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Examining the Effects of Physical Activity Participation Levels of Individuals in Quality of Life

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ABSTRACT

The aim of the study was to determine the participation levels of individuals in physical activities and the effects of activities on quality of life, and to evaluate the role of physical activity on quality of life.The research is a quantitative study and is based on the descriptive survey model. The population of the study consisted of 562 adult volunteers, 254 males and 308 females. Personal data on gender, occupa-tional status, chronic disease, medication use, smoking, alcohol use, region of residence, and number of days of physical activity were collected from the individuals. In addition, the quality of life scale short form (WHOQOL-BREF) developed by the World Health Organization (WHO) was used in the study. While analyzing the data of the study, the t-test was used for pairwise comparisons, and the Anova Tukey test was used for multiple comparisons within groups. When the data obtained from the study were examined, it was found that men were better than women in the general health status sub-dimension, married individuals were better than singles in the psychological, social communication, and environment sub-dimensions, individuals who did not have chronic diseases, did not use medication, did not use alcohol, and did not smoke were found to have high scores in the sub-dimensions of the scale in their favor, and those with a high number of weekly physical activity days had higher quality of life scale scores than those with a low number of physical activity days. As a result, in this study, it was seen that many variables affect quality of life. In order to develop positive attitudes and behaviors according to these variables, it was concluded that it is very valuable to adopt awareness of a healthy long life in prosperity and peace and to convey the importance of maintaining a balanced quality of life in order to create a healthy society and a healthy future.

Keywords: Physical activity, quality of life, health status, lifestyle factors, well-being

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INTRODUCTION

Individuals' quality of life is defined not only by their physiological health but also by their psychological, social, and economic well-being (Coppola et al., 2021; Ruggeri et al., 2020). This comprehensive perspective emphasizes the complementary elements of quality of life by focusing on various factors such as emotional balance, social relationships, and economic security in addition to the physical integrity of individuals (Martela and Sheldon, 2019; Yi and Park, 2022). Thus, it provides an understanding of how to ensure that individuals lead a satisfying life not only in terms of health but also in areas such as inner happiness, social connections, and material well-being (Behzadnia et al., 2020; Groot et al., 2021).

Quality of life in adults is determined by the combination of many different factors (Montero-Odasso et al., 2022). Physical health, one of these factors, is an important part of quality of life in adults (Vyas et al., 2020; Ward et al., 2021). A healthy body is critical for fulfilling daily activities, feeling a sense of independence, and enjoying life in general (Lee et al., 2019; Maresova et al., 2020; Yapıcı et al., 2023). However, emotional health is also of great importance (Prowse et al., 2021; Uğurlu et al., 2023). The ability to cope with stress, emotional balance, a sense of fulfillment in life, psychological well-being, and personal development are factors that affect the quality of life of adults (Chudzicka-Czupała & Zalewska-Łunkiewicz, 2020; Long et al., 2021). Social relationships are another factor affecting quality of life in adults (Bidzan-Bluma et al., 2020). Healthy and supportive social connections help people feel happier, cope better with stress, and cope better with life's challenges (Kalaitzaki et al., 2021). Environmental factors also affect quality of life (Suryavanshi et al., 2020). A good environment can improve the quality of life (De Guimaraes et al., 2020). While personal development and continuous learning improve the quality of life of adults, acquiring new skills, self-development, and self-expression increase the overall well-being of the individual (Thianthai and Tamdee, 2023).

The geographical region where individuals live, cultural values, lifestyle, and social norms are important factors affecting quality of life (Gülü et al., 2022). For example, climatic conditions in some geographical regions can positively or negatively affect quality of life (Lee et al., 2020). Likewise, the values and norms of the society in which a person lives are also among the factors that affect quality of life (Saha et al., 2022). Having higher levels of education often leads to access to better job opportunities, a higher income, and better social and economic conditions. This directly affects the overall quality of life (Singu et al., 2020). Having sufficient income is important to meet basic needs and enjoy luxury consumption. Therefore, economic security and income level also greatly affect quality of life (Jaunky et al., 2020).

