OUT OF THE BLUE:
SIX STRATEGIES FOR RELIEVING DEPRESSION

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WALKING OUT OF DEPRESSO-LAND: MAPPING DEPRESSION AND NON-DEPRESSION AS A PATHWAY TO RELIEVING DEPRESSION
Mapping Depression and Non-Depression

Focusing mainly on depression could be a problem

A recent study shows that extensive discussions of problems and encouragement of “problem talk,” rehashing the details of problems, speculating about problems, and dwelling on negative affect in particular, leads to a significant increase in the stress hormone cortisol, which predicts increased depression and anxiety over time.


Acknowledgment and Possibility

An alternative is to move back and forth between discussions of depression and non-depressive moments and experiences.

This not only respectfully acknowledges the person’s painful and discouraging experiences, but gives them a reminder they aren’t and haven’t always been depressed.

It can also illuminate and give hints to skills, abilities and connections that can potentially lead out of depression or at least reduce depression levels.
INCLUSIVE THERAPY

Life is rarely one way or the other. It is usually a complex mishmash of contradictions, polarities and complexities. Sometimes when people are having problems, they tend to side with one aspect or another. A way to soften this rigidity and help them get unstuck is to use what I call “inclusion.”

Injunctions
Determine the injunctions that may have dominated the person. These are conclusions that the person has made about himself or herself or ideas that other people have suggested to them or told them are true. They can usually be thought of in two forms:

Have to/Should/Must (as in, “You must always be perfect,” or “I have to hurt myself.”) or
Can’t/Shouldn’t/Don’t (as in, “You shouldn’t feel sexual feelings,” or “I can’t be angry.”)

Binds
Sometimes the person is stuck with dueling or seemingly opposite injunctions operating simultaneously. For example, “You must be perfect,” paired with “You never do anything right!”

Self-Devaluing
Sometimes the person has come to the conclusion, consciously or unconsciously, that he or she is bad or that parts of him/her is bad. He might say, “If you only knew what I am like inside, you would see that I am evil.” She might have the sense that anger is bad and she shouldn’t feel it or show that she is angry. If she does she thinks she is very bad or anger is very bad.

Generalizations about oneself or life
Sometimes people generalize about themselves or life. “All men are creeps.” “Women don’t like sex as much as men.” “I’m always nice.” These generalizations can be distortions and can lead to shame and bad feelings when things aren’t congruent with our ideas.

Valuing, permission and inclusion as antidotes
1. Give the person permission to and permission not to have to experience or be something. For example, “You can feel angry and you don’t have to feel angry.” Or, “It’s okay to be sexual and you don’t have to be sexual.” Be careful when giving permission about actions.
2. Suggest the possibility of having seeming opposites or contradictions coexist without conflict. For example, “You can tell me and not tell me about the abuse.”
3. Include the opposite possibility when speaking about the way it was, is or will be. “You’ll either get better or you won’t.” “That was either a terrible thing or it wasn’t.” “I’m shy except when I’m not.”
EVOoking Client Solutions and Competence

The idea is not to convince clients that they have solutions and competence, but to ask questions and gather information in a way that convinces you and highlights for them that they do.

1. Ask clients to detail times when they haven’t experienced their problems when they expected they would
   Exceptions to the rule of the problem
   Interruptions to the pattern
   Contexts in which the problem would not occur (e.g. work, in a restaurant, etc.)

2. Find out what happens as the problem ends or starts to end
   What is the first sign the client can tell the problem is going away or subsiding?
   What has the person’s friends/family/co-workers, etc. noticed when the problem has subsided or started to subside?
   What will the person be doing when their problem has ended or subsided different from what he or she is doing when the problem is happening or present?
   Is there anything the person or significant others have noticed that helps the problem subside more quickly?

3. Find evidence of choice in regard to the problem
   Determine variations in the person’s reactions or handling of the problem when it arises. Are there times when he or she is less dominated by it or have a different/better reaction to it or way of handling it than at other times?
   Have the person teach you about moments of choice within the problem pattern.

