

A Survey-Based, Observational Study on General Population to Evaluate if Age Affects Mental Health and Physical Development in Different Age Groups

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Abstract

Old age is frequently portrayed as a time of rest and reflection. Unfortunately, the aging process is not always pleasant. Chronic and debilitating medical disorders, the loss of friends and loved ones, and the inability to participate in once-cherished activities can all have a significant impact on an aging person's emotional well-being and physical activities. A survey-based, observational study involving 46 participants was carried out. These participants were divided into two different age groups. One group included people falling under the age group of 18–40 years, and the other group included people of age 41–60 years. They were given an assessment form that will include two questionnaires for both mental health and physical development: the Center for Epidemiologic Studies–Depression (CES-D) and the General Practice Physical Activity Questionnaire (GPPAQ). The Google Forms are designed in such a way that they will only capture data from 23 participants. The CES-D score in the present study of people aged between 41 and 60 years showed severe depression (27.13 ± 12.84) (SEM = 2.68) in which the male had a greater score (28.53 ± 12.92) than the female (24.5 ± 11.38). In the case of the age group 18–40 years, moderate depression (18 ± 7.67) (SEM = 1.64) was found, with the female having a greater score (18.88 ± 8.25) than the male (17.53 ± 7.30). Figure 1 describes the overall GPPAQ scale of the study groups based on their daily activities and shows that the age group 18–40 years was moderately active, while the other group aged 41–60 years was moderately inactive. The unpaired t-test analysis gave a two-tailed $P = 0.0056$. By conventional criteria, this difference is considered to be very statistically significant ($P \leq 0.05$).

Key words: Mental health, Physical health, Ageing.

INTRODUCTION

How old you feel explains your subjective age and has major relevance for social, health, and economic factors. One's individual age relates to social relationships, and comparison groups impact self-perceptions of age (Settersten and Hagestad 2015).^[1] It is contingent and can depend on which groups on correlate oneself (Sayag and Kavé, 2022). Most often, themes considered when assessing older adults' self-perceived age were attitudes towards one's own aging, one's own well-being, stereotypes of aging,

aging identities, the aging body, and one's future self-view (Lin *et al.* 2020).^[2]

Mental and physical conditions are both integral to health, but little is known about the dynamic relationship between them.^[3] As people start aging, we may feel a loss of control over our lives as a result of failing eyesight, hearing loss, and other physical changes, as well as external pressures such as limited financial resources. These and other issues frequently cause negative emotions such as sadness, anxiety, loneliness, and low self-esteem, which lead to social withdrawal and aloofness.^[4]

Other serious outcomes include chronic depression and anxiety. Some natural body changes associated with aging may increase a person's risk of depression and anxiety, according to research. Depression and anxiety, regardless of their causes, can have serious physical consequences for people. The mortality rate

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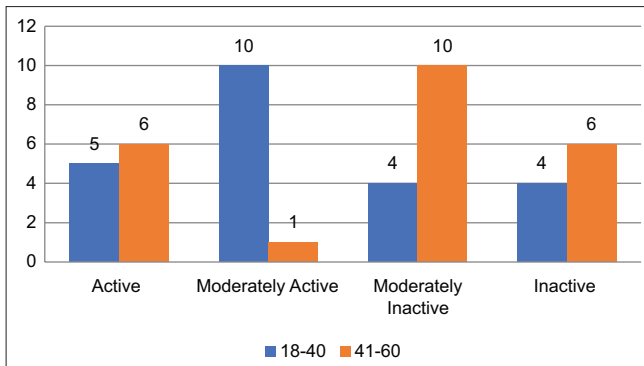


Figure 1: Overall GPPAQ scale of the study population

for men and women who experience depression as well as feelings of loneliness is higher than for those who report being satisfied with their lives.^[5] Once subjects start aging, they also endure higher rates of insomnia and memory loss. They also have greater than normal reaction times, which augment the hazards associated with cooking, driving, self-medication, and other tasks that require full attention.^[5] According to some studies, retirement has a negative impact on both mental and physical health.^[6] Education has been found to have a positive relationship with physical and mental health because it allows people to take care of their health more efficiently and allocate their production inputs more effectively.^[7] Physical activity has a positive correlation with both better physical health and lower depressive symptoms, indicating that health behavior plays a role in determining both physical and mental health.^[8] Social networks are associated with better mental health outcomes, particularly for older people, but have a negative association with mortality risk.^[9] While considering the dynamics of physical and mental health, only one study examined the relationship between the two.^[10] However, no research has been conducted to look at the impact of age on mental health and physical development. Hence, our objective is to determine whether age has any bearing on either of these factors.^[11]

METHODOLOGY

The purpose of conducting this study was to evaluate whether age affects mental health and physical development in different age groups.^[12] To evaluate the effect of age on mental health and physical activities, two validated questionnaires for two different age groups were used.^[13] The demographic details of the participants have been mentioned in Table 1. Depression was measured using the Center for Epidemiologic Studies-Depression (CES-D) scale. The effects of physical health were measured by the general practice physical activity questionnaire (GPPAQ).^[14]