Quality of life in adults is a general level of well-being and satisfaction determined by a combination of a number of different factors. The balanced development of these factors

supports the individual's happiness, health, and overall life satisfaction. The aim of this study is to determine the quality of life of adult individuals.

MATERIALS AND METHODS

Participants and Protocol

The population of the study consisted of 562 adult volunteers, 254 males and 308 females. Individuals under 18 years of age were not included in the study. Those who did not volunteer to participate in the study after being given detailed information about the study were not included in the study. This study was conducted to investigate and evaluate the quality of life of individuals. The research aimed to examine various factors that affect individuals' quality of life. These factors include physical health status, psychological well-being, social relationships, economic status, and personal development. The descriptive survey model was used to examine these factors and assess the overall quality of life.

Data Collection Tools

The short form of the "quality of life scale" developed by the World Health Organization (WHO) was used in the study. Known as WHOQOL-BREF, it is a valid and reliable scale that evaluates health-related quality of life. A Turkish validity and reliability study was conducted by Eser et al. in 1999. The short form of the scale consists of 27 items. It consists of general health status, physical health, psychological, social relations, and environmental sub-dimensions. The score that each area can get independently of each other is between 4 and 20. According to Durmuş, Çiftci, and Gerçek (2018), the increase in the score indicates an increase in quality of life.

Statistical Analysis

In this academic study, IBM SPSS Statistics 25.0 software was employed for data analysis, with Cronbach's alpha utilized to ascertain the study's reliability. Given the normal binary distribution of the data, parametric tests were deemed appropriate. Consequently, pairwise group comparisons were conducted using independent sample t-tests, while comparisons involving three or more groups were assessed through ANOVA tests. Furthermore, in instances of significant differences observed in ANOVA results, the Tukey post hoc test, a form of multiple comparison test, was utilized to delineate specific group differences. Effect size in relationships was evaluated using predefined thresholds: relationships with an effect size of <0.1 were considered insignificant, while those falling within the ranges of 0.1-0.3, >0.3-0.5, >0.5-0.7, >0.7-0.9, and >0.9 were categorized as small, moderate, large, very large, and almost perfect, respectively (Hopkins et al., 2009).

RESULTS

Dimension	Gender	n	Mean	SS	t	Cohen's d	p
General Health status	Female Male	308 254	5,73 6,53	1,42 1,33	1,698	0,15	0,001
Physical Health	Female Male	308 254	22,22 22,21	3,14 3,19	,030	0,01	,976
Psychological	Female Male	308 254	21,27 21,00	3,22 3,20	1,027	0,08	,304
Social relations	Female Male	308 254	10,48 10,56	2,19 2,21	-,429	0,03	,668
Environment	Female Male	308 254	27,73 27,29	4,33 4,85	1,131	0,09	0,253

*p< 0,001

Table 1. T-test results of WHOQOL-BREF scores according to gender variable

According to the scores of the data obtained from the WHOQOL-Bref scale according to the gender variable in Table 1, it was determined that there was a significant difference in favor of men in the general health status sub-dimension of the scale. There was no significant difference in the physical health, psychological status, social relations, or environment sub-dimensions.

Dimension	Marital status	n	Mean	SS	t	Cohen's d	p
General Health status	Married Single	316 246	6,67 6,60	1,39 1,37	,644	0,05	0,519
Physical Health	Married Single	316 246	22,26 22,17	3,16 3,18	525,465	0,03	0,759
Psychological	Married Single	316 246	21,51 20,70	2,83 3,59	456,424	0,25	0,001
Social relations	Married Single	316 246	10,81 10,15	2,12 2,24	513,259	0,30	0,001
Environment	Married Single	316	28,07	4,49	533,407	0,27	0,001

	24 6	26,8 5	4,4 6

*p< 0,001

Table 2. Body Mass Index, Body Fat Percentage, Shoulder, Arm, Chest, Waist, Abdomen, Hip, Thigh, Calf Pre-Post test comparisons

According to the scores of the data obtained from the WHOQOL-Bref scale according to the marital status variable in Table 2, it was determined that there was a significant difference in the psychological status, social relations, and environment sub-dimensions of the scale. There was no significant difference in general health status or physical health sub-dimensions.

