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MOTIVATION FOR PHYSICAL ACTIVITY AMONG ATHLETES AND RECREATIONAL PARTICIPANTS IN SERBIA

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Abstract: The aim of this study was to examine the structure of motivation for engaging in physical activities among athletes and recreational exercisers, to analyze gender differences and the association between motivation and age, and to assess the reliability of the MPAM-R questionnaire in a domestic sample. The study included 175 participants from Serbia (78 athletes and 97 recreational exercisers; 70 men and 105 women), aged 16 to 67 years. The questionnaire includes five subscales: interest/enjoyment, competence, physical appearance, physical fitness, and social motives. The analyses included descriptive statistics, the Mann–Whitney U test, Spearman’s correlation, and an assessment of instrument reliability (Cronbach’s α). The most prominent motives among participants were competence ($M=33.23$) and interest/enjoyment ($M=30.35$), while social motives were the least represented ($M=19.25$). Athletes demonstrated significantly higher levels of interest/enjoyment ($p=0.01$), competence ($p=0.02$), and social motives ($p=0.00$) compared to recreational exercisers, whereas no significant differences were found in physical appearance ($p=0.85$) or physical fitness ($p=0.85$). No gender differences were observed across motivational dimensions (p values ranged from 0.06 to 0.27). Motivation was not significantly associated with age (p values ranged from 0.13 to 0.69). Cronbach’s α coefficients for all subscales were high ($\alpha=0.92-0.97$), confirming the reliability of the instrument. The findings highlight the predominance of intrinsic motivation in both athletes and recreational participants and provide practical implications for the design of sport and recreational programs aimed at promoting long-term engagement in physical activity.

Keywords: motivation; athletes; recreational exercisers; MPAM-R

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Introduction

Motivation is defined as the energy, direction, and persistence of behavior (Ryan & Deci, 2020). It is the driving force of all human activities. Motives are internal factors that initiate, direct, and regulate activities in order to achieve specific goals.

Extrinsic motivation originates from external sources, such as rewards, or pressures from others, whereas intrinsic motivation is characterized by feelings of satisfaction and enjoyment derived from performing the activity itself, rather than from external incentives. Numerous studies emphasize that intrinsic motivation contributes to higher-quality engagement and autonomous development, while extrinsic motivation can serve as an important incentive, particularly when intrinsic motivation is absent or still developing (Nikolić Vesković, 2023).

Research has shown that there are gender and age related differences in motivation for physical exercise. Older participants tend to emphasize health and physical fitness, whereas younger individuals highlight personal goals and achievements as primary motives (Nikolaidis et al., 2019). Similar motivational patterns have been observed among young athletes in Serbia, where predominantly intrinsic motives prevail, including the satisfaction of personal needs, health, and achievement, while money, popularity, and entertainment are not primary motives (Bačanac et al., 2007). Dominant motive among young people, regardless of gender, is the acquisition of physical fitness, however, physical appearance ranks second among women, while interest and enjoyment are more prominent among men (Vašicková et al., 2014). Women are more often motivated by physical appearance and social motives, whereas men more frequently report competence and physical fitness as key motives (Šimunić & Barać, 2011).

Studies employing the Motives for Physical Activities Measure–Revised (MPAM-R; Ryan et al., 1997) indicate that physical fitness is the most dominant motive regardless of gender, while among older participants' physical fitness and health emerge as leading motives (Candace et al., 2021). Differences have also been identified between individual and team sports, with athletes engaged in team sports demonstrating stronger motives related to interest and enjoyment compared to those participating in individual sports (Jakobsen, 2014).

Motives for participation in physical activities change across the lifespan. Recreational exercisers primarily engage in physical activities to satisfy health-related and psychological needs such as physical condition, enjoyment, and well-being, rather than competitive motives, as shown in large population studies of leisure activity motivation (Elmose-Østerlund et al., 2023). In contrast, athletes tend to report stronger intrinsic motives related to enjoyment and mastery, while recreational exercisers often emphasize fitness and appearance motives (Kilpatrick et al., 2005).

There is a limited number of studies that directly compare the structure of motivation between athletes and recreational exercisers using a single, internationally validated instrument such as the MPAM-R. Most existing research focuses on the motivation of recreational exercisers (Duncan et al., 2010; Molanorouzi et al., 2015; Nikolaidis et al., 2019), motivation within specific team or individual sports (Jakobsen, 2014; Bačanac et al., 2007), or motivation in the context of particular competitions (Nikolaidis et al., 2019). Studies attempting to compare motives between athletes and recreational exercisers are scarce, and those available often employ different measurement instruments, which limits the possibility of direct comparisons (Frederick & Ryan, 1993).

