

Motivation Of People Age 40–50 To Engage In Exercise

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Abstract: Middle age (40–50 years) is a period in which significant physiological and psychosocial changes occur that directly affect motivation to engage in physical exercise. The aim of this study was to examine motivational factors and barriers to engaging in physical exercise in adults aged 40 to 50 years, and to determine differences with respect to gender, employment status, and frequency of exercise. The study was conducted on a convenience sample of 60 respondents of both sexes from the Sarajevo area and its surroundings, using a questionnaire with a Likert rating scale (1–5). The questionnaire included five motivation subscales (physical appearance, health, psychological reasons, social reasons, and intrinsic motivation) and four categories of barriers. The results of descriptive statistics showed that the dominant motivators were psychological well-being – especially increased self-confidence ($M = 4.00$) – and internalization of exercise as a lifestyle ($M = 3.83$). Inferential analysis showed that health is a significant motivational factor without differences according to gender, but with a statistically significant difference according to work status for fear of illness ($p < 0.001$). No statistically significant difference was found between the age subgroups either in psychological/social motives or in the perception of obstacles. Active subjects showed a statistically significantly higher level of internal motivation based on enjoyment of exercise compared to inactive subjects ($p = .011$). The findings suggest that exercise programs intended for this population should be aimed at strengthening psychological well-being and building exercise as a permanent lifestyle.

Keywords: motivation for exercise, midlife, barriers to exercise, self-determination theory, adult physical activity

INTRODUCTION

Middle age, which includes the period from 40 to 50 years, represents a critical transition phase in the human life cycle, marked by significant physiological, psychological and social changes [1,21]. During this period, there is an increased risk of developing chronic non-communicable diseases, including cardiovascular diseases, type 2 diabetes, osteoporosis and metabolic syndrome. Regular physical activity is recognized as a key strategy for preventing or delaying the occurrence of these conditions, which is also confirmed by the recommendations of the World Health Organization (WHO) [2,21].

Despite the generally accepted health benefits of physical activity, research consistently indicates that the level of exercise in the middle-aged population is often below the recommended norms [3,4]. This discrepancy highlights the need for a deeper understanding of the motivational mechanisms that encourage or discourage individuals in this age group to engage in regular physical activity. Motivation for exercise is a complex, multidimensional construct that includes intrinsic and extrinsic driving forces [5].

One of the leading theoretical frameworks for understanding motivation is the Self-Determination Theory (SDT) by Deci and Ryan (1985, 2000) [6, 7]. SDT postulates that motivation for behavior, including physical activity, is optimal when three basic psychological needs are satisfied: autonomy (feeling of free choice and control), competence (feeling of efficiency and success) and connectedness (feeling of belonging and social support). The satisfaction of these needs leads to the internalization of motivation and long-term maintenance of physical activity, while their dissatisfaction can result in apathy and cessation of activity [6].

The motivational profile for exercise in middle-aged people is specific and different from that of younger adults. While in younger people aesthetic motivation and sports competitiveness often dominate, in middle age health and disease prevention become dominant motivational factors [8, 9]. However, in addition to health aspects, psychosocial factors such as stress, work duties, family responsibilities, and the level of social support and sense of community play a significant role [10,11]. Understanding this complex interaction of motivational factors is crucial for the development of targeted and effective interventions.

At the same time, it is important to identify the obstacles that hinder regular exercise in this population. The most frequently mentioned obstacles include lack of time due to business and family obligations, lack of motivation, financial limitations and health problems [12,13]. These obstacles act as dynamic contrasts to the motivational process and must be analyzed in the context of the specific life circumstances of middle-aged people.

A special dimension of research is the gender specificity of motivation for exercise. Studies show that women aged 40 to 50 years more often cite psychological reasons (e.g., stress reduction, mood improvement) and social motives (e.g., companionship, group support), while men emphasize health and physical performance more [14]. These differences in motivational profiles have direct implications for the design of exercise programs that are tailored to the needs and preferences of both sexes.

In Bosnia and Herzegovina, there is a relatively limited amount of research dedicated to motivation for exercise in the middle-aged population. Insight into the factors that motivate or demotivate people aged 40 to 50 to exercise in the domestic context can significantly contribute to the development of targeted physical activity programs, adapted to the specificities of this population. Given the above, the aim of this paper is to investigate motivational factors and barriers to engaging in exercise among people aged 40 to 50, with an analysis of differences with respect to gender, employment status and exercise frequency.

