

## Why Laughing Is Good Medicine

Laughter is not only associated with release of tension induced by danger and signaling nonaggression but also with expressing good, positive emotions. It is a social glue that facilitates approach, contact, and intimacy between people and decreases stress from potential conflict. This could be the basis for the intuitive notion that "laughter is the best medicine." Serious research is showing that this notion is true. Laughter and humor decrease stress and anxiety, reinforce immunity, relax muscle tension, and decrease blood pressure and pain. Modern medicine is beginning to take advantage of these positive effects; hospitalized children who interact with therapeutic clowns have shorter hospital stays than those who do not.

Laughter in humans serves as social glue. It helps us break the ice, get closer to people, dampen hostility and aggression, or soften a refusal.

Laughter initiates a chain of physiological reactions. First, it activates the cardiovascular system, so heart rate and blood pressure increase. The arteries then dilate, however, causing blood pressure to fall. Repeated short, strong contractions of the muscles of the thoracic wall, abdomen, and diaphragm increase blood flow into our internal organs. Forced respiration (the ha! ha! of laughter) elevates the flow of oxygen into the blood. Muscle tension decreases, and we may temporarily lose control of our limbs, as in the expression "weak with laughter."

People suffering from chronic anger have a higher incidence of elevated blood pressure, increased cholesterol levels, and heart attacks. While anger, depression, and frustration disturb the function of many bodily systems, including the immune system, laughter helps the immune system to increase the number of type T leukocytes (T-cells) in the blood, which combat damage and infection. Some researchers have dubbed T-cells the "happiness cells." Laughter may also produce beneficial hormonal changes. Scientists speculate that laughter releases neurochemical transmitters called "endorphins,"

which reduce sensitivity to pain and boost endurance and pleasurable sensations.

## Laughter's Social Power

Why does laughter have such pervasive power in our lives? Beyond its physical effects, I believe that the answer lies in our social nature. Laughter appears to be a basic aspect of bonding.

We are creatures who need to build stable social structures to live well. Thus we need to enjoy peaceful relations with the people around us. Laughter is a kind of message we send to communicate this joyful disposition and a willingness to play. We rarely laugh when we are alone. We even feel that someone laughing alone may be crazy.

Laughter has many subtle effects on our social companions. It breaks the ice, achieves closeness, bonds us, generates goodwill, and dampens hostility and aggression. Observe how we laugh when we want to deflate tension between strangers or need to say no to someone. We often laugh when we apologize. Laughter disarms people, creates a bridge between them, and facilitates amicable behavior. Even babies laugh. Since they are too young to have a sense of humor, smiling and laughing must reinforce their connections with their parents and others close to them.

Laughter's function in social relations may go still deeper. Studies have shown that socially dominant individuals like bosses or tribal chiefs use laughter to control their subordinates. When the boss laughs, everyone laughs. Is laughter, then, a form of asserting power? Morreall speculates that in this way, bosses are "controlling the emotional climate of the group." Provine and his colleagues observed that women in an audience laugh more often when the speaker is a man. Does this suggest gender differences in how we use laughter? Or reflect men's generally more powerful social role?

Age differences in laughter have also been noted. Adolescents use it more when they are playing or flirting; executives use it more in a professional context, to increase rapport with someone or win a negotiation. On the other hand, laughter may have a negative connotation, even in our own culture. There is a widely appreciated difference between "laughing with" and "laughing at" someone.

## When Laughter Is Not Funny

Some people have fits of abnormal laughter, producing an inappropriate, unrestrained, uncontrollable laughter dissociated from any stimulus. To observers, the laughter often appears childish or violent. Clinical researchers report pathological laughter in three main conditions: psychiatric illnesses such as hysteria and schizophrenia; pseudobulbar palsy (a disorder affecting the muscles that control the tongue, throat, and parts of the face); and gelastic epilepsy (a form of temporal lobe epilepsy with fits of mirthless laughter).<sup>9</sup> Scientists believe all these conditions involve disinhibition of impulses in the higher brain stem.

Although the neuroanatomy of pathological laughter is not fully known, three levels of the brain are probably involved: the cortical level, the bulbar level, and an integrative level probably at or near the hypothalamus. Patients with pathological laughter almost invariably have brain damage. Laughter may also cause neural pathology, however, leading to or aggravating some key symptom. For example, in a disease called cataplexy, characterized by sudden lack of muscle tone that leads to falls, laughter is a potent triggering stimuli.

Collective contagious laughter is also pathological. One of the most extreme cases occurred in 1962 in Tanganyika. It started among young girls who erupted in fits of laughter that did not stop, spread to neighboring communities, and became so severe that schools were forced to close. The epidemic persisted for almost six months and may not have been psychological—at least not entirely—because victims had symptoms such as fever and headache.

## The Risks of Not Playing

We have examined how important laughter is in our lives, how it forges social bonds, how it stems from our playful behavior as children. In this light, the trend in modern Western societies to restrict the play of children is worrying. What will be the consequences, if, indeed, play is important in developing personality and social behavior? Watching television and engaging in socially isolated, individual play with video games and electronic toys has increasingly displaced social interaction and group play. Fear of crime, illegal drugs, and automobile

traffic makes many parents curtail the custom of sending children outdoors to play freely. Parents who arrive home late from work have little time to play with their children in the evenings. Schools cut into playtime to cram more classes and topics into the day; they use detention or suspension of playtime to punish pupils for misbehaving or for getting poor grades. Teaching children to compete seems to have overtaken teaching them to relax, play, and socialize. Where will all this lead? There are indications that these shifts may have some bearing on many of today's social ills: increasing violence in schools, very young children using weapons and drugs, and social and racial intolerance. Scientists such as Panksepp speculate that the recent astounding increase in the prevalence of attention deficit hyperactivity disorder may be fueled by restrictions on play in American schools. Deprived of exercise and time to play, normal young children become fidgety; their attention spans decrease.

## A Better World of Laughter

Laughter and play are important in our human behavioral repertoire, a response both ancient and modern. When we laugh spontaneously, we use a capacity rooted in our most primitive biology. When we laugh at a subtle joke, we build on this primitive process, employing an advanced capacity of our brains. In both cases, our laughter has a surprisingly important role. Panksepp summarizes this with wisdom and beauty:

Play and laughter not only fertilize the brain but they nurture the human spirit. These are the types of systems that allow us to be joyous, sharing creatures that do the right things in the world—or usually do the right things. If other people are interacting with us in positive ways and we respect the way they feel and they respect the way we feel, if we read each other's minds correctly, then I think we have a better world. And play and laughter are a big part of that.