



## The Effect of Peer Social Support and Intrinsic Motivation on Adolescents' Physical Activity Levels

Andi Sahrul Jahrir<sup>1A-E\*</sup>, Andi Febi Irawati<sup>2B-D</sup>

<sup>1,2</sup> Universitas Negeri Makassar, Sulawesi Selatan, Indonesia

[andi.sahrul.jahrir@unm.ac.id](mailto:andi.sahrul.jahrir@unm.ac.id)<sup>\*</sup>, [febi.irawati@unm.ac.id](mailto:febi.irawati@unm.ac.id)<sup>2</sup>

### ABSTRACT

Physical activity among adolescents plays an important role in supporting optimal health and development, but it is still influenced by psychosocial factors, particularly peer social support and intrinsic motivation. This study aims to analyze the influence of peer social support and intrinsic motivation on adolescent physical activity. This study uses a quantitative approach with a descriptive-correlational design with 146 junior high school students in Makassar City selected through purposive sampling. Data were collected using the Physical Activity Questionnaire for Adolescents (PAQ-A) to measure physical activity, the Peer Social Support Scale to measure peer social support, and the Intrinsic Motivation Inventory (IMI) to measure intrinsic motivation. The results showed that peer social support and intrinsic motivation simultaneously had a significant effect on adolescent physical activity ( $R^2 = 0.412$ ;  $p < 0.05$ ). Partially, peer social support had a positive and significant effect on physical activity ( $\beta = 0.46$ ;  $p < 0.05$ ), while intrinsic motivation also showed a positive and significant effect ( $\beta = 0.31$ ;  $p < 0.05$ ). It can be concluded that increasing adolescent physical activity needs to be done by strengthening peer social support and developing intrinsic motivation so that physically active behavior can be formed and maintained sustainably.

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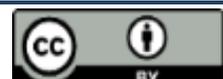
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## INTRODUCTION

Physical activity is an important component in supporting adolescent growth and development, both physically, psychologically, and socially (Adi et al., 2025; Laksmi & Jayanti, 2023). Adolescents who are physically active tend to have better physical fitness, optimal cognitive function, and a lower risk of various non-communicable diseases in adulthood (Wicaksono & Handoko, 2020). However, various reports indicate a downward trend in physical activity levels among adolescents, particularly those in junior high school. Changes in lifestyle, increased sedentary activities, and low interest in physical activity are factors that reinforce the urgency of conducting research on the determinants of adolescent physical activity.

In the behavioral perspective, adolescent involvement in physical activity is influenced not only by biological factors, but also by social and psychological factors



(Garcia et al., 2016; Gavin et al., 2016; Syalfina et al., 2024). One of the most influential social factors is peer social support. During adolescence, peers become the primary social agents that shape an individual's attitudes, values, and behaviors (Kusumawati et al., 2024; Mardison, 2016). The support provided by peers, such as invitations to exercise, joint participation in physical activities, and positive reinforcement, can create a social environment conducive to the formation of active behaviors. Previous studies have shown that adolescents who receive social support from peers tend to have higher levels of physical activity compared to adolescents who receive less social support (Anwar et al., 2025; Hadyansah, 2020; Mendonça & Farias Júnior, 2015).

In addition to social factors, psychological factors in the form of intrinsic motivation also play an important role in encouraging physical activity among adolescents. Based on Self-Determination Theory, intrinsic motivation arises when individuals engage in activities for the sake of enjoyment, interest, and internal satisfaction (Ryan & Deci, 2020). Adolescents who are intrinsically motivated will engage in physical activity voluntarily and continuously, without relying on external pressure or rewards. Previous studies have shown that intrinsic motivation is positively correlated with the frequency, duration, and consistency of physical activity in adolescents, making it a key factor in the formation of active lifestyle habits (Cachon-Zagalaz et al., 2023; Riyanti et al., 2019; Schneider, 2018).

Although various studies have examined the influence of social support and intrinsic motivation on physical activity, most studies still examine these variables separately. Studies that integrate peer social support and intrinsic motivation simultaneously in a single research model, particularly in the context of junior high school students, are still relatively limited. In addition, research with a local context in Indonesia, especially in urban areas such as Makassar City, has not been widely reported. This condition indicates a research gap that needs to be filled to gain a more comprehensive understanding of the factors that influence adolescent physical activity.