Table 1: Demographic characteristics of the study population

Characteristics	n (%)
Age (years)	
18-40	50
41-60	50
Gender	
Male	30
Female	16

The CES-D

The CES-D, established by Radloff in 1977, is a 20-item questionnaire.^[15] This questionnaire rates the person based on how frequently they experienced symptoms linked with depression in the previous week, such as restless sleep, poor appetite, and loneliness. Feedback's probability varies from 0 to 3 for each item. Scores range from 0 to 60, with dominant scores indicating greater depressive symptoms.^[16]

The CES-D scale was created to screen for depression by tracking the frequency of events and thoughts during the previous week.^[17] The CES-D scale consists of 20 items, each of which is scored on a four-point scale ranging from 0 ("rarely or never") to 3 ("most or all of the time"). People will be given zero for answers in the first column, 1 for answers in the second column, 2 for answers in the third column, and 3 for answers in the fourth column. The scoring of positive items is reversed. The feasible range of scores is zero to 60, with higher scores indicating the presence of more symptomatology.^[18]

The GPPAQ

The GPPAQ is a short self-report questionnaire on physical activity and occupation and is average into active, average active, average inactive, and inactive categories.^[19] Active is taken as consistent with achieving physical activity guidelines relating to time spent in moderate to vigorous physical activities or vigorous physical activities; all other categories require a physical activity intervention.^[20]

The GPPAQ was developed by the London School of Hygiene and Tropical Medicine as a validated short-term measure of physical activity. The common practice physical activity survey (GPPAQ) is an established screening tool used in primary care to evaluate the physical activity levels of adults (16-74 years). It contributes an elementary-level, 4-level physical activity index. The GPPAQ was scored by estimating the average time per day spent in each activity domain and intensity. The inclusion criteria included male and female adults ages ≥ 18 years and ≤ 60 years old.^[21] Subjects who were not willing to give informed consent were excluded from the study.

RESULTS

A total of 46 responses were included in the final analysis. 50% ($n = 23$) of the responders were aged between 18 and 40 years, of which 65.22% ($n = 15$) were male and 34.78% ($n = 8$) were female. The other 50% ($n = 23$) of the responders were aged between 41 and 60 years, of which 65.22% ($n = 15$) were male and 34.78% ($n = 8$) were female. The CES-D score in the present study of people aged between 41 and 60 years showed severe depression (27.13 ± 12.84) (SEM = 2.68) in which the male had a greater score (28.53 ± 12.92) than the female (24.5 ± 11.38). The case of the age group 18–40 years showed moderate depression (18 ± 7.67) (SEM = 1.64), with the female having a greater score (18.88 ± 8.25) than the male (17.53 ± 7.30). Figure 1 describes the overall GPPAQ scale of the study groups based on their daily activities and shows that the age group 18–40 years was moderately active, while the other group aged 41–60 years was moderately inactive. The unpaired t-test analysis gave a two-tailed $P = 0.0056$. By conventional criteria, this difference is considered to be very statistically significant ($P \leq 0.05$). The mean of the group aged 18–40 years minus the group aged 41–60 years equals to -9.1300 . The 95% confidence interval of this difference was found to be from -15.4543 to -2.8057 . Intermediate values used in the calculations include $t = 2.9095$ and $df = 44$ standard error of difference = 3.138. All the statistical analysis was carried out in GraphPad by Dotmatics.

DISCUSSION

In the present study, the effect of age on mental health and physical activities was evaluated using two validated questionnaires for two different age groups. Depression was measured using the CES-D Scale, and its effects due to physical activities were measured by the GPPAQ. The study was in accordance with previous studies conducted on a similar scale, stating that people with less physical activity in their older age tend to have greater depression. Younger people should moderately engage in physical activity, which also reflects in their lower depression level in comparison to the other group. It is to be noted that a major portion of the study participants were male. The recent trends in work-from-home jobs could have led to moderate physical activity, and financial aspects post-pandemic could also have contributed to an increased stress level among the study participants, leading to depression.

Therefore, this study contributes similar results to other studies showing that fewer physical activities with increasing age play a greater role in contributing to depression in both male and female.

CONCLUSION

This study was conducted to examine the effect of age on mental health and physical activities. The prevalence of moderate physical activity or inactivity among the study participants showed symptoms of depression. Further, the severity of anxiety was notably higher among older people (41–60 years) than younger people (18–40 years). Only long-term research can show whether a causal influence is genuinely present. Further information on socio-economic factors and a loss of jobs post-pandemic is required to draw a conclusion. Studies on how employees health is impacted by their work are also needed. The workplace can be a good organizer for creating sessions to address depression and also advice on the importance of physical activities.

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