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The Mediating Role of Self-Efficacy in the Relationship Between Perceived Social Support and Motivation to Participate in Physical Activity

Abstract

This study aimed to examine the mediating role of self-efficacy in the relationship between perceived social support and motivation to participate in physical activity among university students. The research was conducted with 528 students studying at a state university located in the Eastern Anatolia Region of Türkiye. Data were collected online using the Multidimensional Scale of Perceived Social Support, the General Self-Efficacy Scale, and the Motivation for Participation in Physical Activity Scale. Correlation analysis and Hayes' PROCESS Model 4 mediation analysis were employed to analyze the data. The findings revealed that perceived social support significantly and positively predicted motivation to participate in physical activity both directly and indirectly through self-efficacy. Self-efficacy plays a partial mediating role in the effect of social support on motivation. In conclusion, it was found that the perception of social support strengthens individuals' self-efficacy beliefs, thereby enhancing their motivation to participate in physical activity. In line with these results, it is emphasized that future studies should consider perceived social support and self-efficacy together. The results reveal that social support plays a significant role in strengthening individuals' attitudes toward physical activity. Furthermore, perceived social support increases individuals' self-efficacy beliefs, thereby enhancing their motivation to participate in physical activity.

Keywords: Perceived social support, physical activity, self-efficacy, university students.

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Algılanan Sosyal Desteğin Fiziksel Aktiviteye Katılım Motivasyonu ile İlişkisinde Öz-Yeterliliğin Aracılık Rolü

Öz

Bu çalışmada, üniversite öğrencilerinde algılanan sosyal destek ve fiziksel aktiviteye katılım motivasyonu arasındaki ilişkide öz-yeterliğin aracılık rolünün incelenmesi amaçlanmıştır. Araştırma, Doğu Anadolu Bölgesi'nde bulunan bir devlet üniversitesinde öğrenim gören 528 üniversite öğrencisi ile gerçekleştirilmiştir. Veriler çevrim içi olarak toplanmıştır. Veri toplamada Çok Boyutlu Algılanan Sosyal Destek Ölçeği, Genel Öz-Yeterlik Ölçeği ve Fiziksel Aktiviteye Katılım Motivasyonu Ölçeği kullanılmıştır. Verilerin analizinde korelasyon ve Hayes'in PROCESS Model 4 aracılık analizi uygulanmıştır. Bulgular, algılanan sosyal desteğin fiziksel aktiviteye katılım motivasyonunu hem doğrudan hem de öz-yeterlik aracılığıyla anlamlı ve pozitif olarak etkilediğini göstermiştir. Öz-yeterlik, sosyal desteğin motivasyon üzerindeki etkisinde kısmi aracılık rolü oynamaktadır. Sonuç olarak, sosyal destek algısının bireylerin öz-yeterlik inançlarını güçlendirerek fiziksel aktiviteye katılım motivasyonunu artırdığı ortaya çıkmıştır. Bu

sonuçlar doğrultusunda, ileride yapılacak çalışmalarda sosyal destek ile öz-yeterliğin birlikte ele alınmasının önem taşıdığı vurgulanmıştır. Sonuçlar, sosyal desteğin bireylerin fiziksel aktiviteye yönelik tutumlarını güçlendirmede önemli bir rol oynadığını ortaya koymaktadır. Dahası, algılanan sosyal destek, bireylerin öz yeterlilik inançlarını artırarak fiziksel aktiviteye katılma motivasyonlarını güçlendirmektedir.

Anahtar kelimeler: Algılanan sosyal destek, fiziksel aktivite, öz yeterlilik, üniversite öğrencileri.

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Introduction

The maintenance of a healthy lifestyle is strongly associated with the regular practice of physical activity, which serves as a central component of health promotion. Despite this, global participation rates continue to fall short of the recommended standards.[1] Physical activity contributes not only to physical well-being but also to psychological resilience and overall life satisfaction. The World Health Organization (WHO) reports that engaging in at least 150 minutes of moderate physical activity or 75 minutes of vigorous activity per week significantly lowers the likelihood of developing conditions such as cardiovascular disease, diabetes, and depression. Yet, evidence shows that nearly 28% of the adult population worldwide remains physically inactive.[2] These findings suggest that physical activity participation cannot be explained merely by individuals' knowledge or awareness, but is also strongly influenced by psychosocial factors, environmental contexts, and available support systems.[3] Therefore, understanding the social and psychological determinants of physical activity behavior has become increasingly critical.

