

Gender-specific social factors may reduce the risk of cardiovascular disease

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Differences in social factors that may reduce cardiovascular disease (CVD) risk for men and women have been identified by Monash

University-led research using a field of artificial intelligence (AI).

[Published](#) in the *Journal of Epidemiology and Community Health*, researchers employed machine learning (ML) algorithms to pinpoint key predictors of CVD from a set of 25 social factors.

The study found that being married/partnered, or having [social support](#) from others, was associated with a reduced risk of CVD for men and women.

For men, activities like playing chess or cards, having 3–8 relatives with whom they feel close and can rely on for help, or having 3–8 relatives they are comfortable discussing private matters with, was associated with a respective 18, 24 and 30% lower risk of CVD.

For women, living with others (eg. family, friends, relatives) and having at least three friends with whom they can comfortably discuss private matters was associated with a respective 26, and 29% reduced risk of CVD.

The data came from 9,936 initially healthy, community-dwelling Australians aged 70 and more, who were followed for an average of six years after enrolling in the ASPREE project. It used both machine learning, a type of AI, and conventional models.

First author Achamyelch Birhanu Teshale, a Ph.D. candidate from the Monash University School of Public Health and Preventive Medicine, said support from friends and relatives had benefits for reducing the risk of CVD in men and women.

"Notably, our study found that women's close friendships, particularly those who had developed to the point of comfort in sharing personal matters, was associated with a lower risk of incident CVD," Mr. Teshale

said. "While for men, having close relatives with whom one can easily seek assistance or discuss personal concerns was linked to a lower incidence of CVD.

"Additionally, men in this study may have engaged more in socialization through competitive activities like playing games, while women may have preferred to socialize by surrounding themselves with others regardless of what the activities are. These could, in turn, have a positive effect on cardiovascular health.

"Regardless of your age, the evidence for the benefits of close friends and relatives on [cardiovascular health](#) is apparent. This phenomenon might be attributed to the positive impact of sharing feelings with [family members](#), friends or neighbors in fostering a sense of well-being and connectedness."

[Research has already established](#) that poor social health due to [social isolation](#), loneliness, low social support, and social integration is associated with a higher risk of CVD. However, the role of a broad range of social health indicators has not been studied in relation to CVD risk.

Senior author Dr. Rosanne Freak-Poli, from the Monash University School of Clinical Sciences and School of Public Health and Preventive Medicine, said it was the first to consider an extensive array of social factors for men and women, encompassing 25 socialization variables across five domains.

They included relative and friend support, living arrangement, volunteering or informally helping others, social interaction or engagement, and employment/retirement. Dr. Freak-Poli said the results underlined the need for social outlets and [government programs](#) that connected people of all ages.

"Discussing emotions and receiving support from family and friends offers significant benefits to physical health as well as mental health and well-being," she said. "We advise that [older adults](#) seek to maintain connections with their loved ones, as well as getting out to join new activities or new groups to find your next best [friend](#)."

"Research has shown that our friendship groups tend to change every seven years. So making new friends is an important part of life, no matter what your age. Our findings have the potential to complement or strengthen government-supported strategies designed to increase social support for older people."

"For instance, the Australian government's Seniors Connected program also pursues to address poor social relationships through initiatives such as the FriendLine (a free national phone support service), and Village Hubs (which offer a variety of member-led social activities like walking groups and social events)."

"It may take time to find the right group for you. We advocate for social prescribing, which allows health professionals to prescribe socializing and other activities as part of people's health. It provides an opportunity for people to be linked with services already in their community to improve well-being and quality of life. This way, people get assistance with finding a group right for them."

More information: Achamyeleh Birhanu Teshale et al, Gender-specific aspects of socialisation and risk of cardiovascular disease among community-dwelling older adults: a prospective cohort study using machine learning algorithms and a conventional method, *Journal of Epidemiology and Community Health* (2024). [DOI: 10.1136/jech-2023-221860](https://doi.org/10.1136/jech-2023-221860)

Provided by Monash University

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