com/watch?v=H9PY_3E3h2c)

<http://www.livescience.com/21569-deduction-vs-induction.html>

## Inductive Reasoning

- Inductive reasoning: conclusion is proposed that contains more information than the premises on which it is based
  - Small details are pulled together to develop a conclusion
- Makes broad generalizations from specific observations; conclusion does not necessarily follow from the premises
  - Opposite of deductive reasoning

<http://www.livescience.com/21569-deduction-vs-induction.html>

## Inductive Reasoning

- Make many observations, discern a pattern, and propose an explanation or theory
  - Other observations could be found that could lead to a false conclusion :
  - Harold is a grandfather. Harold is bald. Therefore all bald men are grandfathers.
    - Premises are true, but inductively-reached conclusion is false—(overgeneralization of the data)
  - All the swans I have seen are white. Therefore, all swans must be white.
    - But there may be black swans I *haven't* seen. (Insufficient data)

Tom Richie on Deductive and Inductive Reasoning  
<https://www.youtube.com/watch?v=WAdpPABoTxE>



## Alternative to Deductive and Inductive Reasoning

- Abductive Reasoning is a common way that we make sense of life, figure things out, and come to conclusions

Video that explains inductive and abductive reasoning:

<https://www.youtube.com/watch?v=-wrCpLJ1XAw>

Video on Abductive Reasoning

<https://www.youtube.com/watch?v=vfIZuk-Hz4>

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## Abductive Reasoning

- Goes from observation to a theory that accounts for the observation, seeking to find the simplest and most likely explanation
  - Guessing—the “best guess”
  - “Hypothesis”
  - A pragmatic form of induction

<http://www.livescience.com/21569-deduction-vs-induction.html>

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## Abductive Reasoning

*The surprising fact, C, is observed; But if A were true, C would be a matter of course, Hence, there is reason to suspect that A is true.*

- Allows us to *infer* the premises as an explanation of the conclusion.
- Formally equivalent to error of “affirming the consequent” (Post hoc ergo propter hoc)
  - A happens, B happens, so B happens because of A
- Used by doctors who make a diagnosis based on test results, or jurors who make decisions based on the evidence presented to them.

<http://www.livescience.com/21569-deduction-vs-induction.html>

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### Some Errors in Reasoning

- Circular Reasoning
- Strawman Arguments
- Claims that lack evidence
- Claims that make incorrect inferences

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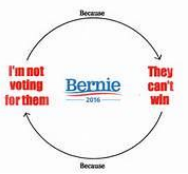
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### Circular Reasoning

Begging the question: assuming a claim without any evidence; using the claim itself as evidence:

The reason everyone uses social media is because it's so popular

In Circular Arguments, the conclusion may be offered as a premise, thus "begging the question"

<http://www.snipview.com/q/Formal%20fallacies>

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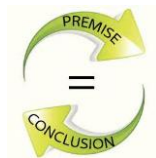
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### Circular reasoning

Circular reasoning involves an argument that presumes that what is being argued is already true.




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# Strawman Argument

**THE STRAW MAN FALLACY**  
A "HOW TO" GUIDE

- 1 Ignore the real argument.
- 2 Create a pretend argument.
- 3 Defeat the pretend argument.
- 4 Claim victory over the real argument.
- 5 Do a victory dance.\*

\*Optional

### HOW TO USE STRAWMAN METHODS:

- Quote opponent's words out of context
- Present someone who represents a point poorly as *the* defender; then deny that person's arguments; this gives the appearance that *all* who uphold that position (and the position itself) have been defeated
- Oversimplify the opposing argument, then attack this oversimplified version
- **EXAMPLE:** *we should relax laws on marijuana*  
*Response: No, then everyone will be high and no one will want to work, and the economy will tank.*

[https://en.wikipedia.org/wiki/Straw\\_man](https://en.wikipedia.org/wiki/Straw_man)

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## Example of a Strawman Argument

"Mr. Goldberg is arguing against prayer in public schools. Clearly, this shows that Mr. Goldberg advocates atheism. Atheism is what they used to have in Russia—Communism—and we see how well that worked out! Why would we want to become Communists? Mr. Goldberg's argument should just be ignored, since no one wants to go where he wants to take us."

