

WHEN WORRY HURTS

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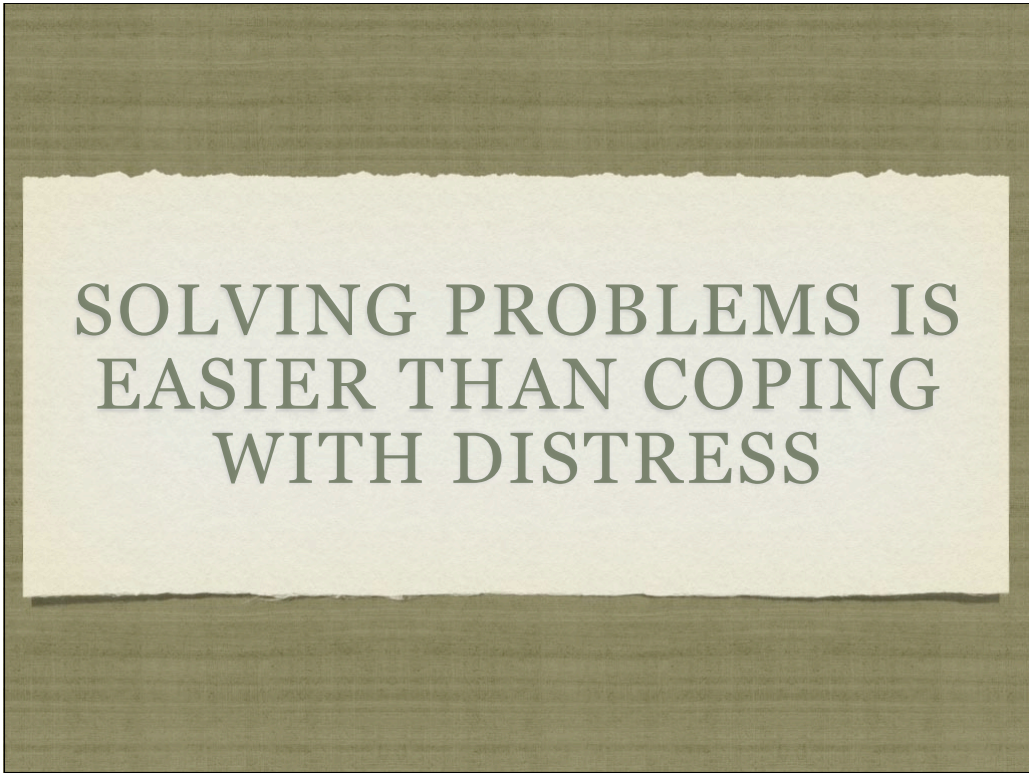
ADJUSTMENT

TWO PARTS

- Adjustment has two parts
 - Solving Cancer-Related Problems
 - Phases of Coping with Distress

SOLVE PROBLEMS

- Schedule Disruptions
- Side Effects
- Body Changes
- Relationship Changes
- Acquiring Survivor Skills

A rectangular piece of light-colored, textured paper with deckled edges is centered on a dark green, textured background. The paper contains the text "SOLVING PROBLEMS IS EASIER THAN COPING WITH DISTRESS" in a dark, serif font, arranged in three lines.

SOLVING PROBLEMS IS
EASIER THAN COPING
WITH DISTRESS

COPE WITH DISTRESS

- Understand that sadness and worry are normal.
- Learn to distinguish normal distress from problematic.
 - We carelessly use diagnostic language. Unless you have a diagnostic history, remember that....
 - sadness is not depression
 - worry is not anxiety
- Coping has different phases.

COPING-DIAGNOSIS

- How you learned of the diagnosis is important, whether you are the patient or the caregiver.
 - medical hexing
- Emotional Consequences: fear of dying, denial, disbelief, selective memory, frantic efforts to regain control (CAM Caution).
- Physical Consequences: Fatigue, insomnia, loss of appetite, distraction, etc.