Based on this description, this study is important to empirically examine the influence of peer social support and intrinsic motivation on adolescent physical activity. This research is expected to make a theoretical contribution in enriching the study of the behavioral determinants of adolescent physical activity, as well as practical contributions to the development of physical education learning strategies and physical activity improvement programs in schools. In line with this goal, this study aims to analyze the influence of peer social support on adolescent physical activity, analyze the influence of intrinsic motivation on adolescent physical activity, and examine the influence of peer social support and intrinsic motivation simultaneously on the physical activity of junior high school students in Makassar City.

## **METHODS**

This study used a quantitative approach with a descriptive-correlational design. This design was chosen to examine the relationship and influence between peer social support and intrinsic motivation on physical activity among adolescents without manipulating the

treatment. The population in this study consisted of all junior high school students in Makassar City. The research sample consisted of 146 junior high school students from grades VII, VIII, and IX. The sampling technique used was random sampling. This technique provides equal opportunity for each member of the population to be selected as a research sample (Lohr, 2021). The sample was selected randomly from several junior high schools in Makassar City, considering accessibility and school availability.

Data analysis was performed using Statistical Package for the Social Sciences (SPSS) software. The initial stage of analysis included descriptive analysis to obtain an overview of each variable through mean values, standard deviations, and frequency distributions. Next, prerequisite tests were conducted, including normality, linearity, multicollinearity, and heteroscedasticity tests. To test the research hypothesis, multiple linear regression analysis was used to determine the effect of peer social support and intrinsic motivation on adolescent physical activity, both partially and simultaneously.

### **Peer Social Support**

Peer social support was measured using a questionnaire adapted from the Peer Social Support Scale for Physical Activity. This instrument aims to measure students' perceptions of the forms of support provided by peers in the context of physical activity (Mendonça et al., 2021). The instrument covers four main aspects, namely emotional support, instrumental support, informational support, and reward support. The instrument is compiled in the form of closed statements using a five-point Likert scale. Each statement has five alternative answers with the following descriptions: a score of 1 indicates strongly disagree, a score of 2 indicates disagree, a score of 3 indicates undecided, a score of 4 indicates agree, and a score of 5 indicates strongly agree. The total score is obtained by summing all item scores, where a higher score indicates a stronger level of peer social support. The validity of the instrument was tested through item-total correlation, while reliability was tested using Cronbach's Alpha coefficient. The test results showed that all items met the validity criteria, and the instrument had good reliability (Mendonça et al., 2021; Sabo et al., 2020).

### **Intrinsic Motivation**

Intrinsic motivation was measured using a questionnaire adapted from the Intrinsic Motivation Inventory (IMI) based on Self-Determination Theory. This instrument was used to measure students' internal drive to engage in physical activity due to enjoyment, interest, and personal satisfaction (Höchstmann et al., 2019; Ostrow & Heffernan, 2018). This instrument covers the dimensions of enjoyment or interest, perceived competence, and effort in physical activity. The intrinsic motivation instrument was presented in the form of closed statements with a five-point Likert scale, with the following descriptions: score 1 (strongly disagree), score 2 (disagree), score 3 (unsure), score 4 (agree), and score 5 (strongly agree). The total score reflects the level of students' intrinsic motivation, where a higher score indicates stronger intrinsic motivation towards physical activity.

### **Physical activity**

Adolescent physical activity was measured using an adaptation of the Physical Activity Questionnaire for Adolescents (PAQ-A). This instrument was used to measure students'

physical activity levels based on the frequency and involvement in various physical activities (Aggio et al., 2016). The physical activity instrument was presented in the form of a questionnaire with a five-point Likert scale, with the following score descriptions: a score of 1 indicates a very low level of physical activity, a score of 2 indicates a low level, a score of 3 indicates a moderate level, a score of 4 indicates a high level, and a score of 5 indicates a very high level. The total score was obtained from the average or sum of the scores of all items, which was then used to determine the students' level of physical activity.

## RESULTS AND DISCUSSION

### Result

#### Respondent Characteristics

This study involved 146 junior high school students in Makassar City as respondents. Respondents consisted of male and female students in their early teens. All respondents completed the instrument, so all data could be analyzed without any data being eliminated. Descriptive analysis was conducted to obtain an overview of the level of peer social support, intrinsic motivation, and physical activity among adolescents.