4. Resurrect or highlight alternate identity stories that don’t fit with the view that the person is the problem
   Find out from the person (or from his or her intimates) about times when the person has acted in a way that pleasantly surprised them and didn’t generally fit with the view that the person is the problem.
   Get the person (or intimates) to trace back some evidence from the past that would explain how or why the person has been able to act in a way that doesn’t fit with the problem identity.

5. Search for other contexts of competence
   Find out about areas in the person’s life that he or she feels good about, including hobbies, areas of specialized knowledge or well-developed skills, and what other people would say are the person’s best points.
   Find out about times when the person or someone he or she knows has faced a similar problem and resolved it in a way that he or she liked.

6. Ask why the problem isn’t worse
   Compared to the worst possible state people or this person could get in, how do they explain that it isn’t that severe? This normalizes and gets things in perspective.
   Compare this situation to the worst incident and find out if it is less severe. Then track why or how.

7. Get clients to teach you how to do what they do when things work
Could they teach you or someone else how to do what works?
Play other people in the situation and get them to coach you on how to act in a way that would produce better responses.
EXAMPLES OF COMPETENCY-EVOKING QUESTIONS

“What is different about the times when ____(you are getting along, there are dry beds, he does go to school, and so on)?”

When a person reports something which appears to be new or different, even if they place little emphasis upon it, ask, “How is that different from the way you might have handled it ____ (one week, or one month, etc.) ago?”

When people talk about the problem pattern, ask about how the problem ended.

“How did you get her to stop ____ (throwing the temper tantrum, nagging)?” “How did you get the fight to end?”

“Have you ever had this difficulty in the past?” If yes, “How did you resolve it then? What would you need to do to get that to happen again?”

Ask about hobbies, interests and things they do well. For example, “What subjects do you like best in school?” “What kinds of things do you do for fun?” “What do you do for a living?”

“You’re a marketing expert. Tell me how you sell things to people. Can you use similar ideas with your spouse?”

“Mother, you said you used to be shy and awkward around people, just like your kids are now. How did you overcome that?”

“Your marriage is in bankruptcy right now. How would you turn around your business if it were in danger of going under?”

“Tell me about the last time you started to get anxious or scared but somehow calmed yourself. What things did you do differently then?”

“You’ve had down times before and come out of them. So when you start coming out of the depression, what things do you start to do differently?”

“If you were on the golf course and you faced this kind of situation, how would you handle it?”

“I know you are unhappy with how much you weigh, but I am curious, how come you don’t weigh more?”

“You say you’ve already dealt with your sexual abuse and don’t need to talk about it any more. Can you tell me what you have learned from your dealing successfully with this issue that others might find helpful?”

“Most couples wait until their relationship is on the verge of divorce to seek help. How did you two decide to come in while your relationship was still doing relatively well?”

“Can you recall a time when you thought you would binge, but instead you resisted the urge?”

“Can you tell me about a time when John was able to sit quietly and surprised you or himself?”

“What do you think your friends would think about you since you have come to think of yourself as able to stand up for yourself?”

“What effect does knowing that you’re resolved not to cut yourself anymore have upon your view of yourself?”
UNDOING DEPRESSION: CHANGING PATTERNS AS A PATHWAY TO RELIEVING DEPRESSION
How to Do a Good Depression

I majored in depression in college, so I learned how to do a really good depression. In addition, I have treated many people who have been depressed and have learned some patterns of depression from them. So, if you were going to set out to get good and depressed, here’s how I would recommend you do it.

1. Stay still, don’t do anything that makes you breathe fast or hard
2. Stay in bed if you can; if not, sit in the same chair or lay on the couch
3. Isolate; avoid other people
4. If you can’t avoid other people, try to talk to the same person or few people
5. Talk to them about the same topic, usually how depressed/unhappy you/they are
6. Sleep during the day and have insomnia at night
7. Brood on the past, fears, faults and resentments
8. Imagine the future will be the same or worse than the past or present
9. Eat terribly; overeat or undereat (whichever one you specialize in), eat junk foods, sugar, fat
10. Don’t pursue hobbies, passions or spiritual interests
11. Drink alcohol, smoke cigarettes, and/or use other drugs
12. Don’t ask for help
INVESTIGATING HOW PEOPLE “DO” THEIR PROBLEMS

• Get people to teach you how you could reproduce the problem if you tried to create it.
  Example: If I were going to gain weight, as you said you have, how would I go about it?
  Example: Teach me your method for doing depression.