One of the factors influencing physical activity participation behaviors is perceived social support (PSS). PSS refers to the psychological and social resources an individual receives from their social environment (such as family, friends, and significant others), namely the cognitive and emotional perception that the people around them will provide support when needed.[4] As an important variable that reflects how individuals evaluate the assistance, encouragement, and moral support they receive from others, PSS plays a decisive role in motivating participation in physical activity.[5] In particular, support from family members, friends, and health professionals increases individuals' motivation to engage in physical activity and enables them to remain resilient in the face of obstacles.[6] Motivation to participate in physical activity (MPPA) refers to the degree of intrinsic and extrinsic motivation an individual has to maintain physical activity. PSS enhances this motivation, thereby increasing individuals' tendency toward the behavior.[7] Individuals with high perceived social support tend to be more motivated to engage in physical activity, as social support fosters a sense of security, responsibility, and positive expectations.[8,9] Moreover, it is suggested that an increase in PSS facilitates individuals' ability to cope with negative emotional states such as stress and depression, and by enhancing motivation to participate in physical activity, it plays an important role in ensuring the continuity of physical activity.[10] Research indicates that perceived social support is directly associated with individuals' levels of physical activity. In particular, when individuals perceive high levels of social support, their MPPA increases.[11-14]

Social support also strengthens individuals' perception of self-efficacy and increases their belief in their ability to sustain physical activity.[15] Self-efficacy refers to a person's confidence in their ability to accomplish a particular task and is considered essential for the initiation, continuation, and regulation of behavior.[16] An increase in self-efficacy not only enables individuals to successfully complete current tasks but also enhances their motivation to attempt new ones.[17] In this regard, social support fosters a sense of not being alone, reduces fears of uncertainty and failure, and bolsters confidence in one's own potential.[8] Research has shown that an increase in the level of social support has a positive effect on self-efficacy over time.[18,19] As proposed by Social Cognitive Theory, individuals' behaviors are shaped through interactions with their social environment.[20] Therefore, self-efficacy perceptions are constructed not only through internal self-assessments but also through social feedback received from others.[21] However, the impact of social support on individuals is not limited to external factors; it is shaped in conjunction with internal resources. Bandura's Social Cognitive Theory suggests that behavior is formed through the reciprocal interaction between environmental factors and personal beliefs and expectations.[22] A central construct of this theory, self-efficacy, is defined as the individual's belief in their capability to effectively carry out a particular behavior. Self-efficacy determines not only the initiation of a behavior but also the persistence in maintaining it and coping with challenges.[22] Research indicates that individuals possessing higher self-efficacy are more likely to utilize social support resources effectively, which in turn enhances their motivation to engage in physical activity.[23,24]

Present Study

Although there are studies in the literature focusing on PSS, self-efficacy, and MPPA, no research has been found that examines these variables together. This study investigates the relationships between these variables based on Social Cognitive Theory. According to Social Cognitive Theory, PSS may influence individuals' self-efficacy beliefs and, consequently, their motivation toward a given behavior. Bandura emphasizes that social support can indirectly influence behavioral outcomes by enhancing individuals' self-efficacy.[22] People with strong self-efficacy are more inclined to engage in physical activities since they are able to sustain their motivation despite encountering obstacles. As a result, their level of participation in physical activity tends to rise. In this framework, self-efficacy can function as a mediating variable linking PSS with MPPA. Based on existing knowledge, it can be suggested that PSS may enhance self-efficacy, and self-efficacy may, in turn, increase MPPA. It is therefore hypothesized that self-efficacy may play a mediating role in the relationship between PSS and MPPA. Accordingly, the study investigated the role of self-efficacy as a mediating variable linking university students' PSS with their MPPA. The hypothesis suggests that greater PSS enhances self-efficacy, which subsequently contributes to higher levels of MPPA. The research model is presented in Figure 1.

