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Month: February 2011

There's no such thing as a "chemical imbalance."

Posted on [February 15, 2011](#)

I've known at least a hundred clients who think that the cause of their symptoms might be a "chemical imbalance." Some have said, "maybe I don't have enough Serotonin." It bothers me, every time, because *there is no such thing*.

About 30 to 40 years ago, some scientists hypothesized that anti-depressants corrected a chemical imbalance in the brain, primarily Serotonin.

But as early as 1994, it became clear that the hypothesis of a chemical imbalance in the brain was over-simplistic, and, there was not a significant amount of research to support the hypothesis.



Dozens of ideas about the brain have come and gone. Even though it's false, the chemical imbalance idea sticks around because of pharmaceutical marketing.

For years, scientists had studied Serotonin in the human brain and there was no indication that increasing Serotonin or decreasing Serotonin would cure or cause depression. Interestingly, one anti-depressant used in Europe decreases Serotonin availability in the brain.

Some ideas die hard. Pharmaceutical Corporations still make the claim that antidepressants “may correct a chemical imbalance in the brain.” Pharmaceutical sales reps continue to tell physicians the same thing, and doctors tell their patients.

Why do Pharmaceutical commercials and sales reps still mention the chemical imbalance hypothesis if it's not true? There's no law against it. I suspect they continue to use it because it sounds so simple: chemical imbalance + pill = cure. As simple as adding salt to french fries.

The “Alternative Medicine” industry has also climbed on the bandwagon with all sorts of pills that allegedly cure this chemical imbalance – 5HT, SAME, and St. John's Wort. None of these supplements seem to work very well in clinical trials, and they also can complicate existing treatments, for example, by lessening the effects of other medications. These supplements can have undesirable side effects like antidepressants (weight gain, insomnia, irritability, nausea, etc...) – so much for *au natural*.

Even if there was a chemical imbalance in your brain, it doesn't mean that it was the *cause* of your depression. It is extremely difficult to understand *cause* and *effect*. Life events that we find depressing

may increase the presence of one neuro-modulator while decreasing another. Would it be fair to say that the change in neuromodulators *caused* your depression? or, did the upsetting life stress *cause* your brain to change its chemistry in order to make you feel a certain way and for a certain reason? Is it possible that we *need* to have certain feelings? Is it possible that certain feeling states can become habitual or maintained? Is this in our control?

There are two primary neurotransmitters: GABA and Glutamate. Other chemicals, like Serotonin, Dopamine, Epinephrine and Nor-epinephrine are called *neuromodulators* and they modulate GABA and Glutamate. There are many neuromodulators: Opiates (Endorphins and Enkephalins), peptides and hormones (estrogen, testosterone, etc...) which also modulate GABA and Glutamate. At this point, information about neurochemistry becomes much more complex, and this may be why doctors appeal to the “chemical imbalance” hypothesis – *it’s less time consuming and so simple to understand*. Pass the salt.

The “chemical imbalance” phrase has been around a long time. We tend to believe things the more that we hear it. That’s why commercials are played repeatedly, *ad nauseum*. Pretty soon, you’re doing the work of the sales rep: you go to the doctor and ask them for the medication that the pharmaceutical company has been telling you that you need! *“Hey doc, I’ve been feelin’ down way too long, maybe I have one of them chemical imbalances; maybe I need that medication in the commercial with the smiling bubble?”*

The reality is that nobody knows if antidepressants really work and, when scientists think that they do work, they are unable to explain why – with any degree of certainty. It sounds terrible, but it’s terribly true. One factor that has confused and confounded scientists for decades is the Placebo Affect.

It can be hard to believe that the placebo effect can be powerful enough to cure depression, anxiety, and alleviate other health problems. There are many studies on the placebo effect. A couple years ago, one study found that people given Ibuprofen, for pain management, did just as well as people given Oxycontin – if they *believed* that they were taking Oxycontin. About 33% of Americans are susceptible to the placebo affect. Perhaps this is why not everyone is helped by antidepressants. Some people feel “cured” while others feel nothing; some people feel “numb” while others feel “a little better.”

Antidepressants are pills with side effects. Sometimes people feel better when they take them, sometimes nothing changes, and sometimes they feel worse; in rare cases, they are associated with suicide ideation, suicide behavior, and self mutilation behaviors.

