



**FIRST COUNSELING**  
BIBLICAL COUNSELING OF FIRST BAPTIST CHURCH JACKSONVILLE

# NEUROSCIENCE, THE BODY, AND BIBLICAL COUNSELING

DR. JENN CHEN  
APRIL 16, 2024

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## Professional Background

- MA in Marriage and Family Therapy
- MA & PsyD in Clinical Psychology
  - Scientist-Practitioner model
  - Research
  - Neuropsychology
  - Evidence Based Practices in trauma
- MABC!!!



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## OVERVIEW

- Science and threats to science
- What is Neuroscience
- The Body

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## OBJECTIVES

- Help you to see worldviews and presuppositions that may contrast with a biblical worldview, so that you will be better able to identify what can appear to be merely descriptive
- Help you better understand neuroscience and its limitations
- Assure you that as a biblical counselor, you do not need the neurosciences to be effective

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# Science

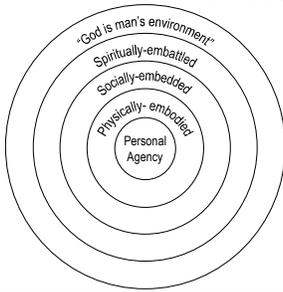
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## Worldviews and Presuppositions

- *Worldview*: the basic frame of reference by which one interprets reality (facts, objects, events, etc.).
- *Presupposition*: a belief over which no other takes precedence

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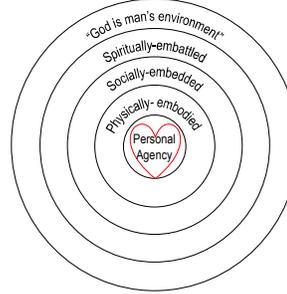
## A Biblical Worldview of Man: Five Nested Circles



David Powlison, "Theology and Secular Psychology Course Notebook", CCEF, 2012.

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## Personal Agency: The Heart



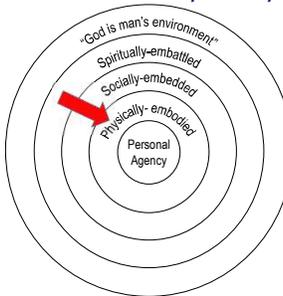
- Our soul: the center of cognition, affection, volition
- Proverbs 4:23
- Matthew 15:18

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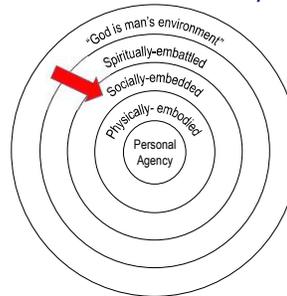
## Physically-Embodied



- Heart influenced by body: Luke 4:1-13; Matt 26:41; 1 Kings 17:4-6
- Body influenced by heart: Psalm 38:2-8
- Not determinative on our hearts: 2 Cor 4:16
- "Physical and mental limitations may shape the form that our faith and obedience take, but they cannot prevent a response of faith."  
– Winston Smith

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## Socially-embedded



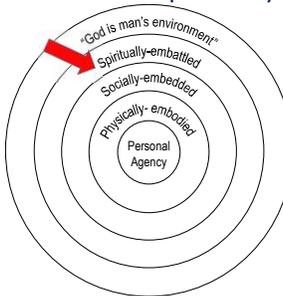
- Influences of Relationships
- Influences of Society and Culture
- A window to the heart: Matt 22:34-30

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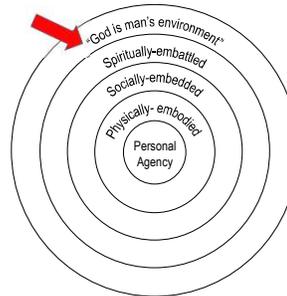
## Spiritually-Embattled



- Spiritual battle - Eph: 6:12
- Satan
- Ruler of this world – John 14:30; 1 Jn 2:16-17 (*in this world: desires of the flesh, desires of the eyes, pride of life*)
  - Thief, murderer, destroyer – John 10:1-19
  - Father of lies, deceiver - John 8:44; Gen 3:1-6
  - Accuser – Rev 12:10

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## God is man's environment



- Rom 11:36
- Col 1:16
- Job 42:2

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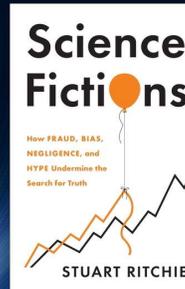
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## Worldviews and Presuppositions of Science

- **Scientism:** An exaggerated trust in the methods of natural science applied to all areas of investigation
- **Naturalism:** the idea that only natural laws and forces (as opposed to supernatural ones) operate in the universe
- **Reductionism:** reduces complex phenomena to a basic explanation or component
  - Biological reductionism: reduces behavior to a physical level and explains it in terms of genes, neurons, neurotransmitters, hormones, brain structure, etc.
- **Determinism:** all human behaviors result from specific, efficient causal antecedents, such as biological structures or processes, environmental conditions, or past experience

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## Limitations of Science

*Science Fictions: How FRAUD, BIAS, NEGLIGENCE, and HYPE Undermine the Search for Truth*

### Stuart Ritchie

- PhD in Psychology, The University of Edinburgh
- Lecturer at the Social, Genetic, and Developmental Psychiatry Centre, King's College London

"Points the way to reforms that could make science trustworthy once again."