**Table 1.**  
Descriptive Statistics of Research Variables

Variables	N	Min	Max	Mean	Std. Dev
Peer Support	146	2.10	4.80	3.67	0.52
Intrinsic Motivation	146	2.05	4.90	3.59	0.55
Physical Activity	146	2.00	4.85	3.42	0.50

The results of descriptive analysis show that peer social support and intrinsic motivation are in the moderate to high category, while adolescent physical activity is in the moderate category. This indicates that students have obtained social support and have good internal motivation, although the level of physical activity is still not optimal.

**Table 2.**  
Data Normality Test and Multicollinearity Test

Variables	Kolmogorov-Smirnov		Multikolinearitas	
	Statistik	Sig.	Tolerance	VIF
Peer Support	0.072	0.200	0.71	1.41
Intrinsic Motivation	0.068	0.200		
Physical Activity	0.075	0.200		

In the test results table, for the normality test, the significance value of all variables is greater than 0.05, so it can be concluded that the data is normally distributed and meets the requirements for multiple linear regression analysis. Then, in the multicollinearity test, the tolerance value is greater than 0.10 and the VIF value is less than 10, so there is no multicollinearity between the independent variables.

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**Table 3.**  
Model Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error
1	0.642	0.412	0.403	0.39

**Table 4.**  
 Model Significance Test (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	15.42	2	7.71	50.62	0.000
Residual	22.03	143	0.154		
Total	37.45	145			

**Table 5.**  
 Multiple Linear Regression Coefficients

Variabel	B	Std. Error	$\beta$	t	Sig.
(Constant)	0.87	0.24	-	3.63	0.000
Dukungan Sosial Teman Sebaya	0.41	0.07	0.46	5.86	0.000
Motivasi Intrinsik	0.29	0.08	0.31	3.89	0.000

The analysis results show that the regression model constructed has a correlation coefficient (R) value of 0.642 with a coefficient of determination ( $R^2$ ) value of 0.412. This indicates that peer social support and intrinsic motivation together can explain 41.2% of the variation in adolescent physical activity, while the rest is influenced by other factors outside the research model. Then, the model significance test through the F test produced an F value of 50.62 with a significance level of 0.000 ( $p < 0.05$ ). These results indicate that the regression model used is valid and that both independent variables simultaneously have a significant effect on adolescent physical activity. Partially, the t-test results show that peer social support has a positive and significant effect on adolescent physical activity ( $B = 0.41$ ;  $\beta = 0.46$ ;  $t = 5.86$ ;  $p < 0.05$ ). Intrinsic motivation was also proven to have a positive and significant effect on adolescent physical activity ( $B = 0.29$ ;  $\beta = 0.31$ ;  $t = 3.89$ ;  $p < 0.05$ ). The standardized beta coefficient value shows that peer social support has a more dominant influence than intrinsic motivation in increasing adolescent physical activity. Based on these analysis results, the regression equation obtained is:

$$Y = 0.87 + 0.41X_1 + 0.29X_2$$

This equation shows that increased peer social support and intrinsic motivation significantly contribute to increased physical activity among junior high school students in Makassar City.

## Discussion

The findings of this study confirm that peer social support is an important factor in shaping adolescent physical activity behavior. From a social-ecological theory perspective, individual behavior is understood as the result of interactions between personal factors and the surrounding social environment (Uchida et al., 2020). During adolescence, the immediate social environment, especially peers, has a very strong influence because adolescents tend to spend more time with friends than with family. The support provided by peers, whether in the form of encouragement, companionship, or emotional reinforcement, creates a social context conducive to adolescent involvement in physical activity (Kusumawati et al., 2024; Lawler et al., 2020). Conceptually, peer social support can be understood as a positive external source of regulation for physical activity behavior. According to Social Cognitive Theory, behavior

is influenced by the interaction between personal factors, the environment, and the behavior itself (Bandura, 2023).