• Get details of the thoughts, feelings, sensations, fantasies, actions, interactions and contexts when the problem typically happens.
  Example: Tell me what kind of thoughts go through your mind just before you make yourself vomit.
  Example: What do you notice in your experience as you are getting anxious?

• If you had control of all the body’s physiological functions, how would you create this problem?
  Example: If I were going to do a good anxiety attack, I would increase the body’s heart rate and increase sweating in the hands.
  Example: If I were going to create impotence, I would decrease the blood flow to the genitals.

• How would the person make the problem worse or better, if they could?
  Example: If I was going to learn how to make the insomnia even worse than it is, what would I have to do if I were you?
  Example: Is there anything you have done that seems to help you go to sleep and stay asleep?
PESSIMISTIC VS. OPTIMISTIC STYLES

<table>
<thead>
<tr>
<th>Pessimistic</th>
<th>Optimistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad stuff is permanent and will persist, pervasive and out of my control;</td>
<td>Bad stuff is time and context limited (“I am just going through a rough patch”; or “This job sucks”) and under my influence;</td>
</tr>
<tr>
<td>Bad stuff reflects my resourcelessness and bad qualities (“I’m such a loser”)</td>
<td>I possess good and resourceful qualities</td>
</tr>
</tbody>
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One study found that even naturally pessimistic people who spent one week doing exercises in which they identified and wrote down times in the past in which they were at their best, their personal strengths, expressing gratitude to someone they have never properly thanked, and writing down three good things that happened were happier when their happiness levels were measured six months later.


Seligman reports a study done by himself and Jeff Levy with people who scored as severely depressed in a depression inventory. Participants were instructed to recall and write down three good things that happened each day for 15 days. 94% of them went from severely depressed to mildly to moderately depressed during that time.

SHIFTING PEOPLE’S RELATIONSHIP TO DEPRESSION AS A PATHWAY TO RELIEVING DEPRESSION
EXTERNALIZING PROBLEMS

Externalize symptoms and problems and ideas about blame, determinism and “unchangeable” problem identity ideas. Motto: The person is never the problem; the problem is the problem.

1. Name/Personify—Talking to the person or family as if the problem was another person with an identity, will, tactics and intentions which often have the effect of oppressing, undermining or dominating the person or the family.

   Example: “When Paranoia whispers in your ears, do you always listen?”
   Example: “So Depression has moved in with you for the last month?”
   Example: “How long has Anorexia been lying to you?”

2. Find out how the problem has affected the person and others—Finding out how the person has felt dominated or forced by the problem to do or experience things he or she didn’t like. Be careful about using causal statements (“makes,” “causes,” “gets”).

   Investigate areas of: 1. Experience, feelings arising from the influence of the problem; 2. Tactics or messages the problem uses to convince people of limitations or to discourage people; 3. What actions or habits the problem invites or encourages the person or the family to do; 4. Speculations about the intentions of the problem in regard to the person or relationships; 5. Preferences or differences in points of view the person has with the problem.

   Example: “When has jealousy invited you to do something you regretted later?”
   Example: “What kinds of foods does Anorexia try to get you to avoid?”

3. Find moments when things went better or different in regard to the problem—Finding out about moments of choice or success the person has had in not being dominated or forced by the problem to do or experience things he or she didn’t like. Inquire about differences the person has with the problem.

   Example: “Tell me about some times when you haven’t believed the lies Anorexia has told you.”
   Example: “How have you stood up to the Temper Tantrum Monster?”

4. Use these moments of choice or success as a gateway to alternate (hero/valued) stories of identity—Encourage the person or his/her intimates to explain what kind or person they are such that they had those moments of choice or success.

   Example: “How do you explain that you are the kind of person who would lodge such a protest against Anorexia’s plans for you.”
   Example: “What qualities do you think you possess that give you the wherewithal to oppose Depression in that way?”

5. Find evidence from the person’s or families past that supports the valued story—Finding historical evidence explaining how the person was able to stand up to, defeat or escape from the dominance or oppression of the problem.