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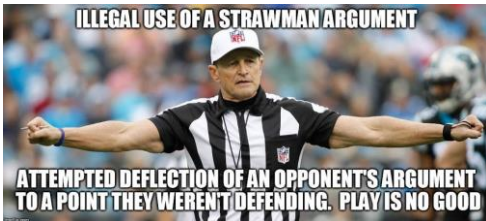
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## Strawman Argument




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## Factual Claim

1. Doctors earn a lot of money. (premise)
2. I want to earn a lot of money. (premise)
3. I should become a doctor. (conclusion)

When all premises are correct, deduction works well.

- But, doesn't necessarily provide all the information necessary (e.g. is earning money *all* doctors do?)

<https://www.thoughtco.com/what-is-an-argument-250305>

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## Inferential Claim

1. Doctors earn a lot of money. (premise)
  2. With a lot of money, a person can travel a lot. (premise)
  3. *Doctors can travel a lot. (inference, from 1 and 2)*
  4. I want to travel a lot. (premise)
  5. I should become a doctor. (from 3 and 4)
- Fallacies can be committed in inferences, even with other valid premises.
    - E.g. It's not necessarily the case that doctors can travel a lot

<https://www.thoughtco.com/what-is-an-argument-250305>

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## Why Bother Using Critical Thinking?

- Not using critical thinking leaves us open to impulses, peer pressure, confirmation bias, selective perception
- Can result in unwanted outcomes
- Critical thinking helps us find the best solution



*Example: credit card company offers a 'great' deal (with a high credit limit)*

- They do not emphasize how interest accrues when you pay only the minimum payment
- Card holder ends up paying thousands in interest by only paying the minimum payment

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## But how do we know what's true?

• <http://www.onenewspage.com/video/20170326/7141242/Fake-News.htm> 60 minutes

- Clearly, believing false information can lead to very serious threats, actions, beliefs, and feelings
- It's not enough to go on the basis of a single source of information, or of anecdote or "hearsay"
- Sources need to be reputable, and evidence needs to be verifiable

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## Applying Critical Thinking to Current Professional Issues

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## Evaluating Some Current Issues

- We will look at several relevant topics to explore arguments on different sides of the issues
- As we explore each topic, think about your own views:
  - how you formed them
  - what you consider "evidence"
  - whether you have considered alternative views or explanations

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## The case of: Evidence Based Practices

**The claim: we can determine which treatment approach works best for different kinds of problems**

- Assertions: EBP research
- Empirically Supported Treatments (EST) research

**Counter-assertion: Common Factors research**

**\*What does the evidence suggest?\***

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## Evidence Based Practice

“Evidence-based practice in psychology (EBPP) is the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences. This definition of EBPP closely parallels the definition of evidence-based practice adopted by the Institute of Medicine (2001, p. 147) as adapted from Sackett and colleagues (2000)” (American Psychological Association, 2005)

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## Evidenced Based Practice



Evidence Based Practice is based on the “three legged stool” model, which includes these factors:

- 1.best evidence: from research
2. clinical expertise
- 3.patient values and preferences

Our choices of methods should include all three “legs”

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## Evidence Based Practice

“A sizeable body of evidence drawn from a variety of research designs and methodologies attests to the *effectiveness of psychological practices*.

“Generally, evidence derived from clinically relevant research on psychological practices should be based on systematic reviews, reasonable effect sizes, statistical and clinical significance, and a body of supporting evidence.

