

Chapter 12

Pseudoscience in Mental Health

Shifting Tides

- Huge push today for mental health practitioners to utilize evidence-based practice
- EBP is “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.”

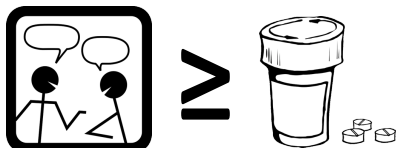
Sackett et al., 1996

EBP in Psychology

- Major movements began in mid-1990s
- APA task force released statement in 1995 that EBP interventions must show
 - Efficacy (does research show they work?)
 - Clinical utility (are they applicable in the real world?)

EBP in Psychology

- Chambless' 1996 report reviewed the research and compiled the first list of *empirically supported treatments*
 - Psychotherapies that were effective for particular disorders, at least or more so than medications



EST Examples

- CBT for panic disorder
- CBT for generalized anxiety
- EX/RP for obsessive-compulsive disorder
- Cognitive therapy for depression
- IPT for depression
- PMT for child oppositional behavior
- CBT for bulimia
- CBT for chronic pain

Chambless et al. (1996)

EBP in Psychology

- Response to the Chambless report was varied
- It definitely raised awareness of efficacy of psychological treatments
- Some, though, decried the emphasis on manualized, brief treatments and lack of emphasis on common therapeutic factors

EBP in Psychology

- In 2006, APA's Presidential Task Force on Evidence-Based Practice issued guidelines on confirming a commitment to EBP
- EBP is "the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences."

APA (2006)

EBP in Psychology

- The purpose of EBP is "to promote effective psychological practice and enhance public by applying empirically supported principles of psychological assessment, case formulation, therapeutic relationship, and intervention."
- The research is quite clear: psychology works

APA (2006)

The Big Picture

- Large body of research on children, adults, and seniors finding that therapy
 - Is safe and effective for these groups
 - Can impact a wide range of problems
 - Is more enduring in impact than medications
 - Pays for itself in terms of medical cost offset, increased productivity, and QoL



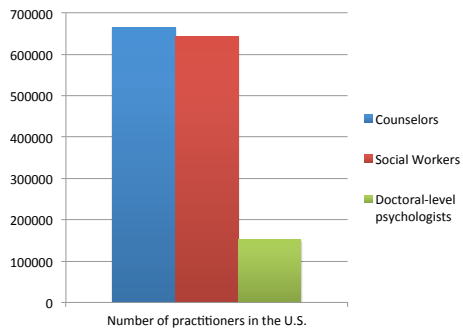
Lambert & Ogles (2003)

Now, the Bad News

- Huge numbers of MHPs have little to no training in using evidence-based therapy and assessment
- Traditionally, clinical psychology doctoral programs have been primary place to get training in EBP

Now, the Bad News

- A growing number of master's-level programs emphasize EBP, they are still a minority
- This is a problem because the majority of MHPs in the U.S. are master's-level, and thus not well-trained in EBP



More Bad News

- Many consumers of mental health services also do not know how to differentiate EBP from non-EBP in psychology
- Given the wide range of non-EBT practiced, this opens the door to a large number, a majority, of people not getting effective psychological services

Most Common Non-EBP in Psych

- Projective assessments
- Therapies with little to no support for
 - Autism spectrum disorder
 - Post-traumatic stress disorder
 - Substance abuse

Autism Spectrum Disorder

- ASD is characterized by
 - Impairments in social interaction and communication (verbal and non-verbal)
 - Repetitive self-soothing behavior
 - Difficulty connecting to others in social situations
 - Difficulty experiencing empathy
 - Issues with impulsive behavior and self-regulation

Autism and Vaccines

- The single most dangerous myth surrounding ASD is that it can be caused by vaccinations
- Idea began primarily with a 1998 study out of the UK by a physician Andrew Wakefield
- Claimed to observe GI disease and developmental regression in 12 kids within 2 weeks of getting MMR vaccine

