DEPRESSION, A CRITIQUE OF THE PREVAILING VIEW:

(Section Two)

DEPRESSION: A CHEMICAL IMBALANCE?

Dr. Terry Lynch,
physician, psychotherapist, author

www.doctorterrylynch.com

info@doctorterrylynch.com

Section One

X 50 years

Brain chemical imbalances → Known feature → Depression

Main drivers: → Medical profession + Pharmaceutical industry

↓

Psychology
Psychotherapy
Counselling
Social work
Occupational therapy
Psychiatric nursing
Art therapy
Social care workers
Etc.

PERSUASION ← Other mental health professionals

↓

PERSUASION → GENERAL PUBLIC

Recipients Peer workers Governments Mental health organisations

The truth

No brain chemical imbalances → Ever identified → In depression

Mass delusion:

Brain chemical imbalances are known to occur in depression ✗

These brain chemical imbalances probably cause depression ✗

Before any claims of chemical imbalances should be made

An actual existing chemical imbalance has to have been established

Common sense

Good practice

Chemical imbalance illnesses

Diabetes

Hypothyroidism → Depression

Pituitary disease

Diabetes

Organ: Pancreas

Pathology:

Structure: Islets of Langerhans

Function: ↓ Insulin production

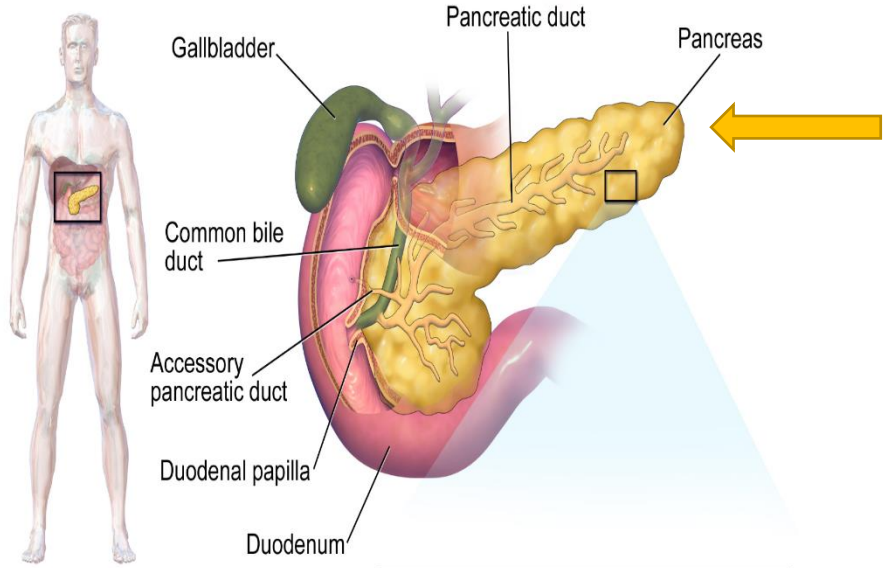
Chemical imbalance: Raised blood glucose

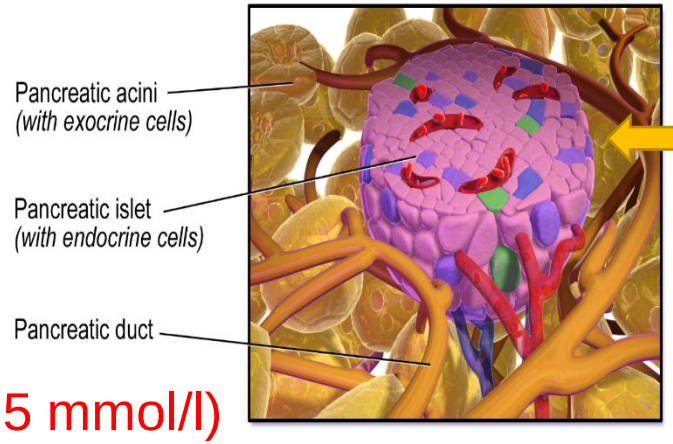
Symptoms:

Signs:

Investigations: Raised blood glucose levels (3.0 – 5.5 mmol/l)

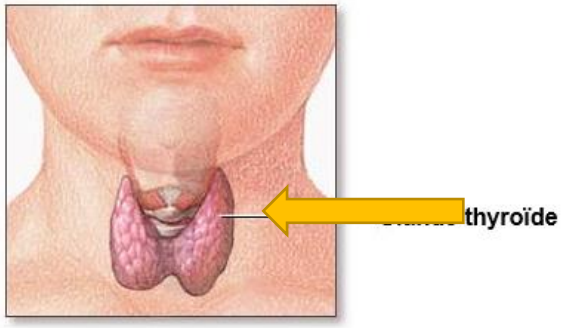
Diagnosis: Rock solid scientifically

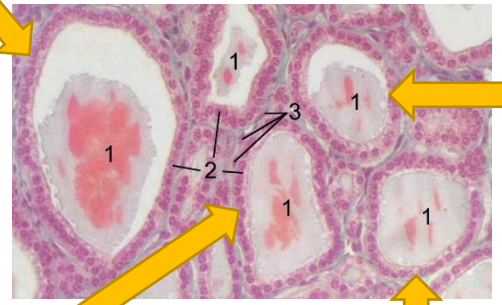




Pancreatic Tissue

Hypothyroidism





Organ: Thyroid

Pathology:

Structure: Follicular cells

Function: ↓ thyroid hormone production

↓

Chemical imbalance: ↓ levels of thyroid hormone

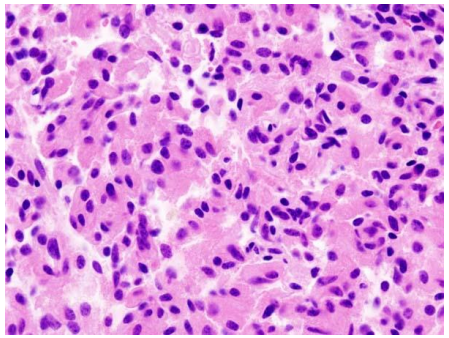
Symptoms:

Signs:

Investigations: ↓ thyroid hormone levels (Normal = 4.6-12 ug/dl)

↑ thyroid Stimulating Hormone levels (TSH) (Normal = 0.4-4.5 µIU/mL)

Diagnosis: Rock solid scientifically



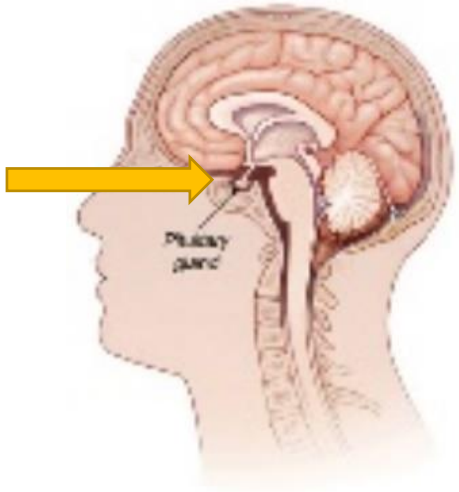
PITUITARY ADENOMA

Pituitary disease

Several chemical imbalances

Several medical problems

e.g. Growth Hormone overproduction



Organ: Pituitary gland

Pathology:

Structure: Abnormal + increased proliferation of pituitary cancer cells

Function: ↑ levels of Growth Hormone

Chemical imbalance:

Symptoms: Signs: Giantism Acromegaly

Investigations: ↑ Growth Hormone levels < 226 pmol/L

Diagnosis: Rock solid scientifically

Chemical imbalance illnesses - characteristics

Imbalanced chemical:	Identified scientifically
Function of chemical:	Known
Normal range:	Known
Abnormal levels:	Known
Pathology:	Known STRUCTURE abnormality FUNCTION abnormality
Diagnostic test:	Available
Diagnosis:	Laboratory confirmation always required
Treatment:	Linked to + guided by ongoing lab tests
Replacing like with like:	Insulin; Thyroid Hormone; Growth Hormone;

Depression

Organ: Brain

Pathology:

- Structure: None identified
- Function: None identified

Chemical imbalance: None identified "Imbalanced chemical not even identified

Symptoms: Experiences and behaviours reclassified as "symptoms" ?

Signs: None specific for depression

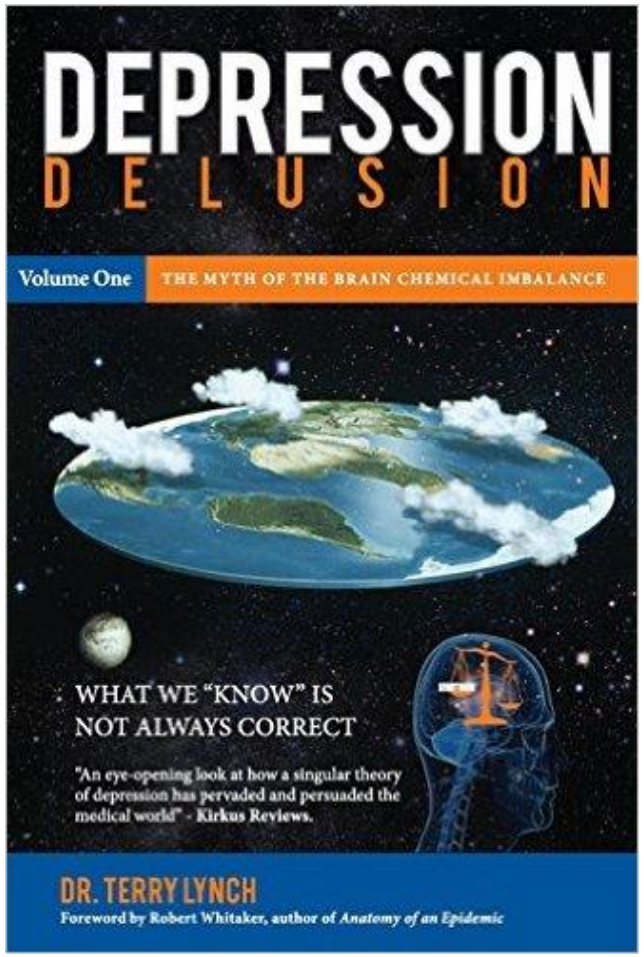
Investigations: No part No depression investigations exist

Diagnosis: No basis whatsoever in science

Chemical imbalance illnesses – characteristics: Depression

Imbalanced chemical:	Identified scientifically ✗
Function of chemical:	Known ✗
Normal range:	Known ✗
Abnormal levels:	Known ✗
Pathology:	Known ✗ STRUCTURE abnormality ✗ FUNCTION abnormality ✗
Diagnostic test:	Available ✗
Diagnosis:	Laboratory confirmation always required ✗
Treatment:	Linked to + guided by ongoing lab tests ✗
Replacing like with like:	Insulin; Thyroid Hormone; Growth Hormone ✗

Depression Delusion, Volume One:
The Myth of the Brain Chemical Imbalance

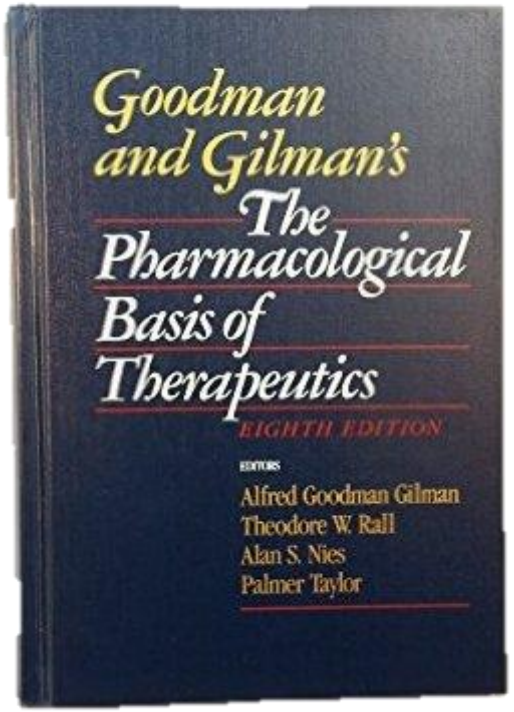


The Pharmaceutical Basis of Therapeutics

1990

Two years after Prozac

A. Gilman, T. Rail, A. Nies, and P. Taylor, P (eds.), *Goodman and Gilman's The Pharmacological Basics of Therapeutics,* 8th edition, New York: Pergamon Press, 1990, p. 1811.



Data for the neurotransmitter hypothesis of mood disorders such as depression:

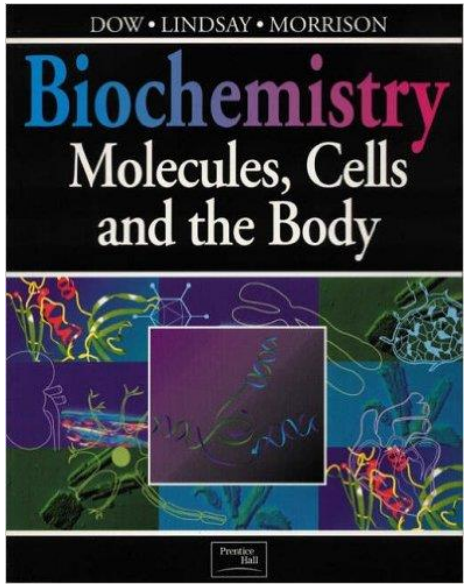
"Are inconclusive and have not been consistently useful either diagnostically or therapeutically."

