




Social support and physical activity in adolescents: evidence from a correlational approach

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ABSTRACT

Background: Amid rising sedentary behaviors and non-communicable diseases among adolescents globally, physical activity levels continue to decline—exacerbated by lifestyle shifts driven by globalization. While social support is often considered a key enabler of behavior change, limited empirical evidence clarifies its actual influence on adolescent physical activity, particularly in diverse sociocultural settings like Indonesia. This study addresses that gap. **Research Objectives:** This study aimed to examine the relationship between perceived social support and physical activity among adolescents in two different school settings. **Methods:** A correlational quantitative design with convenience sampling was employed, involving 1.046 adolescents aged 12–18 years from two schools with differing neighborhood contexts. Social support was assessed using the Multidimensional Scale of Perceived Social Support (MSPSS), and physical activity levels were measured using the Global Physical Activity Questionnaire (GPAQ). Data were analyzed using Spearman rank correlation via SPSS. **Finding/Results:** The results of data analysis using the Spearman rank test showed no significant relationship between physical activity and all components of social support (family, friends, and others) $p > 0.05$ ($p=0.222$, $r=-0.038$ for family; $p=0.143$, $r=0.045$ for friends; $p=0.717$, $r=0.011$ for significant others; $p=0.779$, $r=0.009$ for overall social support). **Conclusion:** These results indicate that social support is not the main factor influencing physical activity participation in adolescents. This study showed no significant relationship between the two variables. Other factors such as physical literacy, intrinsic motivation, school environment, and health conditions may have a more dominant role. Future studies are expected to explore these factors through longitudinal and experimental approaches.

Keywords: Physical activity; social support; adolescents; behavioral determinants; public health

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INTRODUCTION

Physical activity refers to any body movement, whether doing homework, playing, working, traveling, or leisure activities. In line with that, according to the [World Health Organization \(2018\)](#) physical activity increases the use of energy generated in body movement activities and is triggered by skeletal muscles. The latest data related to the

development of physical activity levels in the world from 2000-2022 has increased by 23.4%. In 2022, more than 31.3% or 1.8 billion people in the world did not participate in physically active, 340 million of whom were those of productive age (Strain et al., 2024).

Low levels of physical activity can lead to the risk of obesity and other chronic diseases. This is in line with the results of basic health research, which showed that there was an increase in childhood obesity in Indonesia from 2007-2018, namely 18.8% (2007), 26.6% (2013), and 31.0% (2018) (Fadhilah et al., 2021). In addition, a person's low level of physical activity will trigger premature aging (Fatihatrahmi et al., 2023). Therefore, a person's low level of physical activity will adversely affect their health, such as increasing the risk of developing obesity and other chronic diseases.

Furthermore, several factors can contribute to the lack of awareness of the importance of physical activity, one of which is globalization in the field of technology (Starościak et al., 2016). Globalization can make children addicted to or prefer to spend time playing with their gadgets (Iwandana et al., 2021; Rabathy, 2018). As a result, this can impact behavioral changes that cause students to become lazy, loners, and unable to socialize with their environment (Lusi et al., 2023; Wigiyandiaz et al., 2020).

A person's physical activity level can be influenced by two main factors, namely internal and external factors. Internal factors that influence physical activity can come from physical literacy, which includes understanding and awareness of the importance of physical activity (Ahmadi et al., 2023), as well as intrinsic motivation that arises from within a person (Liu et al., 2023). Meanwhile, external factors that play a role in influencing a person's physical activity level can come from the school environment, such as the availability of facilities, programs related to increasing physical activity, and a supportive social environment (Dadaczynski et al., 2020), as well as social support which includes encouragement given, both from family, friends, and other important people (Zhou et al., 2023).

According to Sarafino and Smith (2014) suggests that all forms of attention, assistance, and security received by a person are defined as social support. In line with that, the existence of the family, teachers, peers, and other special people plays an important role in making a person feel cared for, respected, and loved, or in other words, they get social support (Tentama, 2015). Their studies explain the benefits of social support, stating that someone who gets social support tends to have emotional stability (Boren, 2014), stress control (Horan & Widom, 2015), building mental well-being (Rajendran et al., 2015), increasing self-esteem (Rueger et al., 2016), and impacting resilience (Hidayat & Nurhayati, 2019).