Autism and Vaccines

- He called a press conference, in which he questioned the safety of the MMR vaccine
- Began concerns over possible link between vaccines and autism (among other problems)
- This was picked up by numerous parents groups and celebrities

Wakefield's Study

- By 2004, 10 of the 12 co-authors of the study had retracted their names
- This was largely due to investigative reporting which found that numerous ethical and scientific problems with the manuscript

Wakefield's Study

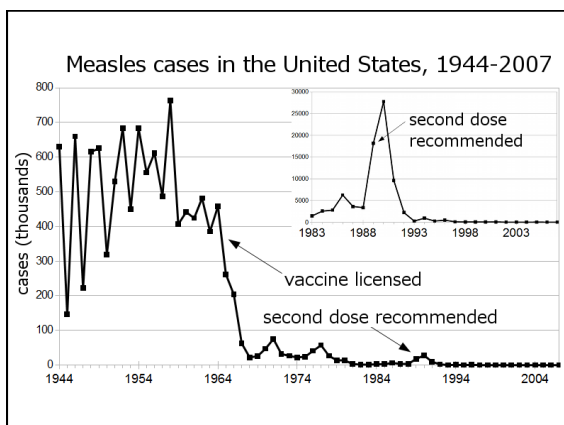
- The parents had been recruited by a lawyer involved in a lawsuit against MMR manufacturers
- The same lawyer had given over £400,000 to Wakefield for doing the study
- Wakefield, *prior* to the study, had applied for a patent on a single-jab measles vaccine to "prevent" the autism "caused" by the MMR

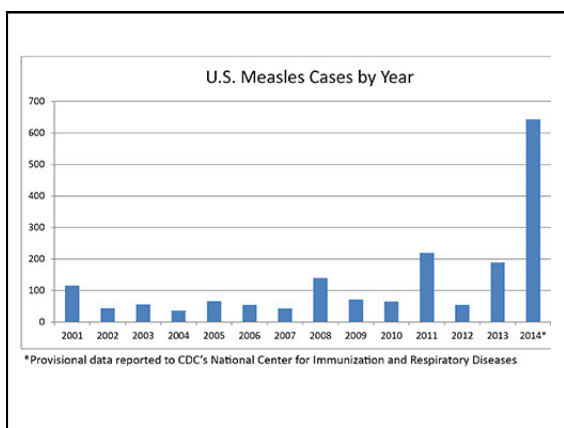
Wakefield's Study

- As a result of this information, he was investigated by the General Medical Council
- Aside from conflict of interest charges, it turns out the children in the study had been subjected to numerous painful medical tests, *without the approval of an ethics board*

Wakefield's Study

- Wakefield lost his license to practice medicine in 2010, and the *Lancet* retracted the study as being "fatally flawed"
- The damage was already done, with measles breakouts becoming problems in U.S. and U.K., including first death in over a decade





Actual Research

- Dozens of studies in past 15 years have shown no link between vaccinations and autism
- A recent large-scale study of 96,000 children found no increased chance of ASD in those who were vaccinated
 - Held true *even when* an older sibling had ASD

Treatments for ASD

- Research has shown that applied behavioral analysis (ABA) is the single most effective treatment for ASD
- Early, intensive ABA intervention shows gains in intelligence, academic skills, language, and adaptive functioning

Treatments for ASD

- ABA is severely underused for several reasons
- This has led to a number of pseudoscientific ASD therapies being widely used
 - Facilitated communication
 - Sensory integration therapy
 - Biological treatments

Facilitated Communication

- Based on the idea that communication problems in ASD are the result of motor coordination issues
- Therefore, people with ASD need special physical, communicative, and emotional support to communicate

Facilitated Communication

- A facilitator supports the person with ASD's wrist physical and provides communicative/emotional support as well



Facilitated Communication

- As a result of this, many children and adolescents began communicating in amazing ways
- Children who had never spoken aloud were typing sentences, poetry, and more
- [Watch it in action](#)