RESEARCH METHODS

The sample of respondents consisted of 60 adults of both sexes, aged 40 to 50 years, from the Sarajevo area and its surroundings. Respondents were recruited using convenience sampling via online and face-to-face interviews. The inclusion criteria for the sample were: age between 40 and 50 years and signed informed consent to participate in the study. Exclusion criteria included the presence of an acute injury or illness that would prevent exercise, as well as refusal to participate in the study.

The research was conducted as a non-experimental, transversal research using the survey method. This approach was chosen due to its suitability for examining the attitudes, opinions and motivational profiles of a relatively large sample of respondents at one point in time [15]. The quantitative approach enables statistical analysis and generalization of the results, with the possibility of identifying differences between subgroups of respondents. Survey research is a standardized method in kinesiology and sports psychology for measuring motivational constructs, where the validation of the measuring instrument is crucial for the reliability of the obtained results [16].

A questionnaire consisting of five parts was used to collect data:

- **PART I – Sociodemographic data:** It included questions about the age, gender, level of education and work status of the respondents.
- **PART II – Exercise habits:** It contained questions about current involvement in exercise, frequency, duration of one workout, and type of physical activity.
- **PART III – Motivation for exercise:** It consisted of 12 statements grouped into five subscales: physical appearance (2 statements), health (3 statements), psychological reasons (3 statements), social reasons (2 statements) and internal motivation (2 statements). The statements were evaluated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree).
- **PART IV – Obstacles to exercise:** It included 4 statements about the most common obstacles (lack of time, lack of motivation, health problems, financial limitations), evaluated on the same Likert scale.
- **PART V – Open question:** Respondents were offered the opportunity to freely state the main reason for engaging or not engaging in physical exercise.

The total number of statements on the Likert scale was 16, and the estimated time to complete the entire questionnaire was between 8 and 10 minutes.

The questionnaire was distributed in two forms: a paper-pencil form for immediate application and an online form through the Google Forms platform. Respondents were recruited from fitness centers, sports halls, workplaces and through social networks. All respondents were guaranteed anonymity and the right to withdraw without consequences. All statistical tests were performed at the level of statistical significance $p < 0.05$. Statistical analysis was carried out in IBM SPSS Statistics 26.0.

RESULTS

The results of the research are presented below with the help of descriptive and inferential statistics.

An equal number of male and female respondents participated in the research (50%). The age structure of the sample included two groups: 40–45 years (18.33%) and 46–50 years (81.67%). The largest percentage of respondents had completed a higher vocational education (47%), while respondents with a university degree accounted for 20%, and with secondary school 33%. There were no respondents with postgraduate education. A significantly high percentage of respondents was employed (92%), while 8% worked as a private entrepreneur. There were no unemployed respondents or those in the "other" category.

When asked about their current involvement in exercise, 88% of respondents answered yes, while 12% are thinking about starting exercise. There were no subjects who did not exercise. The frequency of exercise showed that 55% of respondents exercise 2 to 3 times a week, 31.87% exercise 4 to 5 times a week, 10% exercise 1 time a week, and 3% daily.

Table 1. Distribution of responses for duration of training and type of activity (N = 60)

Variable	Category	f	%
Duration of training	30–60 minutes	39	65.0
	More than 60 minutes	21	35.0
	Total	60	100.0
Type of activity	Gym	25	41.7
	Walking	2	3.3
	Jogging	18	30.0
	Group training	9	15.0
	Swimming	6	10.0
	Total	60	100.0

Table 2. Descriptive statistics for duration of training and type of activity (N = 60)

Variable	M	SD	Span	Min.	Max
Duration of training	2.35	0.481	1	2	3
Type of activity	2.48	1,420	4	1	5

It can be seen from Table 1 that 65% of the respondents state that the duration of the training is from 30 to 60 minutes, while 35% exercise for longer than 60 minutes. Table 2 shows that the type of activity has a greater arithmetic mean (M = 2.48) and greater dispersion (SD = 1.420) compared to the duration of training (M = 2.35, SD = 0.481), which indicates a more individual approach to the choice of activity.

