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Research Article

Procrastinating Exercise or Staying in the Flow? The Relationship Between Psychological Flow and Exercise Procrastination in Sports Science Students

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Abstract: This study examines the relationship between psychological flow experiences and exercise procrastination among university students majoring in sports science. Using a quantitative research design and survey model, data were collected from 279 students (163 males and 116 females), as determined via G*Power analysis. The Psychological Flow Scale and Exercise Procrastination Scale were employed, and data were analyzed using SPSS 25. Statistical methods included normality tests, descriptive statistics, t-tests, ANOVA/Welch tests, Pearson correlation, and simple linear regression analyses. Findings showed that male students reported significantly higher scores in all dimensions of psychological flow compared to females, while females demonstrated higher levels of exercise procrastination. Additionally, students from low-income backgrounds scored higher in the self-transcendence and effortless control subdimensions of psychological flow. A statistically significant negative correlation was found between psychological flow and exercise procrastination, indicating that higher levels of flow are associated with reduced procrastination. Regression analysis revealed that psychological flow accounted for approximately 16.6% of the variance in exercise procrastination. These results suggest that psychological flow plays a protective role against exercise procrastination, and this effect varies by gender and income level. Enhancing flow experiences may be a beneficial strategy for promoting regular exercise behavior among sports science students, particularly males and those from low-income backgrounds.

Keywords: Psychological flow, exercise procrastination, sports science students.

1. Introduction

The fast pace of modern life and increasing responsibilities significantly limit the time individuals devote to physical activity, making it difficult to maintain exercise habits. This situation has led to the widespread adoption of exercise procrastination behavior, even among individuals who are familiar with the benefits of physical activity, such as sports science students. Exercise procrastination is a complex psychological process that can have adverse effects not only on physical health but also on psychological well-being and academic performance. In this context, the psychological flow experience individuals experience during exercise, i.e., losing track of time and surroundings by fully immersing oneself in the action, is an essential factor that can increase motivation and task completion success. Understanding the effects of flow experience on exercise procrastination behavior is crucial in supporting individual health and promoting exercise habits. Physical activity is of critical importance for the sustainability of individuals' physical and mental health. The World Health Organization (WHO, 2024) emphasizes that regular exercise is effective in preventing chronic diseases, improving psychological well-being, and enhancing quality of life. However, developing and maintaining exercise habits is a challenging process for many individuals. It is well established that psychological factors significantly influence this process, with motivation, self-regulation, and time management skills all playing a crucial role in shaping exercise behavior (Sirois & Pychyl, 2013). The concept of psychological flow refers to a state in which individuals are fully engaged in an activity and exhibit high levels of motivation and performance (Csikszentmihályi,

1990). The flow experience is considered an internal source of motivation that increases the pleasure individuals derive from activities while reducing their tendency to procrastinate (Jackson & Csikszentmihályi, 1999). Particularly in the context of sports and exercise, the flow experience has been shown to influence exercise continuity and performance positively (Swann et al., 2012). Therefore, the interaction between psychological flow and exercise procrastination has emerged as an important area of research in sports science.