“It is important not to assume that interventions that have not yet been studied in controlled trials are ineffective.” (American Psychological Association, 2005)

## Best Research Evidence

- Longitudinal cohort studies
  - For questions of etiology or prognosis
- Randomized clinical trial
  - For questions about efficacy and effectiveness of treatments
- Systematic review (meta-analysis)
  - Synthesizes results from many treatment trials

## Evidence Based Practice vs Empirically Supported Treatments

“Importantly, practice guidelines frame treatment recommendations *nomothetically*. They specify the best research-supported treatment for a disorder, biopsychosocial condition, or life problem. **The recommended treatment approach is, in a sense, “one-size-fits-all”**: It assumes relatively homogeneous intervention needs among different individuals who have the clinical problem.

“*Empirically supported treatments*. The list of empirically supported treatments (EST) assembled for psychology (Chambless & Hollon, 1998; Chambless & Ollendick, 2001) bears similarity to a guideline, except that the compilation is organized **based on interventions rather than clinical problems**. A shared feature of ESTs and practice guidelines is that **both approach evidence-based practice nomothetically**—suggesting the best treatment approach for an average patient.”

Spring, 2007: JOURNAL OF CLINICAL PSYCHOLOGY, Vol. 63(7), 611–631 (2007)

## How Empirically Supported Treatment is Sometimes Explained

“Not all mental health treatments are equally efficacious, and consumers must be educated when searching for a therapist. Some therapies may work better than others.” (Association for Behavioral and Cognitive Therapies)

**The most commonly used evidence-based practice approaches for the treatment of psychological symptoms involve cognitive and behavior therapies (CBT).** The efficacy of CBT has been demonstrated for a wide-range of symptoms in adults, adolescents, and children. [Click here](#) to learn more about CBT.

<http://www.abct.org/Help/?m=mFindHelp&fa=WhatsEBPpublic>

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## How Evidence Based Practice is Explained

“Dozens of multi-year studies have shown that EBPs can reduce symptoms significantly for many years following the end of psychological treatment - similar evidence for other types of therapies is not available to date.

Unfortunately, many members of the public are unaware that evidence-based practices exist. Consequently, patients may remain in long-term psychotherapy for months, or even years, without realizing that evidence-based options are available.” (Association for Behavioral and Cognitive Therapies)

### Is there any problem with this information?

- It equates Evidence Based Practice (EBP) with Empirically Supported Treatment (EST)

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## Empirically Supported Treatments

- Important to know:
  - Large-scale studies involve *manualized treatments*
  - Many (most?) studies involve at least one type of CBT
  - Studies do not test CBT against all other available treatments
  - There is a tendency to imply that CBT is “BEST” rather than “EFFECTIVE”
  - Many studies have reported that no one approach is better than all others (e.g. Stiles, Shapiro, and Elliott, 1986)
  - Some studies suggest that there are clearly better approaches, but ... “Some treatments are better than others but, as stated above, that does not mean that the less efficacious treatments are worthless. (Westmacott and Huntsley, 2007)

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## The Contextual Model of Therapy

Three pathways through which therapy produces benefits:

- A. The real relationship
- B. Creation of expectations through explanation of disorder and treatment
- C. Enactment of health-promoting actions

Before these can be activated, there must be a therapeutic relationship

Wampold BE, Imel ZE. The great psychotherapy debate: the research evidence for what works in psychotherapy. 2nd ed. New York: Routledge; 2015.

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## The Contextual Model of Therapy

- Real relationship
  - Genuine
  - Attachment; social support; lack of loneliness
  - empathy
- Expectation
  - Foster hope
  - Provide a 'map' of tx and explanation of the problem
  - Agreement on goals
- Specific actions
  - Therapist induces client to do something in healthy way
  - Therapist believes in approach; client also believes

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## Empirically Supported Models vs. Common Factors Model

- Research evidence supports each model
- Common factors is atheoretical; EST is theoretical
- Can argue that it is better to teach a specific approach, especially for young therapists
  - But no single approach works for every therapist or every client
  - Every clinician eventually develops her/his own integrative model or adheres to a specific "school"
  - Common Factors models provide teachable skills as well

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4592639/>

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## Conclusions

- Your conclusions?
- Is there enough evidence for any of the proposed models to convince you about the disease model of addiction?
- Has any of the counter-evidence changed your ideas?

