Laughter: The Best Medicine?

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Welcome to a crash course in *Gelotology 101*. That isn't a typo, Gelotology (from the Greek root gelos (to laugh)), is a term coined in 1964 by Dr. Edith Trager and Dr. W.F. Fry to describe the scientific study of laughter. While you still can't locate this term in the OED, you can find it on the Web. The study of humor is a science, and laughter researchers publish in the psychological and physiological literature as well as subject specific journals (e.g., *Humor: International Journal of Humor Research*).

While at the Special Libraries Association annual conference last June, I was able to attend a session by Elaine M. Lundberg called *Laugh For the Health of It*. The room was packed and she had the audience laughing and learning for the entire 90-minute session. I have always used humor as a coping strategy and it was validating to learn that others actually promote this behavior, and that I haven't simply grown eccentric after 13 years of working in a remotely located one-person library. Among other interesting tidbits, Ms. Lundberg reported that laughing aloud (real or feigned) 20 times produces a cardiovascular workout similar to three minutes of work on a rowing machine. I have seen similar statements elsewhere in my reading, but as a science librarian I need to see citations and I want the facts; here is what I found.

The mechanism

Rod A. Martin, University of Western Ontario, describes four potential mechanisms by which humor might influence physical health. First, physiological changes in the body may result from vigorous laughter, the results being relaxed muscles, improved respiration, enhanced circulation, increased production of endorphins, and decreased production of stress-related hormones. Second, a positive emotional state may increase pain tolerance, enhance immunity, and undo cardiovascular consequences of negative emotions. Third, using humor as a coping strategy may also benefit health indirectly by moderating adverse effects of stress. Finally, humor may provide another indirect benefit to health by increasing one's level of social support (Martin, 2002, 2004).

The physiology of humor

Dr. William F. Fry from Stanford University has published a number of studies of the physiological processes that occur during laughter and is often cited by people claiming that laughter is equivalent to exercise. Dr. Fry states, "I believe that we do not laugh merely with our lungs, or chest muscles, or diaphragm, or as a result of a stimulation of our cardiovascular activity. I believe that we laugh with our whole physical being. I expect that this total participation will eventually be recognized." He goes on to say, " ... it is appropriate to conclude that humor, mirth and laughter are on the side of contributing positively to the maintenance of health and survival, from the standpoint of their physiologic effects" (Fry, 1994).

Ronald A. Berk of Johns Hopkins University agrees, writing that, "Humor produces psychological and physiological effects on our body that are similar to the health benefits of aerobic exercise" and in synthesizing 30 years of research in this field he lists 15 psycho-physiological benefits of humor and laughter (see sidebar on page 13). Humor is considered to be a genetic, biologic characteristic of the human race. But, we aren't alone. Besides humans, three of the higher primates (chimpanzees, gorillas and orangutans) show a paroxysmal, expiratory breathy respiration, much like human laughter, when exposed to tickling (Fry, 1994). Interestingly enough, Dr. Fry also writes, "The incidence of heart attack while shoveling snow, for persons with impaired heart function, is alarmingly high. But unexpectedly and

Know the lingo

From *Journal of Nursing Jocularity* we have a complete introduction to the language of laughter (Kuhn, 1994 as adapted by Berk, 2001).