Biochemistry: Molecules, Cells and the Body

1995

Jocelyn Dow, Gordon Lindsey & Jim Morrison, *Biochemistry: Molecules, Cells and the Body,* Harrow: Addison-Wesley, 1995.

Seven years after Prozac launch



Medical textbook

592 pages

Depression not mentioned anywhere in book

No index entry for depression

1 for serotonin (Depression) ✗

0 for antidepressants

Diabetes: 3 pages on biochemistry of diabetes

Four index entries for diabetes

19 for glucose

10 for insulin

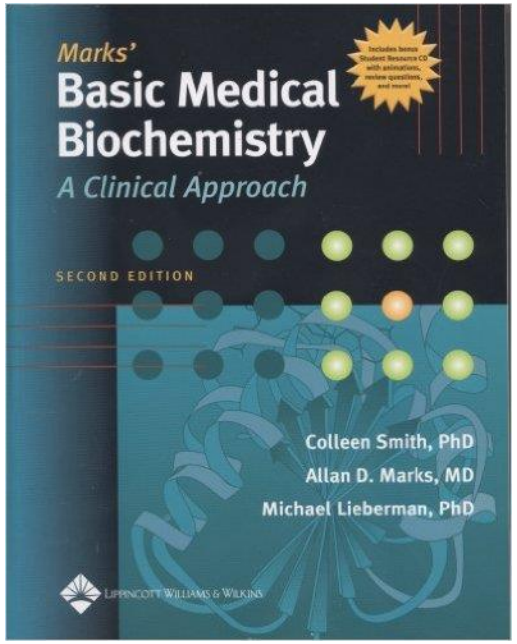
Mark's Basic Medical Biochemistry: A Clinical Approach

2005

Allan D. Marks, Michael Lieberman & Coleen Smith, Mark's Basic Medical Biochemistry: A Clinical Approach, 2nd edition, Lippincott, Baltimore: Williams & Wilkins, 2005.

Medical textbook

977 pages



Index: 5 entries for diabetes 19 for blood glucose 42 for insulin

0 entries for depression 1 for serotonin (Depression) ✘

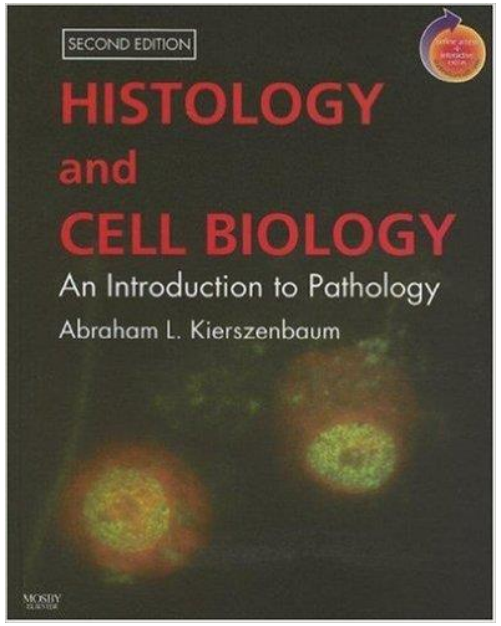
Histology and Cell Biology: An Introduction to Pathology

Abraham L. Kierszenbaum and Laura L. Tres, Histology and Cell Biology: An Introduction to Pathology, 3rd edition, Philadelphia: Elsevier Saunders, 2012.

2012

Medical textbook

688 pages



32-page chapter on brain + nerve tissue + illnesses Depression ✗

22-page chapter on neuro-endocrine system Depression ✗

Index: 0 entries for depression 3 for diabetes 12 for insulin

Serotonin: 1 mention neurotransmitter

0 references in book Brain neurotransmitter imbalances/abnormalities ✗

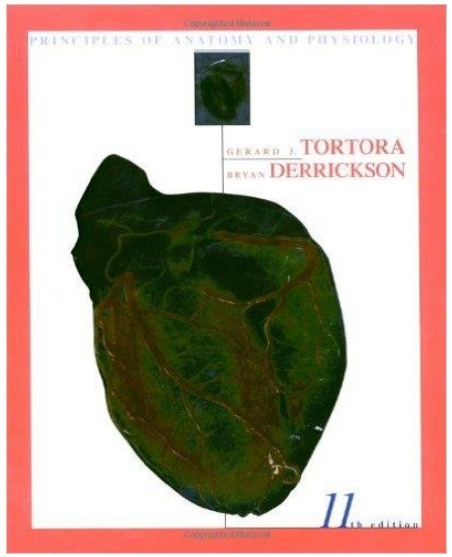
Principles of Anatomy and Physiology

Gerard J. Tortora & Bryan Derrickson, *Principles of Anatomy and Physiology,* 11th edition, New Jersey: John Wiley & Sons, Inc, 2006, p. 429.

2005

Medical textbook

1,264 pages



Depression: "A downward movement of a part of the body"

One index entry for serotonin:

Serotonin deficiency ✘

Serotonin abnormality ✘

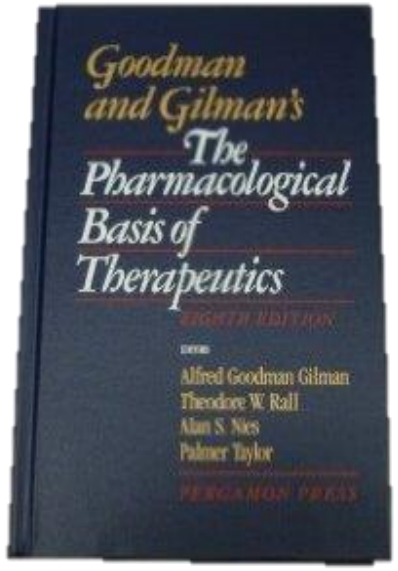
Depression ✘

1978

Dr. L. Ratna Psychiatrist

"Although it is stated by practically all the (psychiatric) textbooks
that the aged are more prone to depression of an endogenous nature,
we believe that the unhappiness
which is misdiagnosed and treated as an endogenous illness
is a legitimate response to the plight that many of the aged find themselves in
The so-called depression therefore, is not primarily due to a biochemical upset
but an understandable reaction
to the alienation, rejection, isolation and social stress that the aged are subject to".

L. Ratna, "Crisis Intervention in Psychogeriatrics: A Two-Year Follow-up Study", in L. Ratna, L., (ed.),
The Practice of Psychiatric Crisis Intervention, 1978, Hertfordshire: League of Friends, Napsbury Hospital, UK.



1990

"A 'bible' . . . a most valued volume"

Solomon H. Snyder "Book Review—Goodman and Gilman's The Pharmacological Basis of Therapeutics", New England Journal of Medicine, 28 February 1991; 324:636-637, http://www.nejm.org/doi/full/10.1056/NEJM199102283240919, accessed 18 May 2014.

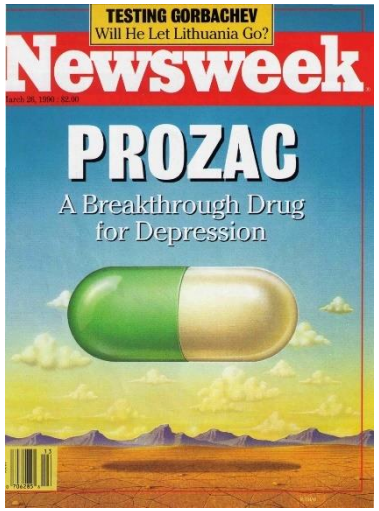
The data for the neurotransmitter hypothesis of mood disorders such as depression:

"Are inconclusive and have not been consistently useful either diagnostically or therapeutically."

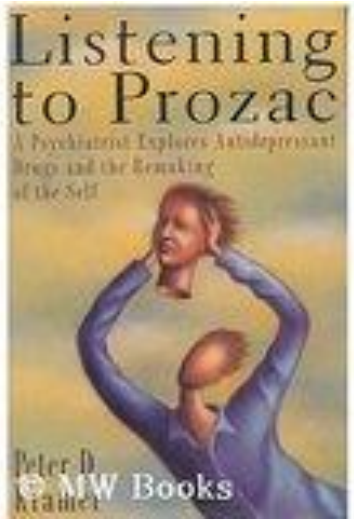
Published two years after Prozac

A. Gilman, T. Rail, A. Nies, and P. Taylor, P (eds.), *Goodman and Gilman's The Pharmacological Basics of Therapeutics,* 8th edition, New York: Pergamon Press, 1990, p. 1811.

26th March 1990

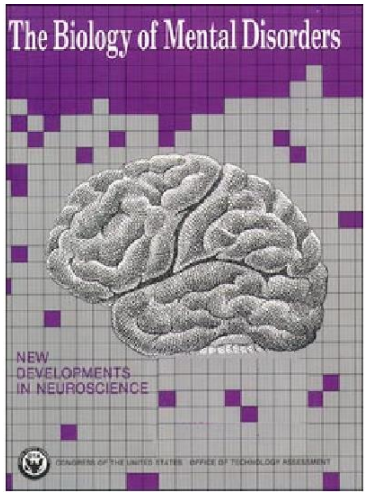


1992



"They work
by correcting
an underlying
brain chemical imbalance"

"Better than well"



1992

The U.S. Congress Office of Technology

"The Biology of Mental Disorders", U.S. Government Printing Office, 1992.

"Prominent hypotheses concerning depression

have focused on altered function of the group of neurotransmitters called monoamines,

particularly norepinephrine and serotonin

. . . studies . . . have found no specific evidence of an abnormality to date.

Currently, no clear evidence links abnormal serotonin receptor activity
in the brain to depression . . .

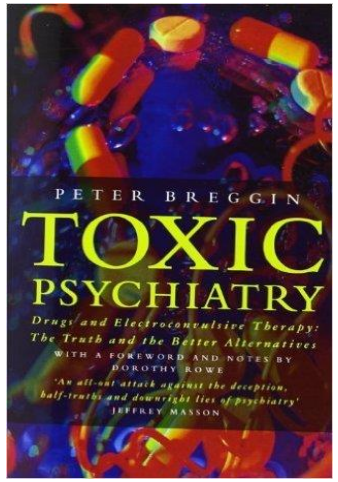
the data currently available do not provide consistent evidence

either for altered neurotransmitter levels or for disruption of normal receptor activity".

1993

Dr. Peter Breggin

American psychiatrist



"Scientific reviews of the biochemistry of depression

have failed to identify a consistent biochemical basis.

The most recent psychiatric textbooks review the biochemistry of depression,

sometimes in detail, as if a great deal must be known about the subject;

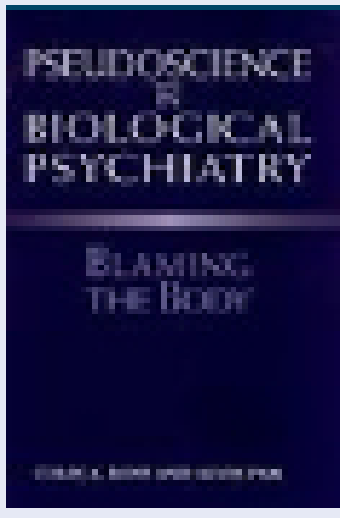
but they end up admitting that the theories are conflicting and remain speculative."

Peter Breggin, *Toxic Psychiatry,* London: HarperCollins, 1993, pps. 173-5.

1995

Dr. Colin Ross

American psychiatrist



“There is no scientific evidence whatsoever
that clinical depression is due to
any kind of biological deficit state”.

Colin Ross, *Pseudoscience in Biological Psychiatry,* New York: John Wiley & Sons, 1995, p. 111.

1997

Dr. Andrew Nierenberg

Professor of Psychiatry, Harvard Medical School

Harvard Medical School conference

. A. Nierenberg, “Antidepressants: Current Issues and New Drugs”, Harvard Medical School/ Massachussetts General Hospital Conference of Psychopharmacy, 17-19 October 1997.

“The dark side of all this

is that we have many elegant models

but the real fact is,

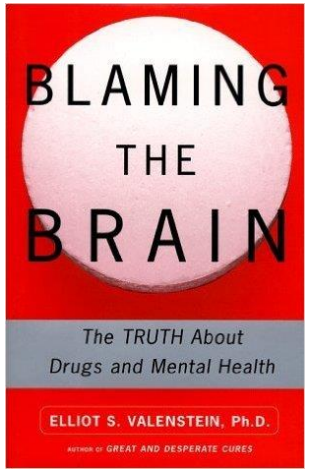
that when it comes to the exact mechanisms by which these things work,

we don’t have a clue.”

1998

Dr. Elliot Valenstein

Professor Emeritus of Psychology and Neuroscience
University of Michigan



"It may surprise you to learn that there is no convincing evidence
that most mental patients have any chemical imbalance.
Yet many physicians tell their patients they are suffering from a chemical imbalance
despite the reality that there are no tests available
for assessing the chemical status of a living person's brain.
The truth is that we still do not know what causes any mental disorder
Yet, despite this, the theory that mental disorders arise from biochemical imbalance
is widely accepted".

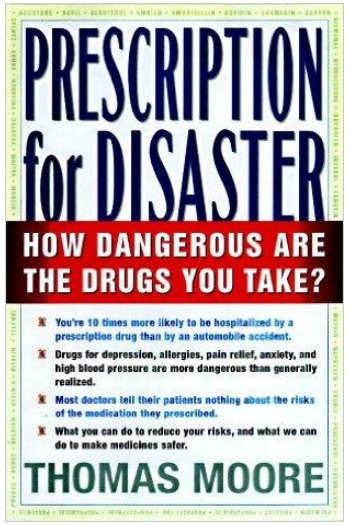
Elliot S. Valenstein, *Blaming the Brain: The Truth About Drugs and Mental Health,* New York: The Free Press, 1998.