There are alternatives to medication, such as Cognitive Behavioral Therapy (CBT) and other types of therapy. Medication is often given as the first line of treatment by physicians, however, it is probably best used as a last line of treatment.

A significant advantage of therapy is that you learn to overcome your problems or symptoms independently of medication. Also, there tend to be no negative side effects to therapy, such as weight

gain, loss of sex drive, or others.

Addendum (2012):

Since writing this post, I was finally able to read The Emperor's New Drugs by Dr. Irving Kirsch. No one has conducted a more thorough scientific investigation into the effectiveness of Anti-Depressants as he. It turns out that, with regards to depression and anxiety, Anti-Depressants are no better than placebos. One of the most striking findings was that the effectiveness of Anti-Depressants was almost perfectly correlated with the amount of reported side effects. I strongly recommend this book to anyone who is prescribed Anti-Depressants.

Addendum (2014):

Medscape published this article below about psychiatry's official view of the cause of "mental illness." I re-posted the article here for educational purposes. In short, the article notes that, since 2005, the American Psychiatric Association has said that the cause is unknown; however, in my experience, I have yet to meet a psychiatrist who says this; every psychiatrist that I have done rounds with or talked with over the phone about a patient, or by patient reports, has said that the illness is caused by a chemical imbalance.

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Nuances, Narratives, and the 'Chemical Imbalance' Debate in Psy

Ronald W. Pies, MD |

April 15, 2014

A Chemical Cliché: Introduction

Religions, cultures, and political groups all have their narratives — usually favorable or flattering accounts of their origins as truths, and usually lack the nuances of truth, which is rarely black or white. To see how this applies to psychia

Which one of the following statements best characterizes the American Psychiatric Association (APA) 2005 position on

1. All mental illness is caused by specific and identifiable chemical imbalances in the brain.
2. The most serious mental illnesses, such as schizophrenia and major depression, are caused by specific chemical imbalances.
3. Chemical imbalances of some sort cause some mental illnesses.
4. The exact causes of mental disorders are unknown.

Now, if you were to give credence to a recent online polemic posing as investigative journalism,^[1] you would probably believe the narrative of the antipsychiatry movement, a monolithic entity called "Psychiatry" has deliberately misled the public as to how to debunk the chemical imbalance hypothesis. Indeed, this narrative insists that, by promoting this little white lie, psychi

seem as if psychiatrists had magic bullets for psychiatric disorders. (Lurking in the back-story, of course, is Big Pharm to sell more drugs).

However, if you had actually investigated the APA's 2005 statement, you would have chosen statement #4. Here is the Minds Website, intended for the general public^[2]:

The exact causes of mental disorders are unknown, but an explosive growth closer to the answers. We can say that certain inherited dispositions interact with environmental factors. Poverty and stress are well-known to be bad for you mental health and physical health. In fact, the distinction between "mental illness can be misleading. Like physical illnesses, mental disorders can have physical illnesses can also have a strong emotional component.

Debunking an Urban Legend

In fact, in the same year as the APA statement, Drs. Thomas Insel and Remi Quirion wrote a seminal article^[3] proposing addressed as disorders of distributed brain systems with symptoms forged by developmental and social experiences...." environmental factors during critical intervals of development exert long-term effects on gene expression..." and suggest motivation, or defenses, while at one time the sole province of psychoanalytic therapies, are now also in the domain of

Does this sound like a simplistic chemical imbalance hypothesis? I don't think so. But then, why do antipsychiatry groups what psychiatrists have been saying for at least the past decade? My guess is that doing so would undermine the derogatory course, nuanced statements do not gin up public opinion or sell books.

OK — but weren't there many psychiatrists, in the 1980s and 1990s, who *did* advocate a purely biochemical theory of the chemical imbalance to explain mental disorders to their patients? It's difficult to answer this question, except in an that *some* psychiatrists did hold a purely biocentric view; and, alas, some undoubtedly used the expression "chemical imbalance" putting it into a broader context for their patients.