Based on the above, the aim of this study was to examine the structure of motivation for engaging in physical activities among athletes and recreational exercisers, as well as to analyze gender differences and the relationship between motivation and participants' age. An additional aim was to assess the reliability of the MPAM-R questionnaire in the studied sample. It is expected that the obtained results will contribute to a better understanding of motivational processes in sport and recreation and will be of significance for future research in the fields of physical culture and psychology.

Based on previous research and the theoretical framework of motivation in physical activity, the following hypotheses were formulated:

H1: Athletes will report higher levels of intrinsic motivation (interest/enjoyment and competence) and social motives compared to recreational exercisers.

H2: There will be gender differences in motivation for physical activity, with women reporting higher physical appearance and social motives, and men reporting higher competence and physical fitness motives.

H3: Age will be significantly associated with motivation, such that older participants will report stronger physical fitness motives, while younger participants will report stronger intrinsic motives.

H4: The MPAM-R questionnaire will demonstrate high internal consistency in the domestic sample.

Methods

Participants

The study was conducted on a sample of 175 participants from the Republic of Serbia who regularly engage in physical activities, including 78 athletes and 97 recreational exercisers. The sample comprised 70 men and 105 women. Participants' age ranged from 16 to 67 years.

Athletes were participants who compete in individual or team sports, take part in official national championships or recognized leagues in Serbia, train five times per week, and are part of the organized sports system. Recreational exercisers engage in any form of physical activity at least three times per week, with each session lasting a minimum of 60 minutes.

The mean age of athletes was 22.26 ± 4.93 years, while the mean age of recreational exercisers was 32.94 ± 11.52 years. The mean age of male participants was 26.41 ± 8.90 years, while the mean age of female participants was 29.27 ± 12.04 years.

Participation in the study was anonymous and voluntary, and completion of the questionnaire required approximately 5 minutes. Prior to participation, all participants were informed about the purpose and objectives of the study.

Instrument

Motivation for engaging in physical activities was assessed using the Motives for Physical Activities Measure–Revised (MPAM-R; Ryan et al., 1997). The questionnaire consists of 30 items grouped into five subscales measuring specific categories of motives: interest/enjoyment (example: “Because it is fun”), competence (example: “Because I want to acquire new skills”), physical appearance (example: “Because I want to improve my appearance”), physical fitness (example: “Because I want to maintain my physical health and well-being”), and social motives (example: “Because I want to meet new people”).

All items are rated on a seven-point Likert-type scale (1 = does not apply to me at all, 7 = applies to me completely). Participants were asked to indicate the extent to which they agreed with each statement. Scores were calculated as the mean of the responses to all items belonging to the respective subscale, with higher scores indicating higher levels of motivation. In addition to the motivation questionnaire, participants provided information regarding gender, age, and whether they engaged in physical activity at a recreational or competitive level.

The study was conducted using a questionnaire survey that was distributed to participants in electronic form. Data were collected during April and May 2024.

This questionnaire allows for the assessment of motivation in both athletes and recreational exercisers, of which competence and interest/enjoyment predominantly represent intrinsic motives, whereas physical fitness, physical appearance, and social motives are considered extrinsic.

Statistical Analysis

Prior to data analysis, mean scores were calculated for each subscale, corresponding to each motivational dimension assessed by the questionnaire. The reliability of the instrument was evaluated using Cronbach’s alpha coefficient (Cronbach’s α). Normality of data distribution was assessed using the Kolmogorov–Smirnov test. As the assumption of normality was not met, non-parametric statistical procedures were applied. Descriptive statistics were used to present the structure of motivation, including the arithmetic mean (Mean), standard deviation (SD), minimum (Min), and maximum (Max) values.

Differences in motivational dimensions between groups (athletes vs. recreational exercisers) and between genders (men vs. women) were examined using the Mann–Whitney U test.

The relationship between participants’ age and motivation was examined using Spearman’s rank-order correlation. The level of statistical significance was set at $p < 0.05$. Statistical analyses were performed using SPSS software, version 25 (IBM Corp., Armonk, NY, USA).

Results

Table 1. presents the reliability coefficients (Cronbach’s α) for all subscales of the motivation measurement instrument. As shown in the table, Cronbach’s α coefficients for all subscales exceed 0.90, indicating high internal consistency and excellent reliability.

Table 1. Reliability coefficients (Cronbach’s α) for all subscales

Subscale	α
Interest/Enjoyment	0.97
Competence	0.97
Physical Appearance	0.94
Physical Fitness	0.96
Social Motives	0.92

Note: α - Cronbach’s alpha coefficient

Table 2. presents descriptive statistics for variables related to the structure of motivation for engaging in physical activities for the entire sample. The results indicate that motives related to competence acquisition were the most pronounced ($M=33.23$), whereas social motives were the least pronounced ($M=19.25$). The remaining motives-interest/enjoyment, physical appearance, and physical fitness were moderately expressed and showed similar mean values.