Table 3. Descriptive statistics for motivational subscales (M, SD)

Category	Claim	M	SD
Physical appearance	I exercise to improve my physical appearance.	3.57	0.789
Physical appearance	It is important to me to lose weight or maintain my weight.	3.76	0.971
Health	I exercise to stay healthy.	3.37	0.991
Health	Exercise helps me control my blood pressure, sugar, etc.	3.57	0.909
Health	The fear of illness motivates me to exercise.	3.68	1,081
Psychological reasons	Exercise reduces stress.	3.52	0.983
Psychological reasons	After training, I feel better and in a better mood.	3.57	1,015
Psychological reasons	Exercising increases my confidence.	4.00	0.902
Social reasons	I exercise for the company.	3.52	1,000
Social reasons	Family support influences my decision to exercise.	3.48	0.948
Internal motivation	I exercise because I enjoy it.	3.48	0.983
Internal motivation	Exercise is part of my lifestyle.	3.83	0.905

Psychological reasons are the strongest motivator (Table 3), with the statement “Exercise increases my self-confidence” achieving the highest mean value ($M = 4.00$, $SD = 0.902$). This indicates that respondents perceive exercise as a means of building self-confidence. The statement about a better mood after training ($M = 3.57$, $SD = 1.015$) is also highly rated, but with a slightly higher dispersion, suggesting individual differences. Intrinsic motivation, especially “Exercise is part of my lifestyle” ($M = 3.83$), is highly rated, with 68.3% of respondents giving a score of 4 or 5, indicating internalization of exercise. On the other hand, enjoyment of exercise ($M = 3.48$) has a lower percentage (18.3%), suggesting that some respondents exercise without intrinsic satisfaction. Social reasons (socialization: $M = 3.52$; family support: $M = 3.48$) have a moderate influence, with responses clustered around scores of 3–4, indicating their presence, but not a decisive role. The dominant drivers of exercise in this sample are psychological well-being (especially self-confidence) and internalization of exercise as a lifestyle.

Table 4. Mean values by motive categories

Category	Claim	M	SD
Physical appearance	Improved physical appearance	3.57	0.789
	I am losing weight/body weight	3.76	0.971
Health	Maintaining health	3.37	0.991
	Control of health problems	3.57	0.909
	Fear of illness	3.68	1,081
Psychological	Reduces stress	3.52	0.983
	Better mood	3.57	1,015
	Self-confidence	4.00	0.902
Social	Socializing	3.52	1,000
	Family support	3.48	0.948
Internal motivation	I enjoy it.	3.48	0.983
	Lifestyle	3.83	0.905

It is evident from Table 4 that the psychological factor of self-confidence has the highest arithmetic mean ($M = 4.00$), while health preservation has the lowest ($M = 3.37$).

Table 5. Differences in health motives by gender

Claim	t	df	p	Mean diff.	95% CI (Lower-Upper)
I exercise to stay healthy.	0.779	58	0.439	0.200	-0.314 – 0.714
Exercise helps control health problems	0.565	58	0.574	0.133	-0.339 – 0.606
Fear of illness motivates me.	-0.834	58	0.408	-0.233	-0.794 – 0.327

The results of the independent samples t-test (Table 5) showed that there is no statistically significant difference between men and women in the assessment of health motives for exercise ($p > 0.05$ for all statements). This indicates that gender is not a significant factor in the perception of health as a motivational reason for exercise.

Table 6. Differences in health motives by employment status

Claim	Working status	M	SD	Levene p	t	df	p	Mean diff.	95% CI (Lower-Upper)
I exercise to stay healthy.	Employees	3.40	1,011	0.098	0.862	58	0.392	0.400	-0.529 – 1.329
	Unemployed	3.00	0.707						
Exercise helps control health problems	Employees	3.53	0.900	0.781	-1,116	58	0.269	-0.473	-1.321 – 0.375
	Unemployed	4.00	1,000						
Fear of illness motivates me.	Employees	3.56	1,050	0.001	-10,146*	54	0.000	-1,436	-1,720 – -1,153
	Unemployed	5.00	0.000						

$p < 0.001$; Welch's t-test used due to unequal variances (Levene $p = 0.001$)

The results of the independent samples t-test (Table 6) showed that there is no statistically significant difference between employed and unemployed respondents in the statements "I exercise to preserve my health" ($t(58) = 0.862$, $p = 0.392$) and "Exercise helps me control health problems" ($t(58) = -1.116$, $p = 0.269$). However, for the statement "Fear of illness motivates me to exercise", a statistically significant difference between the groups was found ($t(54) = -10.146$, $p <$

0.001). Unemployed respondents (M = 5.00, SD = 0.000) express a statistically significantly higher fear of illness as a motive for exercise compared to employed respondents (M = 3.56, SD = 1.050). Since Levene's test showed inequality of variances (p = 0.001), Welch's t-test was used.