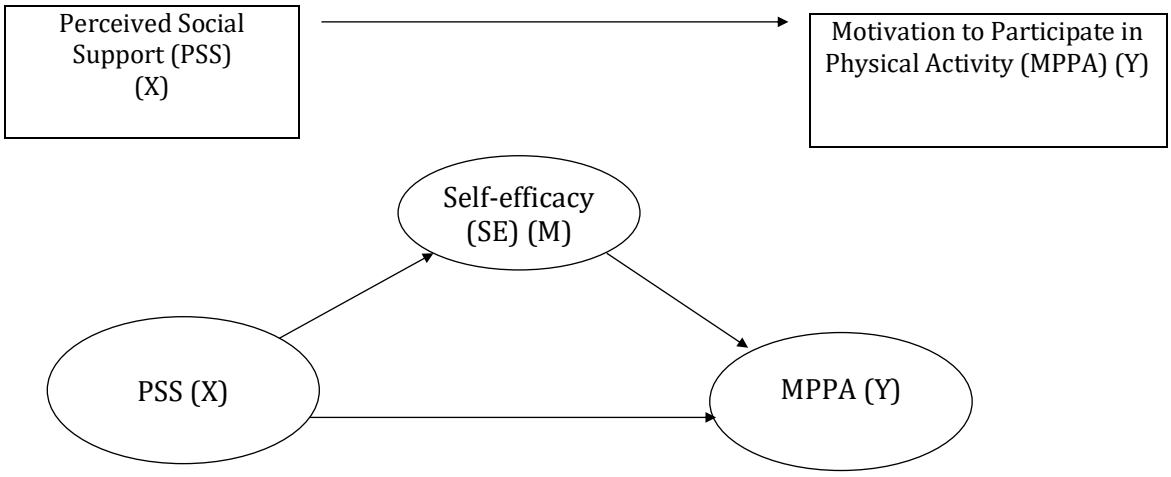

Figure 1. Mediation Model

Note: *X;* independent variable, *M;* mediator, *Y;* dependent variable.

Research Hypotheses

H1: *PSS significantly and positively affects individuals' MPPA.*
H2: *PSS significantly and positively affects individuals' self-efficacy.*
H3: *The relationship between PSS and MPPA is mediated by self-efficacy.*

Material and Methods

Participants

The present study involved 528 students attending a state university in the Eastern Anatolia Region of Türkiye. The inclusion criteria for this study are: (a) being 18 years of age or older, (b) having the ability to read and understand Turkish, (c) voluntarily participating in the study, (d) having participated in physical activity within the last 6 months; the exclusion criteria were determined as: (a) not volunteering to participate in the study and (b) not having participated in physical activity within the last 6 months. The participants' mean age was 21.58 years. Among them, 399 (75.6%) were female and 129 (24.4%) were male. In terms of academic year, 200 (36.5%) were first-year students, 222 (44.2%) were second-year students, 44 (8.0%) were third-year students, and 62 (11.3%) were fourth-year students. In terms of socioeconomic status, 109 participants (19.9%) reported a low level, 409 (78.3%) reported a medium level, and 10 (1.8%) reported a high level. Additionally, 99 participants (18.7%) stated that they regularly engaged in physical activity, whereas 429 (81.3%) reported not participating in regular physical activity. Of the participants, 172 were in physiotherapy and rehabilitation (32.6%), 110 were in nursing (20.8%), 72 were in nutrition and dietetics (13.6%), 45 were in child development (8.5%), 46 in geriatric care (8.7%), 41 in first aid and emergency care (7.8%), and 42 in medical documentation and secretarial studies (8%).

Procedure

The study received ethical clearance from the relevant committee before data collection commenced. Data were gathered online using structured measurement instruments. Participants were provided with detailed explanations concerning the aims and framework of the research prior to their involvement. Participants were informed that their involvement was optional and that the data would only be used for research. Informed consent was obtained from the participants. Data collection occurred between March 18, 2025, and April 10, 2025,
with each participant requiring approximately 10 minutes to complete the survey. The online method also ensured that no missing data were recorded. The study was conducted in accordance with the principles of the Declaration of Helsinki and was based on voluntary participation.

Measures

General Self-Efficacy Scale

The General Self-Efficacy Scale, developed by Schwarzer and Jerusalem, is designed to evaluate individuals' ability to cope with stressful situations. Its Turkish adaptation was carried out by Aypay. The scale's test-retest reliability was reported as 0.80. This 4-point Likert-type instrument comprises a single sub-dimension with ten items, none of which are reverse-scored. Items are rated as follows: 'Completely incorrect' = 1, 'Slightly correct' = 2, 'Moderately correct' = 3, and 'Completely correct' = 4. Higher total scores reflect greater self-efficacy.[25] In this study, the Cronbach's Alpha and McDonald's Omega coefficients were both found to be 0.92, indicating high internal consistency.

