DIFFERENCES IN THE PHYSICAL APPEARANCE OF WOMEN ENGAGED IN PROGRAMMED KINESIOLOGICAL ACTIVITIES IN RELATION TO CHRONOLOGICAL AGE

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Abstract

One of the study's objectives was to detect differences in body image satisfaction among women who engage in kinesiological activities, with respect to their chronological age. One of the fundamental functions of the human body is physical activity. As defined, physical activity requires increased energy expenditure. Energy expenditure is most commonly expressed as the amount of oxygen consumed per unit of time, measured in absolute (ml×min⁻¹) or relative oxygen uptake (ml×min⁻¹·kg⁻¹). Physical activity is described through four dimensions: frequency, duration, intensity, and type of activity (Caspersen, Powell & Christensen, 1985). Frequency refers to the number of activity repetitions within a given timeframe (weekly or monthly). Total physical activity includes, alongside all other forms, health-oriented physical activities that are specifically aimed at improving health. Given that a high capacity for physical performance is a positive health criterion (Mišigoj-Duraković et al., 1999), health-oriented physical activity also includes structured and planned non-competitive exercise and sports. A potential classification of influencing factors can be divided into four categories: (1) personal characteristics (e.g., age, gender, education level, experience, type of occupation, body mass index, health status), (2) psychological and behavioral characteristics (e.g., self-efficacy, enjoyment, self-motivation, perceived barriers), (3) environmental factors (social and physical) (e.g., social support, access and opportunities for physical activity, climate conditions, safety), and (4) characteristics of the physical activity itself (e.g., intensity, type, perceived exertion) (Nahas, Goldfine & Collins, 2003).

Keywords: Age, activity, differences, correlations, time.

INTRODUCTION

In the past, conclusions about the health status of a given population were most commonly based on objective indicators such as mortality and morbidity rates. Self-assessments of health gained recognition in 1948, when the World Health Organization (WHO) introduced an expanded definition of health, which included mental and social components in addition to physical health, with an emphasis on the integration of physical and mental well-being.

Modern society is characterized by scientific and technological advancements, globalization, life mediated by media and digital devices, and an increasingly virtual existence. Physical labor has drastically declined, while physical inactivity has increased, resulting in a sedentary lifestyle and passive use of leisure time (Findak, 2009).

Technological development has led to numerous improvements in human life, but also to many negative effects that contribute to the disintegration of the individual. The physical human condition has not advanced; in terms of abilities, functions, and perception of the external world, it remains on the level of *Homo sapiens* as in ancient history (Andrijašević, 2009).

This condition leads to various problems, with one of the most prominent being the continuous decline in physical activity, which further contributes to a wide range of health issues. Adhering to recommended levels of physical activity helps preserve and enhance health by maintaining and slowing the decline of motor and functional abilities, which positively impacts quality of life (Berger & Tobar, 2007).

Research indicates a positive correlation between the frequency of physical activity and subjective health assessment (Olchowski et al., 2009), as well as general self-esteem as an indicator of mental health (Cohen & Shamus, 2009). Furthermore, participation in structured exercise programs positively influences satisfaction with physical appearance, which is considered an indicator of psychological well-being (Campbell & Hausenblas, 2009).

From an individual perspective, and in light of the principles of positive psychology, it can be concluded that a common thread among all aspects of physical exercise is the enhancement of the individual, their physical status, and consequently, the increase in physical strength. Such changes inevitably lead to psychological improvements, as individuals develop a more positive self-image, which enhances their perception of personal capabilities and strengths, boosts self-confidence, and provides additional motivation to continue exercising (Barić, 2007).

METHODOLOGY Sample of Participants

The research sample consisted of 144 women of younger adult age (20–40 years) without any psychophysical health impairments. A subsample of 69 women who do not engage in any programmed

kinesiological activities comprised individuals employed in sedentary occupations (e.g., office workers, teachers). The remaining 75 participants represented the group involved in programmed kinesiological activities and were members of the "Fitness by Nevres" and "Krav Maga Ikmi" clubs, both located in Tuzla.

