

Biorhythms and blues

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Feeling depressed? Robert Thayer has a suggestion to lighten your mood.

Everyday moods are perfect natural barometers of our psychological and biological state. They reflect such influences as sleep, health, what was eaten or not eaten, whether we have been sitting around or active, and the amount of stress we are under. These moods are even related to the time of day. Although every scientist agrees that there are biochemical bases of moods, nobody is quite sure exactly how these work. I believe that everyday moods reflect general bodily arousal patterns - everything from metabolism, to heart and muscle activity, to brain neurotransmitters. Energy and tension levels appear to be the conscious indications of these general arousal patterns.

The relationship between mood, time of day, and thoughts about yourself is an interesting one. Energy levels change each day in a natural biological rhythm with predictable high and low points. Most people experience their highest energy level (most positive mood) at late morning or early afternoon. Low energy occurs at late afternoon and in the last part of the waking day. Related to this, feelings of moderate depression are often greatest in the evening. You are most vulnerable to tension in your lowest energy periods, and these are exactly the times when thoughts about yourself or the future are more negative.

My colleagues and I investigated two very practical questions. When a bad mood occurs, how do most people try to change it? And how effective are the chosen remedies? We did several studies involving anonymous reports by large representative samples of adults. Ratings were also obtained from experienced psychotherapists.

We found that people engage in a wide variety of behaviours when their mood is bad. Some of these work very well and have longer-lasting effects; others work only temporarily. From our research and that of others, it is now clear that many of our habits, including bad ones such as sugar snacking, smoking, and drinking are efforts to self-medicate, so to speak. Once we understand that these substances and behaviours really represent attempts to self-regulate our moods, and particularly our energy and tension levels, a certain degree of control becomes possible. The most common behaviours reported for changing a bad mood included seeking social interaction, cognitive control (thinking positively, concentrating on something else, giving oneself a pep talk), listening to music, and avoiding people or trying to be alone.

Although the first three methods are effective (avoidance and being alone are not), they are not necessarily the most effective. We found that the most effective behaviour is exercise.

Why exercise is such a good way of controlling mood is not entirely clear, but our previous research with moderate exercise showed that its primary mood effect is increased subjective energy, a basic element of a good mood. More intense exercise leads first to tension reduction, and this is also an important element of a good mood. The best moods occur with heightened energy and reduced tension, a condition I call calm-energy. The worst moods - depression, for example - occur with reduced energy and increased tension, a condition I call tense-tiredness. I believe that exercise enhances mood in large part through changes in energy and tension levels.

Listening to music was found to be surprisingly effective for mood control, and music often raises energy. Also, some kinds of music produce a kind of "toe-tapping" effect inconsistent with tension. Tending to your chores or sleeping a little can improve mood as well. Chores may work because they take your mind off problems, reducing tension. A nap may enhance mood because of subsequently increased energy.

When we examined more general strategies we found that the best is a combination of relaxation, stress management, cognitive control and exercise. A strategy that involves seeking out pleasurable activities and distraction is also good. More passive strategies - watching TV, eating, and engaging in emotional activities such as crying - are less effective. Drugs and alcohol may be temporarily effective but a strategy involving drugs, alcohol and sex is the least effective. A strategy including withdrawal and avoidance was rated by average people as fairly successful, but psychotherapists saw it as seldom successful.

We obtained demographic and personality information along with the other ratings, and some very interesting differences between the sexes emerged. Women are more likely to talk to someone when they are in a bad mood, while men are more likely to engage in a hobby or attempt to use humour. These differences may explain why arguments sometimes leave both sexes confused and unhappy about the reactions of the other.

Averaging all males and females, there are no gender differences in the most effective general strategy that the two sexes use, but professional women use the best strategy more than professional men do. But in other general strategies, big gender differences emerged, with men more likely to use active strategies. On average, men use the effective strategy of seeking out pleasant activities and intentionally distracting themselves from the bad mood; while women use the less effective one of watching TV, eating, or calling someone and ventilating their emotions.

One of the reasons we were interested in these gender differences is that some scientists speculate that women deal with bad moods more poorly than men, and that this could be a basis for the well-known but poorly understood finding that females have twice the frequency of depression that males do. Although our findings support this idea to some extent, we also found that men are more likely to use the least effective strategy of drugs and alcohol.

Besides gender differences, we found that overweight people are more likely to eat when in a bad mood. Moreover, they are significantly less likely to employ exercise to control their moods.

Dieting and lifestyle changes are very difficult to accomplish because many undesirable behaviours immediately improve our moods. And even though this effect may be only temporary, it is the immediate mood change that controls the habit. These findings suggest the importance of carefully observing our moods, and particularly our feelings of energy and tension.

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