1998

Thomas J. Moore

Senior Fellow in Health Policy

George Washington University Medical Centre



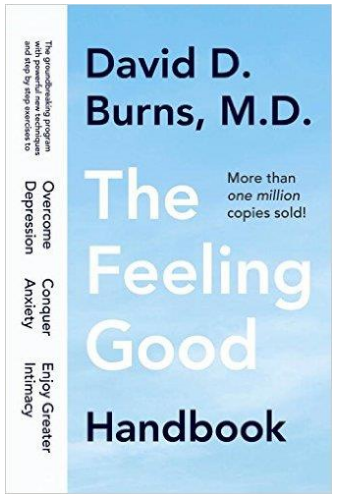
"The chemical imbalance theory has not been established by scientific evidence".

Thomas Moore, *Prescription for Disaster: The Hidden Dangers in your Medicine Cabinet,* Dell, 1998, http://www.bible.ca/psychiatry/psychiatry-mental-illness-myths-chemical-imbalances.htm , accessed 15 August 2018.

1999

Dr. David D. Burns

Clinical Associate Director of Psychiatry
and Behavioural Sciences
Stanford University Hospital of Medicine



"Some psychiatrists appear to confuse theory with fact.

They tell depressed patients that they have chemical depressions that must be treated with antidepressants.

I would prefer that psychiatrists not do this,

because it creates an impression of certainty in the patient's mind

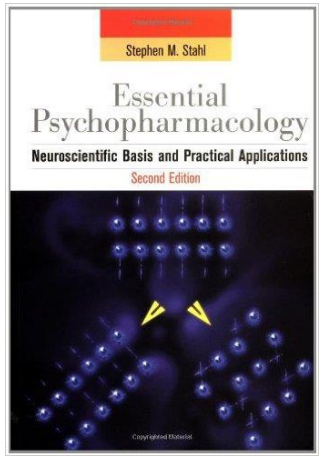
that is not justified by current scientific evidence".

David D. Burns, *The Feeling Good Handbook,* New York: Plume, 1999.

2000

Professor Stephen M. Stahl

Psychiatrist



"So far, there is no clear and convincing evidence that monoamine deficiency accounts for depression; that is, there is no "real" monoamine deficit.

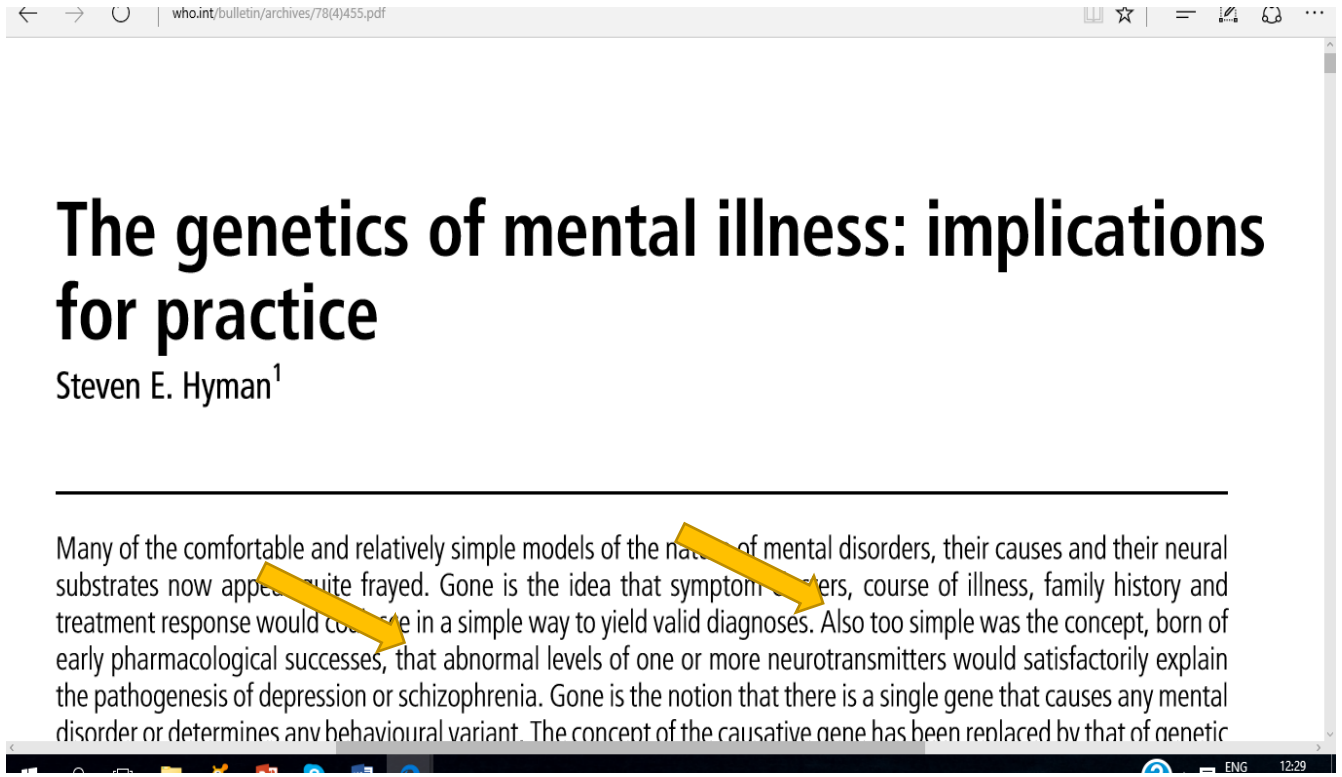
Stephen M., Stahl, *Essential Psychopharmacology: Neuroscientific Basis and Practical Applications,* Cambridge: Cambridge University Press, 2000, p. 601.

2000

Dr. Steven Hyman American psychiatrist

Director, National Institute of Mental Health (NIMH)

World Health Organisation



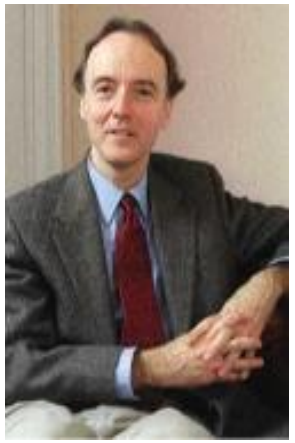
who.int/bulletin/archives/78(4)455.pdf

The genetics of mental illness: implications for practice

Steven E. Hyman[1]

Many of the comfortable and relatively simple models of the nature of mental disorders, their causes and their neural substrates now appear quite frayed. Gone is the idea that symptom clusters, course of illness, family history and treatment response would coalesce in a simple way to yield valid diagnoses. Also too simple was the concept, born of early pharmacological successes, that abnormal levels of one or more neurotransmitters would satisfactorily explain the pathogenesis of depression or schizophrenia. Gone is the notion that there is a single gene that causes any mental disorder or determines any behavioural variant. The concept of the causative gene has been replaced by that of genetic

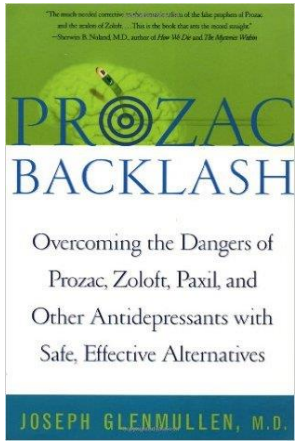
Stephen E. Hyman, Bulletin of the World Health Organization, 2000, 78 (4), http://www.who.int/bulletin/archives/78(4)455.pdf, accessed 14 August 2018).



2001

Dr. Joseph Glenmullen

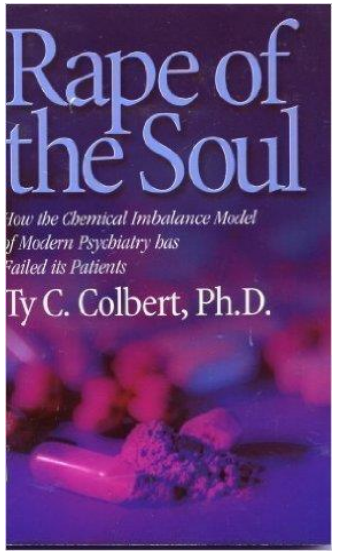
American psychiatrist Harvard Medical School



"A serotonin deficiency for depression has not been found
There has been no shortage of alleged biochemical explanations
for psychiatric conditions. Not one has been proven. Quite the contrary.
In every instance where such an imbalance was thought to have been found,
it was later proven false.

Still, patients are often given the impression
that a definitive serotonin deficiency in depression is firmly established."

Joseph Glenmullen, *Prozac Backlash: Overcoming the Dangers of Prozac, Zoloft, Paxil and Other Antidepressants with Safe, Effective Alternatives,* Simon & Shuster, 2001.



2001

Ty C. Colbert, Ph.D.

Clinical psychologist and author

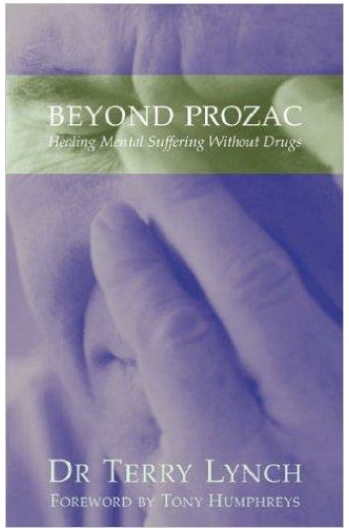
"Biopsychiatrists have created the myth
that psychiatric 'wonder' drugs correct chemical imbalances.
Yet there is no basis for this model
because no chemical imbalance has even been proven
to be the basis of a mental illness."

Ty Colbert, T*he Rape of the Soul: How the Chemical Imbalance Model of Psychiatry has Failed its Patients,* California: Kevco Publishing, 2001, p. 79.

2001

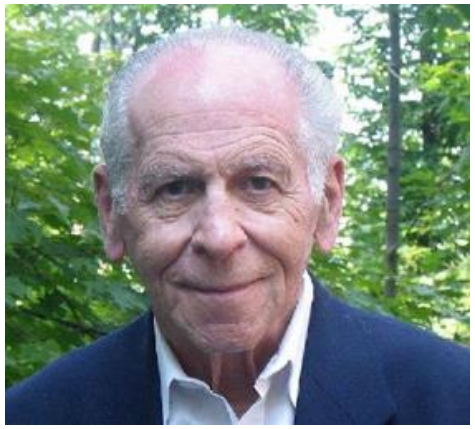
Dr. Tony Humphreys

Irish psychologist and author



"In spite of 200 years of research,
no enduring evidence has emerged to substantiate
the medical model of psycho-social distress.
Indeed, there is no evidence that conditions such as
bipolar depression, schizophrenia, personality disorder,
obsessive-compulsive disorder and endogenous depression
have any biochemical, biological or hereditary basis."

Dr. Tony Humphreys, in foreword to *Beyond Prozac: Healing Mental Suffering Without Drugs*, Dublin: Marino Books, 2001, p. 11.



2002

Dr. Thomas Szasz

Professor Emeritus of Psychiatry

New York University Medical School, Syracuse

Thomas Szasz, in "Psychiatric Hoax: The Subversion of Medicine", Citizen's Commission on Human Rights, 2002.

"There is no blood or other biological test
to ascertain the presence or absence of mental illness,
as there is for most bodily diseases.

If such a test were developed,
then the condition would cease to be a mental illness
and would be classified, instead, as a symptom of bodily disease."

IRISH MEDICINES BOARD

2003

Patient information leaflet

Seroxat (Paxil) → "Works by bringing serotonin levels back to normal"

"There is no scientific investigation to measure
what are normal serotonin levels
in the human brain receptors.
As such, claiming that a particular medicinal product works
by bringing serotonin levels back to normal is not accurate"

http://www.cmaj.ca/content/174/6/754.2, accessed 26 February 2014.

2002

Seroxat (Paxil) patient information leaflet:

IRISH MEDICINES BOARD

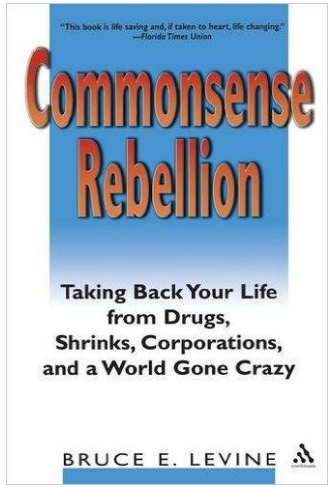
"The Irish Medicines Board has been reviewing this matter with its experts for some time, and is in agreement that the statement that SSRIs 'work by bringing the levels of serotonin back to normal' is not consistent with the literature. The company has been asked to review the patient information leaflet accordingly. Thank you for your interest in this matter."

Letter from Irish Medicines Board to me, November 2002.

2003

Bruce Levine, Ph.D.

American psychologist & author



"No biochemical, neurological, or genetic markers have been found for attention deficit disorder, oppositional defiant disorder, depression, schizophrenia, anxiety, compulsive alcohol and drug abuse, overeating, gambling or any other so-called mental illness, disease, or disorder."