Evaluating FC

- Violates many critical thinking principles
- Extraordinary claims of ASD as motor-based are not supported, as they can do other complex motor tasks just fine
- There are rival hypotheses that must be ruled out to explain how the communication is done

Evaluating FC

- A simple blinded trial is all that's needed to test the hypothesis that the facilitator is guiding the communication
- Put headphones on both, play questions in and have the answer typed out
 - On half of the questions, though, give them different questions, and see what answer is typed

Evaluating FC

- Repeated trials using blinded protocols (of different types) show the answers given are those of the facilitator, not the person with ASD
- The American Academy of Pediatrics and American Psychological Association both label FC as being harmful and pseudoscientific

Sensory Integration Therapy

- SIT is often used by occupational therapists in their work with the ASD population
- Reportedly addresses "sensory processing problems" via stimulating activities
 - Vestibular, proprioceptive, and tactile

Sensory Integration Therapy



Sensory Integration Therapy

- Core theories have no empirical support
- Sensory processing disorders not recognized by American Medical Association or American Psychological Association
- "...no objective, scientific evidence to suggest that SIT is more effective than alternative treatments or even *no treatment at all.*"

(Polenick & Flora, 2012)

Biological Treatments for ASD

- Two of the most dangerous alternative ASD therapies are two of the most ineffective
 - Chelation therapy
 - Mega-doses of vitamins
- Both can result in serious side effects, from kidney damage to death

ASD Conclusions

- There is no “magic bullet” for ASD
- ABA is the most well-supported treatment, and can improve many areas of functioning
- Parents searching for help need to be careful to avoid the non-EBT pseudoscience

Trauma-Focused Therapies

- Both natural disasters and man-made traumas can sometimes result in long-term mental health problems
- Most commonly this is some form of anxiety, such as posttraumatic stress symptoms
- PTSD has many negative effects, for both children and adults

EBT for PTSD

- There is a huge and very strong evidence base for the use of cognitive-behavioral therapy
 - Prolonged exposure therapy
 - Cognitive processing therapy
 - Trauma-focused CBT
- But, there are many proponents of pseudoscientific, non-EBT treatments

Pseudoscientific PTSD Therapies

- Critical incident stress management (CISM)
- Eye movement desensitization and retraining (EMDR)
- Emotional freedom technique (EFT), and thought field therapy (TFT)

Critical Incident Stress Management

- CISM (“psychological debriefing”) was developed in early 1980s to *prevent* development of PTSD symptoms
- Based on two assumptions
 1. Trauma exposure alone is enough to cause a person to experience long-term psychological difficulties
 2. Early interventions can prevent such problems from developing

Critical Incident Stress Management

- Assumptions are not supported by research
- Most people do not develop PTSD and show little distress at 3 months after a trauma
- Numerous studies have actually shown CISM and it’s derivatives to *increase* the chance that someone will develop PTSD

Critical Incident Stress Management

- All evidence supporting CISM is anecdotal and most is from the developer of it
- World Health Organization and British National Health Service implemented policies against its use
- "Although [CISM] is widely used throughout the world to prevent PTSD, there is no convincing evidence that it does so." (McNally et al., 2003)

EMDR

- One of the most promoted, most commercialized pseudoscientific treatments of the past 30 years
- Developed in late 1980s by Francine Shapiro



EMDR Steps

- Taking detailed history of the trauma(s) and symptoms
- Therapist then has client vividly imagine the trauma, including how they felt
- While holding those memories in mind, client engages in "[bilateral stimulation](#)" (BS)

EMDR Steps

- This BS reportedly “unlocks” the brain via a “dual attention” procedure, resulting in decreased PTSD symptoms
- This is then repeated for other traumas or problematic events

EMDR Research

- Large body of research showing that EMDR is about as effective as CBT in reducing PTSD
- American Psychiatric Association has stated “EMDR appears to be effective in ameliorating symptoms of both acute and chronic PTSD”

(Work Group on ASD and PTSD, 2004)