   Example: “What can you tell me about your past that would help me understand how you’ve been able to take these steps to stand up to Anorexia so well?”
   Example: “Who is a person that knew you as a child who wouldn’t be surprised that you’ve been able to reject Violence as the dominant force in your relationship?”

6. Get them to speculate about a future that comes out of the valued story—Get the person or the family to speculate on what kinds of future developments will result if the path of resisting the problem is continued or expanded.

   Example: “As you continue to stand up to Anorexia, what do you think will be different about your future than the future Anorexia had planned for you?”
   Example: “As Jan continues to disbelieve the lies that delusions are telling her, how do you think that will affect her relationship to her friends?”

7. Develop a social sense of the valued story—Find a real or imagined audience for the changes you have been discussing. Enroll the person as an expert consultant on solving/defeating the problem. Situate the problem in a current social/political/values context.

   Example: “Who could you tell about your development as a member of the Anti-Diet League that could help celebrate your freedom from Unreal Body Images?”
   Example: “Are there people who have known you when you are not depressed who could remind you of your accomplishments and that your life is worth living?”
Narrative Therapy Bibliography

Mindfulness as a way to shift relationship to depression

Developing mindful practices can:

Help people to observe their depression without getting carried away by it

Help people to view themselves with compassion rather than judgment of worry in relationship to depression

Help people to notice the waxing and waning of depressive elements

Help people to observe without judging depressive experiences, feelings or symptoms as things to be gotten rid of or as bad or wrong


VALUING DEPRESSION

Value sadness, sorrow and life disruption

Depression as a wake up call

Follow Your Wound: Depression as a path to life meaning and purpose


THE FOUR SIGNALS:
How to find meaning and purpose in life, even from negatives

1. **Blissed**: What brings us alive, blisses us out, fascinates us, or gives us energy. Charles Darwin was so excited about studying life that one time, when he discovered a new type of beetle, he found he only had room in his hands for two of the beetles out of the three he had found. He promptly popped one in his mouth and ran home with two in his hands and one in his mouth. That kind of energy and enthusiasm indicates bliss.

2. **Blessed**: Who has blessed us about something; e.g., a teacher who praised our writing; an uncle who thought we could sing amazingly; a friend who told us we were a great listener and should be a therapist; a parent who believed in us and told us we could do anything we set our mind to.

3. **Pissed**: What pisses us off. Righteous indignation. What we think needs to be improved in the world or some injustice or wrong that needs to be righted. Martin Luther King, Jr. was probably not following his bliss when he stood up for justice and civil rights.

4. **Wounded**: What has wounded us (or our forebears) that still affects us. The difference between a wound that festers and diminishes us and one that leads to growth is whether or not we use the wound to energize us to change something in the world or to make a contribution. If we withdraw due to the wound or shrink from engaging with the world or others, the wound will not lead to healing ourselves or the world. “We all leave childhood with wounds. In time we may transform our liabilities into gifts. The faults that pockmark the psyche may become the source of a man or a woman’s beauty. The injuries we have suffered invite us to assume the most human of all vocations—to heal ourselves and others.” —Sam Keen

Stephen Spielberg’s parents divorced when he was young. His father was a computer technician and his mother a musician. In a crucial scene in Spielberg’s movie “Close Encounters of The Third Kind,” the two “alien” cultures finally discover how to connect and communicate by using computers to send musical notes to one another. Spielberg has said that he turns his fear and pain into movies (e.g., he was afraid of the unknown things beneath the surface of water and made “Jaws,” and his pain from the legacy of the Holocaust turned into his movie “Schindler's List.”).
CHALLENGING ISOLATION AND ENCOURAGING CONNECTIONS AS A PATHWAY TO RELIEVING DEPRESSION
Seven Pathways to Connection

1. Connection to the soul, the deeper self, the spirit.  The deepest level within. This involves having a connection with oneself that is beyond the rational, logical or even the emotional. Many people find that meditating, journaling or just spending time alone helps them find this connection.

2. Connection to through the body.  This may come through dancing, sex, athletics, yoga, eating fine foods, etc. Seeing Michael Jordan in the air about to make a basket or other great athletes in action can show the spiritual through the body—they seem to do things that are beyond usual human abilities and that seem transcendent.