The flow theory pioneered by Mihaly Csikszentmihalyi explains the optimal experience state in which individuals become completely absorbed, their skills are balanced with challenges, and their subjective perception of time changes (Csikszentmihalyi, 1990). The concept of flow refers to an optimal mental and psychological state of consciousness in which an individual performs a task with a high level of motivation and engagement. Flow is when an individual considers the performance of a task to be a reward and source of satisfaction in itself, without the need for any external reward (Başer and Uslu, 2023). The basic components of flow can be listed as the presence of clear goals, immediate and precise feedback, high concentration, identification with the task, sense of control, fluidity of time, and loss of self (Nakamura & Csikszentmihályi, 2002). This experience not only enhances the individual's psychological well-being but also increases their motivation and performance (Deci & Ryan, 2013). Additionally, in exercise and sports literature, flow is considered a fundamental element underlying enhanced performance outcomes (Swann et al., 2017). The motivational foundations of flow theory are parallel to those of Self-Determination Theory (SDT). Deci and Ryan (1985) state that in SDT, internal motivation increases when individuals' needs for autonomy, competence, and relatedness are satisfied. The flow state is defined as an experience in which these needs are highly satisfied (Keller & Bless, 2008). Thus, the relationship between flow and SDT explains how individuals' intrinsic motivation increases, enabling them to engage in activities without procrastination. The flow model developed by Keller and Bless (2008) posits that the flow experience arises from a suitable balance between an individual's task skills and the task's difficulty level. It is emphasized that flow does not occur when the task is too easy or too complex; instead, the optimal balance emerges when the task both challenges the individual's abilities and is manageable with those abilities. This model plays an essential guiding role in terms of performance and persistence in sports activities. Additionally, neuroscientific studies have linked the flow experience to specific patterns of brain activity. Ulrich et al. (2014) noted in their fMRI study that the dorsolateral prefrontal cortex is inhibited during the flow experience, and this inhibition is related to focus. These biological foundations demonstrate that flow is a robust experience from both psychological and physiological perspectives. An individual experiencing flow is solely focused on the action they are performing at that moment and does not respond to any stimuli outside of the activity. The individual is unaware of how time is passing during these moments. The occurrence of flow is linked to the activity being competitive, engaging, and challenging (Yapıcı et al., 2022).

Exercise is defined as a behavior that protects both physical and mental health, and it is noted that the sustainability of this behavior depends on motivation and behavioral regulation mechanisms (WHO, 2024). Exercise procrastination, on the other hand, refers to the deliberate delay or complete postponement of planned exercise and is associated with a lack of motivation, self-regulation disorders, and time management issues (Steel, 2007). Procrastination theories (e.g., Temporal Motivation Theory, TMT) play a crucial role in explaining this delaying behavior. According to TMT, individuals may delay tasks based on their motivation levels, which is considered a combination of factors such as the reward value of the task, the delay period, and self-efficacy (Steel & König, 2006). In the context of exercise, low perceived benefit, high difficulty, time constraints, and low self-efficacy beliefs are among the primary reasons for exercise procrastination (Adams & White, 2005; Rhodes & Smith, 2006).

The effect of psychological flow on exercise behavior is strongly related to motivation theories. The flow experience increases intrinsic motivation by making individuals find the activity enjoyable and meaningful, thereby reducing procrastination behavior (Jackson & Csikszentmihályi, 1999). During flow, individuals' attention is wholly focused on the exercise activity, and there is a decrease in the tendency to avoid the task (Peifer, 2012). From the perspective of Self-Determination Theory (Deci & Ryan, 1985), the flow experience satisfies the needs for autonomy, competence, and relatedness. This increases exercise motivation and prevents procrastination behavior. Additionally, while Time Management Theories (Macan, 1994) suggest that the basis of procrastination lies in a distorted perception of time, the change in time perception in individuals experiencing flow provides flexibility in time management and helps prevent procrastination. In this context, the psychological flow experience and exercise procrastination behavior emerge as fundamental psychological concepts in understanding the exercise motivation, performance, and behavioral habits of

sports science students. Flow is characterized by the individual becoming completely absorbed in the task at hand and experiencing high levels of focus and satisfaction during this process. In contrast, exercise procrastination is defined as the conscious or unconscious postponement of planned physical activity. Examining the relationship between these two concepts offers a critical research area for gaining a deeper understanding of exercise behaviors among sports science students. In this context, systematically addressing this relationship has the potential not only to provide a theoretical framework but also to serve as a fundamental reference point for applied research. This study aims to make a meaningful contribution to the sports science literature by examining the effect of the psychological flow experience on exercise procrastination behavior within a theoretical framework.

