

Physical Activity, Social Support, Body Image, and Self-Efficacy as Predictors of Psychological Well-Being Among Secondary School Students

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ABSTRACT: Psychological well-being is increasingly recognized as a fundamental outcome of modern education within the positive psychology framework, which emphasizes optimal functioning and positive developmental experiences among students. Physical Education (PE) offers a strategic context for promoting psychological well-being through physical activity, supportive social interactions, and the development of personal competencies. This study aimed to examine the simultaneous contribution of physical activity, social support, body image, and self-efficacy to students' psychological well-being. A quantitative correlational design was employed involving 224 students in grades VIII and IX (aged 13–15 years) from MTs Muhammadiyah Karangajen, Yogyakarta, Indonesia. Data were collected using self-administered online questionnaires distributed outside school hours and analyzed using descriptive statistics and multiple linear regression. The results showed that the regression model was statistically significant ($R = 0.783$; $R^2 = 0.613$; $p < 0.001$), indicating that physical activity, social support, body image, and self-efficacy jointly explained 61.3% of the variance in students' psychological well-being, with all predictors demonstrating positive and significant relationships. These findings suggest that adopting a biopsychosocial and positive psychology oriented approach in Physical Education may play an important role in enhancing students' psychological well-being through holistic and supportive learning experiences.

KEYWORDS: psychological well-being; physical education; physical activity; social support; body image; self-efficacy

I. INTRODUCTION

Psychological well-being has become an important concern in contemporary education, as schools are increasingly expected to support not only students' academic achievement but also their overall personal development. Psychological well-being refers to a positive condition in which individuals are able to accept themselves, build meaningful social relationships, and effectively cope with daily challenges. Although psychological well-being is conceptually different from mental disorders, the growing prevalence of mental health problems among adolescents highlights the urgency of strengthening students' well-being through educational environments. According to the World Health Organization, approximately one in seven individuals aged 10–19 years worldwide experiences a mental disorder (WHO, 2024). In Indonesia, the Indonesia National Adolescent Mental Health Survey reported that one in three adolescents experiences mental health problems, while one in twenty has suffered from a mental disorder within the last 12 months (Gloriabarus, 2022). These conditions indicate the need for educational approaches that emphasize promotive and preventive efforts to enhance students' psychological well-being.

One school subject that has strong potential to support students' psychological well-being is Physical Education (PE). PE provides opportunities for students to engage in physical activity, interact socially with peers, and develop confidence through movement-based learning experiences. Previous studies have shown that regular physical activity can improve emotional regulation and cognitive functioning (Biddle et al., 2019), while social support plays an important role in maintaining psychological well-being (Lei et al., 2025). In addition, students' body image and self-efficacy influence how they perceive their abilities and participate in physical activities (Griffiths et al., 2016; Jiang et al., 2025). These factors suggest that psychological well-being in PE learning is shaped by the interaction of physical, psychological, and social elements.

However, existing research has largely examined these factors separately. Prior studies have reported positive relationships between physical activity and self-esteem or body image (Gualdi-Russo et al., 2022), between social support and psychological well-being (Lei et al., 2025), and between self-efficacy and students' engagement in physical activity (Peng et al., 2025). Despite these findings, studies that simultaneously examine physical activity, social support, body image, and self-efficacy in relation to

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students' psychological well-being remain limited, particularly in the context of secondary education in developing countries. Moreover, empirical evidence from Indonesian school settings, especially madrasah schools with distinct cultural and educational characteristics, is still scarce. In the Indonesian context, low levels of physical activity participation among children and adolescents remain a concern. National data indicate that approximately 57% of Indonesian children do not meet recommended levels of physical activity (Hanifah et al., 2023). At the same time, PE learning in schools often prioritizes physical-motor outcomes, while affective and social dimensions receive less attention. This condition may limit the role of PE in optimally supporting students' psychological well-being.

Therefore, the present study aims to examine the relationship between physical activity frequency, social support, body image, and self-efficacy and students' psychological well-being within the context of PE learning. By investigating these factors simultaneously, this study seeks to provide empirical evidence from Indonesian madrasah schools and contribute to a better understanding of how PE learning can support students' psychological well-being. The findings are expected to serve as a reference for educators and schools in developing more holistic and supportive physical education practices.

II. METHOD

This study employed a quantitative correlational research design to examine the relationships between physical activity, social support, body image, self-efficacy, and students' psychological well-being in the context of Physical Education (PE). This design was considered appropriate for identifying the strength and direction of associations among multiple variables without manipulating the learning environment.

The participants consisted of 224 students from grades VIII and IX at MTs Muhammadiyah Karangkajen, Yogyakarta, Indonesia, aged between 13 and 15 years. Participants were selected using convenience sampling based on accessibility and school approval, as the study was conducted within a single school setting. All eligible students were invited to participate voluntarily.