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## The case of: antidepressants

**The claim: antidepressant medications are greatly helpful in the treatment of depression**

- Assertions: American Medical Society, American Psychiatric Association, depression studies, National Institute of Mental Health

**Counter claim: antidepressants aren't effective, and could actually cause problems**

- Dr. Paul Andrews, Dr. Irving Kirsch, Dr. Peter Breggin

**\*What does the evidence say?\***

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## Antidepressants: Pro

**Antidepressants are medicines that treat depression. They may help improve the way your brain uses certain chemicals that control mood or stress.** You may need to try several different antidepressant medicines before finding the one that improves your symptoms and has manageable side effects. A medication that has helped you or a close family member in the past will often be considered.

Antidepressants take time – usually 2 to 4 weeks – to work, and often, symptoms such as sleep, appetite, and concentration problems improve before mood lifts, so it is important to give medication a chance before reaching a conclusion about its effectiveness. If you begin taking antidepressants, do not stop taking them without the help of a doctor. **Sometimes people taking antidepressants feel better and then stop taking the medication on their own, and the depression returns.**

<https://www.nimh.nih.gov/health/topics/depression/index.shtml>

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## Antidepressants: Pro

WebMD: **"Make no mistake: For many people, antidepressants do work. In fact, they can be life-saving.**

But Mischoulon also spoke frankly about the failure of antidepressants to live up to the high expectations of doctors and patients alike. He and the other two psychiatrists who spoke to WebMD have consulted for pharmaceutical companies that make antidepressants.

"Antidepressants may not be quite as effective as historically, we've believed, when we look at the overall response rate, especially compared to placebo," he says.

In fact, antidepressants typically don't approach the success rates shown in clinical trials, he says.

"We have known for many, many years that these antidepressants don't have the kinds of response rates in the real world of practice that they have in those clinical trials that are funded by industry or by the government," Mischoulon says.

**"Even our best antidepressants work only about half the time," Payne says.** And the odds of success drop if the patient doesn't respond to the first drug they try, Payne says.

<http://www.webmd.com/depression/features/are-antidepressants-effective>

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## Antidepressants: Pro

(WebMD continued)

**"Despite the widespread belief that depression stems from chemical imbalances in the brain, it's only one theory.**

"One of the hardest things in psychiatry in general, but particularly in mood disorders, we do not know what the broken part is. We don't know what the pathophysiology of depression is. *We have some guesses,*" Payne says. *"But we really don't understand this well enough,* and it's likely that major depression really represents a group of illnesses, meaning that there several different ways, biologically, to get to what we call major depression."

<http://www.webmd.com/depression/features/are-antidepressants-effective>

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## Antidepressants: Pro

### STAR\*D : Sequenced Treatment Alternatives to Relieve Depression

- Funded by National Institute of Mental Health, completed 2006
- 4,041 outpatients with nonpsychotic depression at 23 psychiatric and 18 primary care sites
- four different treatment levels
- Patients were encouraged to enter next level if didn't have remission or "response" (50% reduction in symptoms)
- Level 1: SSRI (citalopram: "Celexa") for up to 14 weeks
- Level 2: 7 different tx options, including CBT as psychotherapy option
- Level 3: added lithium or thyroid hormone to antidepressant, or different antidepressant
- Level 4: MAOI or combination of two other antidepressants
- **OUTCOME: remission rate 28-33%; response rate 47%; Cumulative 67%**
- Considered evidence of therapeutic effects of medications on depression

"STAR\*D: Latest News". Project website for NIMH-funded collaborative study on the treatment of depression. University of Pittsburgh

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## Evaluating the STAR\*D research

*"However, STAR\*D did not include a placebo control group, so any positive responses are not simply attributable to antidepressants – they are attributable to both antidepressants and the placebo effect. Since there was no placebo group, it is not possible to estimate how effective antidepressants were. Moreover, focusing on only those patients who completed all the treatment steps obscures the fact that 93% of the 1518 patients who met criteria for remission in one of the four steps either relapsed during 12 months of treatment or dropped out of the study (Pigott et al., 2010).*