Bruce Levine, *Commonsense Rebellion: Taking Back your Life from Drugs, Shrinks, Corporations, and a World Gone Crazy,* Bloomsbury Academic, 2003.

2003

Dr. David D. Burns

Clinical Associate Director of Psychiatry
and Behavioural Sciences
Stanford University Hospital of Medicine

"I spent the first several years of my career
doing full-time brain research on brain serotonin metabolism
but I never saw any convincing evidence that any psychiatric disorder,
including depression, results from a deficiency of brain serotonin.
In fact, we cannot measure brain serotonin levels in living human beings
so there is no way to test this theory.

Psychiatrist David Burns, when asked about the scientific status of the serotonin theory in 2003, in J. R. Lacasse and T. Gomory, "Is graduate social work education promoting a critical approach to mental health practice?" *J Soc Work Educ* 2003, 39: 383–408.

2004

Jonathan Leo

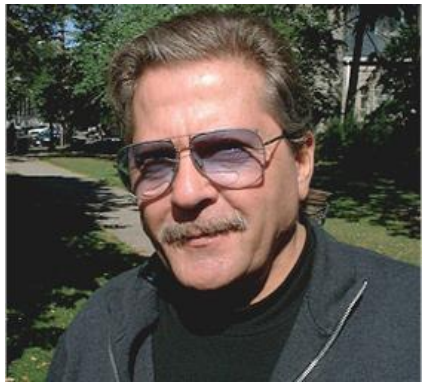
Professor of Neuroanatomy

"Never has a theory with so little scientific evidence been so well accepted by the American public."

If a psychiatrist says you have a shortage of a chemical, ask for a blood test and watch the psychiatrist's reaction.

The number of people who believe that scientists have proven that depressed people have a low serotonin is a glorious testament to the power of marketing."

Jonathan Leo, "The Biology of Mental Illness" *Society,* July/August 2004, Volume 41, Issue 5, pp. 45-53, http://link.springer.com/article/10.1007%2FBF02688217#page-1, accessed 14 August 2018.



Dr. Ron Leifer

New York psychiatrist

"There's no biological imbalance.

When people come to me and they say, 'I have a chemical imbalance', I say, 'Show me your lab tests'. There are no lab tests. So what's the chemical imbalance?

There is no such thing as a chemical imbalance,
and any psychiatrist that you talk to, if you ask them that question,
they'll all admit it in private but they won't admit it in public.
It's a scandal."

Ron Leifer, http://www.mindfreedomireland.com/index.php/articles-from-2012/1005-quotes-from-the-horses-mouth accessed 28 August 2018.

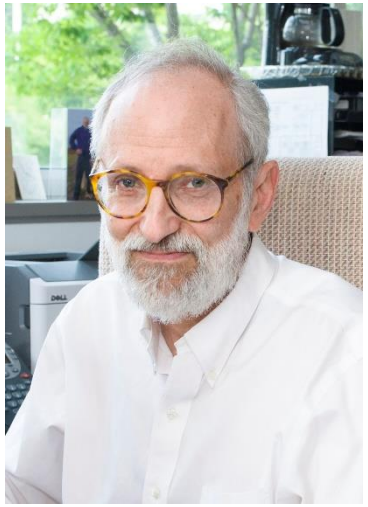
2004

Dr. Darshak Sangavi

Clinical fellow at Harvard Medical School

"Despite pseudoscientific terms like 'chemical imbalance',
nobody really knows what causes mental illness.
There's no blood test or brain scan for major depression."

Darshak Sanghavi, "Health Care System leaves Mentally Ill Children Behind", *Boston Globe,* 27 April 2004, accessed 12th May 2016.



2005

Dr. Kenneth Kendler

American psychiatrist

co-editor-in-chief of *Psychological Medicine*

"We have hunted for big simple neurochemical explanations for psychiatric disorders and have not found them".

Kenneth S. Kendler, M.D., "Towards a Philosophical Structure for Psychiatry", *American Journal of Psychiatry,* 01 March 2005, 162:433-440. Doi:1176/appi.ajp.162.3.433, accessed 18 February 2014.

2005

Dr. Joanna Moncrieff

Senior lecturer in psychiatry at University College, London

"The pharmaceutical industry has managed to convey a misleading picture. I speak to quite a few journalists, and they are quite shocked to hear that the link between serotonin and depression is very tenuous and the research conflicting and not convincing.

The psychiatric profession and academic researchers are probably also partly to blame for glossing over the weakness of the research."

Joanna Moncrieff, quoted in "Advertisements for SSRIs May Be Misleading", by Laurie Barclay, MD, *Medscape,* 08 November 2005, http://www.medscape.com/viewarticle/516262, accessed 15 August 2018.

Jonathan Leo

Professor of Neuroanatomy

2005

Jeffrey Lacasse

Professor of Social Work

"During the past fifty years, a steady stream of researchers have attempted to identify direct evidence for the monoamine theory of depression, of which the serotonin hypothesis is one aspect.

They have consistently failed to do so.

Indeed, as many scientific researchers have demonstrated, most of the evidence they found either directly contradicted or did not support this theory.

In fact, there is no scientifically established ideal 'chemical balance' of serotonin, let alone an identifiable pathological imbalance".

J.R. Lacasse & J. Leo, "Serotonin and depression: A Disconnect between the Advertisements and the Scientific Literature", *PLoS Med:* 2(12) e392, 08 November 2005, accessed 15 August 2018.

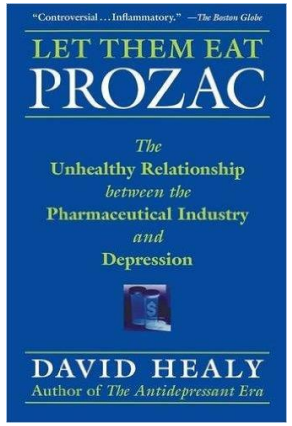
2006

Professor David Healy

Psychiatrist and psychopharmacologist, University of Wales

British Association for Psychopharmacology

Historian of psychiatric drugs



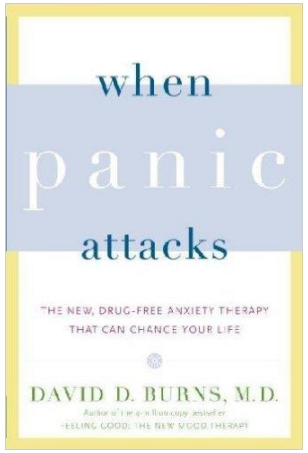
"It is now widely assumed that our serotonin levels fall when we feel low but there is no evidence for any of this, nor has there ever been No abnormality of serotonin in depression has ever been demonstrated."

David Healy, *Let them Eat Prozac: The Unhealthy Relationship between the Pharmaceutical Industry and Depression,* New York: New York University Press, 2006.

2006

Dr. David D. Burns

Clinical Associate Director of Psychiatry
and Behavioural Sciences
Stanford University Hospital of Medicine



I am not aware of any studies that have validated the chemical imbalance theory.
If I tell you that your depression or your panic attacks
result from a chemical imbalance in the brain,
then I'm telling you something that cannot be proven,
because there is no test for a chemical imbalance in the human brain."

David Burns, *When Panic Attacks: The New Drug-Free Anxiety Therapy that can Change your Life,* Harmony, 2006.

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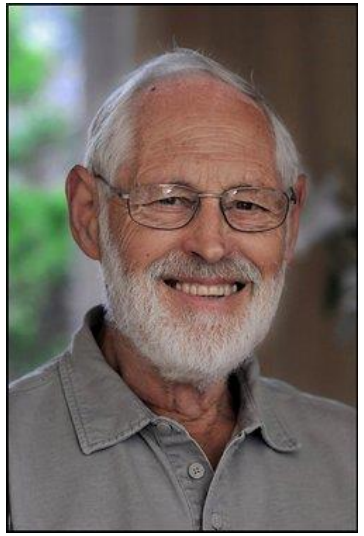
2007

Dr. Peter Breggin

American psychiatrist

"Despite more than two hundred years of intensive research, no commonly diagnosed psychiatric disorders have been proven to be either genetic or biological in origin, including major depression. At present there are no known biochemical imbalances in the brain of typical psychiatric patients."

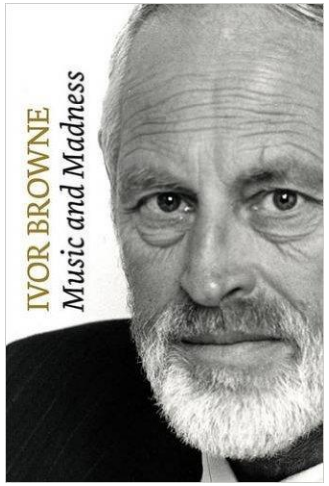
Peter Breggin, Centre for the Study of Psychiatry and Psychology, http://www.uvm.edu/~mkessler/Psych-250/Dr_%20Breggin's%20Chapter%201,%20Brain-Disabling%20Treatments%20in%20Psychiatry.htm 2007, accessed 15 August 2018.



2008

Professor Ivor Browne

Irish psychiatrist



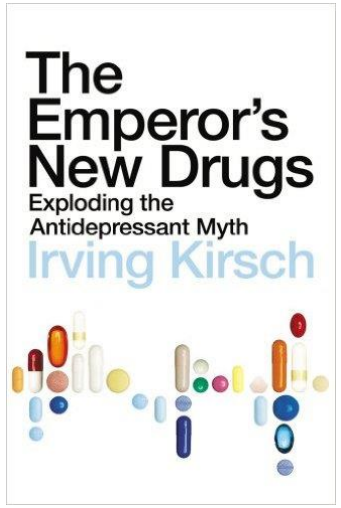
"It was experiences like this which taught me
how bogus is the concept of 'clinical depression'.
The idea that there is a chemically mediated form of depression
which is an "illness", quite separate from the sadness and depression
which are part of the slings and arrows of ordinary life, is manifest nonsense."

Ivor Browne, *Music and Madness*, Cork: Cork University Press: Cork, 2008, p. 121.

2009

Professor Irving Kirsch

Psychologist, researcher and author



"During the last 50 years, researchers have tried to find more direct evidence for the monoamine theory of depression, but by and large they have failed. Instead of finding confirmation, much of the evidence they have found is contradictory or runs counter to the theory."

Irving Kirsch, *The Emperor's New Drugs: Exploding the Antidepressant Myth*, London; Random House, 2009, pps.90-93.

2009

Dr. Marcia Angell

The New York Review of Books

American physician and author

Former Editor-in-chief of the *New England Journal of Medicine*

"The theory that psychiatric conditions stem from a biochemical imbalance is used as justification for their widespread use, even though the theory has yet to be proved."

Marcia Angell, "Drug Companies and Doctors: A Story of Corruption", *New York Review of Books*, 15 January 2009.

2010

Jonathan Rottenberg Ph.D

Psychology Today

Associate Professor of Psychology,

University of South Florida

"As a scientific venture, the theory that low serotonin causes depression appears to be on the verge of collapse."

Jonathan Rottenberg, "The Serotonin Theory of Depression is Collapsing", *Psychology Today,* 23 July 2010, retrieved 14 August 2018.

2010

Dr. Niall McLaren

Australian psychiatrist and author

"People are being told,

'You have a chemical imbalance in the brain
which is genetically determined, and you've got it for life.
And there's nothing you can do about it.'

A catastrophe that needs to be exposed".

Niall McLaren, http://biopsychiatry.ca/category/radio-show/dr-niall-mclaren/, 9 August 2010, retrieved 14 August 2018.

Jerome Wakefield

Professor of Social Work and Psychiatry, New York University

"We've thrown tens of billions of dollars
into trying to identify biomarkers and biological substrates for mental disorders
The fact is we've gotten very little out of all that."

In Kirsten Weir, "The Roots of Mental Illness", *American Psychological Association*, June 2012, Vol. 43, No. 6, http://www.apa.org/monitor/2012/06/roots.aspx, Retrieved 15 August 2018.

2012

Vivek Datta

Psychiatrist

"The notion that mental illnesses are caused by chemical imbalances is neither true, nor helpful . . .

It was supposed to be a beautiful narrative . . .

It is a story where medicine is the hero and bad biochemistry the villain . . .

It is a story with no basis in reality."

Vivek Datta, "Chemical Imbalances and Other Black Unicorns", Mad in America website, 25 June 2012, https://www.madinamerica.com/2012/06/chemical-imbalances-and-other-black-unicorns/ retrieved 15 August 2018.

2012

Dr. Steven Reidbord

American Psychiatrist

"Reidbord's Reflections"

Steven Reidbord, "Chemical imbalance—Sloppy thinking in psychiatry 1", in "Reidbord's Reflections", 29 April 2012, http://blog.stevenreidbordmd.com/?p=561, retrieved 15 August 2018.

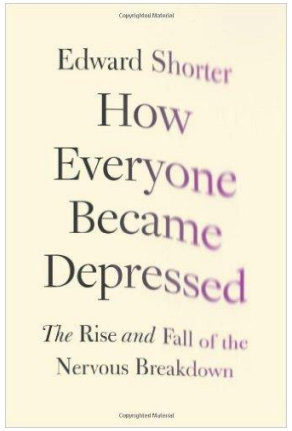
"Chemical imbalance—Sloppy thinking in psychiatry 1".