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## Fraud

"...Much of science, despite its built-in organized skepticism, comes down to **trust**: trust that the studies really occur as reported, that the numbers really are what came out of the statistical analysis, and the [outcomes are as claimed]."  
(Ritchie, *Science Fictions*, 53)

- Changing data
- Forging datasets
- Altering scientific images
- Adding a high-profile scientist as a co-author without their knowledge or consent

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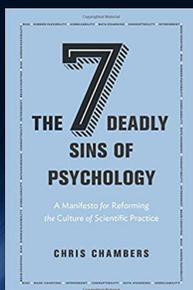
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## Bias

- **Definition:** Any process at any stage of investigation which tends to produce results or conclusions that differ systematically from the truth
- **Process:** a series or set of activities that interact to produce a result

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## Bias in science

*The Seven Deadly Sins of Psychology: A Manifesto for Reforming the Culture of Scientific Practice*

### Chris Chambers

- PhD in Experimental Psychology, Monash University
- Professor of Cognitive Neuroscience, Cardiff University
- Head of Brain Stimulation, CUBRIC

"Why Psychology is in peril as a scientific discipline—and how to save it."

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## "The WEIRDest People in the World?"

"Behavioral scientists routinely publish broad claims about human psychology and behavior in the world's top journals based on samples drawn entirely from:

**W**estern,  
**E**ducated,  
**I**ndustrialized,  
**R**ich, and  
**D**emocratic

(WEIRD) societies. Researchers – often implicitly – assume that either there is little variation across human populations, or that these 'standard subjects' are as representative of the species as any other population."

Joseph Henrich, Steven J. Heine, and Ara Norenzayan,  
*Behavioral and Brain Sciences* 33 (2010): 61

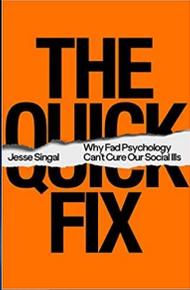
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## Hype

- Exaggerated publicity
- An ingenious or questionable claim, method, etc. used in advertising, promotion, or publicity to intensify the effect

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## Hype in Psychology

*The Quick Fix: Why Fad Psychology Can't Cure Our Social Ills*

Jesse Singal

- MA in Public Affairs, Princeton University
- Brooklyn-based journalist

"An investigative journalist exposes the many holes in today's bestselling behavioral science, and argues that the trendy, TED-Talk-friendly psychological interventions that are so in vogue at the moment will never be enough to truly address social injustice and inequality."

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## Three Types of Hype in Press Releases for Health-Related Scientific Studies

Analyzed 462 press releases in the UK on biomedical and health related science issued by 20 leading UK universities in 2011, alongside their associated peer reviewed research papers and news stories

- Unwarranted/Exaggerated advice
- Exaggerated Causal Claims (Correlation is not causation)
- Exaggerated Inference to Humans from Animal Research (Cross species leap)

Petroc Sumner, Solveiga Vivian-Griffiths, and Jacky Boivin, "The Association Between Exaggeration in Health Related Science News and Academic Press Releases: Retrospective Observational Study," *British Medical Journal* 349 (2014): g7015

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## Sumner et al., "Exaggeration in Health Related Science News and Academic Press Releases"

	Exaggerated Advice	Exaggerated Causal Claims	Exaggerated Inference to Humans from Animal Research
Press Release	40%	33%	36%
related news stories	58%	81%	86%
Press Release not exaggerated	--	--	--
related news stories	17%	18%	10%

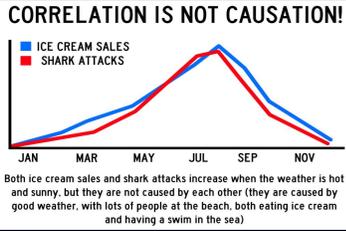
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## Science 101: Correlation is NOT Causation!

- "Most research findings in psychology are *probabilistic rather than deterministic*: conventional statistical tests talk to us in terms of probabilities rather than proofs." (Chambers, *Seven Sins*, 12)

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## Science 101: Correlation is NOT Causation!



Both ice cream sales and shark attacks increase when the weather is hot and sunny, but they are not caused by each other (they are caused by good weather, with lots of people at the beach, both eating ice cream and having a swim in the sea)

Heather Krause, "Why Journalists Love Causation (And How Statisticians Can Help)," accessed June 28, 2021, <https://datassist.com/why-journalists-love-causation-and-how-statisticians-can-help/>

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### What is Neuroscience?

**What We Do**

The Society for Neuroscience is committed to advancing the understanding of the brain and the nervous system by creating venues where great science gets shared, providing professional development for neuroscience professionals, promoting public education and general education in neuroscience research, and informing legislators and other policymakers about new developments.