*Even with no placebo control group, this awkward fact also suggests that antidepressants have limited long-term efficacy at best. The 93% relapse/dropout rate was not reported in the primary STAR\*D publications. Rather, it was reported by outside researchers who re-analyzed the data (Pigott et al., 2010). These outside researchers have also documented numerous instances of apparent bias in the reporting of results by STAR\*D researchers (Pigott et al., 2010)."*

Paul W. Andrews, J. Anderson Thomson, Jr., Ananda Amstadter, and Michael C. Neale (2012)

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## Evaluating the STAR\*D research

*Andrews et al (2012) concluded,*

*"We have reviewed a great deal of evidence of the effects of antidepressants on serotonergic processes throughout the body. Some of the effects are widely known, but they have been largely ignored in debates about the utility of antidepressants. Indeed, it is widely believed that antidepressant medications are both safe and effective; however, this belief was formed in the absence of adequate scientific verification. **The weight of current evidence suggests that, in general, antidepressants are neither safe nor effective; they appear to do more harm than good.***

*Further research on their effects is clearly needed."*

Primum Non Nocere: An Evolutionary Analysis of Whether Antidepressants Do More Harm than Good  
Paul W. Andrews, J., Anderson Thomson, Jr., Ananda Amstadter, and Michael C. Neale (2012)

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## Evaluating the STAR\*D research

**Dr. Irving Kirsch conducted meta-analyses of drug studies (including STAR\*D) and concluded:**

*"All antidepressants seem to be equally effective, and although the difference between drug and placebo is not clinically significant, it is significant statistically."*

*"It simply does not matter what is in the medication—it might increase serotonin, decrease it, or have no effect on serotonin at all. The effect on depression is the same."*

*"What do you call pills, the effects of which are independent of their chemical composition I call them "placebos." "*

*"Antidepressants and the Placebo Effect" (Kirsch, 2014):  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4172306/>*

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## Antidepressants: Con

Dr. Peter Breggin: **"The so-called antidepressant drugs have no specific impact on depression** and in fact are used off label to treat everything imaginable from physical pain to anxiety and ADHD (Breggin, 2003/2004, 2008a, b, 2013)."

"...As I summarize in *Psychiatric Drug Withdrawal* (2013), **there is no solid science behind the prescription of psychiatric drugs** and they do far more harm than the drug companies will admit or that prescribers realize." (Dr. Breggin's Mission Statement, <http://breggin.com/dr-peter-breggin-mission-statement/> )

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## Antidepressants: Con

**"Mostly the antidepressants produce an anesthesia of feelings that dulls emotional life.** Some patients develop what one textbook calls an apathy syndrome (Marangell et. 2003). **Long term, they also produce a dysphoria syndrome** (El-Mallakh et al., 2011).

These drugs suppress both sexuality and love, often without full recovery when the drugs are stopped (Csoska and Shipko, 2006). In my clinical experience, **most people stay on antidepressant drugs because they fail to perceive their loss of quality of life** ("medication spellbinding")

Also, when they try to stop their drugs the withdrawal syndrome produces such horrendous emotional and physical torture that they mistakenly believe that they are experiencing a return or worsening of their "mental illness and that they need to stay on their drugs for the rest of their lives." (Breggin, 2016)

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## Evaluating the Arguments

- Some authors have discredited Dr. Breggin's scholarship:

"Literally from its opening pages, this book (*Talking Back to Ritalin*) makes contorted attempts at the appearance of scholarship, replete with quotes, footnotes, and references to scientific papers and other sources.