Sample of Variables

To assess physical health self-perception, self-esteem, and satisfaction with body image, standardized measurement instruments were used:

EQ Thermometer

The EQ Thermometer is a component of the EuroQol standardized European instrument for selfassessment of physical health. The EuroQol instrument consists of two parts: EQ-5D and the EQ Thermometer. The EQ Thermometer is a vertical visual analog scale, 20 cm in length, ranging from 0 to 100, where 0 represents the worst imaginable physical health and 100 the best imaginable. Participants are asked to self-rate their health along this scale.

Rosenberg Self-Esteem Scale (RSES)

The Rosenberg Self-Esteem Scale is one of the most widely used tools for assessing self-esteem. It is a concise 10-item scale, with items rated on a 0–3 scale, yielding a maximum score of 30. Scores below 15 indicate low self-esteem, scores between 15 and 25 represent normal self-esteem, and scores from 26 to 30 reflect very high self-esteem. The Rosenberg scale has demonstrated reliability across genders and age groups in numerous countries and is used in cross-cultural research in more than 50 countries. The test-retest reliability ranges from 0.82 to 0.88, and Cronbach's alpha, which measures internal consistency, ranges from 0.76 to 0.88, indicating strong psychometric properties.

• Figure Rating Scale (FRS)

To assess satisfaction with body image, the Figure Rating Scale (FRS) was employed. This graphical instrument measures perceived body image using a series of nine illustrated human figures arranged from very thin to very heavy. Participants indicate both their perceived current body and their ideal body image. The difference between the perceived and ideal figure represents the level of satisfaction or dissatisfaction with one's body image. Scores range from -8 to +8. A larger absolute difference indicates greater dissatisfaction, zero represents satisfaction with one's current body image, and the sign indicates the direction of dissatisfaction.

RESULTS AND DISCUSSION

Differences in body image satisfaction among women who do not engage in programmed kinesiological activities, in relation to their chronological age, are presented in Table 2. A stratification was conducted based on the same age structure used for the entire sample. The lowest levels of dissatisfaction (Mean Rank) were reported among participants in Stratum I (ages 20–25), followed by Stratum II (ages 26–30), and Stratum IV (ages 36–40). The highest dissatisfaction was observed among participants in Stratum III, aged 31–35.

Overall, no statistically significant differences were observed between the strata within this group of women (Sig. = .083). However, when comparing age groups using pairwise comparisons (Group_I_II_III_IV), significant differences did emerge. The most statistically significant differences were found between Group I (ages 20-25) and Group III (ages 31–35), with a significance level of p = .016, and between Group II (ages 26-30) and Group III (ages 31–35), with a significance level of p = .044.

The direction of the test statistic indicates higher body image satisfaction among participants in the younger age groups compared to those in the older groups.

Younger individuals who do not engage in kinesiological activities tend to report greater satisfaction with their body image compared to older individuals. Table 3 presents the results of differences in body image satisfaction in relation to chronological age among women who participate in programmed kinesiological activities.

The lowest dissatisfaction (Mean Rank) was observed among participants in Stratum II (ages 26–30), with a mean rank of 30.92, followed by Stratum IV (ages 36– 40) with a mean rank of 36.64, and then Stratum I (ages 20–25) with a mean rank of 37.21. The highest level of dissatisfaction was reported by participants in Stratum III (ages 31–35), with a mean rank of 46.62.

Interestingly, in this sample, the oldest participants demonstrated greater satisfaction with their body image than two younger groups (Strata I and III). Additionally, it is noteworthy that in both groups—those who do and those who do not participate in kinesiological activities—the greatest dissatisfaction was consistently reported by women in Stratum III (ages 31–35).

As in the previous group, no statistically significant differences were found between the strata at the general level (Sig. = .205). However, in the pairwise comparison of age groups (Group_I_II_III_IV), statistically significant differences were found between Strata II and III (ages 26–30 and 31–35) with a significance level of p = .041. Based on the sign of the test statistic, the differences favored the younger age group.

