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Harvard Men's Health Watch

Optimism and your health

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Look for the silver lining...

Buddy DeSylva's upbeat lyrics to Jerome Kern's lovely tune provide an appealing call to a positive outlook on life, even in the face of adversity. Indeed, a cheerful disposition can help you get through the tough patches that cloud every life, but do people who see the glass half-full also enjoy better health than gloomy types who see it half-empty?

According to a series of studies from the U.S. and Europe, the answer is yes. Optimism helps people cope with disease and recover from surgery. Even more impressive is the impact of a positive outlook on overall health and longevity. Research tells us that an optimistic outlook early in life can predict better health and a lower rate of death during follow-up periods of 15 to 40 years.

Measuring optimism

To investigate optimism, scientists first needed to develop reliable ways to measure the trait. Two systems are in widespread use; one measures *dispositional optimism,* the other *explanatory style*.

Dispositional optimism depends on positive expectations for one's future. These are not confined to one or two aspects of life, but are generalized expectations for a good outcome in several areas. Many researchers use the 12-item Life Orientation Test to measure dispositional optimism.

Explanatory style is based on how a person explains good or bad news. The pessimist assumes blame for bad news ("It's me"), assumes the situation is stable ("It will last forever"), and has a global impact ("It will affect everything I do"). The optimist, on the other hand, does not assume blame for negative events. Instead, he tends to give himself credit for good news, assume good things will last, and be confident that positive developments will spill over into many areas of his life. Researchers often use either the Attributional Style Questionnaire or the Content Analysis of Verbatim Explanations method to evaluate optimism based on explanatory style.

Optimistic sports fans

Sports fans will get a kick from a French study of cardiovascular mortality in 1988. On July 12, France bested Brazil in the biggest sporting event ever held in France, the finals of the World Cup of soccer. French men enjoyed a lower cardiovascular death rate on July 12 than on the average of the other days between July 7 and July 17, but French women did not. Doctors don't know why fatal heart attacks declined; perhaps a burst of optimism is responsible.

Optimism and cardiac patients

In some studies, researchers have concentrated on the link between optimism and specific medical conditions. DeSylva and Kern tell us that a heart full of joy and gladness can banish trouble and strife — and now scientists tell us that optimism may help the heart itself.

In one study, doctors evaluated 309 middle-aged patients who were scheduled to undergo coronary artery bypass surgery. In addition to a complete pre-operative physical exam, each patient underwent a psychological evaluation designed to measure optimism, depression, neuroticism, and self-esteem. The researchers tracked all the patients for six months after surgery. When they analyzed the data, they found that optimists were only half as likely as pessimists to require re-hospitalization. In a similar study of 298 angioplasty patients, optimism was also protective; over a six-month period, pessimists were three times more likely than optimists to have heart attacks or require repeat angioplasties or bypass operations.

Optimism and blood pressure

A sunny outlook may help people recover after a cardiac procedure, but can it also reduce the risk of developing one of the major risks for cardiovascular disease — hypertension? Research conducted in Finland suggests it can. Scientists evaluated 616 middle-aged men who had normal blood pressures when the study began. Each volunteer's mental outlook was checked with questions about his expectations for the future, and each was evaluated for cardiovascular risk factors such as smoking, obesity, physical inactivity, alcohol abuse, and a family history of hypertension. Over a four-year period, highly pessimistic men were three times more likely to develop hypertension than cheerier souls, even after other risk factors were taken into account.

An American study of 2,564 men and women who were 65 and older also found that optimism is good for blood pressure. Researchers used a four-item positive-emotion summary scale to evaluate each participant during a home visit. They also measured blood pressure, height, and weight and collected information about age, marital status, alcohol use, diabetes, and medication. Even after taking these other factors into account, people with positive emotions had lower blood pressures than those with a negative outlook. On average, the people with the most positive emotions had the lowest blood pressures.

Emotions and infections

A 2006 study explored the link between emotions and viral infections of the respiratory tract. Scientists evaluated the personality style of 193 healthy volunteers, then gave each a common respiratory virus. Subjects who displayed a positive personality style were less likely to develop viral symptoms than their less positive peers.

Optimism and heart disease

High blood pressure is an important cause of coronary artery disease. If optimism can reduce the risk of hypertension, can it also protect against developing coronary artery disease itself? To find out, scientists from Harvard and Boston University evaluated 1,306 men with an average age of 61. Each volunteer was evaluated for an optimistic or pessimistic explanatory style as well as for blood pressure, cholesterol, obesity, smoking, alcohol use, and family history of heart disease. None of the men had been diagnosed with coronary artery disease when the study began. Over the next 10 years, the most pessimistic men were more than twice as likely to develop heart disease than the most optimistic men, even after taking other risk factors into account.