1. **Smirk**: Slight, often fleeting upturning of the corners of the mouth, completely voluntary and controllable.
2. **Smile**: Silent, voluntary and controllable, more perceptible than a smirk; begins to release endorphins.
3. **Grin**: Silent, controllable, but uses more facial muscles (e.g., eyes begin to narrow).
4. **Snicker**: First emergence of sound with facial muscles, but still controllable (if you hold in a snicker, it builds up gas).
5. **Giggle**: Has a 50 percent chance of reversal to avoid a full laugh; sound of giggling is amusing; efforts to suppress it tend to increase its strength.
6. **Chuckle**: Involves chest muscles with deeper pitch.
7. **Chortle**: originates even deeper in the chest and involves muscles of torso; usually provokes laughter in others.
8. **Laugh**: Involves facial and thoracic muscles as well as abdomen and extremities; sound of barking or snorting.
9. **Cackle**: First involuntary stage; pitch is higher and body begins to rock, spine extends and flexes, with an upturning of head.
10. **Guffaw**: Full body response; feet stomp, arms wave, thighs slapped, torso rocks, sound is deep and loud; may result in free flowing of tears, increased heart rate, and breathlessness; strongest solitary laughter experience.
11. **Howl**: Volume and pitch rise higher and higher and body becomes more animated.
12. **Shriek**: Greater intensity than howl; sense of helplessness and vulnerability.
13. **Roar**: Lose individuality; i.e., the audience roars!
14. **Convulse**: Body is completely out of control in a *fit* of laughter resembling a seizure; extremities flail aimlessly, balance is lost, gasp for breath, collapse or fall off chair.
15. **Die laughing**: Instant of total helplessness; a brief, physically intense, transcendent experience; having died, we thereafter report a refreshing moment of breathlessness and exhaustion with colors more vivid and everything sparkling; everything is renewed.

against logic, the incidence of heart attacks suffered while laughing is surprisingly low, despite the occasional greatly elevated heart rate. Occurrence is so infrequent; there is no medical literature on mirth-provoked heart attacks." Now that we know we aren't likely to die laughing—bring on the humor! This man is an expert and I, for one, won't argue with him!

Positive emotions and increased pain tolerance

Nurses and researchers can attest to the therapeutic value of humor and laughter (Adams, 1986). There is even an organization known as Nurses for Laughter and their leader is known as the Master Giggler. To top it off, there is even a *Journal of Nursing Jocularity*. Librarians are like the nurses of the information world and perhaps we can follow in the steps of our medical counterparts.

Humor as a coping strategy

Dr. Fry quotes three colleagues who wrote: "Freud places humor beside neurotic and psychotic disorders as basic mechanisms of adaptation to human suffering, with the essential difference that humor alone is not pathological" (Fry, 1977). Once again, are you going to argue with this expert now that we have a green light and know that our behavior isn't pathological?

Humor and increased social support

The trick here is to know the difference between good and bad humor. Elaine M. Lundberg says that positive humor is nurturing and makes everyone feel good. Joel B. Goodman agrees and urges us to use humor as a tool and not a weapon. He writes: "Laughing with others builds confidence, brings people together, and pokes fun at our common dilemmas. Humor is laughter made from pain, not pain inflicted by laughter." If there is one overriding criterion necessary in order to have a *good* sense of humor it is clearly the ability to laugh at yourself. Mr. Goodman urges us

to take our jobs seriously but ourselves lightly and I believe that is sage advice.

Why librarians need humor

Everyone needs to incorporate humor into their life and this is particularly true of librarians. We care for the needs of our patrons. Our budgets are limited yet patron needs are not, so we struggle as *third party* purchasers of increasingly expensive services. We must not only do our jobs, but also influence the marketplace and the scholarly publishing process. We know we are professionals, yet we don't pass the bar exam like lawyers and we aren't board certified like doctors. As a profession, we are misunderstood and as we seek to correct misconceptions and educate others about what we do as librarians in our constantly changing work environment, a sense of humor is a vital tool. There is no single prescription when it comes to humor, so pick what works for you, insulate yourself with positive humor, and keep up the good work.

References

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Humor really is good for you

15 psychological and physiological benefits of humor (Berk, 2001).

Eight psychological benefits of humor:

1. Reduces anxiety
2. Reduces tension
3. Reduces stress
4. Reduces depression
5. Reduces loneliness
6. Improves self-esteem
7. Restores hope and energy
8. Provides a sense of empowerment and control

Seven physiological benefits of laughter:

1. Improves mental functioning
2. Exercises and relaxes muscles
3. Improves respiration
4. Stimulates circulation
5. Decreases stress hormones
6. Increases immune system defenses
7. Increases production of endorphins