COPING-TREATMENT

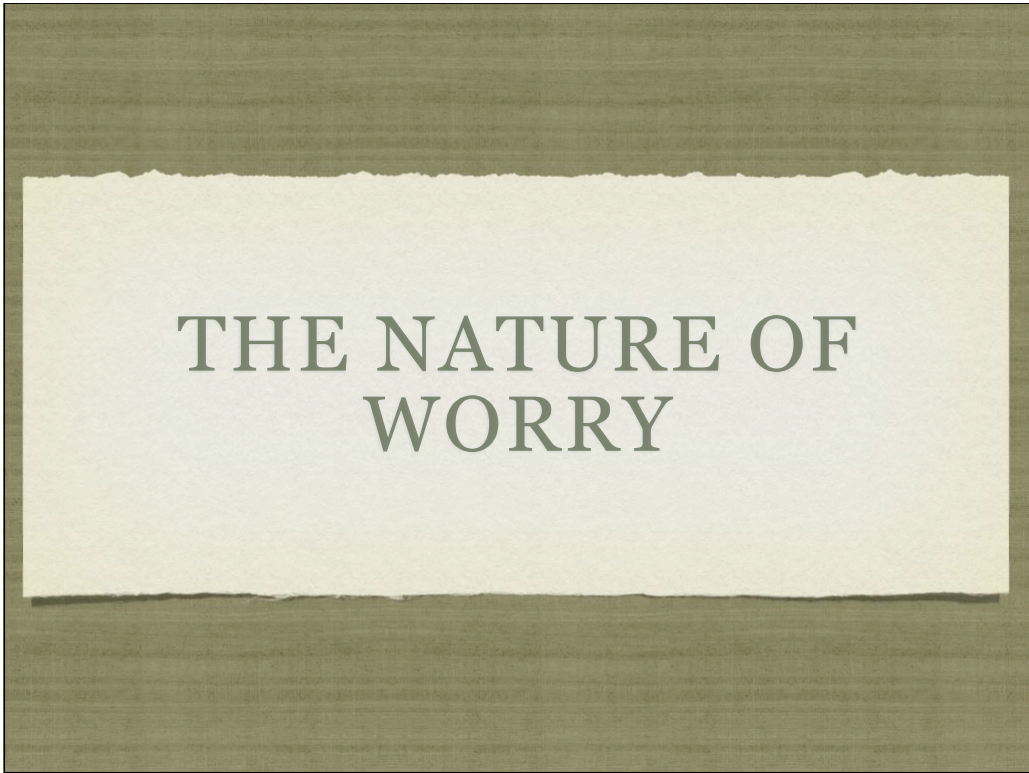
- Side-Effects (nausea, fatigue, hair loss, pain, “chemo-brain” etc.)
- Note that the physical side-effects can appear to be the same as the Physical Consequences of hearing the Diagnosis. Yet they are different.
- Caregivers can misunderstand, and this contributes to Caregiver Fatigue.

COPING-AFTERMATH

- Time of Mixed Feelings. Celebration mixed with Uncertainty
- Rebound Worry-worry felt when active treatment ends
- Anticipatory Worry-worry felt around medical checkpoints

COPING-SURVIVORSHIP

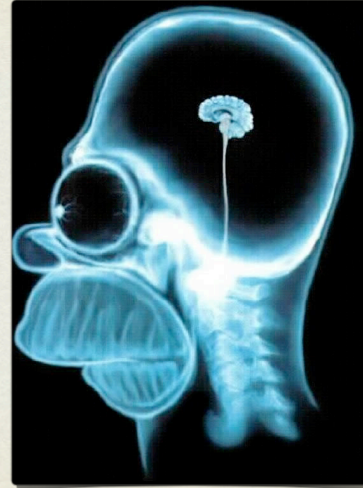
- Learn to be happy despite the fact that there is something very important that is outside of your control.
- You may have to learn to deal with cancer as a chronic condition.
- Coming to terms with the reality that surgery, chemotherapy and radiotherapy change you forever.
- Finding a New Normal.

The image features a dark green, textured background. In the center, there is a horizontal strip of light-colored, aged paper with a torn, deckled edge. The text is printed on this paper strip in a dark, serif font, centered horizontally and arranged in two lines.

THE NATURE OF
WORRY

WORRY HURTS

- Only very stupid creatures do not worry.
- Emotional Pain is felt just like Physical Pain





Social rejection shares somatosensory representations with physical pain

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Compared by Edward E. Smith, February 22, 2010 (available since October 05, 2010)

Abstract

How similar are the experiences of social rejection and physical pain? Recent research suggests that a network of brain regions that support the affective but not the sensory components of physical pain mediate both experiences. Here we demonstrate that when rejection is generally elicited by having people who normally experienced an unrelated task up close a photograph of their ex partner (a they think about being rejected)—areas that support the sensory components of physical pain (secondary somatosensory cortex, dorsal posterior insular) become active. We demonstrate the overlap between social rejection and physical pain in these areas by comparing both conditions in the same individuals using functional MRI. We further demonstrate the specificity of the secondary somatosensory cortex and dorsal posterior insular activity to physical pain by comparing activated locations in our study with a database of over 500 published studies. Activation in these regions was highly diagnostic of physical pain, with positive predictive values up to 88%. These results give new meaning to the idea that rejection “hurts.” They demonstrate that rejection and physical pain are similar not only in the way we both experience—they share a common somatosensory representation as well.