"There's a lot of sloppy thinking in my field. This troubles me . . . 'Chemical imbalance' is a phrase used by psychiatrists and laypeople alike. When a mental problem seems to arise from within instead of without, it is said to be due to a chemical imbalance. In truth, however, no chemical imbalance, nor any structural abnormality in the brain has ever been found to account for anything we currently consider a psychiatric disorder."

2013

Professor Edward Shorter

Canadian psychiatrist Historian of psychiatry



"There is no biological marker for depression, major or not. Nor has any psychiatric illness been convincingly attributed to a shortage of any particular transmitter."

↓

i.e. a chemical imbalance

Edward Shorter, *How Everyone Became Depressed,* Oxford: Oxford University Press, 2013, pps. ix and 154.

2013

Dr. Steven Hyman

American psychiatrist

Former director, National Institute of Mental Health (NIMH)

dana.org/Cerebrum/Default.aspx?id=39489

in psychiatry is simply too difficult and too risky.

The Diagnosis

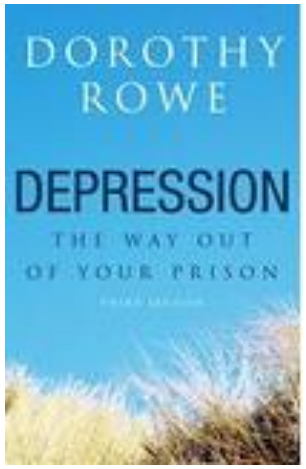
The scientific issues facing translational psychiatry–the application of basic discoveries in neuroscience, genetics, and psychology to understanding disease and to advancing therapeutics–are daunting. The molecular and cellular underpinnings of psychiatric disorders remain unknown; there is broad disillusionment with the animal models used for decades to predict therapeutic efficacy; psychiatric diagnoses seem arbitrary and lack objective tests; and there are no validated biomarkers with which to judge the success of clinical trials.[4,5] As a result, pharmaceutical companies do not

http://dana.org/Cerebrum/Default.aspx?id=39489, retrieved 15 August 2018

2007

Dorothy Rowe

Australian British-based psychologist and author



"There never has been any evidence
that any brain chemical was depleted when a person was depressed.

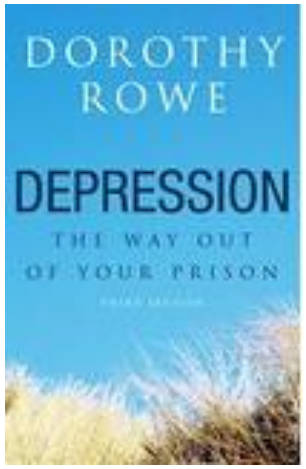
However, psychiatrists kept hoping that one day
their hypothesis that depression was caused by a chemical imbalance
would be proved to be right."

Dorothy Rowe, "Real causes of depression", *Saga,* February 2007, https://www.dorothyrowe.com.au/articles/item/192-the-real-causes-of-depression-february-2007 retrieved 15 August 2018.

2007

Dorothy Rowe

Australian British-based psychologist and author



"Now, thirty years after the hypothesis was first introduced,
the Royal College of Psychiatrists and the Institute of Psychiatry
have accepted that depression isn't caused by a chemical imbalance.

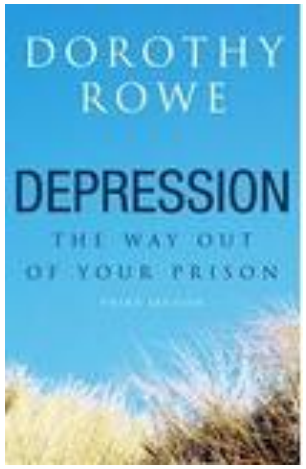
But you will find this out only if you visit their websites.
would be proved to be right.
They haven't issued a press release saying 'We were wrong'".

Dorothy Rowe, "Real causes of depression", *Saga,* February 2007, https://www.dorothyrowe.com.au/articles/item/192-the-real-causes-of-depression-february-2007 retrieved 15 August 2018.

2007

Dorothy Rowe

Australian British-based psychologist and author



"On the Institute of Psychiatry's website there is a lengthy notice about an important conference on depression to be held in April 2007. The preamble to this notice reads,

'Depression cannot be described any longer as a simple disorder of the brain'.

→ The website of the Royal College of Psychiatrists has dropped all references to chemical imbalance causing depression".

Dorothy Rowe, "Real causes of depression", *Saga,* February 2007, https://www.dorothyrowe.com.au/articles/item/192-the-real-causes-of-depression-february-2007 retrieved 15 August 2018.

Summary

Depression:

No brain chemical imbalances have ever been identified

A long list of highly qualified professionals
have tried to inform
regarding the real facts about depression and brain chemical imbalances.

Therefore

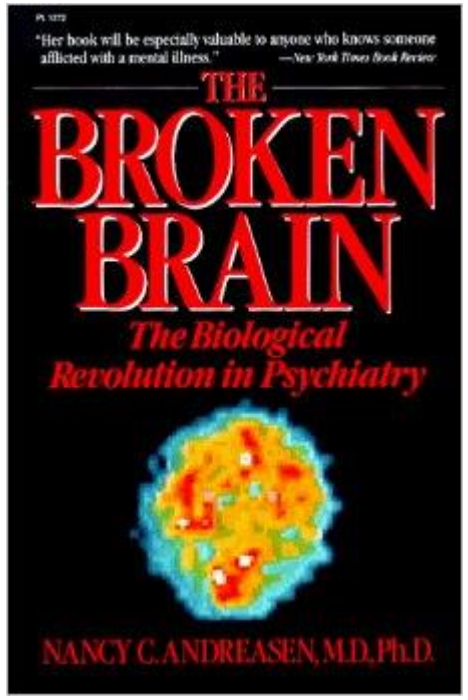
No doctor, mental health professional, mental health organisation
should say otherwise;
should state or imply a connection between brain chemicals and depression;

To do so = To MISINFORM

1984

Dr. Nancy Andreasen

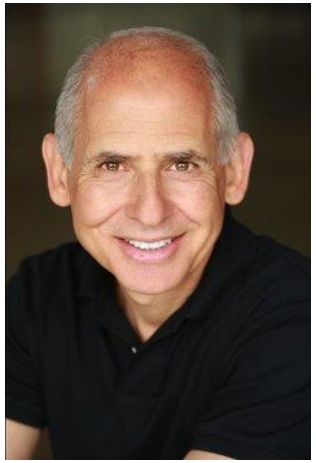
American psychiatrist



"One suffers from a serotonin deficiency in the brain, while the other suffers from a norepinephrine deficiency." (p. 133).

Nancy Andreasen,
The Broken Brain:
The Biological Revolution in Psychiatry,
New York: Harper & Row, 1984

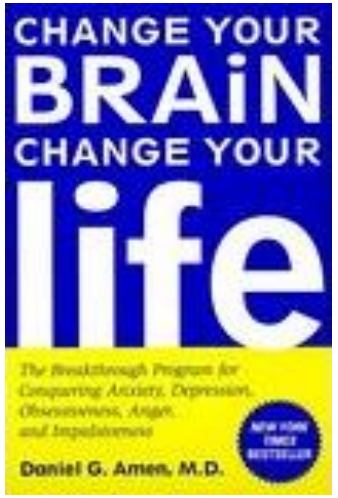
The need for medication
"to correct the underlying chemical imbalance". (p. 256)



1999

Dr. Daniel Amen

American psychiatrist



"Depression is known to be caused
by a deficit of certain neurochemicals, or, neuro-transmitters
especially norepinephrine (noradrenaline) and serotonin"

Daniel Amen, *Change Your Brain, Change Your Life: The Breakthrough Program for Conquering Anxiety, Depression, Obsessiveness, Anger, and Impulsiveness,* Harmony, 1999, p. 47.

2001

Dr. Richard Harding

American psychiatrist

President of the American Psychiatric Association

AMERICAN PSYCHIATRIC ASSOCIATION

FamilyCircle
Where Family Comes First®

"We now know that mental illnesses
— such as depression or schizophrenia —
are not 'moral weaknesses' or 'imagined',
but real diseases
caused by abnormalities of brain structure
and imbalances of chemicals in the brain."

Richard Harding, "Unlocking the Brain's Secrets", in *Family Circle* magazine, 20 November 2001, p. 62

2001

Dr. Muiris Houston

Irish GP

Irish Times medical correspondent

"Depression, in my view, is no different from diabetes.

In one you take insulin

and in the other you take Prozac or some other antidepressant.

Both substances are simply designed

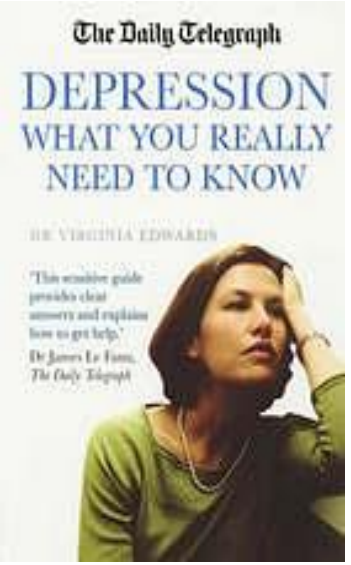
designed to replace natural chemicals missing from the body"

Dr. Muiris Houston, *Irish Times*, 17 December 2001

2003

Dr. D. Virginia Edwards

Canadian psychiatrist



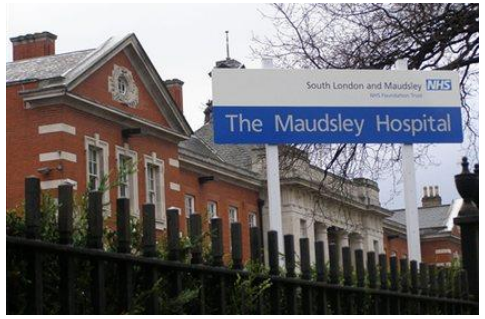
“The brain has too few neurotransmitters in the gap” (between nerve cells).

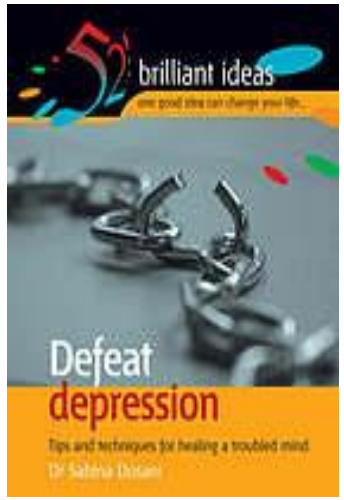
Dr. D. Virginia Edwards, *Depression: What You Really Need to Know,* London: Constable & Robinson Ltd., 2003, pps. 75-76.

2005

Dr. Sabina Dosani

British psychiatrist





"Low levels of the neurotransmitter serotonin lead to depression . . .
when you're depressed,
noradrenaline is released from brain cells at a snail's pace,
so activity levels plummet."

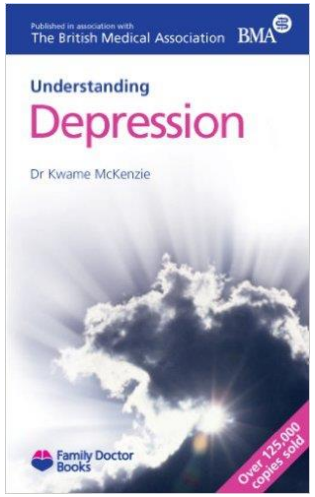
Dr. Sabina Dosani, *Defeat Depression: Tips and Techniques for Healing a Troubled Mind*, Oxford: The Infinite Ideas Company Ltd: 2005, p. 55 and 110

2006

Dr. Kwame McKenzie

Canadian psychiatrist

Professor of psychiatry at the University of Toronto



"The levels of neurotransmitters are low in depression."

BMA

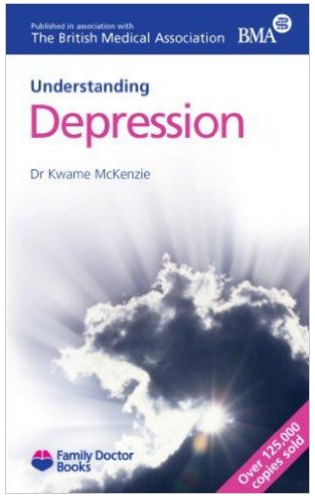
Kwame McKenzie, *Understanding Depression*,
Family Doctor Publications in association with the British Medical Association, 2006, p. 72

2006

Dr. Kwame McKenzie

Canadian psychiatrist

Professor of psychiatry at the University of Toronto



"In depression there are physical changes to the way in which your body works and antidepressants can help put things back to normal.

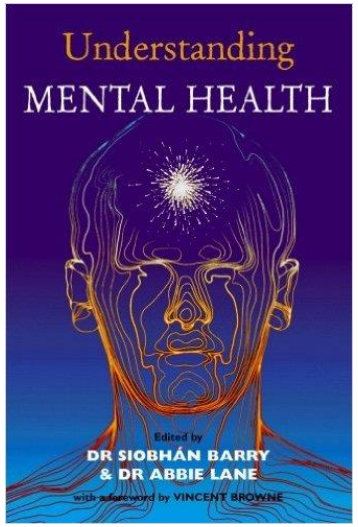
The levels of these neurotransmitters are low in depression — it's as if the baton were being dropped."