Dimension	Chronic Illness	n	Mean	SS	t	Cohen's d	p
General Health status	Yes No	68 494	5,36 6,69	1,49 1,37	-1,74384	0,23	0,001
Physical Health	Yes No	68 494	20,15 22,23	3,22 3,16	-,192	0,03	0,001
Psychological	Yes No	68 494	19,56 21,10	2,98 3,24	1,113	0,15	0,001
Social relations	Yes No	68 494	10,24 10,57	2,30 2,18	-1,111	0,15	,249
Environment	Yes No	68 494	28,36 27,43	4,82 4,53	1,506	0,20	,115

*p< 0,001

Table 3. T-test results of WHOQOL-BREF scores by chronic disease status

According to the scores of the data obtained from the WHOQOL-Bref scale according to the chronic disease variable in Table 3, it was determined that there was a significant difference in the general health status, physical health, and psychological status sub-dimensions of the scale. There was no significant difference in the social relations and environment sub-dimensions.

Dimension	Medication used	n	Mean	SS	t	Cohen's d	p
General Health status	Yes No	90 472	5,32 6,70	1,50 1,35	-2,339	0,27	0,001
Physical Health	Yes No	90 472	20,09 22,25	3,49 3,10	-,387	0,05	0,001
Psychological	Yes No	90 472	20,47 21,10	3,27 3,20	,997	0,12	0,001
Social relations	Yes No	90 472	9,20 10,59	2,09 2,21	-1,528	0,19	0,001

Environment	Yes No	90 472	27,54 27,54	4,95 4,50	-,001	0,00	0,999

*p< 0,001

Table 4. T-test results of WHOQOL-BREF scores according to medication use status

According to the scores of the data obtained from the WHOQOL-Bref scale according to the variable of drug use in Table 4, it was determined that there was a significant difference in the general health status, physical health and psychological status, and social relations sub-dimensions of the scale. There was no significant difference in the environment sub-dimension.

Dimension	Cigarette use	n	Mean	SS	t	Cohen's d	p
General Health status	Yes No	216 346	6,45 6,77	1,37 1,37	-2,725	0,24	0,001
Physical Health	Yes No	216 346	20,97 22,37	3,18 3,15	-1,450	0,13	0,001
Psychological	Yes No	216 346	19,90 21,30	3,23 3,19	-1,432	0,13	0,001
Social relations	Yes No	216 346	10,33 10,65	2,24 2,16	-1,611	0,15	0,105
Environment	Yes No	216 346	27,15 27,78	4,80 4,41	-1,554	0,14	0 ,114

*p< 0,001

Table 5. T-test results of WHOQOL-BREF scores and smoking status

According to the scores of the data obtained from the WHOQOL-Bref scale according to the variable of smoking in Table 5, it was determined that there was a significant difference in the general health status, physical health and psychological status sub-dimensions of the scale. There was no significant difference in the social relations and environment sub-dimensions.

Dimension	Alcohol use	n	Mean	SS	t	Cohen's d	p
General Health status	Yes No	108 454	5,37 6,70	1,38 1,38	-2,302	0,24	0,001*
Physical Health	Yes No	108 454	20,70 22,34	2,96 3,20	-1,883	0,21	0,001*
	Yes	108	19,86	3,09		0,12	0,001*

Psychological	No	454	21,22	3,24	-1,086		
Social relations	Yes	108	9,32	2,34	-1,046	0,12	0,001*
	No	454	10,58	2,16			
Environment	Yes	108	25,86	4,71	-1,687	0,19	0,001*
	No	454	27,70	4,53			

*p< 0,001

Table 6. T-test results of WHOQOL-BREF scores by alcohol use status

According to the scores of the data obtained from the WHOQOL-Bref scale according to the variable of alcohol use in Table 6, it was determined that there was a significant difference in all of the general health status, physical health and psychological status, social relations, and environment sub-dimensions of the scale.