**Throughout, any quote is mustered from scientific papers that can be taken out of context to support the author's biases along with every exaggerated fact and figure he can find to support his call to alarm, no matter the credibility (or lack of it) of his sources.** However, the flaws of both his research methods and his arguments are evident to any scientist even slightly familiar with the scientific literature on the topics covered here [22]." (Russell Barkley, 1998, on Breggin's writing about ADHD)

<http://www.quackwatch.com/04ConsumerEducation/NegativeBR/breggin.html>

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## Evaluating the Arguments

- What are the claims?
  - Antidepressants are effective vs. not effective and actually harmful
- What is the evidence?
  - PRO: Many studies of antidepressants showing effectiveness
  - CON: Studies are conducted by, or through, pharmaceutical companies ("Big Pharma")
  - Studies don't necessarily show efficacy of medications

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## Evaluating the Arguments

- PRO medication:
- many scientific studies
  - Reports of prescribers and patients of improvement

- ANTI medication:
- Many studies funded by Big Pharma
  - Dr. Breggin takes Big Pharma to task for pushing drugs onto unsuspecting patients, and conducting the studies themselves (or funding them). However, his credibility is an issue.
  - No clear theory about causes of depression
  - Meta-analysis shows drugs do about as well as placebos: *"statistical, not clinical, significance"*

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## CONCLUSION?

- What are your thoughts?
- What else do you need to learn or know to feel you have an informed opinion about antidepressant medications?
- Looking from a nature/nurture perspective, what do you see? Which perspective is currently "ascendant" in our culture? Why?

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# The case of: the disease model of addiction

## The claim: addiction is a disease

- Brain changes due to drug use
- Progressive, tolerance, fatal

## Counter-assertions: addiction is a habit; self-medication; or a choice

### What does the evidence suggest?

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## Pro: Disease Model

Addiction is defined as a **chronic, relapsing brain disease** that is characterized by compulsive drug seeking and use, despite harmful consequences.

It is considered a brain disease **because drugs change the brain**; they change its structure and how it works. These brain changes can be long lasting and can lead to many harmful, often self-destructive, behaviors. (National Institute on Drug Abuse-NIDA)

*Like other diseases that affect the body and mind, drug addiction is progressive. Although not everyone who uses drugs will become addicted, every case of addiction begins with recreational or experimental use.* (Recovery Village, 2017)

The addictive substance, be it nicotine, alcohol or some drug actually causes physical changes in some nerve cells in the brain. (Medical News Today, <http://www.medicalnewstoday.com/info/addiction/what-causes-addiction.php>)

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## Pro: Disease Model

A short while before Casey Schwartzmier died, she had a frank conversation with her mother.

She'd been on Facebook and saw an obituary that had gone viral. It was for a man whose family, rather than writing that he died "suddenly," told everyone about his battles with addiction. Casey, who had struggled with her own drug addiction for years, told her mom that if she ever died of an overdose, she wanted the same thing.

"Tell them. Tell them my story. Maybe it would help somebody who's struggling," Casey said.

And then, in what her mom said was typical Casey fashion, she cracked a joke and began talking about her upcoming trip to California, where she was excited to check into a rehab facility and get help for her addiction.

"She didn't plan on dying," her mother, Michelle Schwartzmier said this week. "She didn't want to die. She just said, 'That is what I would want.'"



Casey Schwartzmier

On Jan. 10, Casey overdosed — likely on heroin — inside the Ross home where she was staying with her mother, father Richard Schwartzmier, and younger brother, Eric. The 20-year-old remained in Allegheny General Hospital for five days. Doctors and nurses — many of whom knew her mother, who works there as a radiology technician — came in and out, trying to help Casey as the overdose strained her heart and lungs. There were times when she surprised them, giving them hopes of a possible recovery. But that didn't happen.

<http://www.post-gazette.com/news/local/2017/01/22/Tell-them-my-story-Maybe-it-would-help-somebody-Ross-Pittsburgh-overdose-obituary-addiction/story/2017012217pgagevevoin-egpvcvhe>

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## Habit and Conditioning Model

"With the advances in scientific research, biological theories of addiction as a "brain disease" are now widely accepted; however, this point of view is still controversial. Many prefer to **characterize addiction as a condition that requires continued management, rather than a disease**, as it promotes the *idea that addiction can be managed through behavioral changes* and that the individual is ultimately in control of the condition."