It's also true, as critics of the chemical imbalance hypothesis point out, that the term "imbalance" is misleading. In order a quantitative understanding of the optimal neurochemical balance in the brain — and, given the scores of neurotransmitters be ascertained. That said, I am not aware of any concerted effort by academic psychiatrists, psychiatric textbooks, or of a simplistic chemical imbalance hypothesis of mental illness. That is what I meant when, in a 2011 *Psychiatric Times* piece, I called the hypothesis as an "urban legend."^[4]

But still, shouldn't psychiatrists in positions of influence have made greater efforts to knock down the chemical imbalance sophisticated understanding of mental illness to the general public? Probably so. There were sincere attempts to do just beginning nearly 50 years ago, with the developers of the catecholamine hypothesis. As psychiatrist Joseph Schildkraut 1967^[5]:

Whereas specific genetic factors may be of importance in the etiology of some depressions, it is equally conceivable that early experiences of the infant or biochemical changes, and that these may predispose some individuals to depression. It is not likely that changes in the metabolism of the biogenic amines alone will account for the phenomena of normal or pathological affect.

Note the nuanced view of causality in this formulation — allowing for the possibility that chemical changes in the brain predisposing factors in some subsequent depressive episodes. Note that Schildkraut and Kety did not argue that "chem

To the extent the “chemical imbalance” notion took hold in our popular culture, it was due mainly to distorted or oversimplified hypothesis. These were often depicted in drug company ads; pop psychology magazines; and, in recent years, on misinformed “chemical imbalance theory” was never a real theory, nor was it widely propounded by responsible practitioners in the

A Biopsychosocial Balance

Psychiatry’s critics also conveniently omit reference to what was arguably the most prevalent paradigm in academic psychiatric biopsychosocial model (BPSM) of Dr. George Engel.^[6] The BPSM has been subjected to much criticism, and some would like to see the BPSM in a systematic, evidence-based manner.^[7,8] And in recent years, several prominent psychiatrists have warned that psychotherapy, the major treatment modalities in psychiatry, have become fragmented from one another, creating an artificial biological domains in psychiatry.”^[9]

These are worrisome observations. But one thing is beyond dispute: The BPSM can hardly be reduced to a chemical imbalance model. As I wrote in 1991, in my book on psychotherapy for the general public, “In recent years, the “biopsychosocial” model of Engel holds that mental problems have biological, psychological, and social roots. Therapy may therefore involve treatment in

I was far from the only psychiatrist promoting the biopsychosocial model — and none of my academic colleagues, to my knowledge, promoted the chemical imbalance model as a blanket explanation for all mental illness. Indeed, over 20 years ago, the late Dr. Theodore S. Stern, a highly respected psychiatrist — wrote the following in his foreword to my 1994 biopsychosocial textbook on psychiatry:

Neuronal tissue grows in response to its environment at least as much as it is genetically process choreographed immutably by the “gene machine.” We are creatures of our own nature.... If we are to understand patients and, as doctors, to help them on the broadest base.... [In addition to biological research] we should also pursue research on the psychological and social environment. That task is further informed by the insights of philosophy, theater. That is our “biology” also.

Ted Nadelson understood that the brain is the crucible in which all the elements of human life intermingle, including the influences of parents, culture, ethnicity, and even diet. Derangements, deficiencies or abnormalities in any of these elements can call, for lack of a better term, mental illness, which often represents the end result of innumerable interacting “pathogenic

Thus, in the introduction to my 1994 textbook, I wrote that “...the central assumption throughout the text is that the clinician must integrate biological, psychological and sociocultural data of the case at hand.”^[11] Most well-trained psychiatrists, in my experience, do their best to fulfill it in practice.

The Nobel Prize-winning psychiatrist and neuroscientist Dr. Eric Kandel observed that “...all mental processes, even those that do not derive from operations of the brain...as a corollary, behavioral disorders that characterize psychiatric illness are disturbances where the causes of the disturbances are clearly environmental in origin.”^[12] But in practice, Kandel is no biological reductionist. The chemical imbalance hypothesis! Rather, Kandel paints a picture of the new psychiatry, in which psychoanalytic and biological cooperate with one another.

It is time for psychiatry’s critics to drop the conspiratorial narrative of the “chemical imbalance” and acknowledge psychiatric biopsychosocial insights.