Motivation to Participate in Physical Activity Scale (MPPAS)

The MPPAS, developed by Tekkurşun Demir and Cicioğlu, is designed to evaluate individuals' motivation to engage in physical activity.[26] The scale comprises 16 items across three sub-dimensions: Personal Reasons, Environmental Reasons, and Lack of Reason. The reliability of the scale, as measured by Cronbach's Alpha, was found to be 0.89 with the sub-dimensions showing coefficients of 0.89, 0.86, and 0.82, respectively. Items 1–6 belong to the Personal Reasons sub-dimension, items 7–12 to the Environmental Reasons sub-dimension, and items 13–16 to the Lack of Reason sub-dimension. The scale accounts for 54.69% of the total variance. Items 3, 9, 13, 14, 15, and 16 are reverse-coded. Higher scores indicate greater motivation for physical activity.[26] In this study, the reliability analysis yielded Cronbach's Alpha of 0.86 and McDonald's Omega of 0.82, demonstrating adequate internal consistency.

Multidimensional Perceived Social Support Scale (MSPSS)

The original version of the MSPSS was developed by Zimet, Dahlem, Zimet, and Farley in 1988. This scale comprises 12 statements, each evaluated on a 7-point Likert-type format, and incorporates three distinct subscales. The sub-dimensions are defined as Family Support, Friend Support, and Significant Other Support. Items are rated on a 7-point scale ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'. The Family Support sub-dimension comprises items 3, 4, 8, and 11; the Friend Support sub-dimension includes items 6, 7, 9, and 12; and the Significant Other Support sub-dimension contains items 1, 2, 5, and 10. Total scores on the scale range from 12 to 84, with higher scores reflecting greater perceived social support. The overall Cronbach's Alpha for the scale was reported as 0.89, while the sub-dimensions demonstrated coefficients of 0.85, 0.88, and 0.92, respectively.[27] In the current study, Cronbach's Alpha and McDonald's Omega coefficients were calculated as 0.91 and 0.90, indicating high internal consistency.

Data analysis

IBM SPSS 27 software was utilized to conduct descriptive statistics, correlation analyses, and multiple regression analyses in the present study. Given that the data were normally distributed, Pearson correlation coefficients (r) were calculated. In this study, outliers were examined to investigate the assumptions of regression analysis, and the Durbin–Watson value was examined to test for autocorrelation. The Variance Inflation Factor (VIF) and tolerance values were calculated, and the presence of multicollinearity was investigated. Hayes' PROCESS macro, Model 4, was utilized to investigate whether self-efficacy mediates the relationship between PSS and MPPA.[28,29] Furthermore, a bootstrapping procedure, a widely used method,[29] was implemented. In this procedure, 10.000 samples were generated, and confidence intervals excluding zero were considered indicative of statistical significance. Additionally, gender and socioeconomic status variables were included as covariates in the model to control for potential confounding effects.

Results

The study first assessed the variables using descriptive measures, including mean values, standard deviations, skewness, and kurtosis. Next, correlation analyses were performed to investigate the relationships among the variables. The mediating effect of self-efficacy on the link between PSS and MPPA

was subsequently assessed. Finally, the results of the bootstrapping analysis applied to the proposed model are presented. Table 1 displays the descriptive statistics PSS, self-efficacy, and MPPA, as well as the findings from the analyses exploring the interrelationships among these variables.

Table 1. Descriptive statistics and correlations.