Table 7. Comparison of psychological and social reasons for exercise according to age groups

Variable (particle)	Group (age)	N	M	SD	SE Mean	F	Sig.	t	df	Sig. (2-tailed)	95% CI (lower)	95% CI (upper)
Exercise reduces stress.	1 (40-45 years old)	13	3.62	1,044	0.290	0.188	0.667	0.179	47	0.858	-0.611	0.731
	2 (46-50 years old)	36	3.56	1,027	0.171							
After training, I feel better and in a better mood.	1 (40-45 years old)	13	4.00	0.707	0.196	3,014	0.089	1,418	47	0.163	-0.174	1,008
	2 (46-50 years old)	36	3.58	0.967	0.161							
Exercising increases my confidence.	1 (40-45 years old)	13	4.00	0.707	0.196	2,861	0.097	-0.097	47	0.923	-0.605	0.550
	2 (46-50 years old)	36	4.03	0.941	0.157							
I exercise for the company.	1 (40-45 years old)	13	3.69	0.947	0.263	0.590	0.446	0.556	47	0.581	-0.504	0.889
	2 (46-50 years old)	36	3.50	1,108	0.185							

Variable (particle)	Group (age)	N	M	SD	SE Mean	F	Sig.	t	df	Sig. (2-tailed)	95% CI (Lower)	95% CI (Upper)
Family support influences my decision to exercise.	1 (40-45 years old)	13	3.69	0.630	0.175	3,336	0.074	0.906	47	0.369	-0.336	0.887
	2 (46-50 years old)	36	3.42	1,025	0.171							

The aim of the analysis was to examine whether respondents aged 40–45 and 46–50 differ in the psychological and social reasons for exercising. A Bonferroni correction was applied, which lowered the level of statistical significance from $\alpha = 0.05$ to $\alpha = 0.010$. The results (Table 7) show that there is no statistically significant difference between the two age groups in any of the analyzed items (p values range between 0.112 and 0.923). Both groups equally assess that exercise reduces stress, improves mood and increases self-confidence, and they also value social motives such as socializing and family support. It is concluded that age is not a factor that significantly influences the reasons why respondents exercise in this sample.

Table 8. Results of the independent samples t-test – barriers to physical activity by age

Obstacle	Group (age)	N	M	SD	F	Sig.	t	df	Sig. (2-tailed)	Difference M	95% CI (Lower)	95% CI (Upper)
Lack of motivation is holding me back.	1 (40-45)	49	3.80	1,099	2,535	0.117	-0.321	58	0.750	-0.113	-0.819	0.593
	2 (46-50)	11	3.91	0.831								
I don't have enough time to exercise.	1 (40-45)	49	3.65	0.991	0.208	0.650	1,128	58	0.264	0.380	-0.295	1,056
	2 (46-50)	11	3.27	1,104								
Health problems are an obstacle	1 (40-45)	49	3.90	0.941	0.001	0.972	-1,562	57	0.124	-0.502	-1.146	0.141
	2 (46-50)	11	3.27	1,104								

Obstacle	Group (age)	N	M	SD	F	Sig.	t	df	Sig. (2-tailed)	Difference M	95% CI (Lower)	95% CI (Upper)
Financial reasons are an obstacle	2 (46-50)	10	4.40	0.843								
	1 (40-45)	49	3.55	1,100	0.065	0.800	0.747	58	0.458	0.278	-0.467	1,024
	2 (46-50)	11	3.27	1,191								

Remark: Group 1 = 40–45 years (N = 49); Group 2 = 46–50 years (N = 11). M = arithmetic mean; SD = standard deviation; Sig. (2) = two-sided significance; CI = confidence interval. Results are presented for equal variances assumed because Levene's test did not reach statistical significance ($p > 0.05$) for any variable.