Table 7. T-test results of WHOQOL-BREF scores by region of residence

Dimension	Residence	n	Mean	SS	t	Cohen's d	p
General Health status	Urban	500	6,68	1,38	1,307	0,19	0,174
	Rural	62	6,42	1,45			
Physical Health	Urban	500	22,39	3,02	2,931	0,43	0,001
	Rural	62	20,88	3,93			
Psychological	Urban	500	21,35	3,02	3,176	0,48	0,001
	Rural	62	19,63	4,16			
Social relations	Urban	500	10,60	2,10	1,685	0,26	0,034
	Rural	62	9,97	2,83			
Environment	Urban	500	27,74	4,44	2,559	0,37	0 ,001
	Rural	62	25,94	5,31			

*p< 0,001

According to the scores of the data obtained from the WHOQOL-Bref scale according to the region of residence variable in Table 7, it was determined that there was a significant difference in the physical health, psychological status, and environmental sub-dimensions of the scale. There was no significant difference in the general health status or social relations sub-dimensions.

Dimension	Fiziksel aktivite	n	Mean	SS	F	p	Tukey
General Health Status	Per week 1(1)	146	5,37	1,37	7,499	0,001	4=5>3>1=2
	Per week 2 (2)	58	5,34	1,14			
	Per week 3 (3)	84	6,02	1,23			
	Per week 4 (4)	32	6,88	1,29			
	Per week 5 (5)	242	6,94	1,44			
Physical Health	Per week 1(1)	146	20,98	3,59	2,448	0,045	4=5>3>1=2
	Per week 2 (2)	58	21,76	3,20			
	Per week 3 (3)	84	21,79	3,30			
	Per week 4 (4)	32	22,75	2,89			
	Per week 5 (5)	242	22,69	2,81			
Psychological	Per week 1(1)	146	19,20	3,64	3,861	0,001	4=5>3>1=2
	Per week 2 (2)	58	19,97	3,51			
	Per week 3 (3)	84	20,91	2,92			
	Per week 4 (4)	32	21,38	2,78			
	Per week 5 (5)	242	21,61	2,92			
Social rela-tions	Per week 1(1)	146	8,37	2,63	3,058	0,001	4=5>1=2=3
	Per week 2 (2)	58	9,39	2,22			
	Per week 3 (3)	84	9,87	2,26			
	Per week 4 (4)	32	10,62	1,56			
	Per week 5 (5)	242	11,86	1,90			
Environment	Per week 1(1)	146	28,06	5,15	2,449	0,001	1=4=5>2=3
	Per week 2 (2)	58	26,14	4,12			
	Per week 3 (3)	84	26,96	4,96			
	Per week 4 (4)	32	27,19	3,88			
	Per week 5 (5)	242	27,81	4,18			

Table 8. Anova results of WHOQOL-BREF scores and weekly physical activity participation status

According to the scores of the data obtained from the ANOVA results of the WHOQOL-Bref scale according to the variable of participation in weekly physical activity in Table 8, it was determined that the quality of life levels of individuals with a high number of weekly physical activity in the general health status, physical health, psychological health, and social relations sub-dimensions of the scale were high, and the quality of life levels of those with low weekly physical activity were low. In the environment sub-dimension, it was determined that the scores of those with 1, 4, and 5 weekly physical activities were equal among themselves, and the quality of life scale scores were higher than those who did physical activity for 2 and 3 days.

DISCUSSION

The aim of this study was to determine the level of physical activity participation of individuals and its effects on quality of life, and to evaluate the role of different variables on quality of life. According to the data obtained from the research findings, male individuals had higher WHOQOL-Bref (Quality of Life Scale Short Form) scores in the general health status sub-dimension than female individuals, married individuals had better WHOQOL-Bref scores in the psychological, social relationship and environment sub-dimensions than single individuals, individuals without chronic diseases were more advantageous and favorable than individuals with chronic diseases in terms of general health status, physical health and psychological sub-dimension scores, non-medication users had better general health status, physical health, psychological sub-dimension scores than drug users, social relations sub-dimension scores were higher, non-smokers had higher general health status, physical health and psychological sub-dimension scores than smokers, individuals who did not use alcohol had higher scores in all sub-dimensions of the scale than individuals who used alcohol, individuals living in urban areas had higher scores in physical health, psychological and environmental sub-dimensions than individuals living in rural areas, and individuals with more physical activity days per week had higher scores in all sub-dimensions than individuals with fewer physical activity days.