Optimism and overall health

Optimism appears to protect the heart and circulation — and it's heartening to learn that it can have similar benefits for overall health.

A large, short-term study evaluated the link between optimism and overall health in 2,300 older adults. Over two years, people who had a positive outlook were much more likely to stay healthy and enjoy independent living than their less cheerful peers.

Staying well for two years is one thing, remaining healthy for the long haul another. But for 447 patients who were evaluated for optimism as part of a comprehensive medical evaluation between 1962 and 1965, the benefits of a positive outlook were desirable indeed. Over a 30-year period, optimism was linked to a better outcome on eight measures of physical and mental function and health.

A laughable study

Experienced clinicians know that humor is good medicine. Now researchers in Tennessee tell us it may also provide a bit of a workout. They found that genuine, voiced laughter boosts energy consumption and heart rate by 10% to 20%. That means a 10- to 15-minute belly laugh might burn anywhere from 10 to 40 calories. It's a lot of laughing for a few calories, but optimists will be tickled by the result.

Optimism and survival

It's obvious that healthy people live longer than sick people. If optimism actually improves health, it should also boost longevity — and according to two studies from the U.S. and two from the Netherlands, it does.

The first American study evaluated 839 people in the early 1960s, performing a psychological test for optimism""pessimism as well as a complete medical evaluation. When the people were rechecked 30 years later, optimism was linked to longevity; for every 10-point increase in pessimism on the optimism–pessimism test, the mortality rate rose 19%.

A newer U.S. study looked at 6,959 students who took a comprehensive personality test when they entered the University of North Carolina in the mid-1960s. During the next 40 years, 476 of the people died from a variety of causes, with cancer being the most common. All in all, pessimism took a substantial toll; the most pessimistic individuals had a 42% higher rate of death than the most optimistic.

The two Dutch studies reported similar results. In one, researchers tracked 545 men who were free of cardiovascular disease and cancer when they were evaluated for dispositional optimism in 1985. Over the next 15 years, the optimists were 55% less likely to die from cardiovascular disease than the pessimists, even after traditional cardiovascular risk factors and depression were taken into account.

The other study from Holland evaluated 941 men and women between the ages of 65 and 85. People who demonstrated dispositional optimism at the start of the study enjoyed a 45% lower risk of death during a nine-year follow-up period.

Possible mechanisms

Taken together, these studies argue persuasively that optimism is good for health. But why? What puts the silver in the silver lining?

Skeptics (or pessimists) might suggest that the effect is more apparent than real. People who are healthy are likely to have a brighter outlook than people who are ill, so perhaps optimism is actually the result of good health instead of the other way around. To counter this argument, researchers can adjust their results for pre-existing medical conditions, including physical problems such as diabetes, heart disease, and hypertension, and mental problems such as depression. The studies that made these adjustments found that medical conditions did not tarnish the benefits of a bright outlook on life. Moreover, by tracking people for 15, 30, and 40 years, scientists can minimize the potential bias of pre-existing conditions.

Another explanation is behavioral. It is possible that optimists enjoy better health and longer lives than pessimists because they lead healthier lifestyles, build stronger social support networks, and get better medical care. Indeed, some studies report that optimists are more likely to exercise, less likely to smoke, more likely to live with a spouse, and more likely to follow medical advice than pessimists. But optimism is not generally associated with a better diet or a leaner physique, and even when results are adjusted for cardiovascular risk factors, a beneficial effect of optimism persists.

In addition to behavioral advantages, optimism may have biological benefits that improve health. A 2008 study of 2,873 healthy men and women found that a positive outlook on life was linked to lower levels of the stress hormone cortisol, even after taking age, employment, income, ethnicity, obesity, smoking, and depression into account. In women, but not men, a sunny disposition was also associated with lower levels of two markers of inflammation (*C-reactive protein* and *interleukin-6*), which predict the risk of heart attack and stroke. Other possible benefits include reduced levels of adrenaline, improved immune function, and less active clotting systems.

Finally, heredity may explain some of the link. It is possible that genes predispose some people to optimism, and that the same genes exert a direct effect on health and longevity.

Blue skies

More study is needed to clarify the link between optimism and good health. It's likely that multiple mechanisms are involved.

Personality is complex, and doctors don't know if optimism is hard-wired into an individual or if a sunny disposition can be nurtured in some way. It's doubtful that McLandburgh Wilson was pondering such weighty questions when he explained optimism in 1915:

"Twixt the optimist and pessimist
The difference is droll
The optimist sees the doughnut
But the pessimist sees the hole."

Today's doctors don't think much of doughnuts, but they are accumulating evidence that optimism is good for health. As you await the results of new research, do your best to seek silver linings, if not doughnuts.

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