SOCIETY FOR NEUROSCIENCE SfN CELEBRATING 50 YEARS 1969-2019 [www.sfn.org/about](http://www.sfn.org/about), accessed May 29, 2021

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### The Essential Principles of Neuroscience

The nervous system controls and responds to body functions and directs behavior

- The brain is the body's most complex organ
- Neurons communicate using both electrical and chemical signals

Nervous system structure and function are determined by both genes and environment throughout life

- Genetically determined circuits are the foundation of the nervous system
- Life experiences change the nervous system

Mohammad Khakshour, "Neuroscience Core Concepts: The Essential Principles of Neuroscience," Society for Neuroscience (Sept. 2015)

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### The Essential Principles of Neuroscience (cont.)

The brain is the foundation of the mind

- Intelligence arises as the brain reasons, plans, and solves problems
- The brain makes it possible to communicate knowledge through language

Greg Gifford, "Mind vs Brain," Association of Certified Biblical Counselors Truth in Love podcast, April 25, 2022, <https://biblicalcounseling.com/resource-library/podcast-episodes/mind-vs-brain/>

Research leads to understanding that is essential for development of therapies for nervous system disorders

- The human brain endows us with a natural curiosity to understand how the world works
- Fundamental discoveries promote healthy living and treatment of disease

Ibid.

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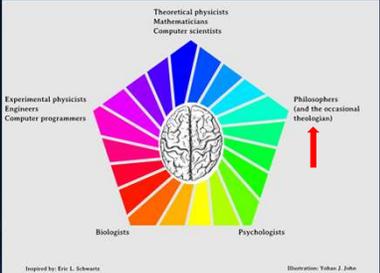
### "The Trouble With Brain Science"

*"...scientists are not only far from a comprehensive explanation of how the brain works; we're also not even in agreement about the best way to study it, or what questions we should be asking."*

Gary Marcus, "The Trouble With Brain Science," New York Times (July 11, 2014), <http://www.nytimes.com/2014/07/12/opinion/the-trouble-with-brain-science.html>

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### Pentagon of Neuroscience: Who Studies the Mind?



Inspired by Eric L. Schwartz [ericlswartz.com](http://ericlswartz.com) Illustration: Yuhua J. John [www.yuhua.com](http://www.yuhua.com)

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# Neuroimaging

THE USE OF VARIOUS TECHNIQUES TO EITHER DIRECTLY OR INDIRECTLY IMAGE THE STRUCTURE, FUNCTION, OR PHARMACOLOGY OF THE NERVOUS SYSTEM

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## Types of Neuroimaging

Structural

- CT/CAT (Computed *axial* tomography)
- MRI (Magnetic resonance imaging)

Functional

- EEG (Electroencephalogram)
- PET (Positron emission tomography)
- SPECT (Single photon emission computed tomography)
- fMRI (Functional MRI) – blood flow while carrying out a task

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## 2-Minute Neuroscience: Functional Magnetic Resonance Imaging (fMRI)



<https://youtu.be/rJHjnzmvDI>

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## No, fMRI Brain Scans Are Not Reading Our Minds

1. *fMRI* imaging doesn't see brain activity directly.
2. The changes in blood flow do not occur simultaneously with the brain activity.
3. *fMRI* imaging produces rather fuzzy pictures of the brain

Furthermore, *fMRI* requires a lot of signal-processing, which means that researchers must make choices about which data points are important and which are noise. Such decisions inherently introduce **bias** into the research. The researchers' processing "smudges" the images, making interpretation considerably more difficult and **unreliable**.

Michael R. Egnor, "Why A 'Budding' Neuroscientist Is Skeptical of Brain Scans," *Mind Matters News*, April 5, 2021, <https://mindmatters.ai/2021/04/no-fmri-brain-scans-are-not-reading-our-minds/>

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## Measurement Error

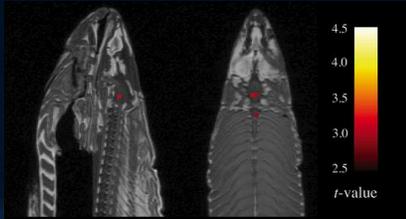
- "a **default setting** in a software package commonly used to analyze imaging data had a **statistical error** leading to a **vast number of accidental, uncorrected false-positive results**, and could have compromised **around 10%** of all studies that had ever been published on the topic." (Ritchie, *Science Fictions*, 33)

Anders Eklund, Thomas E. Nichols, and Hans Knutsson, "Cluster Failure: Why fMRI Inferences for Spatial Extent Have Inflated False-Positive Rates," *Proceedings of the National Academy of Sciences* 113, no. 28 (July 12, 2016):7900-5.

Anders Eklund, Thomas E. Nichols, and Hans Knutsson, "Cluster Failure Revisited: Impact of First Level Design and Physiological Noise on Cluster False Positive Rates," *Human Brain Mapping* 40, no. 7 (May 2019): 2017-32.