The results of the independent samples t-test (Table 8) show that there is no statistically significant difference between the two age groups (40–45 years and 46–50 years) in any of the examined barriers to physical activity. Levene's test for equality of variance did not show statistical significance ($p > 0.05$) for all four barriers, indicating homogeneity of variance. Although the descriptive data suggest certain differences in arithmetic means (e.g., the older group perceives health problems as a barrier somewhat more: $M_2 = 4.40$ versus $M_1 = 3.90$), these differences are not statistically significant. It is important to note that the small number of respondents in Group 2 (N = 11) may reduce the statistical power of the test, which makes it difficult to detect real differences if they exist. In conclusion, respondents aged 40–45 years and 46–50 years do not differ statistically significantly in the perception of barriers to physical activity.

Table 9. Differences in internal motivation for exercise with respect to the frequency of exercise

Variable (particle)	Group (frequency)	N	M	SD	SE Mean	F	Sig.	t	df	Sig. (2-tailed)	95% CI (lower)	95% CI (upper)
I exercise because I enjoy it.	less often	6	2.67	0.816	0.333	0.000	0.989	-2,668	37	0.011	-1,919	-0.263
	more often	33	3.76	0.936	0.163							
Exercise is part of my lifestyle.	less often	6	3.67	0.816	0.333	0.003	0.956	-0.561	37	0.578	-0.978	0.554
	more often	33	3.88	0.857	0.149							

The aim of the analysis was to examine whether subjects who exercise less frequently and those who exercise more frequently differ in their intrinsic motivation to exercise. A two-item Bonferroni correction was applied ($\alpha = 0.05 / 2 = 0.025$). For the item “I exercise because I enjoy it”, a statistically significant difference between the groups was found ($t(37) = -2.668$,

$p = 0.011$). Subjects who exercise less frequently enjoy exercise significantly less ($M = 2.67$) compared to those who exercise more frequently ($M = 3.76$), indicating that enjoyment is an important predictor of exercise frequency. For the item "Exercise is part of my lifestyle", no significant difference was found ($t(37) = -0.561$, $p = 0.578$), and the averages were almost the same in both groups ($M = 3.67$ vs $M = 3.88$). The results should be interpreted with caution due to the small number of subjects in the first group ($N = 6$), which reduces the statistical reliability of the results.

DISCUSSION

The aim of this study was to examine motivational factors and barriers to engaging in physical activity among people aged 40 to 50, analyzing differences by gender, employment status, and exercise frequency. The key findings are discussed below in relation to the hypotheses and relevant literature.

The first hypothesis, which assumed that health was the dominant motivational factor regardless of gender and employment status, was partially confirmed. Health was found to be a significant motive for exercise for respondents of both genders and employment status for most statements. However, a statistically significant difference in motivation based on fear of illness was found by employment status, with unemployed respondents reporting greater fear of illness as a driver of exercise. This may indicate that unemployment potentially increases the perception of health vulnerability, which is consistent with findings linking socioeconomic status to health behavior [17].

The second hypothesis, which predicted differences in psychological and social motives between age groups (40–45 and 46–50 years), was not confirmed. The results of the independent samples t-test, with the application of the Bonferroni correction, did not show statistically significant differences in any of the analyzed variables. This suggests that psychological and social motivations for exercise are relatively stable within midlife, which is in contrast to some research that suggests subtle changes in motivational profiles with age [8, 9]. Nevertheless, both groups equally value psychological factors such as reducing stress, improving mood and increasing self-confidence, which is consistent with the general understanding of the importance of mental health at this age [10,11].

The third hypothesis, which assumed that lack of time was the most common barrier to exercise, was not confirmed. Although lack of time is a frequently cited barrier in the literature [12,13], the descriptive results of this study showed that lack of motivation and health problems were more prominent barriers. Also, there were no statistically significant differences in the perception of barriers between age groups. This highlights the need for interventions that focus on strengthening intrinsic motivation and addressing health challenges, rather than focusing exclusively on time management.

The fourth hypothesis, which related to the association of exercise enjoyment with exercise frequency, was partially confirmed. Active subjects reported statistically significantly higher levels of intrinsic motivation based on exercise enjoyment compared to inactive subjects. This is in line with Self-Determination Theory (SDT), which emphasizes the importance of intrinsic motivation and enjoyment for long-term behavior maintenance [6, 7]. However, the difference in the perception of exercise as part of a lifestyle did not reach statistical significance, suggesting that, although internalization is important, enjoyment itself has a more direct impact on frequency. The findings of Molanorouzi et al. (2015) and Larsen et al. (2021) also support the idea that motivations for participating in exercise differ depending on the type of activity, age, and gender, and are crucial for the development of effective interventions [18, 19].

