BETTER THAN PROZAC:
TRANSLATING THE NEW BRAIN SCIENCE INTO GREATER CLINICAL RESULTS
Bill O’Hanlon 12.08 NICABM
The New Brain Science
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- Old view: Brain had fixed structure and set number of brain cells, which declined over the aging process and with damage from trauma
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  - Brain can grow new cells and make new connections throughout life
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• New view: Brain plasticity
  • Brain can grow new cells and make new connections throughout life
  • Brain and body experience alters the structure and connections in the brain, strengthening, growing or weakening them and changing structure
THE BRAIN THAT CHANGES ITSELF

Stories of Personal Triumph from the Frontiers of Brain Science

NORMAN DOIDGE, M.D.
The mechanisms for brain cell growth (neurogenesis)
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- IGF-1 (insulin-like growth factor)
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- IGF-1 (insulin-like growth factor)
- VEGF (vascular endothelial growth factor)
- BDNF (brain-derived neurotrophic factor) “Miracle Grow for the brain”
Neurogenesis and Exercise

Sharon Begley
What affects brain growth and connection?
What affects brain growth and connection?

- Learning new things that stretch your abilities (not too much) and repeating those things through deliberate practice
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• Top things
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  • New physical abilities (juggling, typing, and so on)
  • Exercise (vigorous aerobic)
SPARK
THE REVOLUTIONARY NEW SCIENCE OF EXERCISE AND THE BRAIN

Supercharge Your Mental Circuits to Beat Stress, Sharpen Your Thinking, Lift Your Mood, Boost Your Memory, and Much More

JOHN J. RATEY, MD
COAUTHOR OF DRIVEN TO DISTRACTION
with ERIC HAGERMAN
Exercise and Mood Disorders
Exercise and Mood Disorders

• Growing evidence of strong and lasting effects of exercise on depression and anxiety, as well as anger
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- **Beats medications** in some trials for lingering positive effects.
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- Beats medications in some trials for lingering positive effects.
- Has been shown to work on people who are not responding to medications.
Dr. John Ratey on new understandings of depression

• From the neurotransmitter theory to brain connectivity and plasticity

• The brain becomes less plastic, less able to adapt and learn when the person becomes seriously depressed

• Brain atrophy/damage can take place with the stress and occurrence of serious and longer-term depression that is untreated

• Exercise can increase levels of BDNF and other factors that can oppose that atrophy and damage
CONQUERING DEPRESSION & ANXIETY THROUGH EXERCISE
SMILE
(Standard Medical Intervention and Long Term Exercise)
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Hypothesis: Self-efficacy
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Exercise and Mood: Depression research
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Dr. John Ratey on exercise and mood disorders

• Serotonin, dopamine, norepinephrine levels and regulation affected by exercise
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- Exercise also increases the production of enzymes that create dopamine receptors in the reward centers of the brain.
- Dopamine improves mood and motivation and increases attentional abilities.
- Serotonin, which can help moods, impulse control and self-esteem, is also affected positively by exercise.
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Hofstra University study found:
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- They finished their **homework more**; were better prepared for class; **improved their grades**; broke fewer rules; jumped out of their seats less often
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• Children with oppositional behaviors made the greatest improvements with exercise.
Younger Next Year

“Brain-rattling, irresistible, hilarious. If you’re up for it…[this book] could change your life.”

THE WASHINGTON POST

Live Strong, Fit, and Sexy—Until You’re 80 and Beyond

by Chris Crowley & Henry S. Lodge, M.D.
Getting people to exercise
Getting people to exercise

- Baby steps
Getting people to exercise

• Baby steps
• The solution-oriented method
Getting people to exercise

• Baby steps
• The solution-oriented method
• The buddy system
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• And then learn something new in the next 24 hours
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• And then learn something new in the next 24 hours

• Stretch yourself by doing/learning something slightly beyond your comfort zone
Bill O’Hanlon

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www.getyourbookwritten.com

www.paidpublicspeaker.com

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www.getovertrauma.com

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