Table 2. Descriptive statistics of the motivation structure for physical activity

Subscale	N	Min	Max	Mean	SD
Interest/Enjoyment	175	9.00	42.00	30.35	11.14
Competence	175	7.00	49.00	33.23	13.33
Physical Appearance	175	6.00	42.00	25.60	10.73
Physical Fitness	175	5.00	35.00	25.58	9.26
Social Motives	175	5.00	35.00	19.25	9.01

Note: N - number of participants, Min - minimal value, Max - maximal value, Mean - arithmetic mean, SD - standard deviation

Table 3. shows the mean scores for motivational dimensions among athletes and recreational exercisers. For both groups, competence was the strongest motive (athletes: $M=35.23$; recreational exercisers: $M=31.62$), while physical appearance was lowest for athletes ($M=21.73$) and social motives were lowest for recreational exercisers ($M=17.25$). The Mann–Whitney U test revealed that athletes scored significantly higher than recreational exercisers in interest/enjoyment, competence, and social motives ($p < 0.05$), with no significant differences in physical appearance or fitness motives ($p > 0.05$).

Table 3. Mean scores and differences in the structure of motivation for physical activity between athletes and recreational exercisers (Mann–Whitney U test)

Subscale		N	Mean	U	Z	p	Effect Size
Interest/Enjoyment	Athletes	78	32.08	2976.50	-2.44	0.01	0.18
	Recreational exercisers	97	28.96				
Competence	Athletes	78	35.23	3026.00	-2.28	0.02	0.17
	Recreational exercisers	97	31.62				
Physical Appearance	Athletes	78	25.76	3719.50	-0.19	0.85	0.01
	Recreational exercisers	97	25.47				
Physical Fitness	Athletes	78	25.18	3720.50	-0.19	0.85	0.01
	Recreational exercisers	97	25.91				
Social Motives	Athletes	78	21.73	2704.00	-3.24	0.00	0.25
	Recreational exercisers	97	17.25				

Note: N - number of participants, Mean - arithmetic mean, U - Mann–Whitney U statistic, Z - standardized test statistic, p - significance level (p-value)

The results of the Mann–Whitney U test did not reveal statistically significant differences between men and women in any of the five motivational dimensions (Table

4.). Although women demonstrated slightly higher mean scores across all motives, the observed effect sizes were small and negligible.

Table 4. Mean scores and differences in the structure of motivation for physical activity between men and women (Mann–Whitney U test)

Subscale		N	Mean	U	Z	p	Effect Size
Interest/Enjoyment	Men	70	28.94	3209.50	-1.43	0.15	-0.11
	Women	105	31.29				
Competence	Men	70	31.60	3186.00	-1.49	0.14	-0.11
	Women	105	34.31				
Physical Appearance	Men	70	23.89	3056.50	-1.89	0.06	-0.14
	Women	105	26.74				
Physical Fitness	Men	70	24.76	3241.00	-1.34	0.18	-0.10
	Women	105	26.13				
Social Motives	Men	70	18.27	3311.00	-1.11	0.27	-0.08
	Women	105	19.90				

Note: N - number of participants, Mean - arithmetic mean, U - Mann–Whitney U statistic, Z - standardized test statistic, p - significance level (p-value)

Table 5. presents the results of Spearman’s correlation analysis, which indicate that there is no statistically significant association between participants’ age and motivation for engaging in physical activities ($p > 0.05$).

Table 5. Correlations (Spearman’s r) between participants’ age and motivation

Subscale	r	p
Interest/Enjoyment	-0.07	0.35
Competence	-0.09	0.20
Physical Appearance	-0.03	0.69
Physical Fitness	0.11	0.14
Social Motives	-0.12	0.13

Note: r - Spearman’s correlation coefficient; p - significance level (p-value)

Discussion

The results of the present study indicate that motives related to competence and interest/enjoyment were the most pronounced among participants, whereas social motives were the least represented. These findings support Self-Determination Theory, which emphasizes that intrinsic motivation-including the pursuit of competence and enjoyment of the activity itself-plays a crucial role in long-term engagement in physical activities (Deci & Ryan, 2000).