Kwame McKenzie, *Understanding Depression*,
Family Doctor Publications in association with the British Medical Association, 2006, p. 72

2006

Dr. Siobhan Barry

Irish psychiatrist



“Irregularities in brain chemistry

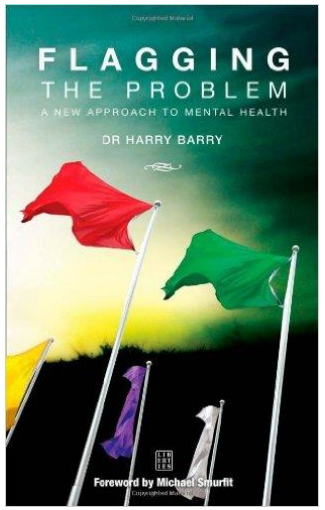
can involve substances called neurotransmitters and electrolytes”.

Siobhan Barry, in *Understanding Mental Health,* Dublin: Blackhall Publishing, 2006, p. 58.

2007

Dr. Harry Barry

Irish GP



"The three mood cables

which communicate using serotonin, noradrenaline and dopamine

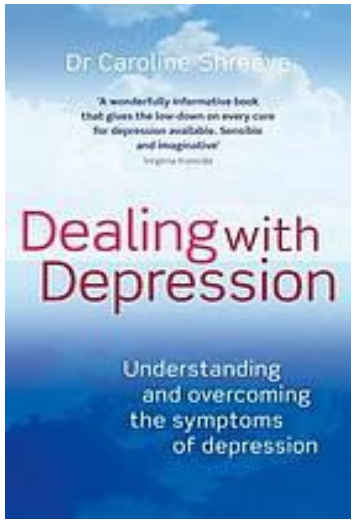
are normally depleted in varying degrees during depression".

Harry Barry, *Flagging the Problem: A New Approach to Mental Health,*
Dublin: Liberties Press, 2007, pps. 135, 33-34, 83, 145.

2010

Dr. Caroline Shreeve

British-based GP



"Dopamine, serotonin and noradrenaline . . . are known as the monoamines . .

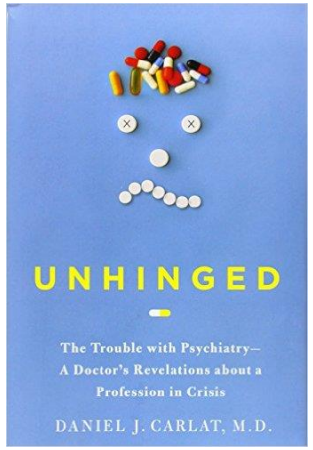
Monoamine supplies are low in depression."

Caroline Shreeve, *Dealing with Depression: Understanding and Overcoming the Symptoms of Depression,* London: Piatkus, 2010, p. 39.

2010

Dr. Daniel Carlat

American psychiatrist



"I didn't tell her that,

despite my training at Harvard's Massachusetts General Hospital,

I have no idea how Lexapro works to relieve depression,

nor does any psychiatrist.

There is no direct evidence of a disorder of reduced serotonin."

i.e. there is no evidence of a brain chemical imbalance,
of serotonin or any other chemical

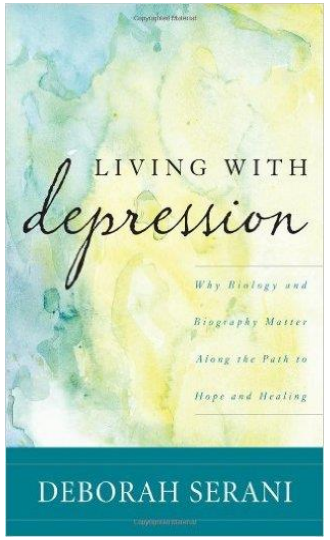
But that is not what he told his patient

Daniel Carlat, *Unhinged: The Trouble with Psychiatry—a Doctor's Revelations about a Profession in Crisis,* London: Free Press, 2010, p. 13.

2012

Dr. Deborah Serani

American psychologist



“These signaling networks can also show disruptions in the production and/or absorption of brain chemical messengers, called neurotransmitters .”

Deborah Serani, *Living with Depression: Why Biology and Biography Matter Along the Path to Hope and Healing* (2012) p.19

2013

Dr. Tim Cantopher

British psychiatrist

PRIORY

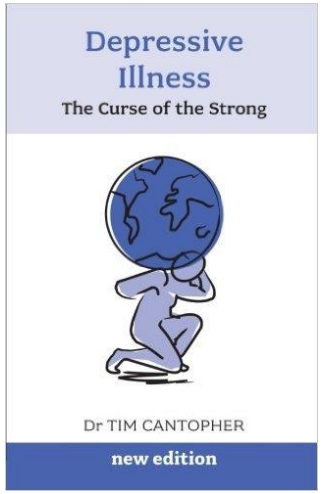
"Antidepressants do work, but only for real clinical depression, the type involving a chemical imbalance in the brain".

theguardian

Dr. Tim Cantopher, in *The Guardian* special report on antidepressants, *The Guardian*, 21 November 2013.

Dr. Tim Cantopher

British psychiatrist



"If I were to perform a lumbar puncture on my patients
(which, new patients of mine will be pleased to hear, I don't),
I would be able to demonstrate
in the chemical analysis of the cerebro-spinal fluid
(the fluid around the brain and spine),
a deficiency of two chemicals".

Dr. Tim Cantopher, *Depressive Illness: The Curse of the Strong*, 3rd edition, Scheldon Press, 2012, p.1.

2013

Dr. Greg Castello

American family physician

"Many people suffer from depression and anxiety.
They share a common condition with those that have
Obsessive Compulsive Disorder (OCD),
anorexia nervosa, bulimia, Post Traumatic Stress Disorder (PTSD)
and even insomnia.
They are all due to a deficiency of serotonin,
a neurotransmitter in the brain."

Dr. Greg Castello, "Depression, Anxiety, OCD and More: Serotonin the Master chemical", YouTube video, 12 May 2013, https://www.youtube.com/watch?v=6YO6SMGHn_M, accessed 08 June 2014.

2014

Dr. Chris Steele

British GP

"She had a lot of stress.
It drained her brain of natural chemicals
and she got depression."

"This Morning", ITV, 18th March 2014.

2014

Dr. Dawn Harper

British GP

Depression:

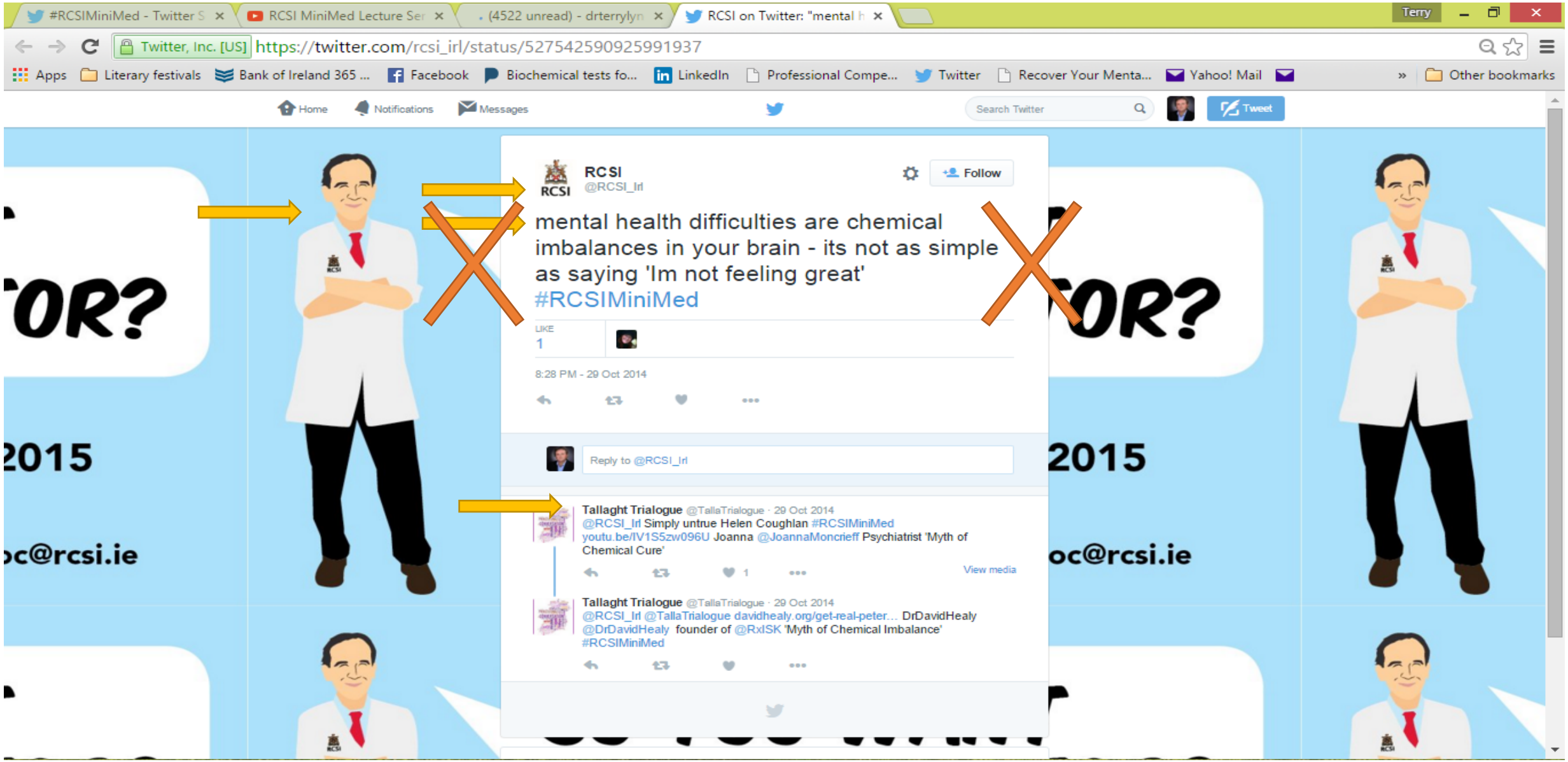
"Is very much a chemical illness.

The reason that antidepressants work is that we know that

they alter the chemicals in the brain and rebalance them".

Dr. Dawn Harper, medical expert on ITV's *This Morning*, during a discussion on depression on 12 August 2014.

2014



https://twitter.com/RCSI_Irl/status/527542590925991937 retrieved 15 August 2018

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walkinmyshoes.ie/about

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Walk in My Shoes is a mental health awareness and education campaign of St. Patrick's Mental Health Services.

http://www.walkinmyshoes.ie/about/, retrieved 15 August 2018

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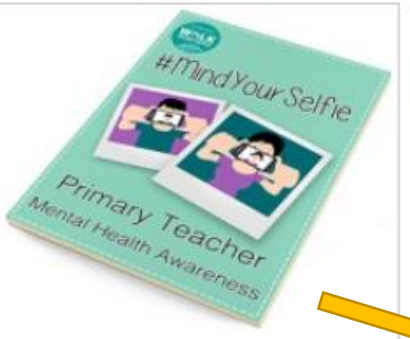

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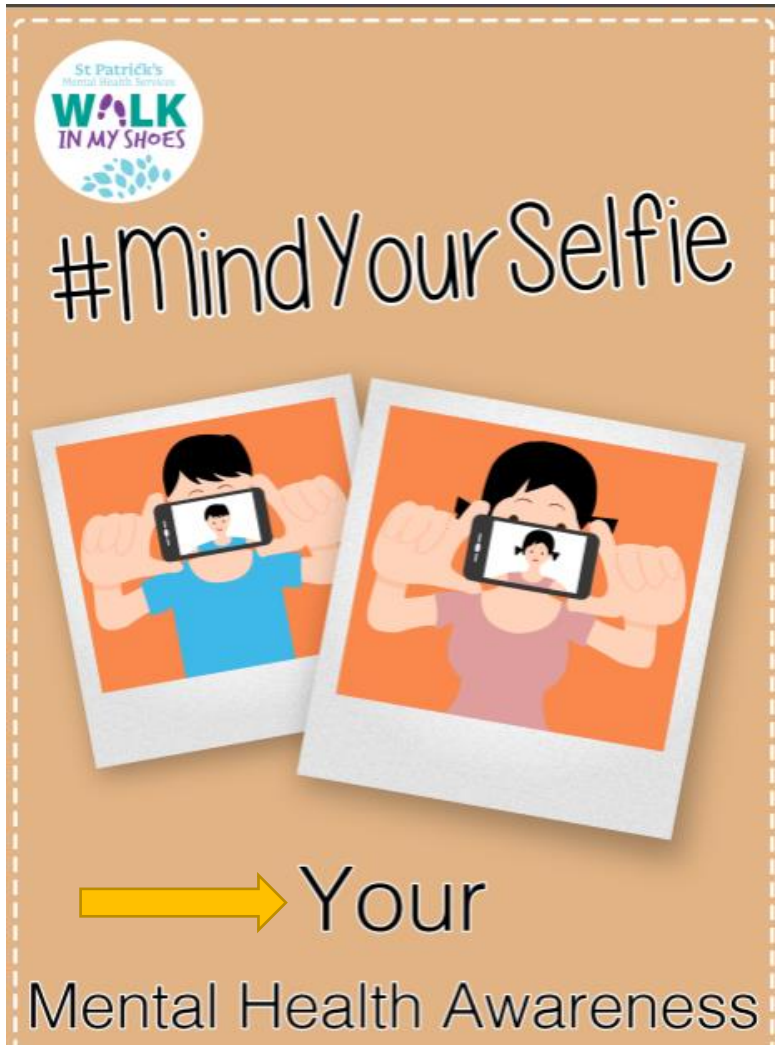