2. Materials and Methods

2.1. Research Design

This study was conducted to examine the effect of psychological flow experiences on exercise procrastination behavior among sports science students. The research was planned using a survey model within the framework of quantitative research methods to reveal the relationship between variables. This model enables the systematic examination of the dynamic interactions between flow and exercise procrastination by allowing for the explanation and prediction of the mutual relationships between variables (Christensen et al., 2020; Karasar, 2024).

2.2. Research Group

Convenience sampling was used to determine the research group. This method enables the researcher to include participants who are easily accessible and to recruit individuals from their immediate circle until the desired sample size is reached (Cohen et al., 2011). To determine the sample size, a power analysis was conducted using the G*Power statistical program. The study revealed that a minimum of 193 participants were required for correlation analysis based on the criteria of 80% test power (1-β), a 5% significance level (α), and an effect size of 0.20 (Richard et al., 2003). To account for potential data loss and withdrawal risks, a 10% addition was made to the sample size as recommended in the literature (Suresh & Chandrashekara, 2012). Within this framework, a total of 279 students enrolled in sports science faculties at various universities in Turkey were included in the study. Of the participants, 116 (41.6%) were female (age range 18–26, mean 21.04 ± 1.70), and 163 (58.4%) were male (age range 18–38, mean 21.93 ± 2.77).

2.3. Data Collection Tools

The data collection tools used in the study were a Personal Information Form, a Psychological Flow Scale, and an Exercise Procrastination Scale created by the researcher.

2.3.1. Psychological flow scale

The scale developed by Norswhorty et al. (2023) and adapted into Turkish by Uzunköprü et al. (2024) consists of 3 sub-dimensions (Self-giving, Effortless control, and Intrinsic motivation) and a total of 9 items. The scale does not have reverse items and is a seven-point Likert scale. The Cronbach's alpha (a) internal consistency coefficients for the scale and subscales were calculated as .89 for the total, .90 for Self-Disclosure, .82 for Effortless Control, and .88 for Intrinsic Motivation. In confirmatory factor analysis, the Cronbach's alpha (a) internal consistency coefficients were calculated as follows: total .89, self-determination .90, effortless control .82, and intrinsic motivation .88. In this study, Cronbach's alpha (a) internal consistency coefficients were calculated as .94 for total, .84 for self-disclosure, .89 for effortless control, and .91 for intrinsic motivation.

2.3.2. Procrastination in exercise scale

The scale developed by Kelly and Walton (2021) has been adapted into Turkish by Köse et al. (2024). The scale consists of 6 items, a single factor, and a five-point Likert scale and does not include reverse items. Higher scores indicate a higher tendency to procrastinate exercise. During the adaptation phase, the Cronbach's alpha (α) internal consistency coefficient for the scale was calculated to be 0.95. In Confirmatory Factor Analysis, the values were calculated as follows: CMIN/DF = 4.07, CFI = 0.99, and SRMR = 0.017. In this study, the Cronbach's alpha (α) internal consistency coefficient was calculated to be 0.91.

2.4. Data Collection

Before proceeding with the analysis of the data obtained in the study, the dataset was examined using SPSS 25.0 statistical software. First, outliers (extreme values) and missing data were identified and addressed. The normality of the data distribution was evaluated based on skewness and kurtosis coefficients. The presence of these coefficients within the ±1.5 range indicates that the data distribution is normal and that parametric tests can be applied (Tabaschnick & Fidell, 2013). During the data analysis process, a two-sample t-test was used to determine whether there was a significant difference between the two groups.

When comparing more than two independent groups, the One-Way ANOVA is preferred when variance homogeneity is ensured, followed by the Tukey HSD test. When variance homogeneity could not be assured, the Welch test and Tamhane's T2 test were used in post-hoc analyses. Pearson correlation analysis and simple linear regression analysis were performed to reveal the relationships between variables. The significance level was set at .05 for all analyses. In addition, the internal consistency level of the scales used was evaluated using Cronbach's Alpha reliability coefficient. A Cronbach's Alpha value above .80 indicates that the measurement tool is highly reliable (Özdamar, 2004). In this regard, the internal consistency levels of the scales used in the study were found to be highly reliable. The findings regarding the distribution and reliability coefficients of the scales are presented in Table 1.