	Descriptive Statistics					Correlations		
Variables	**Mean**	**SD**	**Skewness**	**Kurtosis**	**α**	**1**	**2**	**3**
1. SE	30.38	5.837	-.048	-.703	.91	–		
2. PSS	57.54	17.251	-.421	-.239	.91	.35**	–	
3. MPPA	59.34	8.600	.217	-.340	.86	.30**	.26**	–

p< 0.01, PSS: Perceived Social Support, SE:Self-Efficacy, MPPA:** Motivation to Participate in Physical Activity

Table 1 displays the descriptive statistics and correlation coefficients for self-efficacy, PSS, and MPPA. Skewness and kurtosis were assessed to verify the normality of the data. According to Tabachnick and Fidell, skewness and kurtosis values falling between ±1.5 are considered indicative of a normal distribution. Additionally, the internal consistency coefficients for the variables were high (α = .86 to .91), confirming the reliability of the measures. Concerning the bivariate relationships, self-efficacy showed positive and significant correlations with PSS (r = .35, p < .01) and MPPA (r = .30, p < .01), while PSS was positively and significantly correlated with MPPA (r = .26, p < .01). To test the assumptions of regression analysis, outliers were first examined, and it was determined that no outliers were present.[30] Subsequently, the Durbin–Watson statistic was examined to test for autocorrelation. Accordingly, it was found that the Durbin–Watson value was between 1 and 3, thus meeting the assumption.[31] In addition, the fact that the VIF values were below 5 and the tolerance values were above .20, and that the correlation coefficients between the variables were below .90, indicates that there was no multicollinearity problem.[32] A mediation analysis using Hayes' Model 4 was conducted to examine the effect of PSS (X) on MPPA (Y) through self-efficacy (M).[28] The analysis of direct and indirect pathways was conducted through bootstrapping (10.000 samples) using a 95% confidence interval.

As shown in Table 2, PSS significantly influenced self-efficacy (β = 0.352, p < .001), indicating that higher PSS levels are linked to greater self-efficacy. The analysis indicated that self-efficacy significantly and positively predicts MPPA (β = 0.230, p < .001), suggesting that individuals with stronger self-efficacy exhibit higher MPPA. Furthermore, the direct effect of PSS on MPPA was significant (β = 0.180, p < .001), with a total effect coefficient of β = 0.260. Because the confidence intervals did not cross zero, each path was found to be statistically significant. These outcomes reveal that self-efficacy mediates the relationship between PSS and MPPA, indicating that PSS exerts both a direct and an indirect influence on MPPA through self-efficacy. The meaningfulness of these effects underscores self-efficacy as an important mediating variable.

Table 2. Mediation analysis results of perceived social support, self-efficacy, and motivation to participate in physical activity.

Effect Type	**(B)**	**(β)**	**(SE)**	**%95 Confidence Interval (CI)**
PSS → SE (a Path)	0.119	0.352	0.014	0.092– 0.146
SE→ MPPA (b Path)	0.338	0.230	0.065	0.210– 0.466
PSS→ MPPA (Direct Effect, c')	0.090	0.180	0.022	0.046– 0.133
Total Effect(c)	0.130	0.260	0.021	0.089– 0.171

PSS: Perceived Social Support, SE: Self-Efficacy, MPPA**:** Motivation to Participate in Physical Activity

Discussion

The aim of this study was to examine whether self-efficacy mediates the relationship between PSS and MPPA. A mediation analysis was conducted using Hayes' PROCESS Model 4 to examine the mediating role of self-efficacy in the effect of PSS on MPPA. The significance of the indirect effect was tested using the bootstrap method, which included a 95% confidence interval and 10.000 resamples. The findings showed that self-efficacy serves as a mediator in this relationship. Specifically, students reporting higher PSS

demonstrated greater self-efficacy, which, in turn, enhanced their MPPA. In other words, PSS contributes to increase in MPPA, with self-efficacy functioning as a mediator. Although prior studies have not examined the simultaneous relationships among PSS, self-efficacy, and MPPA, these variables have been explored individually. The significant direct effect of PSS on MPPA suggests that a supportive social environment can motivate university students to participate more in physical activity. This result aligns with earlier studies that emphasize the impact of social support on MPPA.[33,34] For instance, a systematic review by Teixeira et al. demonstrated that social support promotes the achievement of physical activity goals by enhancing individuals' autonomous motivation.[35] Similarly, Storm et al. reported that PSS positively affects motivation for engaging in physical activity.[36] Conversely, Kang et al. found that low PSS levels increase loneliness and negatively impact overall quality of life and health behaviors, further underscoring the link between social support and MPPA.[37]