The analysis of differences between athletes and recreational exercisers showed that athletes reported significantly stronger motives related to interest/enjoyment, competence, and social motives. This finding highlights the importance of the social environment and team dynamics in the sporting context, which is consistent with previous research (Allen, 2003). Accordingly, hypothesis 1 (H1) was confirmed, indicating that athletes demonstrate higher intrinsic and social motivation compared to recreational exercisers. In contrast, recreational participation in physical activity is more often oriented toward individual goals, such as improving health, physical fitness, or physical appearance, which may reduce the importance of the social component of motivation (Frederick & Ryan, 1993). Motivation related to physical appearance and physical fitness did not differ between athletes and recreational exercisers, suggesting that these extrinsic motives may play a less prominent role in the overall motivational structure.

The results further indicate that there were no gender differences in motivation, which supports findings suggesting a reduction in traditional gender differences in motivation for physical activity (Teixeira et al., 2012). Consequently, hypothesis 2 (H2) was not supported, as no statistically significant gender differences were observed across motivational dimensions. Spearman's correlation analysis did not reveal a significant association between age and motivation, pointing to a relative stability of motivational structure across different age groups (Candace et al., 2021; Jakobsen, 2014). Therefore, hypothesis 3 (H3) was not confirmed.

The findings are consistent with previous studies demonstrating that basic intrinsic motivation remains present regardless of activity type, gender, or age (Molanorouzi et al., 2015; Adamczak & Bronikowski, 2025). Intrinsic motives, such as competence and interest/enjoyment, directly influence the frequency, intensity, and long-term sustainability of physical activity, whereas extrinsic motives, such as rewards and popularity, are not dominant (Li et al., 2022; Duncan et al., 2010; Alecu et al., 2025).

The reliability analysis of the instrument revealed very high Cronbach's alpha coefficients for all subscales, confirming that the MPAM-R is a reliable and applicable instrument for measuring motivation for physical activity in the domestic context. In this regard, hypothesis 4 (H4) was confirmed, as the questionnaire demonstrated high internal consistency in the examined sample. This finding is particularly important for future research in the field of sport and recreation in Serbia.

Despite providing valuable insight into the motivational structure of athletes and recreational exercisers, several limitations of the study should be acknowledged. The sample was a convenience sample collected via an online questionnaire, and variables were assessed using self-report measures, which may introduce subjective bias

and socially desirable responding. Additionally, differences between individual and team sports, as well as the competitive level of athletes, were not examined, representing potential directions for future research.

Despite these limitations, the results contribute to a better understanding of motivational processes in sport and recreation and may have practical implications for the design of training and recreational programs that foster intrinsic motivation, the development of competence, and social connectedness among participants. The predominance of intrinsic motives, particularly competence and interest/enjoyment, suggests that programs designed to promote long-term engagement in physical activity should prioritize skill development, autonomy-supportive environments, and enjoyment rather than relying solely on external incentives. For sport clubs and training systems, fostering competence through progressive challenges and constructive feedback may enhance athlete retention and performance sustainability.

Furthermore, the significantly stronger social motives observed among athletes highlight the importance of team dynamics, group cohesion, and interpersonal relationships within organized sport. From a sport management perspective, these findings emphasize the value of creating supportive social climates, effective communication strategies, and group-based training formats. In the recreational sport and fitness industry, understanding motivational profiles may assist managers and instructors in tailoring programs that increase customer satisfaction, adherence, and loyalty, thereby contributing to the overall success and sustainability of sport and recreational services.

Conclusion

This study examined the structure of motivation for engaging in physical activity among athletes and recreational exercisers, as well as gender differences, age associations, and the reliability of the MPAM-R questionnaire. The findings indicate that motivation is predominantly intrinsic, with competence and interest/enjoyment emerging as the most prominent motives, while social motives were the least expressed. Athletes demonstrated stronger intrinsic and social motives than recreational exercisers, whereas no gender differences or age-related associations were identified. The high reliability coefficients confirm the applicability of the MPAM-R in the domestic context.

The practical implications of these findings suggest that physical activity programs may be more effective if they deliberately foster intrinsic motivation, support the

development of participants' competence, and, particularly in athletes, strengthen social connectedness and team dynamics. For future research, the use of larger and more representative samples is recommended, along with the inclusion of qualitative methods and additional variables such as type of sport, frequency of exercise, and psychological well-being. A longitudinal approach could contribute to monitoring changes in motivation across sports careers, while further testing of the MPAM-R questionnaire may confirm its stability and reliability in the domestic population.

This study provides meaningful insight into the similarities and differences in motivation between athletes and recreational exercisers in Serbia, contributing to the understanding of motivational processes and offering a foundation for the development of programs that promote long-term engagement in physical activity. These findings are relevant not only for coaches and physical education professionals, but also for sport managers, fitness industry stakeholders, and policymakers responsible for designing strategies aimed at increasing physical activity participation and retention.

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