2.5. Data Analysis

Prior to selecting the statistical tests to be applied to the data, the Shapiro-Wilk normality test was conducted to assess whether the error terms were normally distributed ($p > 0.05$). Differences between variables were analyzed using repeated-measures ANOVA. Post-hoc comparisons between groups were evaluated using the Bonferroni correction. Effect sizes were calculated using the eta-squared (η^2) coefficient, ranging from 0.00 to 1.00, and interpreted as follows: 0.01 = small, 0.06 = medium, 0.14 = large, and 0.20 = very large (Alpar, 2022). The research findings were reported as mean and standard deviation (Mean ± SD), and statistical significance was set at a level of $p < 0.05$. All statistical analyses were conducted using the SPSS Statistics software package, version 22.0.

Table 1. Mean, standard deviation, minimum, maximum, skewness, and kurtosis values of scale scores.

Scale	n	Min-Max	X±Ss	Skewness	Kurtosis
Self-giving	279	3-21	13.00±4.19	-.499	-.686
Effortless control	279	3-21	13.33±4.67	-.704	-.484
Intrinsic motivation	279	3-21	12.96±5.16	-.317	-.939
Psychological Flow Scale	279	9-63	39.29±13.01	-.500	-.672
Exercise Procrastination Scale	279	6-30	16.78±6.36	.160	-1.022

2.6. Ethical Approval

The research data was collected in accordance with the official approval (Protocol No: 06/13) granted by the Health and Sports Sciences Ethics Committee of Erzincan Binali Yıldırım University on June 27, 2025. Informed consent was obtained from the participants, indicating that they voluntarily participated in the research and consented to the use of their data for scientific purposes. Participants were clearly informed that they had the right to withdraw from the study at any time during the research process. All processes implemented throughout the research were conducted in full compliance with the ethical principles established in the 1964 Helsinki Declaration and its subsequent updates. Data were obtained through face-to-face interviews with volunteer students enrolled in sports science faculties at various universities and through written consent forms.

3. Results

The results of the study show the psychological flow and its sub-dimensions, as well as exercise procrastination, compared by gender and income level. The relationships between the variables are presented in this section.

Table 2. Comparing participants' psychological flow and exercise procrastination status by gender

Variable	Gender	n	X̄	ss	t	p
Self-giving	Male	163	14.11	3.390	5.208	.000*
	Female	116	11.45	4.704		
Effortless control	Male	163	14.23	4.434	3.937	.000*
	Female	116	12.05	4.734		
Intrinsic motivation	Male	163	14.31	4.410	5.251	.000*
	Female	116	11.05	5.559		
Psychological Flow Scale	Male	163	42.66	11.163	5.182	.000*
	Female	116	34.55	13.968		
Exercise Procrastination Scale	Male	163	15.49	6.145	-4.120	.000*
	Female	116	18.59	6.242		

**p<.05*

When the table is examined, it is determined that the averages of male students are higher than those of female students in all psychological flow and sub-dimensions of sports science students; however, the averages of female students are statistically significantly higher than those of male students in exercise procrastination behavior (p<.05).

Table 3. Comparison of participants' psychological flow and exercise procrastination status according to income level

Variable	Perceived Income	n	X̄	ss	F/Welch	p	Fark
Self-giving	Low (1)	57	14.46	3.771	5.026	.008*	1<2 1<3
	Medium (2)	115	12.66	4.102			
	High (3)	107	12.60	4.367			
Effortless control	Low (1)	57	14.93	4.476	4.591	.012*	1<2 1<3
	Medium (2)	115	12.90	3.978			
	High (3)	107	12.93	5.298			
Intrinsic motivation	Low (1)	57	14.09	4.925	2.105	.125	-
	Medium (2)	115	13.01	4.356			
	High (3)	107	12.30	5.975			
Psychological Flow Scale	Low (1)	57	43.47	11.873	4.245	.016*	1<2 1<3
	Medium (2)	115	38.57	11.437			
	High (3)	107	37.82	14.724			
Exercise Procrastination Scale	Low (1)	57	15.75	5.962	1.194	.306	-
	Medium (2)	115	16.71	5.555			
	High (3)	107	17.39	7.293			