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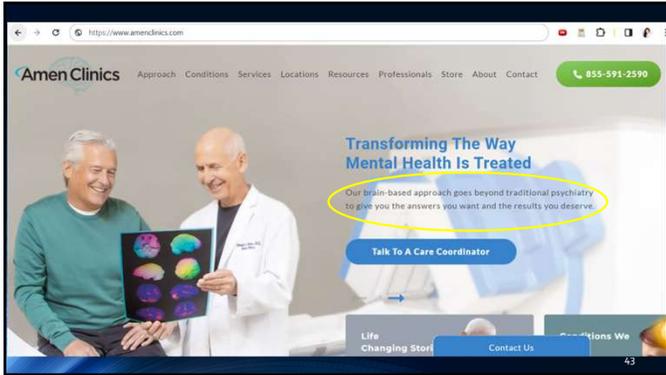
## Scanning Dead Salmon in fMRI Machine Highlights Risk of Red Herrings



Craig M. Bennett, Abigail A. Baird, Michael B. Miller, and George L. Wolford, "Neural Correlates of Interspecies Perspective Taking in The Post-Mortem Atlantic Salmon: An Argument for Multiple Comparisons Correction," (Poster presentation, Human Brain Mapping Conference, San Francisco, 2009)

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"In my opinion, what [Amen] is doing is the modern equivalent of phrenology." (Phrenology was a popular pseudoscience in the early 19th century that said the mind was determined by the shape of the skull, particularly its bumps.) "The claims [Amen] makes are not supported by reliable science, and one has to be skeptical about his motivation."

Jeffrey Lieberman, MD,  
Former American Psychiatric Association President,  
Chairman of Psychiatry at Columbia University  
College of Physicians and Surgeons.

Neely Tucker, "Daniel Amen Is the Most Popular Psychiatrist in America. To Most Researchers and Scientists, That's a Very Bad Thing," *Washington Post*, August 9, 2012.

<https://files.gutenberg.org/content/epubfiles/epubfiles/Phrenology-Chart-Color-paper-etc.-dijkshof.nl/>

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**Academic Article**

- Martha J. Farah and Seth J. Gillihan, "The Puzzle of Neuroimaging and Psychiatric Diagnosis: Technology and Nosology in an Evolving Discipline," *AJOB Neuroscience* 3, no. 4 (October 1, 2012): 31–41, <https://doi.org/10.1080/21507740.2012.713072>.

**Exposés**

- Decca Muldowney, "Dr Daniel Amen Called a Snake Oil Salesman By Critics and Former Patients Over SPECT Brain Scans," *Daily Beast*, January 9, 2023, <https://www.thedailybeast.com/dr-daniel-amen-called-a-snake-oil-salesman-by-critics-and-former-patients-over-spect-brain-scans>.
- Anna Medaris, "A Controversial Hollywood Psychiatrist Conducted Bella Hadid's Brain Scans, Inspiring the Model to Stop Drinking," *Business Insider*, accessed April 14, 2024, <https://www.businessinsider.com/bella-hadid-brain-doctor-daniel-amen-psychiatrist-to-celebs-2022-1>.

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**Clinical Applications of Neuroimaging in Psychiatric Disorders**

- "except in the case of neurocognitive disorders, there are currently no brain imaging biomarkers that are clinically useful for any diagnostic category in psychiatry."
- Michael B. First et al., "Resource Document on Clinical Applications of Neuroimaging in Psychiatric Disorders," *The American Journal of Psychiatry* 175, no. 9 (September 1, 2018): 915–16, <https://doi.org/10.1176/appi.ajp.2018.1750701>
- In contrast
  - Theodore A. Henderson et al., "Functional Neuroimaging in Psychiatry—Aiding in Diagnosis and Guiding Treatment. What the American Psychiatric Association Does Not Know," *Frontiers in Psychiatry* 11 (April 15, 2020), <https://doi.org/10.3389/fpsyg.2020.00276>.

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**Brainwashed: The Seductive Appeal of Mindless Neuroscience**  
(New York: Basic Books, 2013)

**Sally Satel**

- MD, Psychiatry
- Lecturer at Yale University School of Medicine

**Scott Lilienfeld**

- PhD, Clinical Psychology
- Psychology Professor at Emory University

"brilliantly illuminates what contemporary neuroscience and brain imaging can and cannot tell us about ourselves"

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**Neurocentrism**

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## Neurocentrism

"The brain is said to be the final scientific frontier, and rightly so, in our view. Yet in many quarters brain-based explanations appear to be granted a kind of inherent superiority over all other ways of accounting for human behavior. We call this assumption 'neurocentrism'—the view that human experience and behavior can be best explained from the predominant or even exclusive perspective of the brain. From this popular vantage point, the study of the brain is somehow more 'scientific' than the study of human motives, thoughts, feelings, and actions. By making the hidden visible, brain imaging has been a spectacular boon to neurocentrism."

Satell and Lilienfeld, *Brainwashed*, xix

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## "Neuroscience Needs Behavior: Correcting a Reductionist Bias"

Abstract | "There are ever more compelling tools available for neuroscience research, ranging from selective genetic targeting to optogenetic circuit control to mapping whole connectomes. These approaches are coupled with a deep-seated, often tacit, belief in the reductionist program for understanding the link between the brain and behavior. The aim of this program is causal explanation through neural manipulations that allow testing of necessity and sufficiency claims. We argue, however, that another equally important approach seeks an alternative form of understanding through careful theoretical and experimental decomposition of behavior. Specifically, the detailed analysis of tasks and of the behavior they elicit is best suited for discovering component processes and their underlying algorithms. In most cases, we argue that study of the neural implementation of behavior is best investigated after such behavioral work. Thus, we advocate a more pluralistic notion of neuroscience when it comes to the brain-behavior relationship: behavioral work provides understanding, whereas neural interventions test causality."