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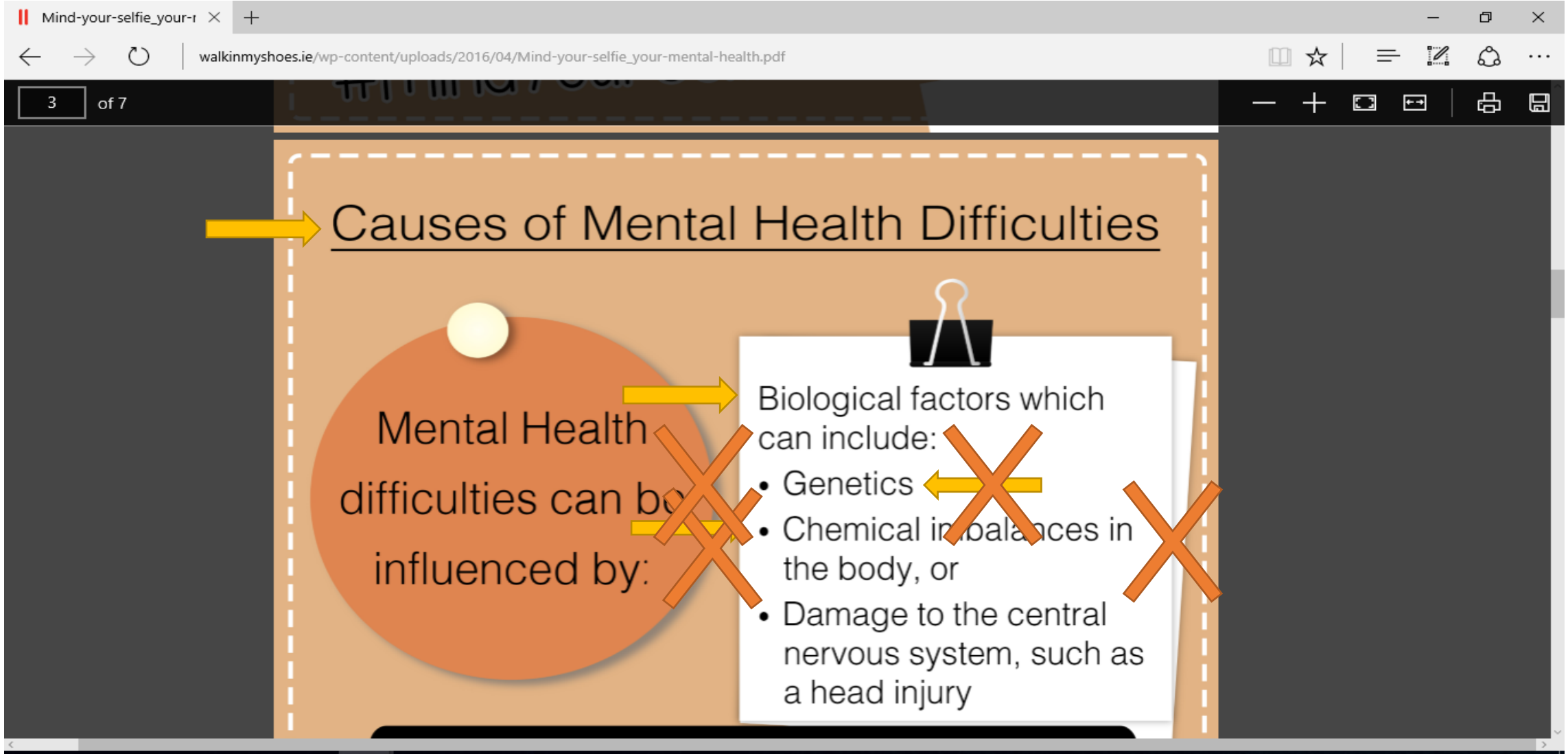

http://www.walkinmyshoes.ie/wp-content/uploads/2016/04/Mind-your-selfie_your-mental-health.pdf, accessed 16th May 2016. This link not functional as of 15 August 2018.

https://www.walkinmyshoes.ie/wp-content/uploads/2017/01/Mind-Your-Selfie-6pp-DL-zag-1-Final.pdf is the current 15 August 2018) link, the above page now removed, no ref to chemical imbalance now

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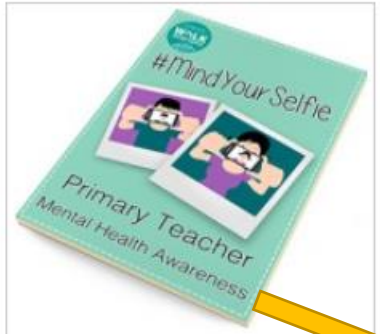

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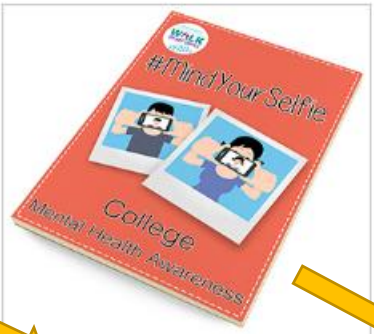

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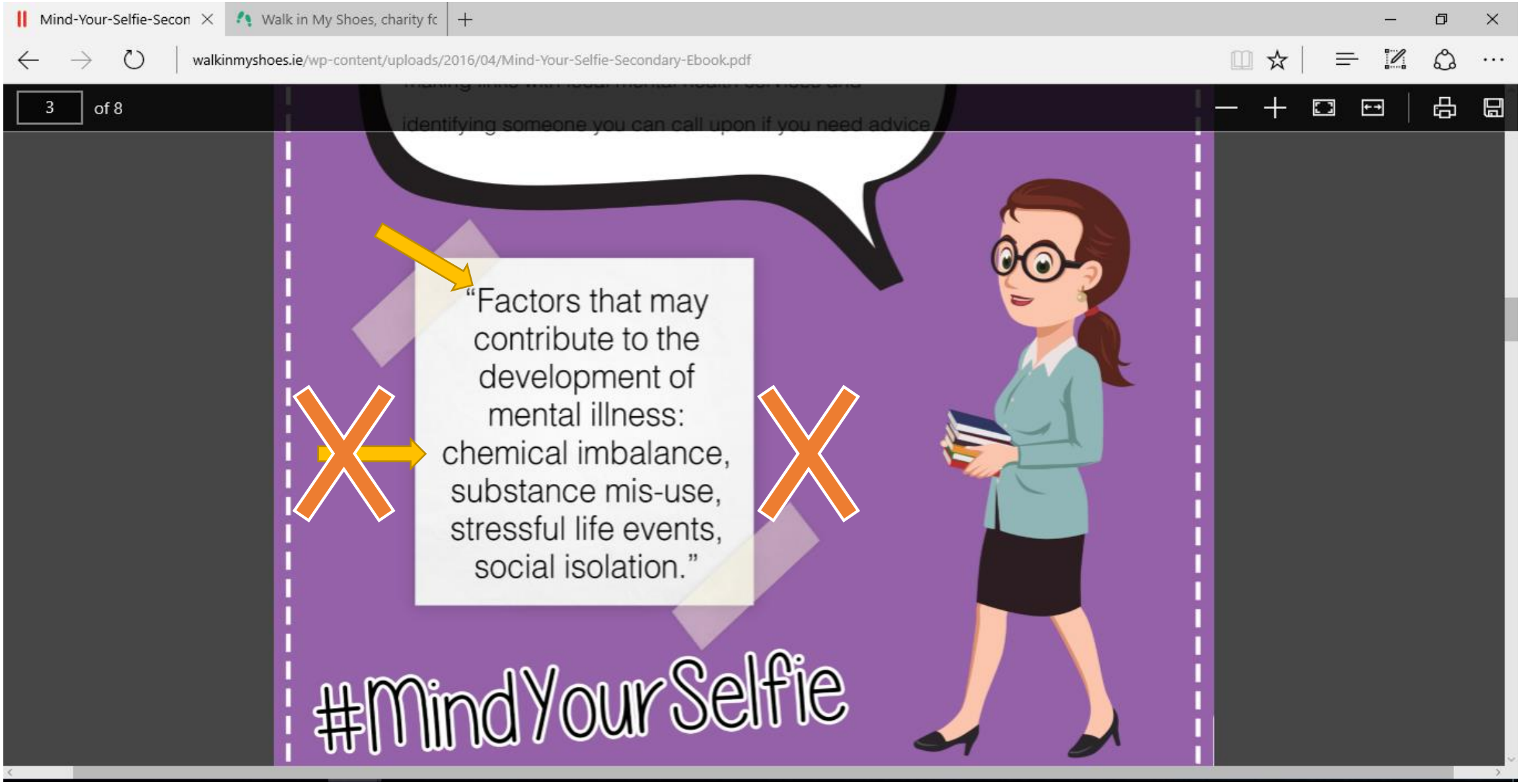

https://www.walkinmyshoes.ie/wp-content/uploads/2016/09/Secondary-Ebook.pdf retrieved 15 August 2018.

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walkinmyshoes.ie/wp-content/uploads/2016/04/Mind-your-selfie_college.pdf

6 of 8

Causes of Mental Health Difficulties

Mental Health difficulties can be influenced by:

Biological factors which can include:

- Genetics
- Chemical imbalances in the body, or
- Damage to the central nervous system, such as a head injury

https://www.walkinmyshoes.ie/wp-content/uploads/2016/09/Mindyourselfie-Ebook-College.pdf

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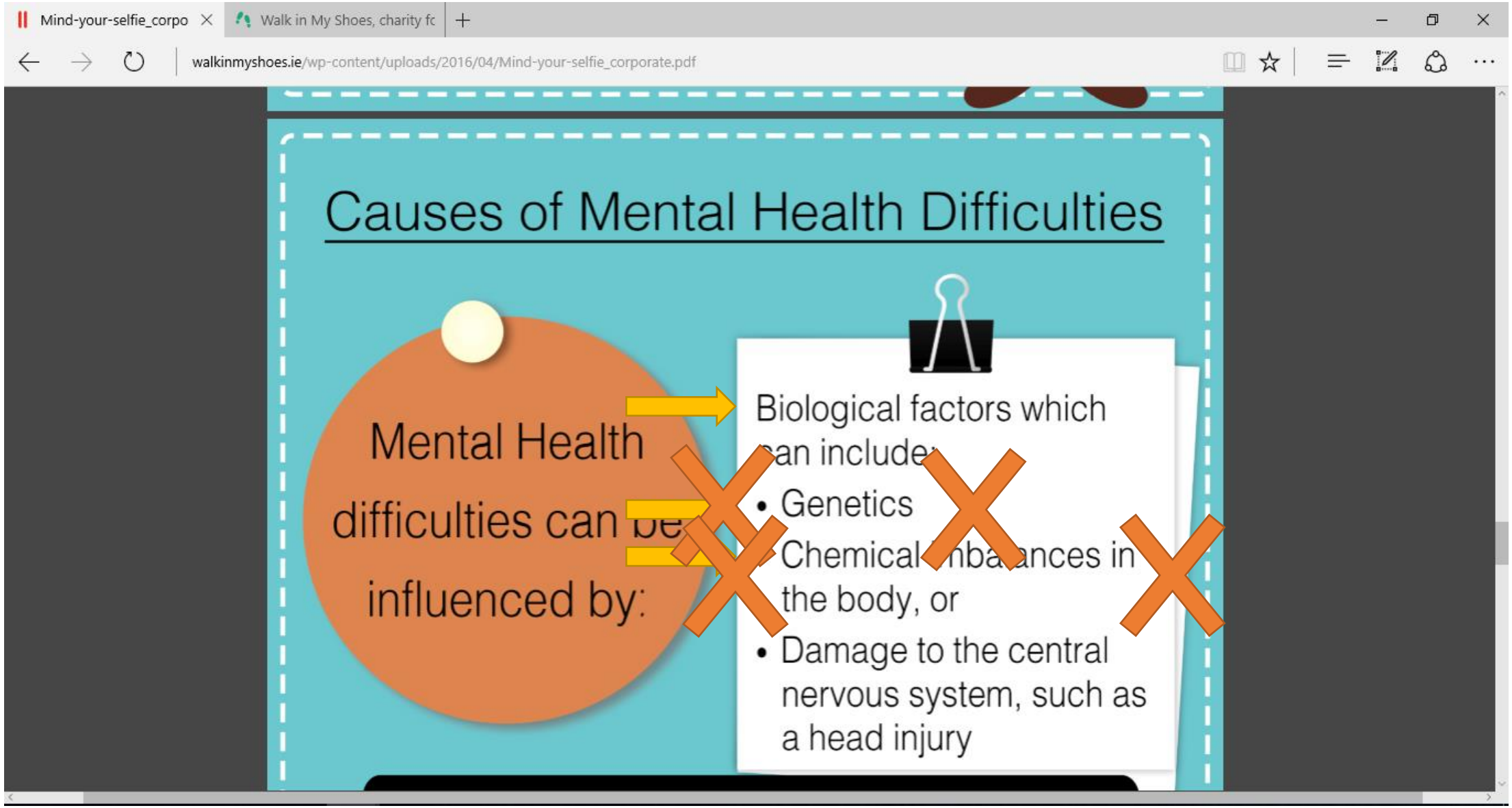

https://www.walkinmyshoes.ie/wp-content/uploads/2016/09/Mindyourselfie-Ebook-Corporate.pdf
retrieved 15 August 2018.

nimh.nih.gov/health/educational-resources/brain-basics/brain-basics.shtml#Brain-Basics-in-Real-Life

NIH National Institute of Mental Health

Transforming the understanding and treatment of mental illnesses.