Peers serve as social models who can boost self-confidence and perceptions of individual abilities through observation and shared experiences. When adolescents see their peers being physically active and receive support from them, they are more likely to imitate and maintain such behavior. The results of this study are in line with various previous empirical findings that show that peer social support has a positive relationship with adolescent physical activity, confirming that the presence of consistently supportive friends increases adolescent participation in physical activity, both in and outside of school (Mendonça & Farias Júnior, 2015; Morrissey et al., 2015). Other studies also show that social support is a significant predictor of adolescent physical activity, particularly in the context of daily social interactions (Gill et al., 2018; Laird et al., 2016). The consistency of these findings shows that the role of peers is universal across cultures, although the form of support may vary according to the social context. In addition to social factors, this study also found that intrinsic motivation plays an important role in increasing physical activity among adolescents. These findings can be comprehensively explained through Self-Determination Theory (SDT). SDT emphasizes that intrinsic motivation arises when individuals feel that the activities they are doing are enjoyable, challenging, and provide personal satisfaction (Ryan & Deci, 2020; Standage & Ryan, 2020). In the context of physical activity, intrinsically motivated adolescents tend to engage in activities not because of external demands, but because of personal enjoyment and interest.

The concept of intrinsic motivation is also closely related to the fulfillment of basic psychological needs, namely autonomy, competence, and social connectedness. When adolescents feel they have the freedom to choose physical activities, feel capable of doing them, and feel connected to others, intrinsic motivation will develop optimally (Nogg et al., 2021). The findings of this study indicate that intrinsic motivation acts as an internal driver that enables adolescents to consistently engage in physical activity, even without external pressure or supervision. The results of this study reinforce previous research findings that place intrinsic motivation as the main predictor of physical activity in adolescents. Other studies conducted in the context of physical education show that students with high intrinsic motivation have more active and sustained involvement in physical activity (Ennis, 2017). Similar findings also report that intrinsic motivation is associated with the sustainability of long-term physical activity behavior (Hutmacher et al., 2020; Liu et al., 2023). Thus, this study confirms that internal psychological factors are key elements in building an active lifestyle in adolescents.

Another important finding from this study is the mutually reinforcing relationship between peer social support and intrinsic motivation in influencing adolescent physical activity. Social support not only functions as an external factor but can also be a catalyst in the formation of intrinsic motivation. According to the SDT framework, social support that promotes autonomy and provides positive reinforcement can help internalize motivation, so that physical activity that was initially driven by external factors can develop into intrinsic motivation (Ryan & Deci, 2020). In this context, peers not only act

as a source of social support, but also as social agents who help adolescents find meaning and enjoyment in physical activity. This is in line with the views of experts who state that positive social experiences can increase self-evaluation and individual involvement in physically challenging activities (Beni et al., 2017; Yang et al., 2016). Thus, the integration of social and motivational factors is an important foundation in understanding adolescent physical activity behavior holistically.

From a practical perspective, the findings of this study have significant implications for the development of physical education programs and school policies. Physical education that emphasizes cooperation, positive social interaction, and providing choices of activities can create an environment that supports the development of students' intrinsic motivation. Theoretically, this study contributes to strengthening the integration of social-ecological theory and Self-Determination Theory in explaining adolescent physical activity behavior. This study also expands the empirical evidence in the Indonesian context, which is still relatively limited in the psychosocial study of adolescent physical activity. By combining peer social support and intrinsic motivation factors in a single conceptual model, this study provides a foundation for further research to examine mediation or moderation mechanisms, such as the role of school climate, perceived competence, or physical education teacher support.

## CONCLUSION

This study concludes that peer social support and intrinsic motivation play a significant role in influencing adolescent physical activity. Peer social support contributes to the formation of a positive social environment through interaction, togetherness, and social reinforcement that encourages adolescents to be more physically active, while intrinsic motivation acts as an internal driver that makes adolescents engage in physical activity more consistently because they are driven by pleasure, interest, and personal satisfaction. Simultaneously, these two factors complement and reinforce each other in shaping physical activity behavior, where social support can strengthen the internalization of intrinsic motivation. These findings reinforce the relevance of social-ecological theory and Self-Determination Theory in explaining adolescent physical activity behavior and provide practical implications for schools and educators to develop physical education and physical activity programs that emphasize positive social interaction and the development of intrinsic motivation to encourage a sustainable active and healthy lifestyle among adolescents.

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