John W. Krakauer et al., *Neuron* 93, no. 3 (Feb 2017): 480-490

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## "The Lure of Causal Statements: Rampant Mis-Inference of Causality in Estimated Connectivity"

"As neuroscientists we want to understand how causal interactions or mechanisms within the brain give rise to perception, cognition, and behavior. It is typical to estimate interaction effects from measured activity using statistical techniques such as functional connectivity, Granger Causality, or information flow, whose outcomes are often falsely treated as revealing mechanistic insight. Since these statistical techniques fit models to low-dimensional measurements from brains, they ignore the fact that brain activity is high-dimensional."

David Marc Anton Mehler and Konrad Paul Kording, *arXiv: Neurons and Cognition* (Oct 23, 2020), <https://arxiv.org/abs/1812.03363>

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## "The Lure of Causal Statements: Rampant Mis-Inference of Causality in Estimated Connectivity" (cont.)

"Here we focus on the obvious confound of common inputs: the countless unobserved variables likely have more influence than the few observed ones. Any given observed correlation can be explained by an infinite set of causal models that take into account the unobserved variables. Therefore, correlations within massively undersampled measurements tell us little about mechanisms. We argue that these mis-inferences of causality from correlation are augmented by an implicit redefinition of words that suggest mechanisms, such as connectivity, causality, and flow."

Ibid.

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• "When it comes to studies of such extraordinarily complex systems as the body or the brain, it's rare for scientists to find one factor that has a massive effect on another. Instead, most of the psychological, social and even medical phenomena we're interested in are made up of lots of small effects, each of them playing a small role."

Ritchie, *Science Fictions*, 139

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## "Messaging in Biological Psychiatry: Misrepresentations, Their Causes, and Potential Consequences"

Abstract: Most experts in the field of psychiatry recognize that neuroscience advances have yet to be translated into clinical practice. The main message delivered to laypeople, however, is that mental disorders are brain diseases cured by scientifically designed medications. Here we describe how this misleading message is generated. We summarize the academic studies describing how biomedical observations are often misrepresented in the scientific literature through various forms of data embellishment, publication biases favoring initial and positive studies, improper interpretations, and exaggerated conclusions. These misrepresentations also affect biological psychiatry and are spread through mass media documents. Exacerbated competition, hyperspecialization, and the need to obtain funding for research projects might drive scientists to misrepresent their findings.

Dumas-Mallet, Estelle PhD, Gonon, Francois PhD, *Harvard Review of Psychiatry* 28(6):p 395-403, 11/12 2020.

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## "Messaging in Biological Psychiatry: Misrepresentations, Their Causes, and Potential Consequences" (cont.)

Moreover, journalists are unaware that **initial studies**, even when positive and promising, are **inherently uncertain**. Journalists preferentially cover them and **almost never inform the public when those studies are disconfirmed by subsequent research**. This explains why reductionist theories about mental health often persist in mass media even though the scientific claims that have been put forward to support them have long been contradicted.

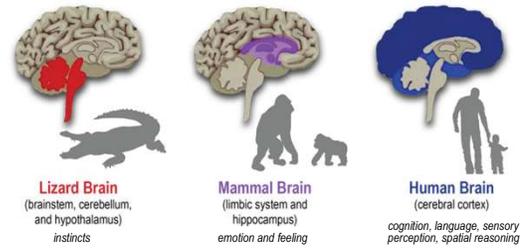
These misrepresentations affect the care of patients. Indeed, studies show that a neuro-essentialist conceptualization of mental disorders negatively affects several aspects of stigmatization, reduces the chances of patients' healing, and overshadows psychotherapeutic and social approaches that have been found effective in alleviating mental suffering. Public information about mental health should avoid these reporting biases and give equal consideration to the biological, psychological, and social aspects of mental health.

Ibid.

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## Triune Brain Theory

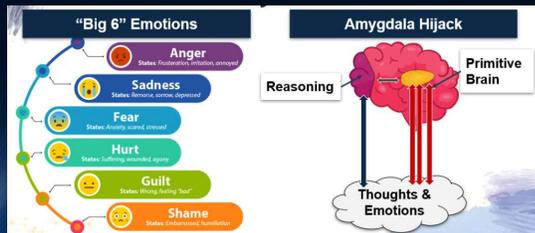


widely discredited by neuroscientists and evolutionary biologists: the model is out-of-date and not based on contemporary science. - Dr. Sarah McKay

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## The Myth of the "Amygdala Hijack"



<https://www.modernholistichealth.com/the-amygdala-hijack-how-weve-lost-control-of-our-minds/>

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In 2020, most neuroscientists no longer support the notion that our lives are ruled by hard-wired instincts deployed automatically in response to particular triggers with certain emotions accompanied by a specific facial expression and physical sensation. This so-called 'classical view' of emotions is falling out of favour as we learn more about how the brain works, more about how humans learn and even more about consciousness.

Instead, evidence points towards a theory of 'constructed emotion'. This theory proposes that emotions are not pre-programmed into our brains. Instead, various 'ingredients' are processed by **entire brain networks** to 'construct' consciously experienced feelings in the moment.