In addition, social support has a close relationship with a person's level of participation in physical activity. This is in line with the results of research conducted by (Mendonça et al., 2014), which states that social support is an important factor associated with a person's level of physical activity. This is because the level of physical activity of a person will also affect the quality of life, health, and well-being of a person (Chen et al., 2016). Therefore, it is important to pay attention to providing regular social support to a person in physical activity participation so that it can create an active lifestyle in physical activity.

On the other hand, an active lifestyle of physical activity is important in preventing weight gain (Jakicic et al., 2018). Several studies suggest that physical activity can contribute to preventing and treating a variety of long-term health conditions, including heart and blood vessel disorders, excess blood sugar, abnormal cell growth, high blood pressure, excess weight, mood disorders, and bone loss (Saputra & Duana, 2023; Piercy et al., 2018). Not only beneficial for health, physical activity can also improve social skills (Anira et al., 2021).

Based on the above ideas, low levels of physical activity in adolescents caused by technology dependence may pose a future health threat. Understanding the role of social support in promoting physical activity is crucial for developing effective policies and promoting healthy lifestyles among adolescents. The purpose of this study was to determine the relationship between social support and physical activity in adolescents. There are still few studies that examine social support from family, friends, and significant others in a gender-inclusive sample of adolescents. For instance, the study conducted by [Laird et al. \(2016\)](#) involved a limited and female-only sample, as well as a literature-based analysis. This study seeks to fill the gap by making a novel contribution using a correlational design with a large, gender-inclusive sample of adolescents. This approach allows for a more comprehensive understanding of the relationship between social support and physical activity in adolescents.

METHOD

This study uses a quantitative approach with a correlational survey design to identify and describe the possible relationship between the two variables ([Fraenkel et al., 2022](#)). The variables to be examined in this study are social support and physical activity.

Participant

This study collected samples from two types of schools, namely junior high schools and vocational schools, in Greater Bandung at different times, using a convenience sampling technique. This technique was done because it considers the ease of access, efficiency, and willingness of the school. In this study, the researcher has obtained permission from both schools, and the sample has agreed to voluntarily participate by filling out and signing the consent form before data collection. Participants totaled 1046 consisting of 524 male students and 522 female students with an age range of 12-18 years.

Measurement

The instruments in this study used two instruments, namely the Multidimensional Scale of Perceived Social Support (MSPSS) to measure social support developed by ([Zimet et al., 1988](#)), and the Global Physical Activity Questionnaire (GPAQ), to measure physical activity levels developed by ([World Health Organisation, 2021](#)).

Social Support

The MSPSS consists of 12 items with a value scale from strongly disagree (1) to strongly agree (7). MSPSS consists of three subscales namely: (a) family, an individual's perception of the emotional support and practical help provided by family, (b) friends, the extent to which an individual feels supported by his or her friends, and (c) significant other, the extent to which an individual feels he or she has someone special in his or her life who provides emotional support. The MSPSS has been validated and found to have a high level of reliability, with Cronbach's alpha of 0.85 for family, 0.75 for friends, 0.72 for significant others, and 0.85 for overall social support. In general, the MSPSS is widely used in Indonesia, several studies have used the instrument in their research, including research conducted by ([Angraeni et al., 2023](#); [Salsabila et al., 2022](#)).

Physical Activity

Then, the GPAQ consists of 16 statement items and three indicators, namely, activities at work, travel to and from places, and recreational activities. For analysis purposes, these

domains can be further broken down into six different “sub-domains.” These “sub-domains” are: vigorous work (numbers 1-3), moderate work (numbers 4-6), travel (numbers 7-9), vigorous recreation (numbers 10-12), moderate recreation (numbers 13-15), sitting (number 16). The GPAQ is an instrument that has been tested for strong validity and reliability with a kappa of 0.67 to 0.73 (Bull et al., 2009). In general, the GPAQ is widely used in Indonesia, several studies have used the instrument in their research, including research conducted by (Devi et al., 2024; Rivaldi et al., 2023).