**p<.05 (Normal text refers to Anova-Tukey results, while italic text refers to Welch-Tamhane Test results.)*

A one-way analysis of variance/Welch was performed to compare the psychological flow and its subdimensions with exercise procrastination averages among sports science students according to their income status. The analysis revealed that the overall average psychological flow and the subdimensions of self-giving and effortless control were statistically significantly lower among those with low income compared to those with medium and high income (p<.05). However, no statistically significant difference was found between groups based on income level in terms of exercise procrastination (p>.05).

Table 4. The relationship between psychological flow and exercise procrastination

n=279		Exercise Procrastination
Self-giving	r	-.317*
	p	.000
Effortless control	r	-.130*
	p	.030
Intrinsic motivation	r	-.306*
	p	.000
Psychological Flow Scale	r	-.271*
	p	.000

**p<.05*

In the study, Pearson correlation analysis was performed to determine the relationship between sports science students' psychological flow and its subdimensions, as well as exercise procrastination. The analysis revealed negative statistically significant low and moderate correlations between exercise procrastination and the self-transcendence subdimension (r=-.317), the effortless control subdimension (r=-. 130), the intrinsic motivation sub-dimension (r=-.306), and psychological flow overall (r=-.271) were found to have statistically significant low to moderate negative correlations (p<.05). It can be concluded that an increase in psychological flow and its sub-dimensions may reduce exercise procrastination.

Table 5. Regression analysis results regarding the predictive power of psychological flow on exercise procrastination

Variable	B	Standart Error	β	t	p
Constant	22.070	1.161		19.009	.000
Self-giving	-.693	.169	-.457	.000	.000
Effortless control	.579	.131	.426	-4.098	.000
Intrinsic motivation	-.309	.121	-.251	-2.545	.011
R= .408, R2=.166, F=18.277; p<.05, Durbin Watson: 1.987					

When the table was examined, it is determined that psychological flow significantly predicts exercise procrastination behavior (R^2 = 16.6, p < .05). Psychological flow explains 16.6% of the variance in exercise procrastination. When examining the standardized (β) coefficients and t-values, it was found that a one-unit increase in the self-giving (β = –.457) and intrinsic motivation (β = –.251) subdimensions reduces exercise procrastination. In contrast, an increase in the effortless control subdimension (β = .426) increases exercise procrastination.

4. Discussion

In this section, the findings of a study examining the relationship between psychological flow and exercise procrastination among sports science students are discussed in the context of the existing literature.