Sarah McKay, "Rethinking the Reptilian Brain," June 24, 2020, <https://dsarahmckay.com/rethinking-the-reptilian-brain/>.

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## "Mental Illness Is Like Any Other Medical Illness": A Critical Examination of the Statement and Its Impact on Patient Care and Society"

Advances in neurosciences have surely given us much better biological mechanistic explanations of many of the uniquely human cognitive, emotional and conative functions, such as memory, thinking, perception, mood and action. This knowledge has informed us that many mental illnesses derive their vulnerability from underlying biological variations.

However, we are far from being able to explain in neurobiological terms many of the behaviours and experiences that constitute the core presentations of mental disorders. Even if neurobiology one day were to provide better explanations of the workings of the brain, more elaborately explain the role of genes in increasing the risk for mental illness and the mechanisms behind complex human behaviour, one would still need to understand the experiences of patients with different forms of mental illness in psychological terms. By equating mental illness with any medical illness and, therefore, situating it in an organ within the human biology and not recognizing its unique nature in the way it affects the "self" cannot be justified on the basis of current state of knowledge nor may it serve our patients and society well...

Ashok Malla, Ridha Joobier, and Amparo Garcia, "Journal of Psychiatry & Neuroscience" 40, no. 3 (May 2015):148.

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## "Mental Illness Is Like Any Other Medical Illness": A Critical Examination of the Statement and Its Impact on Patient Care and Society" (cont.)

So while we have more knowledge about the brain and nervous system, neuroscientists are cautioning us to attempt to understand the experiences of the person outside of neurobiology, not equate mental illness with medical illness, and not simply situate mental disorder in the brain because it is not helpful for patients or society.

Ibid.

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## Neuroscience Applications

- Pre-surgical planning for neurosurgeons to map the language and motor regions of the brain to minimize damage to these functionally important areas while removing a tumor, blood clot, or epileptic tissue
- To ascertain stroke damage
- To follow the course of Alzheimer's disease and epilepsy
- To determine brain maturity
- Scientists hope that fMRI will improve the treatment of comatose patients by allowing doctors to directly measure levels of consciousness

Satel and Lilienfeld, *Brainwashed*, 11

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- Detect structural lesions causing psychosis<sup>1</sup>
- Differentiate depression from neurodegenerative disorders or brain tumors<sup>1</sup>
- Detect damage from Traumatic Brain Injury (TBI) in moderate to severe cases – CT scans<sup>2</sup>

<sup>1</sup> Joseph C. Masdeu, "Neuroimaging in Psychiatric Disorders," *Neurotherapeutics: The Journal of the American Society for Experimental Neurotherapeutics* 8, no. 1 (January 2011): 93–102, <https://doi.org/10.1007/s13311-010-0006-0>.  
<sup>2</sup> David B. Douglas et al., "Neuroimaging of Traumatic Brain Injury," *Medical Sciences* 7, no. 1 (December 20, 2018): 2, <https://doi.org/10.3390/medsci7010002>.

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## To Assess Research

- "Top Ten List of Questions to Assess Research," in Stuart Richie, *Science Fictions*, 248–253.
- See corollaries in John P. A. Ioannidis, "Why Most Published Research Findings Are False," *PLOS Medicine* 2, no. 8 (2005): e124, <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1004085>
- Marc Zimmer, "6 Tips to Help You Detect Fake Science News," *Phys Org*, March 16, 2021, <https://phys.org/news/2021-03-fake-science-news.html>.
- Journal rankings: <https://oair.org/journals.php#>

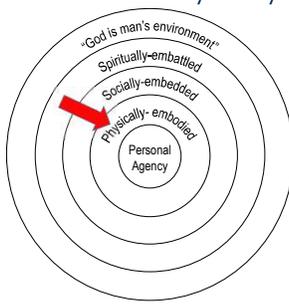
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## The Body

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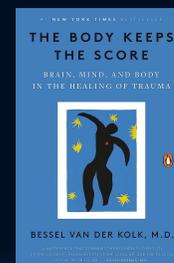
## Physically-Embodied



- Man is created "a unified person with body and soul living and acting together" (Grudem, 473).
- Heart influenced by body: Luke 4:1-13; Matt 26:41; 1 Kings 17:4-6
- Body influenced by heart: Psalm 38:2-8
- Not determinative on our hearts: 2 Cor 4:16
- "Physical and mental limitations may shape the form that our faith and obedience take, but they cannot prevent a response of faith." – Winston Smith

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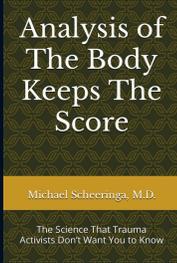


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"Twenty three of the 42 claims have in common that van der Kolk supplied zero data supporting them. The other 19 claims were supported by either cross sectional studies [which cannot indicate causality], misrepresentations of studies, papers with no relation to the claim or commentaries that were basically sympathetic op-ed pieces." (p. 53)

In summary, **the scientific evidence does not support Van der Kolk's claims.**



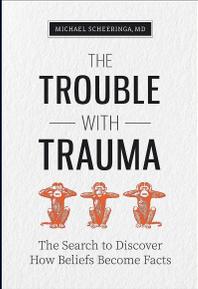
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**The Trouble with Trauma** is the story of how the idea of psychological trauma appeals to the human mind.