Data Analysis

In this study, the data obtained was then analyzed using IBM SPSS Statistics V 27 software. Before the data was analyzed through SPSS, it was reviewed in Excel to ensure no missing data. Missing data were excluded in pairs, and outliers were retained after review. Then descriptive data analysis was used to see the data distribution from the questionnaire and correlation test using Spearman because the data was not normally distributed (Sig. < 0.05). This test was used to analyze whether there was a relationship between social support and physical activity variables.

RESULTS AND DISCUSSION

Based on the data collected, the characteristics of the respondents are presented in Table 1.

Table 1. Characteristics of Research Respondents

Characteristics	Frequency	%
Gender		
Male	524	50.1
Female	522	49.9
Total	1046	100

Based on Table 1 shows that the gender of respondents in this study has almost the same dominance, with 524 male respondents (50.1%). At the same time, there were 522 people (49.9%). A descriptive analysis was then carried out to examine the distribution of the questionnaire results completed by students. The descriptive data are presented in Table 2.

Table 2. Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation
Physical Activity	1046	3008	129600	14001.14	13211.00
Family	1046	14.00	100.00	77.15	16.36
Friend	1046	14.00	100.00	71.12	15.43
Special Others	1046	14.00	100.00	75.45	19.45
Social Support	1046	15.00	99.00	75.39	13.11
Valid N (listwise)	1046				

Based on Table 2, the mean physical activity was recorded at 14001.14 with a standard deviation of 13211.00. In social support, the family support component is the highest component, with a mean of 77.15 and a standard deviation of 16.36. Overall, social support has a mean of 75.39 and a standard deviation of 13.11. Then, a Kolmogorov-Smirnov normality test was conducted to determine whether the descriptive data was normal (see Table 3) and which test analysis (parametric or non-parametric) to use.

Table 3. Normality Test Results

Kolmogorov-Smirnov			
	Statistic	Df	Sig.
Physical Activity	.203	1046	< .001
Family	.112	1046	< .001
Friend	.085	1046	< .001
Special Others	.131	1046	< .001
Social Support	.075	1046	< .001

Table 3 reveals that the normality test results for all variables range from Sig. 0.001 to 0.05. This indicates that the data is not normally distributed. Thus, the analysis will continue with a non-parametric statistical test, specifically the Spearman correlation test, to determine whether there is a relationship between these variables (see Table 4).

Table 4. Correlation Test Results

		Physical Activity	Family	Friend	Special Others	Social Support
Spearman's rho	Correlation Coefficient	1.000	-.038	.045	.011	.009
	Sig. (2-tailed)	.	.222	.143	.717	.779
N		1046	1046	1046	1046	1046

The results of the Spearman rank test in Table 4 revealed no significant relationship between physical activity and all components of social support. Statistical evidence showed that the probability values for all dimensions of social support were above the significance threshold ($p > 0.05$), including the components of family support ($r = -0.038$, $p = 0.222$), friend support ($r = 0.045$, $p = 0.143$), support from significant others ($r = 0.011$, $p = 0.717$), and overall social support ($r = 0.009$, $p = 0.779$). This finding indicates that a person's physical activity level does not have a significant relationship with the social support received, whether from family, friends, or significant others around them. This can be seen in the statistical results of each component of social support and overall, which show an r-value close to zero.