3. Connection to another.  Intimate one to one relationships. Martin Buber calls this the I-Thou relationship. This pathway does not always need to refer to a relationship with another person; it could be with an animal. For example, I know someone who is suicidal and the only thing that keeps her alive is her connection with her dog.

4. Connection to community.  This pathway involves one’s relationship to one’s group, causes greater than oneself that contribute to the community or the planet. If you have ever felt part of a family, extended family group, neighborhood, church group or workplace, you have taken this pathway.

5. Connection through nature.  Being in and noticing nature and the physical environment. How many of us need to spend time in the outdoors every so often or we begin to feel small and disconnected? “I believe in God, only I spell it Nature,” said Frank Lloyd Wright. One may also experience this sense of connection through a deep understanding and appreciation of the laws of nature, such as physics, mathematics. Being a liberal arts major, I think I’ll stick with mountains and forests and lakes for my nature connection.

6. Connection by participating in making or appreciating art.  Ever seen someone standing in front of a painting in a museum and being moved to tears or listening to a piece of music and feeling energized or moved? Depending on one’s preferences, this may come through literature, painting, sculpture, theater, movies, photography, dance, etc. Many artists refer to a sense that they are not making the art they produce, but that it is coming to or through them. “True art makes the divine silence in the soul break into applause.”—Hafiz

7. Connection to the Universe or higher power or God or Cosmic consciousness or whatever word one uses for the sense that there is a greater being or intelligence than ourselves at work in life. This connection can happen through prayer, conversion, meditating, etc.
Isolation as an element in depression

Social connections are at risk in modern societies
✓ Shared family dinners and family vacations are down over a third in the last 25 years
✓ Having friends over to the house is down by 45% over the last 25 years
✓ Participation in clubs and civic organizations is down by over 50% in the last 25 years
✓ Church attendance is down by about a third since the 1960s
✓ The average number of people we consider close confidants dropped nearly one-third, from 2.94 in 1985 to 2.09 in 2004
✓ The average American has only two close friends
✓ 1 in 4 Americans (25%) report that they have no one to confide in
✓ Average household size has decreased by about 10% during the past twenty years, to 2.5 people
✓ In 1990, more than 1 in 5 households were headed by a single parent; currently it is 1 in 3
✓ 6.27 million people in the U.S. live alone and that is expected to increase to 29 million by 2010
✓ People with five or more close friends (excluding family members) are 50 percent more likely to describe themselves as "very happy" than respondents with fewer.


Self-concern as correlated with suicide
About 300 poems from the early, middle and late periods of nine suicidal poets and nine non-suicidal poets — from the 1800s to the present — were compared using the computer text analysis program, Linguistic Inquiry and Word Count (LIWC)
Textual analysis of poets who committed suicide shows more use of the words “I,” “me,” and “mine,” when compared with poets who died of natural causes.

FUTURE PULL:
CONNECTING WITH
HOPEFUL FUTURES AS A
PATHWAY TO RELIEVING
DEPRESSION
Four Methods of Future Pull:
Introducing optimism and future-mindedness to people suffering from depression

Problems into preferences
Rephrase from the past and what people don’t to the future and what they do or would want.

Expectancy talk
Put presumptions and assumptions of positive change and developments into your statements and questions.

Starting from the end and working backwards
Ask about what the future will be when the problem situation is resolved or better and work backwards to the present.

A Letter From Your Future
- Write a letter from your future self to your current self
- From six months, one year or five years (or whatever time period you sense is appropriate) from now
- Describe where you are, what you are doing, what you have gone through to get there, and so on
- Tell yourself the crucial things you realized or did to get there
- Give yourself some sage and compassionate advice from the future
PROBLEMS INTO PREFERENCES:
A FUTURE-ORIENTED ACKNOWLEDGMENT METHOD

When people first seek therapy, they are often focused on the past and what isn’t working. How does the therapist gently and respectfully invite them into the future without minimizing their suffering or invalidating them? I use a method that owes a lot to both Carl Rogers (for the acknowledgment and reflection of people’s experience and feelings) and Milton Erickson (for the indirect shifting of attention and frame of reference). This method helps people re-orient their attention from what they cannot change (the past) and what hasn’t been working (the complaint) to what they can change (the future) and what they would prefer to have happen (their goal or direction or desire). If done respectfully and skillfully, most people do not even notice the shift consciously, but many report feeling more hopeful after it is used through the interview.