Trauma impacts many people psychologically, but the evidence on the long-term physical effect is incomplete. Theories that psychological trauma can permanently damage your brain, cause physical disease, and change your essential character have become staples of human thought worldwide.

Dr. Scheeringa explains how those theories are widely believed whilst **not being true**, and at the heart of the story is an explanation of how humans choose to **ignore scientific evidence** and **practice self-deception** based on heuristics for survival. Heuristics is a rapid and efficient method to make judgments about threatening situations, which may be especially relevant during an epidemic and the spread of misinformation.

But *The Trouble with Trauma* is more than a critique of social policy. This is a book for anyone who wants a better understanding on how groupthink and herd mentality works and improves our ability to understand scientific fact. Dr. Scheeringa sheds light on why we choose to ignore scientific evidence while engaging the reader in a lively conversation on how we come to believe.



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The Neuroscience of Trauma:  
Lisa Feldman Barrett



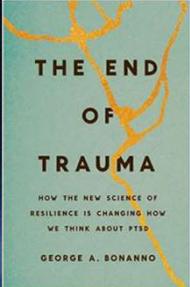
<https://www.youtube.com/watch?v=GlqAGEhUKCI>

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Biblical Critiques of van Der Kolk

- Francine Tan, "A Critical Evaluation of Bessel van Der Kolk's *The Body Keeps the Score*," *The Journal of Biblical Soul Care* 7, no. 2 (2023), [https://acbcdigitalresources.s3.us-west-2.amazonaws.com/resources/JBSC/Fall+2023/JBSC+Fall+2023\\_Tan.pdf](https://acbcdigitalresources.s3.us-west-2.amazonaws.com/resources/JBSC/Fall+2023/JBSC+Fall+2023_Tan.pdf).
- Julia Yost, "By Our Wounds We Are Healed," *First Things*, October 1, 2021, <https://www.firstthings.com/article/2021/10/by-our-wounds-we-are-healed>.

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After 9/11, mental health professionals flocked to New York to handle what everyone assumed would be a flood of trauma cases. Oddly, the flood never came.

In *The End of Trauma*, pioneering psychologist George A. Bonanno argues that we failed to predict the psychological response to 9/11 because **most of what we understand about trauma is wrong**. For starters, it's not nearly as common as we think. In fact, **people are overwhelmingly resilient to adversity**. What we often interpret as PTSD are signs of a natural process of learning how to deal with a specific situation.

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EMDR

EYE MOVEMENT DESENSITIZATION AND REPROCESSING



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## Summary of Recommendations of the APA Guideline Development Panel for the Treatment of PTSD – Psychotherapy for adults

Psychotherapy	Strength of Recommendation
<ul style="list-style-type: none"> <li>Cognitive Behavioral Therapy (CBT)</li> <li>Cognitive Processing Therapy (CPT)</li> <li>Cognitive Therapy (CT)</li> <li>Prolonged Exposure Therapy (PE)</li> </ul>	Strongly recommend
<ul style="list-style-type: none"> <li>Brief Eclectic Psychotherapy (BEP)</li> <li>Eye Movement Desensitization And Reprocessing Therapy (EMDR)</li> </ul>	Conditional recommendation
<ul style="list-style-type: none"> <li>Narrative Exposure Therapy (NET)</li> <li>Relaxation (RX)</li> <li>Seeking Safety (SS)</li> </ul>	Insufficient evidence to recommend

<https://www.apa.org/ptsd-guideline/treatments/recommendations-summary-table.pdf>

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## EMDR: Empirical Review

The efficacy of EMDR for PTSD is an extremely controversial subject among researchers, as the available evidence can be interpreted in several ways. On one hand, studies have shown that EMDR produces greater reduction in PTSD symptoms compared to control groups receiving no treatment. On the other hand, the existing methodologically sound research comparing EMDR to exposure therapy without eye movements has found no difference in outcomes. Thus, it appears that while EMDR is effective, the mechanism of change may be exposure - and the eye movements may be an unnecessary addition. If EMDR is indeed simply exposure therapy with a superfluous addition, it brings to question whether the dissemination of EMDR is beneficial for patients and the field. However, proponents of EMDR insist that it is empirically supported and more efficient than traditional treatments for PTSD. In any case, more concrete, scientific evidence supporting the proposed mechanisms is necessary before the controversy surrounding EMDR will lift.

<https://div12.org/treatment/eye-movement-desensitization-and-reprocessing-for-post-traumatic-stress-disorder/>

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## Purple hat therapy

a hypothetical medical practice in which an established form of therapy is mixed with an unlikely new addition (such as wearing a purple hat) and then is claimed to be effective because of the new addition, when in fact the effectiveness is due to the established component



In imaginary purple hat therapy, a person being treated is required to wear a purple hat, but it is not responsible for any effectiveness the treatment has.