Table 2. Differe	nces in Body Imag	e Satisfaction Am	ong Women	Not Participating i	n Programmed	Kinesiological
Activities, Acco	rding to Chronologi	ical Age				
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Ranks				Test Statistics ^{a,b}		
	Grupa_I_II_III_IV	Ν	Mean Rank			
ZAD	I	11	23.95			
	II	13	32.31			
	III	9	44.28			
	IV	36	37.03	37.03		
	Total	69		Asymp. Sig083	}	
Pairwise	e Comparisons of Gru	ipa_l_II_III_IV				
						Adj.
Sample	1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Sig. ^a
1-11		-8.353	7.708	-1.084	.278	1.000
I-IV		-13.073	6.482	-2.017	.044	.262
1-111		-20.323	8.456	-2.403	.016	.097
II-IV		-4.720	6.088	775	.438	1.000
11-111		-11.970	8.158	-1.467	.142	.854
11/-111		7 250	7 012	1 034	201	1 000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .25.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 3. Differences in Body Image Satisfaction Among Women Participating in Programmed KinesiologicalActivities,AccordingtoChronologicalAge

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	Grupa_I_II_III_IV	N	Mean Rank	Test Statistics ^{a,b}	
ZAD	1	12	37.21		
	II	13	30.92		
	III	17	46.62		
	IV	33	36.64		
	Total	75		Asymp. Sig205	

Pairwise Comparisons of Grupa_I_II_III_IV

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.ª
II-IV	-5.713	6.810	839	.402	1.000
11-1	6.285	8.326	.755	.450	1.000
11-111	-15.695	7.663	-2.048	.041	.243
IV-I	.572	7.011	.082	.935	1.000
IV-III	9.981	6.209	1.608	.108	.648
1-111	-9.409	7.842	-1.200	.230	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .25.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

CONCLUSION

To assess body image satisfaction, the Figure Rating Scale (FRS) was used. The FRS belongs to a group of graphic instruments used to evaluate body image satisfaction or dissatisfaction. It consists of nine illustrated human body figures arranged from the thinnest to the heaviest, where individuals are asked to identify both their perceived current and ideal body image. The difference between the perceived current and desired figure indicates the level of satisfaction or dissatisfaction with one's own body. The range of scores goes from -8 to +8. A greater absolute difference signifies higher dissatisfaction with body image, a score of zero indicates satisfaction, while the sign indicates the direction of dissatisfaction.

Before calculating intra-group differences, i.e., differences between younger and older individuals within the same sample, a quartile-based classification was conducted, and arithmetic means for the first and third quartiles were calculated to determine the significance of physical health differences between younger and older women.

In the sample of women not engaged in programmed kinesiological activities, the first quartile included women up to 28 years of age (n = 20), while the third quartile included women up to 40 years of age (n = 28). The younger subgroup reported a mean rank of 29.63 for perceived physical health, compared to 20.84 in the older subgroup. This difference was statistically significant (Asymp. Sig. = .03).

In the sample of women who engage in kinesiological activities, the first quartile consisted of participants aged 28 and under, while the third quartile included participants aged up to 39. The younger subgroup (n = 23) and the older subgroup (n = 20) showed very similar results in perceived physical health: 21.85 and

22.18, respectively. Although the older women engaging in physical activity reported slightly better perceived physical health, the difference was not statistically significant (Asymp. Sig. = .93).

Some researchers argue that subjective measures are more informative in health research because an individual's health status strongly depends on personal perception (Muminović et al., 2022).

"Our perception of ourselves is a complex image consisting of who we think we are, what we think we can achieve, what we believe others think of us, and who we would like to be" (Burns, 1979, as cited in Plummer, 2007). Body image self-assessment may not always align with objective body proportions. "The core of body dissatisfaction lies in the contrast between the perceived self and the ideal self whether this ideal is internally constructed or externally imposed by society" (Cvenić, 2016).

Muminović et al. (2022) studied the self-assessment of mental and physical health as an effect of women's recreational activity over a three-month period. Similarly, Omerović et al. (2023), in their study "Attitudes in Self-Assessment of Physical Health in Younger Adult Women Under the Influence of Kinesiological Activities", aimed to examine the effects of a three-month experimental kinesiological program on women's perceived physical health.

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