The research findings indicate that male participants scored significantly higher than female participants in terms of the subdimensions of psychological flow, effortless control, and intrinsic motivation, as well as in overall psychological flow levels. This result suggests that men experience flow more intensely in the context of sports and exercise, allowing them to immerse themselves more fully in physical activity. Indeed, some studies have noted that men develop greater intrinsic motivation and focus in competitive and performance-oriented activities (Jackson & Eklund, 2002; Schüler & Brunner, 2009). According to Csikszentmihályi's (1990) flow theory, the balance between an individual's skill level and the difficulty they face is a key determinant of flow. Men's ability to achieve this balance more frequently in sports activities increases their chances of experiencing more intense flow. Similarly, the higher scores for effortless control and intrinsic motivation in men can be attributed to factors such as spontaneity, freedom of movement, and other similar characteristics. When evaluated within the framework of Deci and Ryan's (2000) Self-Determination Theory, men's higher levels of intrinsic motivation toward exercise may stem from their autonomy needs being more satisfied in this context. This contributes to their experiencing greater satisfaction during physical activity and, consequently, experiencing flow more intensely. In contrast, exercise procrastination behavior was found to be significantly higher among female participants than among males. This finding is consistent with some previous studies. Sirois (2014) noted that women experience higher levels of internal conflict than men in factors such as time management, anxiety, and self-control in health behaviors and that this can increase procrastination behavior. Furthermore, exercise procrastination is a multidimensional construct associated with self-perception, self-regulation, and self-efficacy, and gender roles can also be a determining factor in this behavior (Klingsieck, 2013; Steel & Ferrari, 2013). Women's higher exercise procrastination scores may also be related to social expectations, body image concerns, and a tendency to view exercise as a mandatory activity. Especially in societies where male-dominated norms prevail in the sports field, women may encounter more psychosocial barriers to participating in physical activity (Koivula, 2001). This situation can negatively affect women's motivation to participate in sports activities and increase their tendency to procrastinate exercise.

The study revealed that students with low-income levels had higher averages than their peers in the middle and high-income groups in the self-surrender and effortless control subdimensions of psychological flow, as well as in the overall flow score. Although this finding may seem contradictory at first glance, it becomes understandable when considered

in the context of motivational processes and self-regulation. Some studies have emphasized that individuals with limited resources tend to focus more on current activities and engage more intensely (Fredrickson, 2001; Eisenberger et al., 2007). Individuals with limited opportunities tend to live in the moment, feeling the value of their experiences more deeply, which leads to a more intense flow of experience. Csikszentmihalyi (1990) states that one of the basic conditions of flow is that attention is wholly focused on the activity. Low-income individuals may demonstrate higher concentration in such activities to use their limited free time or exercise opportunities more efficiently. In this context, the current finding reflects the efforts of low-income students to make more meaningful use of their limited exercise opportunities and, as a result, experience flow more intensely (Massimini & Delle Fave, 2000). Additionally, these individuals' earlier development of strategies to cope with distracting environmental factors increases their sense of effortless control. On the other hand, no statistically significant difference was found in the internal motivation dimension of psychological flow and the exercise procrastination scale according to income level. This finding suggests that intrinsic motivation is more closely related to personality traits, self-regulation capacity, and individual values than to the individual's socioeconomic status (Ryan & Deci, 2000). The literature suggests that intrinsic motivation is influenced by an individual's fulfillment of needs for autonomy, competence, and relatedness rather than by their economic status (Deci & Ryan, 1985; Vallerand, 2007). Similarly, the fact that exercise procrastination behavior does not show a significant difference according to income level suggests that procrastination may be more directly related to individual attitudes, self-discipline, time management skills, and cognitive control levels (Steel, 2007). In this context, procrastination behavior should be explained more by psychological and mental processes rather than solely by economic level. In conclusion, the higher psychological flow level of individuals in the low-income group can be attributed to their tendency to utilize their current resources more consciously and carefully. The independence of intrinsic motivation and exercise procrastination behavior from income level suggests that these variables are more closely related to the individual's internal psychological structure. These findings suggest that, particularly in the planning of sports programs, an approach based not only on economic but also on psychological needs should be adopted.