When the WHOQOL-Bref scores were examined according to the gender variable, it was found that the scores of male individuals were higher than the scores of female individuals in the general health status sub-dimension, and there was a significant difference. The reason for this is thought to be related to the fact that female individuals are now active both at home and in working life and have taken on too much burden and responsibility. Demiryas and İlhan (2023) determined that men had higher scores than women in all sub-dimensions of the quality of life scale. The results of the study are similar to ours.

When the WHOQOL-Bref scores were examined according to the marital status variable, it was determined that there was a significant difference in the psychological status, social relations, and environment sub-dimensions in favor of married individuals. It is thought that the psychological status and social relations of married individuals are better than those of single individuals as a result of becoming a family, the formation of growing families, the expansion of the social environment, and the increase in communication aspects. Eren (2023) found that the psychological resilience and quality of life scores of married individuals were higher than those of single individuals. Demirya and İlhan (2023) determined that the social relations scores of married individuals were higher than those of single individuals. It was concluded that the results in the literature are similar to our research results.

Considering the WHOQOL-Bref scores according to the chronic disease variable, it was observed that there was a significant difference in favor of individuals without chronic diseases in the general health status, physical health, and psychological status sub-dimensions of the scale. It is thought that individuals who do not have a long-term illness

feel better physically and mentally, and this is reflected in their general health status. Demiryas and İlhan (2023) determined that there was no significant difference between those with and without chronic diseases. This result is not similar to our study in some sub-dimensions.

When the WHOQOL-Bref scores were examined according to the variable of drug use, it was found that there was a significant difference in favor of those who did not use drugs in the general health status, physical health and psychological status, and social relations sub-dimensions of the scale (Abbasi-Ghahramanloo et al., 2020). As in the previous chronic disease variable, individuals who do not use drugs will have a more comfortable quality of life, physically, mentally, and socially. This will directly reflect on their general health status (Uğurlu et al., 2023).

When the WHOQOL-Bref scores were examined according to the variable of smoking, significant and statistically significant differences were found between non-smokers in the general health status, physical health, and psychological status sub-dimensions of the scale. Demiryas and İlhan (2023) reported that the mental health scores of non-smokers were higher than those of smokers. These findings indicate that smoking has a negative effect on mental health.

It was found that there was a significant difference in all sub-dimensions of general health status, physical health and psychological status, social relations, and environment according to the variable of alcohol use (Kayaoğlu, and Ay, 2024; Mayordomo et al., 2022). It is thought that the quality of life of individuals who do not use alcohol has increased in terms of mental, physical, and social relations, and their quality of life has increased in the general health status dimension (Hisasue et al., 2020).

According to the region of residence variable, it was determined that there was a significant difference in favor of individuals living in cities in the sub-dimensions of physical health, psychological state and environment. Although individuals living in cities create awareness and obtain opportunities to keep their physical and psychological conditions at the best level, they have to make a lot of effort and wear out in the processes they go through in order to catch the flow of life in crowded cities. In this case, there is no significant difference in the general health status sub-dimension (Jensen et al., 2020). In other words, even if individuals find more job opportunities in cities, even if they earn more money, air pollution, keeping up with the social environment, trying to provide the time and money you spend to reach the things you are aware of, it is thought that when the general health status is examined, it is thought that it does not make a difference from individuals living in rural areas (Callaghan et al., 2021; Mouratidis, (2021).).