social rejection affective somatosensory somatosensory secondary somatosensory cortex

Footnotes

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Author contributions: E.K., W.M., E.E.S., and T.D.W. designed research; E.K. performed research; E.K., M.G.B., and T.D.W. analyzed data; and E.K., M.G.B., W.M., E.E.S., and T.D.W. wrote the paper.

The authors declare no conflict of interest.

This article contains supporting information online at www.pnas.org/lookup/suppl/doi:10.1073/pnas.1009201108/-DC1.

*Although we did not observe bilateral activation in dSFC and CP1 in this subset of participants, we found no evidence of lateralization when we compared the β -values extracted from right and left CP1, and right and left dSFC (all: $F < 0.15$, ns). We suspect that failure to observe bilateral activation among the subset of participants in these ROIs may be an issue of power, as we observed bilateral activation in the full sample, which was double the size.

*Following this work, half the participants ($n = 20$) received a placebo manipulation and the other half did not ($n = 20$). All participants then engaged in the social rejection and physical pain tasks again. The results of this placebo manipulation on subsequent social rejection and physical pain related neural activity are the focus of a subsequent article, and thus are not reported here. The between-subjects placebo vs. control manipulation was independent of all of the within-subjects effects that are the focus of the present article, and controlling for placebo vs. control manipulations at the group level did not qualitatively alter any of the results.

THE STRAIN OF PAIN...
...Lies Mainly on the Brain.

IT'S MORE GENERAL

- Emotional Pain activates the same parts of the brain as Physical Pain. fMRI Studies.
 - Kross, E. "Social Rejection Shares Somatosensory Representations with Physical Pain," *Proceedings of the National Academy of Sciences*, March 28, 2011
- When in emotional pain we hurt as badly as if we were physically wounded. We just don't look like it.
 - Caregiver Issues/Caregiver Frustration

THREAT

- As we evolved we have kept certain biological processes preserved in our brains. These processes were once adaptive, but are becoming less so.
- The Fight or Flight Response.
 - Actually...it's called the "Four F" response.

FOUR “F” PHYSICAL RESPONSES

- The Primitive Brain Responds to Threat in Four Physical Ways
 - Freeze
 - Fight
 - Flight
 - ...er....Copulate....

FOUR “F” EMOTIONAL RESPONSES

- The Primitive Brain Responds to Threat in Four Emotional Ways
 - Denial (Freeze)
 - Anger (Fight)
 - Withdrawal (Flight)
 - Sexual Changes (...er....Copulate....)
- The same parts of the brain are involved.



WORRY AND
PERSONALITY

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A HISTORICAL
INTERLUDE

THE FOUR HUMORS

Sanguine -Blood

Choleric -Yellow Bile

Melancholic -Black Bile

Phlegmatic -Phlegm



ANCIENT MEDICINE

- Galen (131-201 CE)
- Began in Egypt and Mesopotamia, systematized by the Greeks who linked it to the theory of the elements of Empedocles.
- Body contains a balance of humours (eucrasia). Illness results from a lack of balance among them (dyscrasia). Correction is with herbal medicine based on a diagnosis comparing the patient's personality with the illness.

BEGINNINGS

- Blood left undisturbed for an hour will form four layers: a dark clot (black bile), a layer of red blood cells (blood), white blood cells (phlegm) and a yellow serum (yellow bile).
- Ayurvedic Medicine is still based on this system.
- Foods/Herbs had different humorous properties (E.G. peppercorns were hot)
- Personality has different properties too.

PERSONALITY-ANCIENT

- Sanguine - Blood - Courageous, Hopeful, Amorous
- Choleric - Yellow Bile - Easily Angered, Tempestuous
- Melancholic - Black Bile - Despondent, Sad, Irritable
- Phlegmatic - Phlegm - Calm, Unemotional

PERSONALITY-MODERN

- Four Temperament Types
 - Myers-Briggs Type Indicator, Kersey-Bates Sorter
 - SP - Courageous, Hopeful, Amorous, Detailed, Attentive
 - NF - Easily Angered, Emotional Responding
 - SJ - Despondent, Thorough, Painstaking
 - NT - Calm, Unemotional, Visionary

ALL VERY SCIENTIFIC

- Helen Fisher, fMRI, Rutgers
 - Dopamine System - Enthusiasm and Risk
 - Serotonin System - Sociability
 - Prenatal Testosterone System - Detail and Aggression.
 - Estrogen/Oxytocin System - Empathy and Verbal Fluency.