This finding supports the opinion of [Laird et al. \(2016\)](#) that social support is not the main factor in increasing a person's physical activity. In contrast, [Mendonça et al. \(2014\)](#) Research states that social support has a relationship with physical activity. In that study, social support from friends showed high consistency, as friends tended to provide greater support through participation in competitive physical activity. Meanwhile, in this study, support from the family had the most incredible consistency. [Seabra et al. \(2008\)](#) explained that social support from parents is generally provided in the form of providing sports equipment, transportation facilities to sports venues, and encouragement to engage in physical activity in leisure time. Therefore, the absence of a significant relationship in this study can be explained by several alternative factors that may have the potential to increase physical activity. First, intrinsic motivation ([Riyanti et al., 2019](#)), a school environment that has supporting facilities for physical activity ([Sales et al., 2023](#)), and physical literacy, which refers to a person's understanding and confidence in engaging in physical activity ([Kontautiene & Beniusiene, 2024](#)). Intrinsic motivation can provide drive, confidence, physical skills, an understanding of values and norms, and a sense of responsibility for lifelong engagement in physical activity ([Edwards et al., 2017](#); [Shearer et al., 2018](#)). Then, school environments with facilities and health promotion programs exclusively show the potential to increase physical activity ([Morton et al., 2016](#)). In addition, [Husnan et al. \(2023\)](#) stated that physical activity is closely related to

physical literacy in the context of studying physical activity. This is necessary because increasing physical literacy can also lead to increased participation in physical activity (Cornish et al., 2020).

Physical literacy was first studied in education, especially in physical education, which is now widely discussed and is the primary key to increasing physical activity (Charlie et al., 2023). Later, Cairney et al. (2019) proposed an initial concept of linking physical literacy, physical activity, and health. Physical literacy is considered an effort to increase and develop adolescent physical activity. A person with a high level of physical literacy can guarantee good physical activity and health in adolescents (Caldwell et al., 2020; Kanellopoulou et al., 2022). Therefore, improving and developing physical literacy, physical activity, and health are very important in the long term because they will benefit adolescent health.

In education, almost every learner in the school environment physically participates in physical education learning, either for health or fitness (Riyanto & Mudian, 2019). In addition, learners can achieve their learning goals when they get support from their teachers during the learning process (Muamar, 2022). Therefore, programs to increase physical activity, physical literacy, and social support must be implemented in schools through physical education learning. This can improve students' learning achievement (Chan et al., 2020; Egger et al., 2019). Furthermore, this finding underscores the importance of building a physically active family environment through real examples from parents, not just verbal support. Hosokawa et al. (2023) suggests that children tend to mimic their parents' behavior, making parental involvement in physical activity a more effective social support for forming similar habits in children. This study proposes focusing on developing school infrastructure that supports physical activity and implementing programs that promote physical literacy from an early age.

On the other hand, it is important to realize that this study has several limitations that must be considered. Firstly, the data relies entirely on the subjective perceptions of respondents collected through questionnaires, allowing for reporting bias. Secondly, this study did not consider other factors that might influence a person's physical activity level, such as intrinsic motivation, environmental conditions, or psychological factors. Third, using a non-random sampling technique, namely convenience sampling, limits the sample's representativeness and reduces the generalizability of the findings to the broader population.

Therefore, this study recommends that future research examine social support in more depth through the perspectives of family, friends, and significant others to obtain a more comprehensive and objective picture. It also recommends using longitudinal and experimental approaches to understand various factors' dynamics and causal influence on physical activity, especially among adolescents. It is also important to choose a more appropriate and representative sampling technique so that the study results can be better generalized.

CONCLUSION

The analysis showed no significant relationship between adolescents' social support and physical activity. This finding indicates that other factors, such as physical literacy, intrinsic motivation, and school environment, may increase adolescents' physical activity participation. In practice, this study may provide insights into the importance of building active families where direct parental example is more effective than verbal support alone. In addition, peer involvement also plays an important role in shaping active habits through fun social interactions. There is also the need to develop school infrastructure

and physical literacy programs early to encourage increased physical activity. The limitations of this study are that it is limited to subjective perceptions through questionnaires, does not consider other factors that influence physical activity, and uses convenience sampling techniques. This study recommends that future research be examined through the perspectives of family, friends, and significant others. In order to provide a more objective picture, longitudinal and experimental approaches are used to gain a deeper understanding of the factors that influence adolescent physical activity. Selecting a more representative sampling technique is also very important to improve the generalizability of the findings.

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CONFLICT OF INTEREST

The authors state not conflict of interest.

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