EMDR Research

- However, the same APA report concludes that “Despite the demonstrable efficacy of EMDR, these studies call into question EMDR’s theoretical rationale.”
- EMDR appears to be a ‘purple hat therapy’

(Work Group on ASD and PTSD, 2004)

Purple Hat Treatments

- Takes something that is known to work for a particular problem and add on another element



- When the treatment works, they attribute the success to the added element

EMDR's Purple Hat

- In EMDR, the active ingredients causing change are CBT techniques such as EX/RP, not the the bilateral eye or body movements
- The BS are, though, still considered a "key" component of the treatment package
- Dismantling research shows that removing the BS makes the treatment no less effective at treating PTSD

EMDR Conclusions

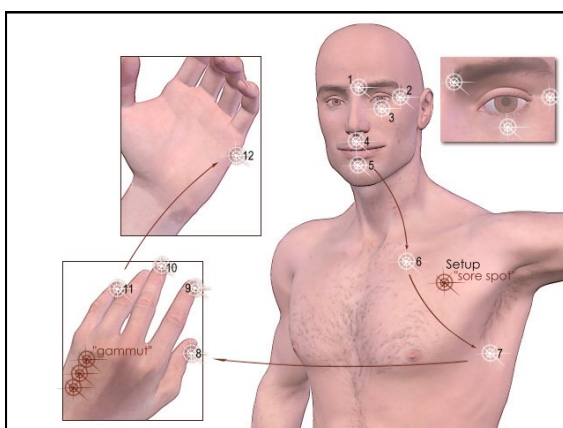
- In short, EMDR works, but it doesn't work because of why it purports to work
- "What is effective in EMDR is not new, and what is new is not effective."



(McNally, 1999)

“Energy” Therapies

- Thought Field Therapy (TFT) is based on the idea of an invisible energy field that surrounds the human body
- One can these [repeatedly tap on places](#) in the body where these fields intersect, releasing negative emotions
- Similar to acupuncture’s ideas, but for PTSD



Thought Field Therapy

- “...often works when nothing else will... It has been used for weight loss, stop smoking [sic], phobias, trauma relief, love pain, and much, much more.”

“When applied to problems TFT addresses their fundamental causes, providing information in the form of a healing code, balancing the body's energy system and allowing you to eliminate most negative emotions within minutes and promote the body's own healing ability.”

(rogercallahan.com, n.d.)

“Energy” Therapies

- No support for such “energy”
- No sound outcome research, and no theoretical reason to think it might work
- Emotional Freedom Techniques (EFT) are very similar, with equally little evidence

“Energy” Therapies

- Critical thinking principles go on high alert with TFT and EFT
 - Inability to falsify claims
 - Reliance on anecdotal evidence
 - Claims of miraculous success
- These are all hallmarks of pseudoscience

Substance Use Treatment

- Over \$600 billion spent annually in the U.S. in drug-related crime, work loss, and healthcare
- Alcohol and tobacco are most frequently used, followed by marijuana and cocaine
- Alcohol and tobacco use are responsible for 2.5 and 5 million deaths globally per year

Substance Use Treatment

- Given the high costs and high mortality, it makes sense to use the most EBP available
- Unfortunately, Alcoholics Anonymous and it's offshoots, the most widespread SU treatment, are not actually an EBP



Alcoholics Anonymous

- Based around a fellowship of individuals helping each other through their substance use problems
- Their 12-step recovery method has become so deeply ingrained in society since the program's inception in 1935 that many courts mandate participation in one

Alcoholics Anonymous

- Founding principles are religious in nature, based on teachings of the Oxford Group
 - Sharing "sins and temptations"
 - Giving life over to God
 - Attempting restitution
 - Seeking guidance from God
 - Proselytizing about the Oxford Group to others

AA's 12 Steps

- Based on the Oxford Group's principles, 7 of the 12 directly reference God or "Him"
- AA claims to be "agnostic," but this is at odds with their underlying ideals, that one must give themselves over to God for recovery to actually work

AA and Religion

- Religious principles and prayer are very important to some, but can also drive away a non-religious person seeking help
- Research on this issue is pretty clear
 - 2/3rds of former AA members disliked religious aspects
 - Religious & spiritual aspects are not what actually help people change in AA

What Works in AA

- Development of healthier social network
- Increased self-efficacy
- Increased coping skills
- Not unique to AA, but present in all effective self-help groups
 - SMART Recovery, Moderation Management

Who Does AA Work For?