Editor’s Note: A slightly shorter, modified version of this piece originally appeared on the [Psychiatric Times Website](#).

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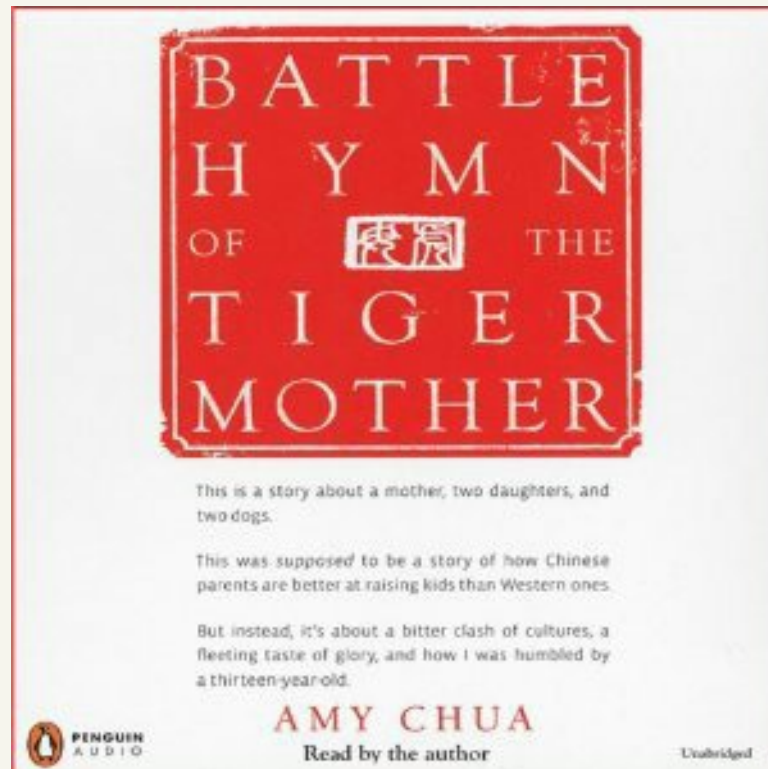
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Is the Tiger Mother a good way to parent?

Posted on [February 9, 2011](#)

The other day, a friend of mine lamented, "I'm no tiger mom." I hadn't heard of the tiger mom

and all the hype about her book, Battle Hymn of the Tiger Mother, before that. But I always find parenting fads interesting.



There are over 10,000 books that offer parenting advice. Most repeat the same ideas through different stories. These ideas of parenting are often not supported by research which means that they will not apply to most children.

What the book *is* about and what the media *says* the book is about are two different things – almost entirely.

It seems that it is becoming more common for our media outlets to take non-serious information, like the Tiger Mom book, and construe it to be sensational or important. The Time magazine review of Chua's book is a great example of media embellishment.



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With regards to the Tiger Mom, it seems like people are trying to sell this book as though it is a self-help parenting book instead of a memoir about parenting. The review by Publisher Weekly gives you the impression that if you raise your kids like Chua, then they'll be Yale grads, too!

Chua's parenting style is referred to as the "Chinese" style of parenting, and the "American" style of parenting is often called, "permissive." The Time review and other reviews seem to perpetuate myths about parenting and about China that are grossly inaccurate. For example, there is no "American" style of parenting. The "Chinese" style of parenting that Chua writes about is not

responsible for “Chinese success.” In fact, their rigid parenting style may be one reason China stopped progressing as a nation 500 years ago. Rigid parenting styles are associated with inflexible thinking, low creativity, less sociability, poor initiative and low imagination – traits that Americans value.

Time claims that China’s financial success is due to Chinese style parenting. However, Financial success is a very complicated phenomenon. It’s a combination of many factors and on many different levels, personal, cultural, social, political, and economic. Some factors have more weight than others, for example, some people make up for their personal shortcomings because they are well-connected to other people of power or wealth.

America’s immigration policy favors wealthy and educated Chinese over poor and “dumb” Chinese. Also, the Chinese education system favors “gifted” children over “average” and below average children. Gifted children get to continue their education, while average children are left to work, or if they are lucky enough to have middle class parents, they are pushed to work harder in school and their parents are able to pay for continued schooling. This is why cross-cultural educational comparisons are non-sense, because in America, everyone has to attend school through age 15. In China, only smart kids continue their education.