According to social cognitive theory, individuals' behaviors, including their physical activity choices and decisions, are significantly shaped by peer role models.[33] Peer support, typically expressed through encouragement, acknowledgment, and shared participation, fosters a sense of belonging and assists students in overcoming barriers to physical activity.[33] Supporting these findings, Wang et al. reported, based on 19 studies, a significant positive association between social support and MPPA among university students.[38] Furthermore, peers have been reported to exert stronger motivational influences on physical activity by providing opportunities for friendship and shared activities, while family support plays a more limited role.[39] Individuals' MPPA is not solely influenced by PSS. The findings of this study indicate that PSS has an indirect effect through self-efficacy. These results are consistent with previous research showing that increased social support strengthens self-efficacy and, in turn, enhances motivation to engage in physical activity.[33, 40, 41] In addition, the link between self-efficacy and autonomous motivation plays an important role in determining individuals' ongoing engagement in physical activity. An increase in self-efficacy is a critical factor in promoting higher engagement and longer persistence in physical activities.[42] The mediating role of self-efficacy in the relationship between PSS and MPPA illustrates the intricate interplay of psychological and behavioral factors. This result emphasizes the crucial function of self-efficacy in maintaining engagement in physical activity. Consistently, previous research has found that higher self-efficacy levels are linked to greater motivation for participating in physical activity.[42,43] Bareket-Bojmel et al. reported a strong association between social support and self-efficacy,[44] while Öksüz et al. highlighted self-efficacy as a key determinant of individuals' willingness and MPPA.[45] In sum, the effect of PSS on MPPA operates partly through self-efficacy, indicating that PSS not only enhances self-efficacy but also promotes motivation for engaging in physical activity. This study examines the relationship between perceived social support and motivation to participate in physical activity, focusing on the mediating role of self-efficacy. While previous research has mostly addressed perceived social support, self-efficacy, and motivation to participate in physical activity separately, this study tested these variables within the same model to reveal the indirect mechanism between them. Furthermore, testing these relationships in a sample of university students contributes to a better understanding of the psychosocial processes that influence physical activity motivation in young adults. In this regard, the study offers theoretical and practical implications that social support-based interventions can increase physical activity motivation by enhancing self-efficacy.

This study has several limitations. First, as the research was conducted solely with university students, the generalizability of the findings is limited to individuals within this developmental stage. This underscores the need for future studies including participants from different age groups. Second, the data collection instruments used in this study relied on self-reported measures. Another limitation of this study is the imbalance in the gender distribution of the sample. The fact that the vast majority of participants were women may limit the generalizability of the findings to male students. Therefore, it is recommended that future studies be conducted with more gender-balanced samples. Consequently, employing alternative approaches, such as interviews or peer evaluations, in future research may offer a deeper insight into the topic.

Overall, conducting studies with participants from various educational levels and using diverse research methodologies could contribute to a deeper understanding of the relationships among PSS, self-efficacy, and MPPA. Additionally, intervention programs aimed at increasing physical activity should incorporate social support components. For university students, educational and counseling programs are recommended to include strategies that actively engage students' social environments.

Conclusion

The present research offers valuable evidence that social support boosts individuals' self-efficacy, which subsequently increases MPPA. The findings indicate that PSS significantly affects motivation to

engage in physical activity both directly and indirectly through self-efficacy. These results highlight the critical role of social support in promoting positive attitudes toward physical activity. Furthermore, the study demonstrates that individuals' perceptions of social support enhance their self-efficacy beliefs, thereby increasing their MPPA. In this context, the findings of this study contribute to the literature by highlighting the importance of addressing social support and self-efficacy together in interventions aimed at promoting physical activity.

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Reviewer: External, Independent.
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Declaration:
1. Originality Statement: This study is original and has not been previously published elsewhere.
2. Author Contributions: Concept – EA; Design – İK, RCY; Supervision – EA, RCY; Resources – İK, EA, RCY; Data Collection and/or Processing – İK, EA, RCY; Analysis and/or Interpretation – EA; Literature Search – İK, RCY; Writing – İK, EA, RCY; Critical Review – EA, İK.
3. Ethics Committee Approval: Approval for this study was obtained from the Scientific Research Publication and Ethics Committee of Iğdır University (Date: 14.03.2025, No: 2025/8).
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5. Conflict of Interest: The authors declare no conflict of interest.
6. Generative Artificial Intelligence Statement: No artificial intelligence tools were used at any stage of this study.
7. Sustainable Development Goals: This study is related to the following United Nations Sustainable Development Goals

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