The dominant motivators of exercise in this sample are psychological well-being (especially self-confidence) and the internalization of exercise as a lifestyle. These findings are consistent with international research that emphasizes the importance of psychological well-being and intrinsic motivation as key predictors of long-term physical activity [6, 20]. Social factors (association and family support) are present as moderate motivators, but not decisive ones, which is in line with the findings of Egli et al. (2011) on gender differences in motivation [14].

This study has certain limitations that should be taken into account when interpreting the results. The sample is relatively small ($N = 60$) and non-representative (convenience sampling), which limits the possibility of generalizing the findings to the wider population. The uneven representation of certain subgroups (e.g., unemployed or respondents aged 46–50) reduces the statistical power of some analyses, especially in detecting smaller effects. In future research, it is recommended to use stratified sampling, a larger sample of respondents, and a longitudinal design that would allow monitoring changes in the motivational profile over time and establishing cause-and-effect relationships.

CONCLUSION

This study aimed to examine motivational factors and barriers to engaging in physical activity among individuals aged 40 to 50, with an emphasis on differences by gender, employment status, and exercise frequency. Based on the descriptive and inferential statistical analyses conducted, the following conclusions can be drawn:

- 1 **First hypothesis (H1)**, which assumed that health was the dominant motivational factor for exercise regardless of gender and employment status, was partially confirmed. Health was a significant motivation for exercise in respondents of both genders and employment status, with no statistically significant differences for two of the three statements examined. However, for the statement about fear of illness, a statistically significant difference was found by employment status, with unemployed respondents reporting statistically significantly higher fear of illness as a driver of exercise ($M = 5.00$) compared to employed respondents ($M = 3.56$). This indicates a possible connection between employment status and perception of health vulnerability.
- 2 **The second hypothesis (H2) was not confirmed..** The analysis performed according to age groups (40–45 and 46–50 years) did not show statistically significant differences in psychological and social motives for exercise ($p > 0.010$ with the application of Bonferroni's correction for all analyzed variables). Respondents of both age groups value the psychological and social reasons for exercise equally.
- 3 **Third hypothesis (H3)**, according to which lack of time is the most frequent obstacle to exercise, was not confirmed. The results of the t-test for independent samples showed that there are no statistically significant differences between the age groups (40–45 and 46–50 years) in any of the examined obstacles. Nevertheless, descriptive data indicate that lack of motivation ($M = 3.80$ – 3.91) and health problems (especially in the older group: $M = 4.40$) are the most pronounced perceived obstacles.
- 4 **The fourth hypothesis (H4) was partially confirmed.** Active respondents showed a statistically significantly higher level of intrinsic motivation based on enjoyment of exercise ($M = 3.76$) compared to inactive respondents ($M = 2.67$), indicating that enjoyment is a key factor that distinguishes active from inactive respondents ($t = -2.668$, $p = 0.011$). However, the difference in the perception of exercise as part of a lifestyle did not reach statistical significance ($p = 0.578$).

Looking at the results of the descriptive statistics as a whole, the dominant motivators of exercise in the examined sample are psychological well-being - especially an increase in self-confidence ($M = 4.00$) - and the internalization of exercise as a lifestyle ($M = 3.83$). Social factors (association and family support) are present as moderate motivators, but not decisive. These findings are consistent with international research that emphasizes the importance of psychological well-being and intrinsic motivation as key predictors of long-term physical activity [6, 20].

This study has certain limitations that should be taken into account when interpreting the results. The sample is relatively small ($N = 60$) and non-representative (convenience sampling), which limits the possibility of generalizing the findings to the wider population. The uneven representation of certain subgroups (e.g., unemployed or respondents aged 46–50) reduces the statistical power of certain analyses. In future research, it is recommended to use stratified sampling, a larger sample of respondents, and a longitudinal design that would allow monitoring changes in the motivational profile over time and establishing cause-and-effect relationships.

Based on the above, the findings of this study confirm the multidimensional nature of motivation for exercise in the middle-aged population and are in line with the conclusions of the domestic and international research tradition. The results indicate that exercise programs adapted to this population should be focused on strengthening psychological well-being, intrinsic pleasure and building exercise as a lasting lifestyle.

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