

# Risk factors for depression are less decisive in old age

June 7 2021

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Risk factors for cardiovascular diseases like smoking, high blood pressure, diabetes also increase the likelihood of suffering from depressive mood or depression. Until now, however, it was unclear

whether this influence changes over the course of life or is independent of age. A study by the Max Planck Institute for Human Cognitive and Brain Sciences and the University of Münster shows: Among those over 65, these risk factors play a smaller role in relation to depression than among younger.

People who smoke, suffer from [high blood pressure](#), obesity, or diabetes are not only at greater risk of suffering a stroke, heart attack, or dementia. For them, the risk of being affected by depressive [mood](#) or depression also increases. The more risk factors a person has, the more likely this is. Until now, however, it was unclear whether this probability also depends on their age. Earlier studies had already shown for other diseases such as dementia or stroke that a combination of several risk factors leads to a more frequent onset of the disease between the ages of 40 and 65 than in old age. Until now, however, it was unclear whether this also applies to depression.

Researchers at the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig and the University of Münster have now found out: The extent to which smoking and other risk factors increase the risk of suffering a depressive mood also depends on age. According to the study, people between the ages of 50 and 80 who fulfill several of the critical points, e.g. they smoke and are overweight, suffer more frequently from a depressive mood than those who are exposed to fewer risk factors. However, it was also shown that although depressive moods are particularly severe in middle-aged people exposed to risk factors, they decrease again with increasing age.

## Medical, physiological and psychological reasons

"The risk factors also lead to changes in the [brain structure](#)," Maria Blöchl from the Max Planck Institute and the University of Münster and first author of the underlying study explains, as one possible reason for

the connection between risk factors and depression. She adds, "If regions responsible for emotion regulation change in the process, the mood of those affected probably deteriorates and this can eventually lead to depression." In addition, there is probably a psychological component. According to the study, these factors usually lead to physical and psychological stress, which in turn can lead to a depressive mood. Blöchl suggests, "The general health status is then often not very good and people take more medication. This is often psychologically stressful."

Why the influence of risk factors on depression and other diseases decreases in older age can also be for various reasons. Again, one could be psychological. "Previous research has shown that older people are better able to cope with stress. Certain effects of risk factors, such as high blood pressure on mood, may therefore no longer be so pronounced," says Blöchl. In addition, those affected can cope better with existing ailments and, in comparison with their peers, see that they may not be doing so badly. "This can lead to a different way of dealing with symptoms of illness and prevent depressive moods."

Another reason could be of a medical nature: serious illnesses such as dementia, which often occur in old age, cause blood pressure to drop several years before the onset of the disease, and with it the danger posed by elevated blood pressure. In addition to this, phenomena such as diabetes or high blood pressure are usually treated more and more intensively in older age than in middle age. Finally, many people who had been exposed to a plethora of risk factors in middle age may already have died.

## A longitudinal study in Great Britain

The researchers investigated these relationships with the help of the [longitudinal study](#) "English Longitudinal Study of Aging," in which more than 18,000 people in Great Britain participated over a period of 12

years. For the present results, they analyzed the data of more than 7,000 people over the age of 50 who had not yet suffered a heart attack, stroke, or dementia. They considered high blood pressure, smoking, diabetes, obesity, and high cholesterol levels as risk factors.

Every two years, they recorded the extent of depressive mood and calculated the course of depressive symptoms as a function of risk factors and age. For this purpose, they used growth models in which they calculated the development of individual persons over the years. Finally, this resulted in an individual curve for each person, whose different courses could be explained by adding or removing risk factors. The influence of gender and education was removed accordingly.

**More information:** Maria Blöchl et al, The Age-Dependent Association Between Vascular Risk Factors and Depressed Mood, *The Journals of Gerontology: Series B* (2021). [DOI: 10.1093/geronb/gbab063](https://doi.org/10.1093/geronb/gbab063)

Provided by Max Planck Society

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