The study's findings revealed negative and statistically significant relationships between psychological flow and its subdimensions—self-forgetfulness, effortless control, and intrinsic motivation —and exercise procrastination behavior. This suggests that as individuals' flow levels increase, their tendency to procrastinate in exercising decreases. Additionally, it was determined that the psychological flow variable significantly predicts exercise procrastination behavior. According to Csikszentmihalyi's (1990) Flow Theory, when individuals experience high levels of focus, spontaneity, and a distortion of time perception during an activity, their tendency to participate in and continue that activity increases. In this context, as the level of flow experienced during physical activities such as sports or exercise increases, the individual's need or tendency to procrastinate these activities decreases significantly. In particular, dimensions such as self-surrender and effortless control facilitate the experience of exercise as a natural process rather than a challenging one (Jackson & Csikszentmihalyi, 1999). This aligns with Deci and Ryan's (2000) Self-Determination Theory. According to this theory, intrinsic motivation ensures that the individual continues the behavior for internal satisfaction rather than external rewards. Flow is considered an experience intensely connected to an individual's intrinsic motivation. Therefore, individuals with a high level of flow view exercise not as a task or obligation but as an opportunity for pleasure and personal growth. During this process, they typically experience a loss of internal interest and sense of time and feel a high degree of happiness (Ayhan & Eskiler, 2024). This feeling of joy can help them continue the activity, increasing their skill and difficulty levels (Bayram et al., 2025). Thus, instead of postponing exercise behavior, they prefer to perform this behavior more consistently and continuously (Standage et al., 2003). In this regard, the fact that psychological flow significantly predicts exercise procrastination supports some studies in the literature. During the experience, the individual's perception of time and environment decreases, and they are highly motivated to participate in the activity (Ottiger et al., 2021). Thus, attention is wholly directed toward the activity, and the individual is completely immersed in it (Marty-Dugas et al., 2021). Jackson et al. (2008) noted that when athletes experience high flow during training, their training continuity and commitment levels increase, while procrastination and avoidance behaviors decrease. Similarly, Sweeny and Dooley (2017) found that individuals who experience flow have reduced time-related anxiety, which positively affects their time management skills and reduces procrastination. The flow experience functions not only as a motivational source but also as a cognitive and social regulatory mechanism. When in a state of flow, the individual maintains their attention, focuses on their goals, and experiences a decrease in

self-awareness. This process eliminates distractibility, one of the fundamental causes of procrastination (van Eerde, 2003). Additionally, the association of flow with internal satisfaction and a sense of achievement helps individuals consciously choose exercise and perform this behavior without procrastination (Nakamura & Csikszentmihalyi, 2002). In conclusion, the findings indicate that psychological flow is not only a positive experience but also an effective variable in regulating exercise behavior. In this context, incorporating structures that aim to enhance flow experiences in education, guidance, and motivation programs related to physical activity can provide significant benefits in reducing exercise procrastination behavior.

5. Conclusions

This study examined the relationship between the psychological flow levels of university students studying at sports science faculties and their exercise procrastination behaviors. The findings revealed that increases in the subdimensions of psychological flow—self-transcendence, effortless control, and intrinsic motivation—significantly reduced exercise procrastination behavior. Furthermore, psychological flow was identified as a significant predictor of exercise procrastination behavior. This finding demonstrates that flow theory provides an adequate theoretical framework for explaining exercise behavior, particularly in terms of motivational processes and cognitive self-regulation. In terms of demographic variables, male students had higher psychological flow levels than female students, while exercise procrastination scores were higher among female students. This result suggests that gender-related cognitive and motivational differences may influence exercise behavior. In terms of income level, although students in the low-income group had higher overall flow levels, no significant difference was found in terms of intrinsic motivation and exercise procrastination. This finding suggests that psychological flow is shaped not only by socioeconomic conditions but also by individual psychological characteristics and environmental factors. Among the strengths of this study are its original contribution to the literature by linking flow theory to exercise procrastination, the use of psychometrically valid and reliable measurement tools, the demographic diversity of the sample, and the application of advanced statistical analyses. However, the study has certain limitations due to its cross-sectional design, the use of self-reporting methods for data collection, and the sample consisting solely of students in sports science. These limitations restrict the generalizability of the findings and the ability to draw causal inferences. Future research should investigate the effects of psychological flow in various areas of life, its relationship with other psychological variables that influence procrastination behavior, and the effectiveness of intervention programs aimed at enhancing flow experiences, utilizing longitudinal and experimental designs. Additionally, comparative studies conducted across different age groups and cultural contexts will contribute to a broader perspective on the flow-procrastination relationship.

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