Chua’s parenting style could be described as Authoritarian. **There are four general parenting types:**

1. Authoritarian
2. Authoritative
3. Permissive-supportive
4. Permissive-neglectful

Number 2 above, **Authoritative parenting**, is the most effective form of parenting in that studies show that children who are raised by Authoritative parents have the best outcomes, socially and economically. Authoritarian parents can raise kids who are financially successful, but they tend to be lacking in other areas, such as creativity, sociability, initiative, and industry.

Authoritative parenting is a combination of parenting with relatively high demands but also a supportive relationship. Whereas Authoritarians have high demands, often developmentally unrealistic or unnecessary, and they do not provide support (emotional or material). Permissive parents are in the minority in America, and permissive parenting leads to adults with problems. Being permissive and neglectful is the worst type of parenting style and may lead to criminal behavior in adulthood.

I recall when I was in 7th grade, a Japanese business man visited our school. He was curious about why American children are “so creative” and why Japanese children are not. Japan and China both adhere to Authoritarian parenting styles which quash creativity. The answer is clear

to me – children need to feel safe expressing themselves, to a point, so that they nurture their imagination, creativity, spontaneity, and cognitive flexibility.

Human progress and survival is dependent upon a strong imagination. All human progress begins with imagination. Children need to have their imagination stimulated by their parents. Authoritarian parents tend not to stimulate imagination. They're too busy sticking to the routines and the rules. Children of authoritarian parents may grow up to be good managers, but probably not good leaders, inventors, artists or entrepreneurs.

I first read the Time magazine review of the book. I found Time magazine's review to be full of myths and misconceptions, primarily that Chinese financial progress ("success") has to do with their parenting style and that America's decline has to do with parenting problems. These ideas are so erroneous as to be egregious. If you want to read more about why, check [The Ethnic Myth](#). China's economic growth owes itself almost entirely to American investment and giving China Most-Favored-Nation-Trading-Status (MFNTS) for the last 20 years, as well as other trade policies which undermine American labor and promote investment in China (and India). It has nothing to do with parenting!

Here are two other reviews of Chua's book:

Publisher Weekly's review:

Chua (Day of Empire) imparts the secret behind the stereotypical Asian child's phenomenal success: the Chinese mother. Chua promotes what has traditionally worked very well in raising children: strict, Old World, uncompromising values—and the parents don't have to be Chinese. What they are, however, are different from what she sees as indulgent and permissive Western parents: stressing academic performance above all, never accepting a mediocre grade, insisting on drilling and practice, and instilling respect for authority. Chua and her Jewish husband (both are professors at Yale Law) raised two girls, and her account of their formative years achieving amazing success in school and music performance proves both a model and a cautionary tale. Sophia, the eldest, was dutiful and diligent, leapfrogging over her peers in academics and as a Suzuki piano student; Lulu was also gifted, but defiant, who excelled at the violin but eventually balked at her mother's pushing. Chua's efforts "not to raise a soft, entitled child" will strike American readers as a little scary—removing her children from school for extra practice, public shaming and insults, equating Western parenting with failure—but the results, she claims somewhat glibly in this frank, unapologetic report card, "were hard to quarrel with." (Jan.)

Booklist's review:

Chua's stated intent is to present the differences between Western and Chinese parenting styles by sharing experiences with her own children (now teenagers). As the daughter of Chinese immigrants, she is poised to contrast the two disparate styles, even as she points out that being a "Chinese Mother" can cross ethnic lines: it is more a state of mind than a genetic trait. Yet this is a deeply personal story about her two daughters and how their lives are shaped by such demands as Chua's relentless insistence on straight A's and daily hours of mandatory music practice, even while

vacationing with grandparents. Readers may be stunned by Chua's explanations of her hard-line style, and her meant-to-be humorous depictions of screaming matches intended to force greatness from her girls. She insists that Western children are no happier than Chinese ones, and that her daughters are the envy of neighbors and friends, because of their poise and musical, athletic, and academic accomplishments. Ironically, this may be read as a cautionary tale that asks just what price should be paid for achievement. –Colleen Mondor

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