- AA says that 76% of their members have been sober for over 1 year
- Outside research, though, shows success rates of 5-20%
 - Even this can be accounted for by RTM, as 26% of people with alcohol abuse spontaneously recover in a year's time

"Sober"

- AA (and offshoots) demand total and complete abstinence from all participants
- This is contrasted by decades of research showing that large portions of former problem drinkers can actually be moderate drinkers with no difficulties

AA Conclusions

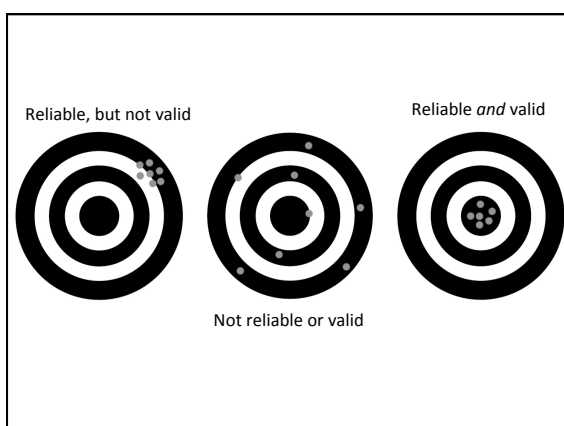
- It's not that "AA doesn't work"
- Instead, it's "AA can work for certain people (not everyone), but not because of something unique to it, and it should be combined with individualized, evidence-based treatment"

Psychological Testing

- Measures used to assess for personality and psychopathology are often divided into two categories: objective and projective
- Objective make direct inferences, projective make indirect inferences
- Objective tend to be much more EBP

Reliability & Validity

- *Reliability* refers to consistency and stability of results
- *Validity* refers to whether or not a test measures what it claims to measure
- A test can be reliable but not valid, but a valid test has to be reliable



Reliability & Validity

- For any assessment technique to be useful and accurate, it needs to be both valid and reliable
- That being said, let's have a look at the three most popular projectives and see how they stack up

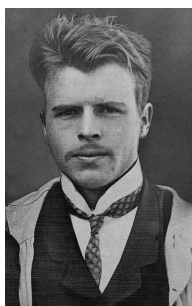
Rorschach Inkblot Method

- "The most cherished and the most reviled of all psychological assessment tools."
- One of the most commonly used measures, although has been a decline over past decade
- Extremely interesting development history

(Hunsley & Bailey, 1999)

Rorschach's Major Work

- Inspired by a parlor game and theories about relationship of movement and color to mental health
- Answers to "What do you see here?" for carefully constructed inkblots reportedly revealed one's personality and psychopathology



Herman Rorschach



Inkblot Interpretation

- Rorschach's theories were not influenced by Freudian psychoanalytic ideas
- Many are also not supported by research, but some were
 - Color responses not related to any diagnoses
 - "Experience balance" not related to extroversion
 - Does okay at detecting psychotic disorders
 - More answers are related to higher intelligence

The Post-Rorschach RIM

- After his death (9 months after publication), many began interpreting RIM answers via psychoanalytic ideas
- By the 1950s, large amounts of research showing RIM was
 - Less useful than objective measures
 - Tended to overpathologize people
 - No incremental validity above just a history

The Post-Rorschach RIM

- By the 1960s, most scientifically-based psychologists thought the RIM was not a useful instrument
- In the early 1970s, John Exner majorly reformed the RIM, developing his "Comprehensive System"

Exner's CS

- Included reviews of the literature, norms, and administration guidelines
- Purported to have extensive reliability and validity for new and old scores
- Gained massive popularity, but some problems quickly emerged