(<http://drugabuse.com/library/what-causes-addiction/>)

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## Anti-Disease Model: Addiction as adaptation

Bruce Alexander: Rat Park

*"...the drug only becomes irresistible when the opportunity for normal social existence is destroyed."*

<https://www.youtube.com/watch?v=ao8L-0nSYzg>

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## Addiction as Adaptation and Disconnection

*"At this point, it is too early to say conclusively if the Rat Park view of addiction is right or not, but it is not too early to be sure that the old theory that addiction is a problem caused by addictive drugs is far too simple."*

(Bruce Alexander: <http://www.brucealexander.com/articles-speeches/rat-park/148-addiction-the-view-from-rat-park>)

Here is a brief quiz to test your knowledge of the War on Drugs

Quiz: <http://chasingthescream.com/how-much-do-you-really-know-about-the-drug-war/>

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## Another Alternative: Addiction as Self-Medication

*"People often turn to drug and alcohol use in order to reduce or manage negative or overwhelming emotional states. The "self-medication hypothesis" is a term coined in the 1980's by Dr. Khantzian, Clinical Professor of Psychiatry at Harvard Medical Center.*

*By the 1990's the term was used to describe a general model of addiction that posits that people use substances as a self-regulation strategy, due to difficulties in four different areas: self-esteem, emotions, interpersonal relationships, and self-care."*

Lesia Ruglass: <http://www.lesiaruglass.com/2014/05/20/the-self-medication-hypothesis-of-addictions/>

## Support for Self-Medication

- Individuals with co-occurring problems endorse idea of "self-medication" on research surveys (Back, Brady, Jaanimagi, & Jackson, 2006; Leeise, Pagura, Sareen & Bolton, 2010)
- Longitudinal studies support pathway where psychological problems emerge first, followed by substance use/misuse (Chilcoat & Breslau, 1998)
- Implications for treatment: may need to resolve psychological distress first, which then allows discontinuation of substances

## Dispute of Self-Medication Theory

Some studies dispute the concept of "self-medication" and propose a "rebound effect"

- alcohol and drug use may actually cause or worsen psychological symptoms (Tomlinson and colleagues, 2006)
- Person uses heavily; tries to cut back or stop, experiences withdrawal
  - Then begins to use to avoid symptoms of withdrawal, which may mimic original psychological symptoms (e.g. anxiety, depression)
- Implications for treatment: may need to help person stop substance use first, then once stable, work on psychological distress

## Addiction as Choice

- Heyman: *Addiction: A Disorder of Choice* (2009)
- Argues that conceptualizing addiction as a chronic disease is both misleading and erroneous (Branch, 2011)
- Normal choice dynamics can lead to addiction
- Most people who use drugs do not become addicted
- Most addicted people stop on their own; only 25% of those meeting criteria for dx every seek treatment
- "...whether addicts keep using drugs or quit depends to a great extent on their alternatives." (Heyman, p.84).
- Could be seen as compatible with the Rat Park concepts

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## Conclusions

- Your thoughts, based on ideas about
  - Empirically Supported Treatment
  - Common Factors Research
  - Evidence Based Practice
- What conclusions can you reach about your own clinical work?
- Are there changes you need to make, or more research you wish to do now?

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## Group Activity

- Consider the topic of **medication-assisted treatment**
- Join with others – groups of 6-8 work best
- Discuss the arguments from different sides
- Use critical analysis to determine
  - The assertions (claims) of each side
  - The supporting evidence for each opinion, pro and con
    - Validity of evidence
      - How it was determined
      - Based on who, what, when?
      - Was contradictory evidence considered?
- Come to a conclusion based upon your critical thinking about the topic
- Work with others in your small group to come to a consensus about the topic

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QUESTIONS? COMMENTS?



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Thank You!

**Please feel free to contact me with feedback, questions, or comments:**

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