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New study links a common personality trait to higher risk of early death

by [Eric W. Dolan](#) — October 20, 2024 in [Mental Health](#)



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A new study published in the *Journal of Affective Disorders* sheds light on the connection between neuroticism and the risk of mortality from various causes. Neuroticism is a personality trait characterized by emotional instability and a tendency to experience negative emotions such as anxiety, fear, and loneliness. The study, which used data from nearly half a million participants in the UK Biobank, found that individuals with higher levels of neuroticism were at greater risk of dying from a range of causes. Among the components of neuroticism, loneliness stood out as the most strongly associated with an increased risk of early death.

Previous research has suggested that neuroticism is linked to various mental and physical health problems, from depression and anxiety to cardiovascular disease and respiratory issues. However, findings about whether neuroticism is directly associated with higher mortality risk have been mixed.

While some studies found no clear link between neuroticism and death rates, others indicated that people with higher neuroticism scores might face a higher risk of dying earlier. Moreover, neuroticism is a broad trait made up of various components, including loneliness, anxiety, and irritability. These components could have different effects on health outcomes, but prior research had not fully explored these differences.

The new study aimed to provide a more detailed understanding of the link between neuroticism and mortality by examining specific causes of death, such as cancer, cardiovascular disease, respiratory disease, and external causes like accidents and self-harm. By using a large dataset with over 16 years of follow-up, the researchers hoped to clarify whether certain components of neuroticism, such as loneliness, were more strongly related to premature death than others.

“We are broadly interested in the links between psychological traits and health; this is the largest study on this topic and was uniquely powered to detect associations with cause-specific mortality. The sample was relatively young at the start of the study, so many of these deaths were at a relatively younger age, generally younger than the life expectancy in the United Kingdom,” said senior author [Antonio Terracciano](#), a professor of geriatrics at Florida State University College of Medicine and member of the [Laboratory of Personality and Cognition across the Lifespan](#).

The study analyzed data from nearly 500,000 participants in the UK Biobank, a large research initiative that collects health and genetic information from individuals across the United Kingdom. The participants were between the ages of 38 and 73 at the start of the study, and they were followed for an average of 13.4 years. During this period, more than 43,000 participants died. The

researchers linked the participants' data to national death records to determine the causes of death, including cancer, heart disease, respiratory disease, and intentional self-harm.

Neuroticism was measured using a 12-item questionnaire from the Eysenck Personality Questionnaire, a widely used tool in personality research. Participants were asked to respond to statements like "Are you a worrier?" and "Do you often feel lonely?" based on how well these items described their typical behavior. The researchers calculated a neuroticism score for each participant and also looked at the individual components of neuroticism, such as loneliness, mood swings, and irritability.

To account for other factors that could influence mortality, such as age, sex, education, smoking habits, and underlying health conditions like diabetes or hypertension, the researchers used statistical models to adjust for these variables. This helped ensure that the relationships they observed between neuroticism and mortality were not simply due to other risk factors for poor health.

The researchers found that higher neuroticism was associated with a 10% increase in the risk of dying from any cause over the follow-up period. When the researchers looked at specific causes of death, they found that neuroticism was linked to a range of mortality risks, including respiratory and digestive diseases, intentional self-harm, and cardiovascular disease. However, the strength of the association varied depending on the cause of death. For example, neuroticism was more strongly linked to deaths from respiratory diseases and self-harm than it was to deaths from cancer.

The findings indicate that "the tendency to feel sad, tense, or lonely can increase the risk of premature mortality, especially deaths due to intentional self-harm, respiratory system, and digestive system diseases," Terracciano told PsyPost. "While the study did not examine potential remedies, other research indicates that coping strategies and social connections could help manage such negative emotions."

Loneliness, in particular, emerged as the strongest predictor of early death among the components of neuroticism. Individuals who reported feeling lonely had a 46% higher risk of dying compared to those who did not report loneliness. This relationship was especially pronounced among younger men and people without a college education. The link between loneliness and mortality was independent of other aspects of neuroticism, suggesting that loneliness on its own is a significant risk factor for early death.

The researchers also found that other aspects of neuroticism, such as mood swings and feeling fed up, were associated with higher mortality risks, particularly for digestive and respiratory diseases. On the other hand, some components of neuroticism, like being a worrier or feeling

guilty, were not strongly related to early death. In fact, individuals who reported worrying too much after feeling embarrassed had a slightly lower risk of dying, which the researchers speculated might be because such individuals are more cautious or vigilant in other aspects of their lives.

“It was surprising that loneliness had a much stronger impact than other components of neuroticism,” Terracciano said. “In other words, the findings indicate that those who reported being lonely were at much higher risk of death than those who felt anxious or guilty. It was also surprising that among causes of death, people high in neuroticism were more likely to die from respiratory or digestive system diseases than cardiovascular diseases.”

One limitation to note is that the study was conducted using data from the UK Biobank, a sample that is not fully representative of the general population. Participants in the UK Biobank tend to be healthier and more educated than the average person, which could limit the generalizability of the findings to other populations.

“The participants were primarily white individuals from the United Kingdom, a wealthy country,” Terracciano said. “More research is needed to test whether the associations differ in contexts with fewer economic and healthcare resources.”

Another limitation is that the study did not account for changes in neuroticism over time. It is possible that individuals who experience major life events, such as serious illness or the death of a loved one, might become more neurotic as they age, which could influence their risk of dying earlier. Future research could explore how changes in personality traits like neuroticism over the course of life affect health outcomes.

The researchers also emphasized the need for more research on the specific pathways through which neuroticism influences mortality. While their analyses accounted for factors like smoking and underlying health conditions, the exact mechanisms linking neuroticism to early death remain unclear. It could be that individuals high in neuroticism are more likely to engage in risky behaviors, have difficulty coping with stress, or experience chronic stress that wears down their bodies over time.

The study, “[Neuroticism, loneliness, all-cause and cause-specific mortality: A 17-year study of nearly 500,000 individuals](#),” was authored by Karley Greer Deason, Martina Luchetti, Selin Karakose, Yannick Stephan, Páraic S. O’Súilleabháin, Andre Hajek, Angelina R. Sutin, and Antonio Terracciano.