RIM Research

- But, most of the studies cited by Exner are *unpublished* studies by his research team
- Peer-reviewed, published research on the CS by others shows the same problems known since the 1950s
 - Overpathologizing, lack of diagnostic accuracy, lack of relationship to objective measures

RIM Conclusions

- The Rorschach began life in 1922 as a theoretically shaky, non-empirically supported test for the majority of psychopathology
 - Psychotic disorders being the exception
- Despite 90 years of use, the evidence today indicates that it has changed little over time

Thematic Apperception Test

- Constructed by Henry Murray's (a physician/biochemist) and Christina Morgan (an artist and CAN) in the late 1930s
- Highly influenced by ideas of Carl Jung, but built around Murray's "needs-press" concept of personality

Thematic Apperception Test

- Morgan actually constructed the pictures for the cards and assisted with results writing
- Examinees are shown the cards and asked to tell a story based on the pictures
- Stories told reportedly would reveal conscious and unconscious aspects of personality

TAT Administration

- Originally manuals provide very clear, detailed administration and scoring guidelines
- These seem to be ignored by vast majority of practitioners, though, and numerous other scoring systems developed

TAT Research

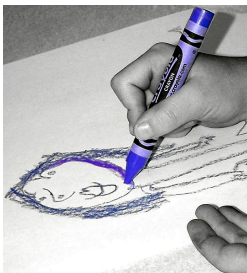
- Some positive findings using a particular scoring system (e.g., personality disorders)
- But tends to overpathologize and doesn't display incremental validity
- As such, TAT should not be used for diagnostic or treatment planning purposes

Projective Drawings

- Refers to drawings that purport to assess personality and psychopathology via drawings of people or objects
- Most commonly used are
 - Draw-A-Person
 - House-Tree-Person
 - Kinetic Family Drawing

Projective Drawings

- Very commonly used, take 10 minutes or less to give
- Two broad approaches to scoring: global and sign



Drawing Interpretation

- Global approach uses certain indicators to reach a total score of adjustment
- Sign approach isolates certain features that are supposedly related to specific problems
 - Eye size
 - Size of figure
 - Placement of figure

Drawing Research

- Results over past 60 years show reliability in both approaches are generally low
- Validity studies have numerous difficulties, mostly in terms of lack of operational definitions, non-falsifiability, and explaining away negative findings

Pseudoscientific Flags

- Pathology seen in drawings that were too large or too small, lines that were too heavy or too light, and ones that had either too few or too many eraser marks
- Same signs indicate high levels of anxiety or successful coping efforts against high anxiety
- Lack of validity in a drawing may be simply because that individual does not show their distress in a drawing

Drawing Research

- Sign approach, in particular, does not seem reliable or valid for any problem
- Global approach does have some support, with DAP distinguishing between children with and without mental health and behavioral problems in some studies

Drawing Criticisms

- Few studies to date have tried to control for intelligence or artistic ability
- The one that has saw all incremental validity for DAP erased via that simple control
- Most clinicians do not follow a specific scoring protocol or system, use a mix of G/S

Projectives Conclusions

- Some limited support for some measures assessing some constructs in some projectives
- However, objective measures are overall much more reliable and valid for many more problems and should be method of choice

Choosing a Mental Health Provider

- Given how much non-EBT there is out there, people looking for a MHP need to be careful
- Ask potential MHPs...
 - What's your primary theoretical orientation?
 - How do you know that your methods work?
- They should be able to point to well-conducted, controlled research and not have to rely on anecdotes and experience

Choosing a Mental Health Provider

- Also need to make sure that your MHP is not trying to push their personal values onto you
- Your MHP doesn't need to be an exact match for your religious, political, ethnic, and cultural background
- MHPs need to respect your beliefs and values and not try to convert you to theirs

Conclusions

- Psychological science has progressed enormously in the past 130 years
- Still, many practitioners may not use EBP and methods
- Take efforts to make sure that your MHP does, and use your critical thinking skills
