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Older adults who exercise with their spouse may be less physically active than those who exercise individually

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Summary: A study has found that older adults who exercise with their spouse achieve lower physical activity levels than older adults without their spouse. In a study of 240 participants in Singapore aged 54 to 72 years old, the researchers also found that those who received personalized feedback on their fitness trackers were more active than those who did not.

FULL STORY

A study by researchers from Nanyang Technological University, Singapore (NTU Singapore) found that older adults who exercise with their spouse achieve lower physical activity levels than older adults without their spouse.

In a study of 240 participants in Singapore aged 54 to 72 years old, the NTU Singapore researchers from the Wee Kim Wee School of Communication and Information (WKWSCI) also found that those who received personalised feedback on their fitness trackers were more active than those who did not.

With many societies facing an ageing population, promoting healthy ageing, such as through physical activity, has become increasingly important. Findings from the NTU study suggest that it may be more effective to do so by encouraging older adults to exercise individually, said the researchers.

Dr Sapphire Lin, who led the research as a PhD student at NTU WKWSCI, said: "The average participant in our study is 60 years old and has been married to and living with the same spouse for 30 years. This suggests that the study participants have well-established routines that do not necessarily include exercising with their spouse. For these couples, changing daily habits could require a major reshuffling of set habits and routines ingrained in their family life after years of marriage. This makes incorporating exercise difficult and could lead to a demotivating effect.

Now a Research Fellow at the Centre for Population Health Research and Implementation, SingHealth, Dr Lin added: "Our research suggests that older adults looking to introduce exercise into their lifestyles may find it more effective to focus on changing their own routines rather than attempting to exercise as a couple and seeking to impose changes on their partner."

The study was published in the *International Journal of Human-Computer Interaction* in October 2023. Also on the research team are Associate Professor Sonny Rosenthal from WKWSCI and Professor Rich Ling, who has retired from NTU.

Its exploration of active ageing aligns with the University's research focus on health and society as part of its NTU 2025 five-year strategic plan.

How the study was conducted

To investigate the effects of exercising with one's spouse and receiving real-time fitness feedback on the level of physical activity in older adults, the NTU researchers gave 240 participants a fitness tracker, which records information such as the number of steps taken, heart rate, distance covered, calories burned, minutes of activity, and sleep data.

The participants recruited were all married and living with their spouses and were aged between 54 and 72. They were subsequently divided into four groups: two groups of 30 couples each who would exercise as couples, and two groups of 60 individuals each who would exercise without their spouse. Half of these participants (30 couples and 60 individuals) received real-time fitness feedback from their fitness trackers, while the other half had their trackers' real-time feedback disabled.

They collected data over 12 weeks on how consistently the participants met daily step thresholds of 5,000, 7,500, 10,000, and 15,000 steps, as well as their daily mean and median number of steps.

Lower daily step count for older couples who exercised together

Previous intervention studies found positive activity level effects for older adults exercising with a peer or buddy.

By contrast, this study found that the participants who took part in the study as a couple had lower mean and median step counts. They also met the high daily step counts of 7,500, 10,000 and 15,000 less frequently than those who participated individually without their spouses. The researchers believe that higher levels of physical activity would require a greater change in couples' lifestyles, thereby making it harder to achieve.

These findings suggest that it may be more effective to encourage behavioural or lifestyle changes such as physical activity in older adults individually rather than in couples.

Real-time feedback helpful in achieving moderate levels of physical activity

The findings show that participants who received real-time feedback on their fitness trackers achieved daily step counts of 7,500 and 10,000 more frequently than those who did not receive real-time feedback, indicating that personalised feedback from fitness trackers positively affects older adults' physical activity.

This is because feedback highlights the discrepancies between people's current and desired state of physical activity, said the researchers. They added that receiving feedback that they have hit their targets also allows them to believe in their ability to reach the goal, which results in continued motivation towards a physically active lifestyle.

However, real-time feedback did not increase the frequency of older adults achieving low step counts of 5,000 steps or high step counts of 15,000. Researchers attribute this finding to the former being too easy for older adults to achieve and the latter too difficult. Older adults are more inclined to attain moderate step counts of 7,500 and 10,000, which are both challenging and engaging enough.

The research team is now exploring more in-depth analysis of the data collected from this study to inform policies that will encourage active ageing in seniors.

They are also looking into using this study model on older adults of lower socioeconomic status to explore how policies can narrow the gaps in health and technology inequalities and ensure that this population segment does not get left behind.

Story Source:

Materials provided by **Nanyang Technological University**. *Note: Content may be edited for style and length.*

Journal Reference:

1. Sapphire H. Lin, Sonny Rosenthal, Rich Ling. **Motivating Physical Activity with Fitness Tracking and the Interpersonal Context**. *International Journal of Human–Computer Interaction*, 2023; 1 DOI: 10.1080/10447318.2023.2269004

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