- **Rephrase from what is unwanted to what is desired or preferred**

  *Client:* I think I'm just too shy to find a relationship. I'm afraid of women and being rejected.
  *Therapist:* So you'd like to be more comfortable around women and to be able to get into a relationship.

- **Redirect from the past or present to the future**

  *Client:* We argue all the time.
  *Therapist:* So you'd like to be able to work out conflicts without having so many arguments and even to have fewer conflicts if possible.

- **Mention the presence of something rather than the absence of something**

  *Client:* He never does anything we ask him to.
  *Therapist:* You'd like to see some cooperation from him.

- **Suggest small increments rather than big leaps**

  *Client:* I can’t stand this depression.
  *Therapist:* You’d really like to find some way to feel a bit better and be a bit less depressed.
FUTURE TALK

Method #1  Expectancy Talk

Use phrases that create expectancy, such as “yet,” “so far,” “up to now,” and “when.”

*Example:* So far you haven’t figured out any way to live and not be in misery.
*Example:* When you’ve gotten a handle on your anger, you won’t have so much trouble at work.

Method #2  Problems into Goals

Turn problem statements into goal statements.

*Statement:* I can’t stand this depression.
*Your response:* So you’d really like to find some way to feel better and be less depressed.

Method #3 The Crystal Ball

Ask people to envision a future in which the situation is better, a problem is resolved or a goal is reached. Then work backwards from that future to the present.

*Example:* I know you sometimes feel it’s impossible, but let’s just imagine it’s a year from now and you are feeling better, what kinds of things would you be doing if the depression weren’t dragging you down?

Method #4 The Miracle Method

Ask people to imagine that the barriers to reaching the goal are eliminated by a miracle while everyone is sleeping. Then ask them what things would be happening once the miracle had occurred. This does not involve hoping for a miracle, but freeing imagination and action from unnecessary limitations.

*Example:* Imagine that while you are asleep tonight, a miracle occurs and the depression has vanished. How would things change? What is the first thing you would notice or do when you woke up that would let you know the depression was gone?

Method #5 First Signs of Change

Ask people to tell you what the first signs of change will be that will indicate that they and the company are moving in the direction of the goals, the crystal ball vision or the miracle. [Hint: The first signs may already be happening.]

*Example:* What’s the first thing you would think or do when you are on the right track or have you already done something before we met that let’s you know you are heading in the right direction already?
RESTARTING BRAIN GROWTH AS A PATHWAY TO RELIEVING DEPRESSION
The Neurogenic/Neuroatrophy hypothesis of depression

So far, the evidence for the theory is sketchy. Recent findings show a pattern that fits with the theory, though.

- Stress, which plays a key role in triggering depression, suppresses neurogenesis in the hippocampus.
- Antidepressants, on the other hand, encourage the birth of new brain cells.
- Animals must take antidepressants for two or three weeks before they bump up the birth rate of brain cells, and the cells take maybe another two weeks to start functioning. That's consistent with the lag time antidepressants show before they lift mood in people.
- If an antidepressant is given during a period of chronic stress, it prevents the decline in neurogenesis that normally occurs.
- Exercise, which combats depression in people, also promotes neurogenesis in the hippocampus.
- So does electroconvulsive therapy, popularly known as shock treatment, which works in human cases of severe depression.
- Scientists have also found evidence that the hippocampus shrinks in people who have had long-standing depression.
Exercise and Mood Problems: Depression and Anxiety

From the SMILE (Standard Medical Intervention and Long-Term Exercise) study at Duke University:

Depressed people who exercised [supervised group exercise or at-home exercise] were just as likely to recover from major depression as people on Zoloft, but the exercisers were more likely to not be depressed 2 years later than people on Zoloft or who took Zoloft in addition to exercising.

How much exercise matters: Every 50 minutes of exercise per week correlated to a 50% drop in depression levels.