BUT THEN....

- Everything Old is New Again
 - Dopamine System - Sanguine
 - Serotonin System - Choleric
 - Prenatal Testosterone System - Melancholic
 - Estrogen/Oxytocin System - Phlegmatic



FROM GALEN TO TODAY

- We are different.
- People differ from one another in ways that are healthy and good. We have realized this for thousands of years

THE PYGMALION PROJECT

- At times of stress we are especially likely to forget that people are fundamentally different, because we feel threatened.
 - Freeze: I want you to cope in the same way I cope.
 - Flight: I can't handle this. I am going away....
 - Fight: I feel angry....
 - ...er...: "and you think I care about how you feel!"

THERE IS NO RIGHT WAY

- Everyone deals with worry, and its pain, differently.
 - What you feel is okay. There is nothing wrong with you because you feel that way.
 - This is true if you are the person living with cancer, or a caregiver, or a loved one.
 - We just need to minimize the rough places that exist because different people deal with worry differently.

THE 5R STRATEGY

DR. JACQUES DALLARIE

A NEGATIVE THOUGHT STOPPING PROCEDURE, 2006

1 - RECOGNIZE

- Recognizing that you are having a problem with worry is the first step to improving matters. Learn to be “on guard” to letting your inner voice walk down paths that will trigger worry.

2 - REFUSE

- Refuse to allow the worry to gain strength by continuing.
- Thought-Stopping

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THOUGHT-STOPPING
“WHAT’S THAT?”

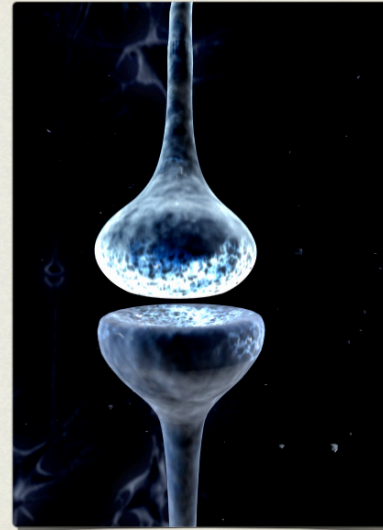
NEUROLOGICAL PROGRAMMING

Each Nerve Cell Connects to
about 5000 Other Nerve Cells



SYNAPTIC LEARNING

All-Or-None Principle has been
Discredited
Kindling



REINFORCEMENT

- Every time you go over what you are worried about in your mind you reinforce the kindling of the nerve cells you use to think that thought or feel that feeling.
- Worry is an activity that makes future worry more likely. It becomes easier to worry about things that you have worried about in the past.

THOUGHT-STOPPING

- Developed at the University of Chicago School of Psychiatry, 1952
- People usually customize it.



LAW OF IMAGINATION

- When Will and Imagination Conflict, Imagination Always Wins.
 - The harder you try to remove a thought from your mind the more it tries to persist. Over time, Thought-Stopping will work, but it takes time.
 - Schedule Worry Periods - “Transcendental Meta-Worry” of Lewis Thomas, M.D.
 - Distraction (rubber bands and more positive things)

3 - RELAX

- Music
- Chant
- Walking
- Centering Prayer - Sitting Meditation
- Mindfulness

4 - REFRAME

- Replace what you are worried about with a positive thought or image held in the imagination.
 - You can imagine anything, why not imagine good things?
 - The Power of Choice

5 - RESUME

- Continue your life and activities despite the worry. Don't let it stop you.
 - “Play through the Pain”
 - There is a victory in doing what you do despite the worry, even if the result isn't what it might otherwise have been. At least you have not been defeated by a voice in your head.

WORRY HURTS

- Coping with worry is hard. It hurts as much as physical pain.
- How you learn about your worry determines your expectations and influences your response. Unfortunately, we don't control how we learn about what we worry about.
- With cancer, after the worst of the worry is over, things are never the same.
- Different people handle worry differently, and those close to us may not understand our way.

FORTUNATELY....

- The 5R Strategy
 - Recognize
 - Refuse (Thought-Stopping)
 - Relax
 - Reframe
 - Resume



THANK YOU!