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## "The Demise of Pseudoscience"

Although I share Herbert et al.'s (2000) concerns about the marketing of eye movements and other amusing exotica of the EMDR movement (McNally, 1999a, 1999b), I believe the accusation of pseudoscience misses the mark. After clearing away all the neurological mumbo-jumbo, one can see that EMDR theory is eminently falsifiable (McNally, 2001a), and if Shapiro's (1989) hypothesis about the curative powers of eye movement is not a Popperian "bold conjecture," then nothing is. Indeed, not only is EMDR theory falsifiable, it has already been repeatedly falsified, as a recent meta-analysis has shown (Davidson & Parker, 2001). Despite many attempts, researchers have been unable to demonstrate that eye movements possess therapeutic powers. In response to these disappointing findings, EMDR theorists have cheerfully reconceptualized placebo control manipulations (e.g., rhythmic tapping) as variant forms of EMDR, and it is this ad hoc maneuver that Herbert et al. find especially problematic.

Richard J. McNally, *The Scientific Review of Mental Health Practice* 2, no. 2 (Fall/Winter 2003), <https://www.srmhp.org/0202/pseudoscience.html>.

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## "Threats to Evidence-Based Treatment of Trauma: Professional Issues and Implications,"

The use of trauma interventions without adequate empirical support for victims of crime has become increasingly problematic over the last decade. It is proposed that pseudoscience in mental health trauma practice reflects a widening rift between research and practice. It may also be a by-product of the commercialization of the mental health profession. This article presents a discussion of the ethical and professional implications of pseudoscience and junk science in trauma practice. We argue that it is the professional and ethical responsibility of mental health practitioners to recognize scientific evidence and to conduct evidence-based trauma practice. With such knowledge, practitioners and service providers may be better equipped in the identification and avoidance of treatments with little or no scientific merit.

Jeffrey Lohr, Bunmi Olatunji, and Grant Devilly, *International Review of Victimology* 15 (September 1, 2008), <https://doi.org/10.1177/026975800801500204>.

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## Biblical perspectives on EMDR

Dale Johnson, "How Should Biblical Counselors Assess EMDR Therapy?," *Truth in Love Podcast - Association of Certified Biblical Counselors* (blog), August 24, 2020, <https://biblicalcounseling.com/resource-library/podcast-episodes/how-should-biblical-counselors-assess-emdr-therapy/>.

Rhenn Cherry, *A Biblical Critique of EMDR Therapy*, 2023 ACBC Annual Conference, <https://biblicalcounseling.com/product/rhenn-cherry-a-biblical-critique-of-emdr-therapy/>.

Biblical Counseling Coalition, "BCC Statement on EMDR," December 16, 2021, <https://www.biblicalcounselingcoalition.org/2021/12/16/bcc-statement-on-emdr/>; <https://www.biblicalcounselingcoalition.org/wp-content/uploads/2021/12/Statement-on-EMDR-by-the-BCC.pdf>.

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### "Mindfulness Meditation Often Fails the Scientific Test"

- Mindfulness meditation is a practice which teaches you to focus on the present moment and redirect your attention to it without judgement when you get distracted
- When studied in randomized clinical trials for a variety of issues like anxiety, depression, and stress, mindfulness meditation often shows a small benefit over not doing anything, but that benefit commonly disappears when it is compared to doing something other than meditation
- Mindfulness meditation appears to be safe for most people, although reports of complications like traumatic flashbacks and psychosis have led to calls for scientists to better report side effects in studies of this form of meditation

Jonathan Jarry, January 29, 2024, <https://www.mcgill.ca/oss/article/critical-thinking-health-and-nutrition/mindfulness-meditation-often-fails-scientific-test>.

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- Erik Everhart, Dale Johnson, and Ernie Baker, "Biblical Discernment, Neuroscience and Trauma," Association of Certified Biblical Counselors, *Truth in Love* podcast, May 15, 2023, <https://biblicalcounseling.com/resource-library/podcast-episodes/biblical-discernment-neuroscience-and-trauma/>.

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### Brain Problems Can Expose Heart Problems

"A dysfunctional brain can make it very difficult to understand what is going on, but it can't create sin. It can only reveal things that were previously hidden in the heart. And the reason these things were *hidden* was that the circumstances were never intense enough to expose them, or the person had the mental self-control just to *think* something but not actually say it."

Ed Welch, *Blame It On the Brain*, p. 58

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### Sinful Hearts Can Negatively Impact the Body

- Stress alters the body's susceptibility to disease
- Sinful choices, unwise living, and guilt can lead to sickness
- Deuteronomy 7:12, 15
- 2 Chronicles 21:18-19
- Psalm 38:3-5 (cf. Psa. 32)

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### Stress and the body

[www.quietinganoisysoul.com/video-helps/panic-attacks.htm](http://www.quietinganoisysoul.com/video-helps/panic-attacks.htm)



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- Turning Off the Stress Response (Appendix Article 2)
- When Panic Attacks (Appendix Article 18)
- Quieting a Noisy Soul printable memory cards

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### Upright Hearts Can Positively Affect Health

- Righteousness and the peace and joy of biblical living can lead to health
- Proverbs 3:7-8

*Be not wise in your own eyes;  
fear the LORD, and turn away from evil.*

*It will be healing to your flesh  
and refreshment to your bones.*

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