Exercise and Pharmacotherapy in the Treatment of Major Depressive Disorder, James A. Blumenthal, PhD et. al, Psychosomatic Medicine 69:587-596 (2007)

Another study found that people who participated in moderately intense aerobics, such as exercising on a treadmill or stationary bicycle - whether it was for three or five days per week - experienced a decline in depressive symptoms by an average of 47% after 12 weeks. Those in the low-intensity exercise groups showed a 30% reduction in symptoms. Exercise also helped people who were unresponsive to anti-depressant medications.


In a study of Chilean high school students, half of them were in a control group that had a once-a-week 90-minute gym class, while the other half rigorously exercised 3 times per week for 90 minutes throughout the school year. The high exercise group’s anxiety scores dropped 14% compared to the control group’s 3% drop in anxiety levels. [In addition, self-esteem measures went up 2.3% in the experimental group and declined slightly in the control group.]

MONTERO, BETI THOMPSON and GLORIA CORONADO MARCO BONHAUSER, GONZALO FERNANDEZ, KLAUS PÜSCHEL, FERNANDO YAÑEZ, JOAQUÍN, “Results of a school-based controlled trial: Improving physical fitness and emotional well-being in adolescents of low socioeconomic status in Chile” 23 Mar 2005 Health Promotion International.

University of Virginia researcher Robert Brown found that exercise had the most profound mood-lifting effect on people who were depressed and the effect increased with
the amount of exercise. The study also found reductions in anger and anxiety through exercise.


A Purdue University study found that middle-aged runners who had been running 3-5 times/week for 3-10 years were markedly less depressed than a matched comparison group. [Note: This is a correlational study, not a controlled experiment.]


Beware of “overtraining,” or exercising too much (as in anorexia and other compulsive problems). The evidence shows that over-exercising (exercising several times a day at training levels that are at or near maximal) is correlated with depressed moods.


A research psychologist at Appalachian State University named Joshua Broman-Fulks has studied the effects of exercise in reducing anxiety sensitivity. What is anxiety sensitivity? It is the fear or worry about anxiety symptoms, such as sensations of dizziness, increased heart rate, shallow breathing and so on. Some anxiety problems become a spiral of fear: the person begins to feel some sensations and becomes frightened and anxious about those sensations, which increase the very sensations they fear, which increases their anxiety and so on, until often the result is a full-blown panic attack.

It turns out that exercise, especially vigorous exercise, can markedly decrease anxiety sensitivity. Broman-Folks first study involved 54 college students with generalized anxiety disorder and high anxiety sensitivity scores. He had one group of them exercise on treadmills six times over a two-week period at 60-90 percent of their maximum heart rates. The second group walked on treadmills at one mile per hour (about 50% of their maximum heart rates typically). Both groups showed a reduction in anxiety sensitivity, but the higher levels of exercise resulted in a more rapid (starting with the second exercise session) and significant decrease in fear of those anxiety related symptoms.


**Exercise and Brain Growth/Cognitive functioning**

Even small amounts of exercise can make a difference right away. Cognitive flexibility improves after just one 35-minute treadmill session at either 60% or 70% of maximum heart rate.


After a month on the running wheel, mice doubled the number of new neurons in the hippocampus.


Exercise stimulates the production and release of growth factor BDNF (Brain-Derived Neurotrophic Factor), which can lead to new neurons and neuronal connections.


Regular physical exercise improves cognitive functions and lowers the risk for age-related cognitive decline. Since little is known about the nature and the timing of the underlying mechanisms, we probed whether exercise also has immediate beneficial effects on cognition. Learning performance was assessed directly after high impact anaerobic sprints, low impact aerobic running, or a period of rest in 27 healthy subjects. They found that vocabulary learning was 20 percent faster after intense physical exercise as compared to the other two conditions. This condition also elicited the strongest increases in BDNF and catecholamine levels.


Rats who exercised in complex, acrobatic environments vs. simple running wheels (or being inactive) developed more synapses in the cerebella cortex.


Some form of high-level aerobic activity six days a week forty-five minutes to an hour, but any activity is better than nothing, so start moving.

**Best practices for brain growth:** Dancing, learning a language, any new form of exercise, any increased level of aerobic exercise (up to a point), learning musical instruments, any balancing physical activity, play, changing habits, doing complex and challenging cognitive tasks, changing sensory orientations when doing tasks.
BIBLIOGRAPHY