The ANOVA results of the WHOQOL-Bref (Quality of Life Scale Short Form) scale according to the variable of participation in weekly physical activity showed that the quality of life scores of individuals with a high number of weekly physical activity in the general health status, physical health, psychological health, social relations sub-dimensions of the

scale were high, while those with a low number of weekly physical activity had low quality of life scores. Demiryas and İlhan (2023) found that the mean scores of the sub-dimensions of the WHOQOL-Bref scale of those who engaged in physical activity were significantly higher than those who did not engage in physical activity. Çağlayan Tunç et al. (2020) determined that the quality of life of individuals who exercised in the study titled the effect of exercise on quality of life during the Covid-19 outbreak in 2020 was higher than individuals who did not exercise. Vatansever et al. (2015) found that when the level of physical activity increased, the level of quality of life increased. Şimşek et al. (2023); Yıldırım and Bayrak (2019); Yeşil, Avçin and Saltan (2021); Bölükbaş et al., 2022; Mattioli and Ballerini, 2020; Miceli et al., 2021; Didriksen et al., 2021; Pirinçci, Cihan and Yıldırım (2020) determined that high physical activity scores have an effect on quality of life in their studies. The ANOVA results of the WHOQOL-Bref (Quality of Life Scale Short Form) scale according to the variable of participation in weekly physical activity showed that the quality of life scores of individuals with a high number of weekly physical activity in the general health status, physical health, psychological health, and social relations sub-dimensions of the scale were high, while those with a low number of weekly physical activity had low quality of life scores. Demiryas and İlhan (2023) found that the mean scores of the sub-dimensions of the WHOQOL-Bref scale of those who engaged in physical activity were significantly higher than those who did not engage in physical activity. Çağlayan Tunç et al. (2020) determined that the quality of life of individuals who exercised in the study titled The Effect of Exercise on Quality of Life During the COVID-19 Outbreak in 2020 was higher than that of individuals who did not exercise. Vatansever et al. (2015) found that when the level of physical activity increased, the level of quality of life increased. Şimşek et al. (2023); Yıldırım and Bayrak (2019); Marquez et al., 2020; Heesch et al., 2015; Wang et al., 2015; Oladejo et al., 2023; Yeşil, Avçin, and Saltan (2021); Pirinçci, Cihan, and Yıldırım (2020) determined that high physical activity scores have an effect on quality of life in their studies.

CONCLUSIONS

In conclusion, this study aimed to understand the balanced development of quality of life by examining some variables that affect the level of physical activity and quality of life. The findings showed that many variables, such as general health, physical condition, psychological condition, social relations, and environmental effects, come together to affect quality of life. The conclusion to be drawn from this study is that one-way prosperity does not improve the general health status of individuals. As stated by the WHO, in order to improve many factors in individuals, it is necessary to regulate the variables that trigger each other, to create awareness in individuals to live healthy and to increase the quality of life, and to raise this awareness. We need to adopt the idea that there is nothing more valuable than human beings, that every human being deserves the best, and that while taking good care of our bodies, we should also take care of our mental health, nutrition,

social communication, and environment. Of course, each individual will not be able to overcome this situation alone. For this reason, it will be very important to determine health policies and strategies to improve the quality of life of individuals. Research results sufficiently explain the areas that individuals and societies should consider to improve quality of life. Therefore, improvements in policies and practices such as health services, social support networks and environmental regulations can improve overall quality of life and long-term well-being.

Author Contributions

Conceptualisation, Ö.N.Y., H.K.; methodology, Ö.N.Y., O.İ., T.K., Y.Ç.E., H.K. A.B.K.; software, Ö.N.Y.; validation, O.İ., Ö.N.Y..; formal analysis, Ö.N.Y.; research, B.E.; sources, M.Ç., B.E., E.G.; data curation, Ö.N.Y..; writing-original drafting, Ö.N.Y., O.İ., T.K., A.B.K., Y.Ç.E. H.K., E.K.,A.C.K.; writing-review and editing, H.Y., A.B.K., O.İ.; visualisation, B.E.; supervision, Ö.N.Y., A.B.K., H.K.; project management, Ö.N.Y.; the authors have read and accepted the published version of the article."

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The authors declare that no conflicts interest.

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