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- Brain Basics in Real Life
- Brain Research

Science News

Presidential Award Goes to NIMH Grantees

Ketamine's Secret Agent

http://www.nimh.nih.gov/health/educational-resources/brain-basics/brain-basics.shtml#Brain-Basics-in-Real-Life, accessed 16th May 2016

nimh.nih.gov/health/educational-resources/brain-basics/brain-basics.shtml#Brain-Basics-in-Real-Life,

Neurotransmitters

Everything we do relies on neurons communicating with one another. Electrical impulses and chemical signals carrying messages across different parts of the brain and between the brain and the rest of the nervous system. When a neuron is activated a small difference in electrical charge occurs. This unbalanced charge is called an action potential and is caused by the concentration of ions (atoms or molecules with unbalanced charges) across the cell membrane. The action potential travels very quickly along the axon, like when a line of dominoes falls.

When the action potential reaches the end of an axon, most neurons release a chemical message (a neurotransmitter) which crosses the synapse and binds to receptors on the receiving neuron's dendrites and starts the process over again. At the end of the line, a neurotransmitter may stimulate a different kind of cell (like a gland cell), or may trigger a new chain of messages.

Neurotransmitters send chemical messages between neurons. Mental illnesses, such as depression, can occur when this process does not work correctly. Communication between neurons can also be electrical, such as in areas of the brain that control movement. When electrical signals are abnormal, they can cause tremors or symptoms found in Parkinson's disease.

- **Serotonin**—helps control many functions, such as mood, appetite, and sleep. Research shows that people with depression often have lower than normal levels of serotonin. The types of medications most commonly prescribed to treat depression act by blocking the recycling, or reuptake, of serotonin

https://www.nimh.nih.gov/brainbasics/po_300_nimh_presentation_v14_021111_508.pdf retrieved 15 August 2018

psychiatry.org/patients-families/depression/what-is-depression

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Patients & Families > Depression >

Depression Home

Topic Information

What Is Depression?

Depression (major depressive disorder) is a common and serious medical illness that negatively affects how you feel, the way you think and how you act. Fortunately, it is also treatable. Depression causes feelings of sadness and/or a loss of interest in activities once enjoyed. It can lead to a variety of emotional and physical problems and can decrease a person's ability to function at work and at home.

Depression symptoms can vary from mild to severe and can include:

- Feeling sad or having a depressed mood
- Loss of interest or pleasure in activities once enjoyed
- Changes in appetite — weight loss or gain unrelated to dieting

https://www.psychiatry.org/patients-families/depression/what-is-depression, retrieved 15 August 2018.

psychiatry.org/patients-families/depression/what-is-depression

Risk Factors

Depression can affect anyone—even a person who appears to live in relatively ideal circumstances.

Several factors can play a role in depression:

- **Biochemistry:** Differences in certain chemicals in the brain may contribute to symptoms of depression.
- **Genetics:** Depression can run in families. For example, if one identical twin has depression, the other has a 70 percent chance of having the illness sometime in life.
- **Personality:** People with low self-esteem, who are easily overwhelmed by stress, or who are generally pessimistic appear to be more likely to experience depression.
- **Environmental factors:** Continuous exposure to violence, neglect, abuse or poverty may make some people more vulnerable to depression.

https://www.psychiatry.org/patients-families/depression/what-is-depression, retrieved 15 August 2018

of people with depression eventually respond well to treatment, and almost all patients gain some relief from their symptoms.

Before a specific treatment is recommended, a psychiatrist should conduct a thorough diagnostic evaluation, consisting of an interview and possibly a physical examination. The purpose of the evaluation is to reveal specific symptoms, medical and family history, cultural settings and environmental factors to arrive at a proper diagnosis and to determine the best treatment.

Medication: Antidepressants may be prescribed to correct imbalances in the levels of chemicals in the brain. These medications are not sedatives, "uppers" or tranquilizers. Neither are they habit-forming. Generally antidepressant medications have no stimulating effect on those not experiencing depression.

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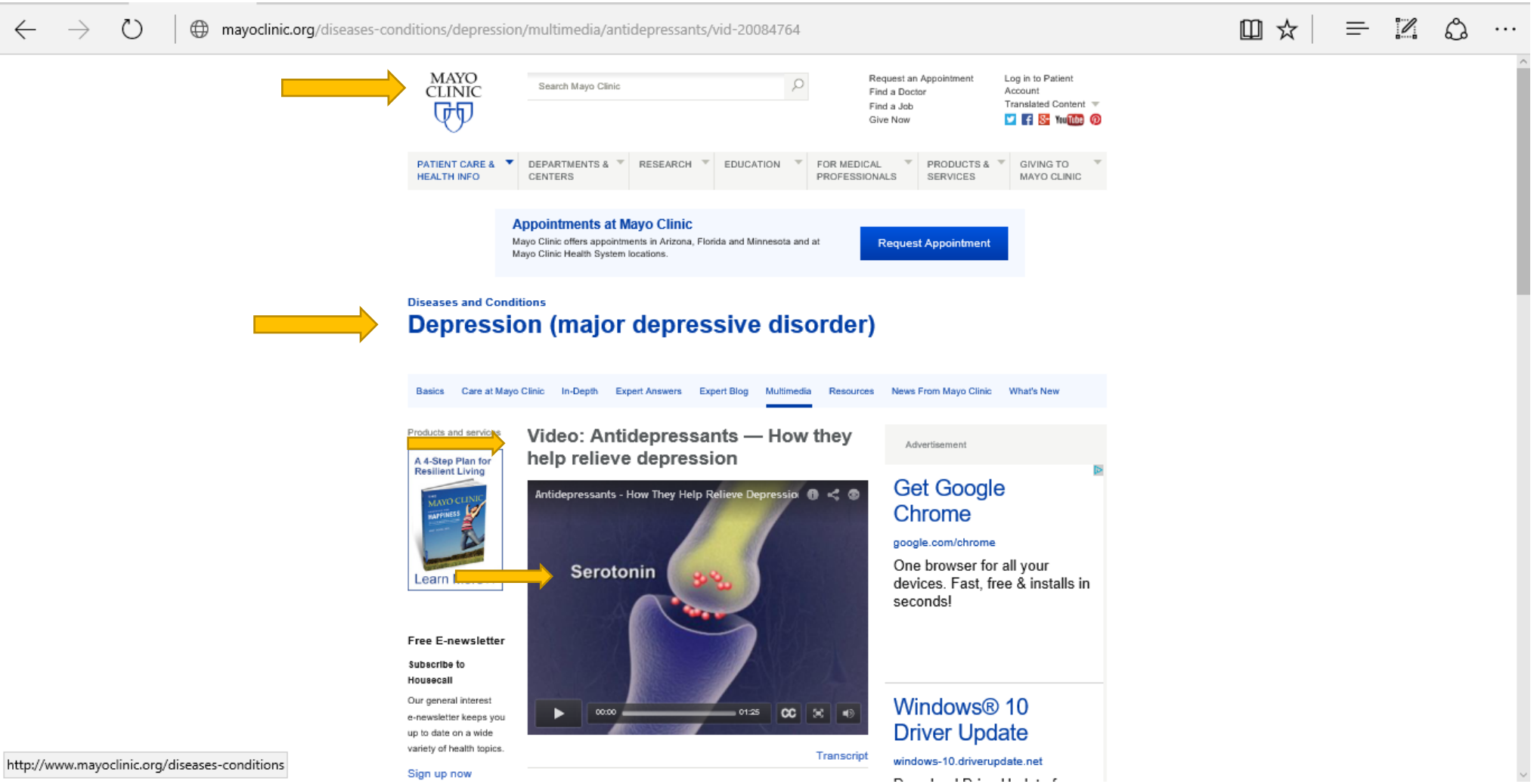
https://www.ndsu.edu/fileadmin/counseling/APAdepression.pdf, accessed retrieved 15 August 2018



http://www.mayoclinic.org/diseases-conditions/depression/multimedia/antidepressants/vid-20084764, accessed 16th May 2016.

This link no longer functional by 15 August 2018. This video now removed from Mayo Clinic website - https://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc-20356007 retrieved 15 August 2018

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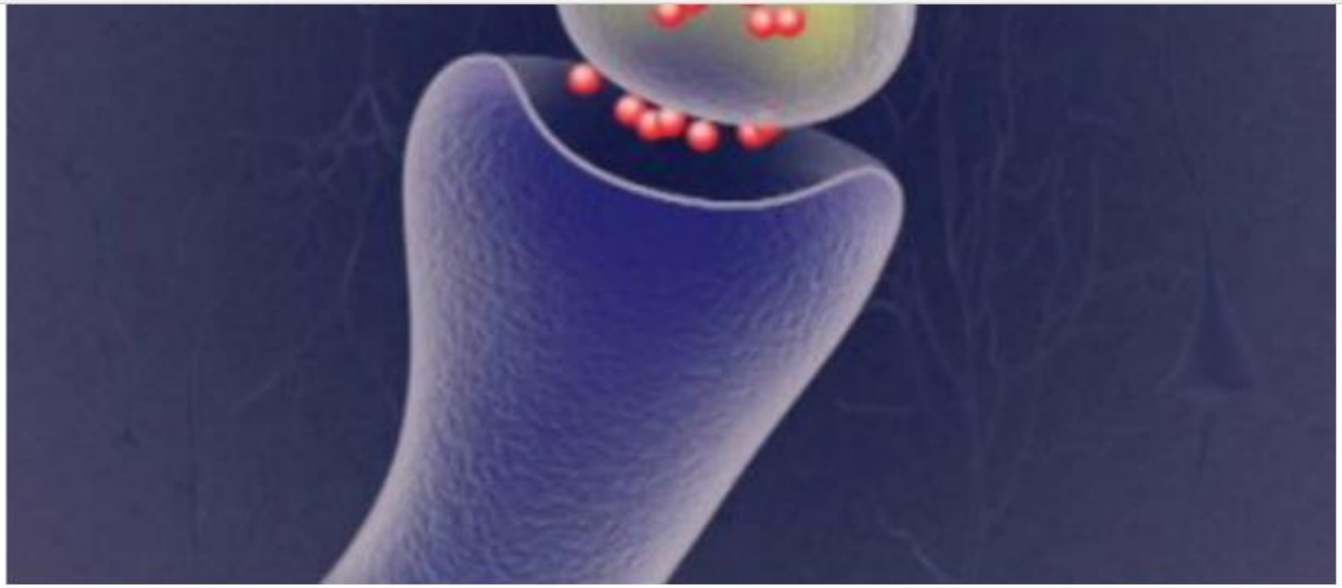

Transcript

If you have depression, you may have a serotonin imbalance. Your overall level of serotonin may be low and some of it may be reabsorbed too soon. As a result, communication between the brain cells is impaired.

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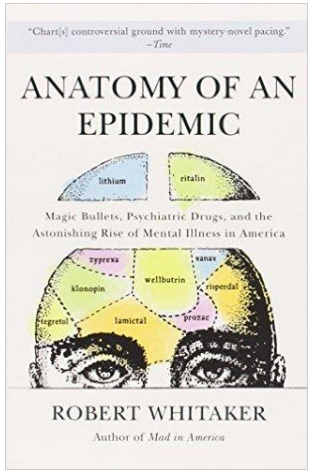
Robert Whitaker

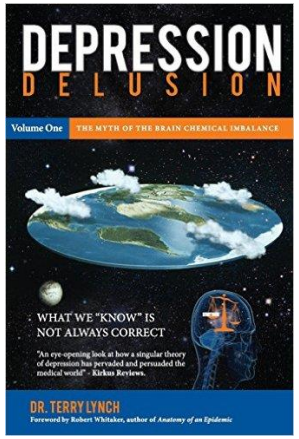
American journalist and author



2010

Finalist for the 1999 Pulitzer Prize for Public Service.

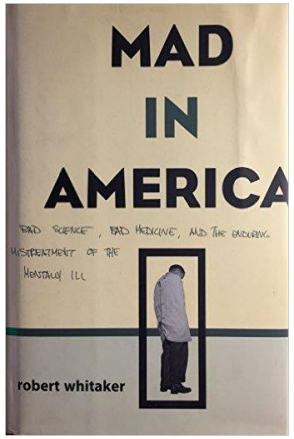
1998 National Association of Science Writers' Science in Society Journalism Award for best magazine article.



2015

Terry Lynch provides an exhaustive, and even encyclopedic, review of this story in *The Depression Delusion*. He has combed through textbooks, media reports, educational brochures, websites and so forth to document, in extraordinary detail, the telling of this false story, with those making the claim often seen, by the public, as leading "experts" in this field. At the same time, he provides a thorough record of how a number of scientists, for the past 30 years, have been telling us that the story is false and that the science doesn't add up.

Yet, and this is the amazing thing, it is the false story that took hold in the public mind, rather than the scientific one that told of a hypothesis that doesn't pan out.



2001

Medical profession

A conspiracy to misinform

A mass delusion

Summary

No situation can rightly be called a chemical imbalance illness

Unless a pre-existing chemical imbalance has actually been fully established

No pre-existing or subsequent chemical imbalance has been established in depression

Depression is NOT a chemical imbalance illness