Data were collected using self-administered online questionnaires distributed via Google Forms outside school hours, in accordance with school regulations that prohibit the use of personal electronic devices during instructional time. All questionnaire items were rated on a four-point Likert scale. Physical activity was measured based on indicators of frequency, duration, intensity, and type of activity. Social support was assessed across emotional, informational, instrumental, and appraisal dimensions. Body image was evaluated through indicators related to body satisfaction and body perception, while self-efficacy was measured using the dimensions of magnitude, strength, and generality. Psychological well-being was assessed using Ryff's multidimensional framework, which includes autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The instruments demonstrated acceptable internal consistency, with Cronbach's alpha coefficients ranging from 0.66 to 0.80.

Data analysis was conducted using SPSS software. Descriptive statistics were first applied to summarize the characteristics of the participants and the distribution of the study variables. Prior to inferential analysis, the assumptions required for multiple linear regression analysis—including normality, linearity, multicollinearity, and homoscedasticity—were examined and satisfactorily met. Multiple linear regression analysis was then performed to examine the simultaneous contribution of physical activity, social support, body image, and self-efficacy to students' psychological well-being, with the level of statistical significance set at $p < 0.05$.

Ethical considerations were addressed by obtaining permission from school authorities and informed consent from all participants. Participation was voluntary, and anonymity and confidentiality of the data were assured throughout the research process. Participants were informed of their right to withdraw from the study at any time without any negative consequences.

III. RESULTS

Preliminary analyses indicated that all assumptions required for multiple linear regression analysis were satisfactorily met.

A. Descriptive Statistics

Table 1. Descriptive Statistics of Study Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Physical Activity	224	20	48	35.41	5.261
Social Support	224	19	52	39.68	5.065
Body Image	224	19	40	28.92	4.088
Self-Efficacy	224	13	32	24.48	3.574
Psychological Well-Being	224	32	64	48.13	6.090

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Descriptive statistics of the study variables are presented in Table 1. A total of 224 students were included in the analysis. The mean score for physical activity was 35.41 (SD = 5.26), indicating a moderate level of engagement in physical activity among participants. Social support showed a relatively high mean score (M = 39.68, SD = 5.07), suggesting that students generally perceived adequate support from their social environment.

The mean score for body image was 28.92 (SD = 4.09), reflecting a moderately positive perception of body-related attitudes among students. Self-efficacy demonstrated a mean value of 24.48 (SD = 3.57), indicating a moderate level of confidence in students' perceived ability to perform tasks and cope with challenges. Finally, psychological well-being had a mean score of 48.13 (SD = 6.09), suggesting that, overall, students reported a relatively favorable level of psychological well-being. The range of scores across all variables indicates sufficient variability for further inferential analysis.

B. Multiple Linear Regression Analysis

Multiple linear regression analysis was conducted to examine the simultaneous contribution of physical activity, social support, body image, and self-efficacy to students' psychological well-being. The regression model demonstrated a strong association between the predictor variables and psychological well-being ($R = 0.783$).

Table 2. Model Summary of Multiple Linear Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.783	0.613	0.606	3.821

As presented in Table 2 the model explained 61.3% of the variance in psychological well-being ($R^2 = 0.613$; Adjusted $R^2 = 0.606$), indicating a substantial explanatory power. The overall regression model was statistically significant, $F(4, 219) = 86.87$, $p < 0.001$, confirming that the set of predictors jointly contributed to psychological well-being.

At the individual predictor level, all variables showed statistically significant positive associations with psychological well-being (Table 3).

Table 3. Multiple Linear Regression Coefficients Predicting Psychological Well-Being

Predictor	B	SE	β	t	p
Physical Activity	0.267	0.066	0.230	4.05	<0.001
Social Support	0.432	0.066	0.359	6.60	<0.001
Body Image	0.230	0.074	0.155	3.12	0.002
Self-Efficacy	0.382	0.103	0.224	3.70	<0.001

Physical activity was a significant predictor ($\beta = 0.230$, $t = 4.05$, $p < 0.001$), as was social support ($\beta = 0.359$, $t = 6.60$, $p < 0.001$). Body image also demonstrated a significant contribution ($\beta = 0.155$, $t = 3.12$, $p = 0.002$), while self-efficacy showed a positive and significant relationship with psychological well-being ($\beta = 0.224$, $t = 3.70$, $p < 0.001$).

Overall, the findings indicate that physical activity, social support, body image, and self-efficacy jointly and independently contribute to students' psychological well-being within the regression model.

IV. DISCUSSION

This study examined the relationships between physical activity, social support, body image, and self-efficacy and students' psychological well-being within the context of Physical Education. The findings demonstrate that the proposed regression model explains a substantial proportion of variance in psychological well-being, supporting the view that students' well-being is a multidimensional construct shaped by the dynamic interaction of physical, psychological, and social factors. This result is consistent with the biopsychosocial framework and aligns with the principles of positive psychology, which emphasize the development of personal strengths and adaptive functioning rather than a sole focus on psychological deficits.

Physical activity emerged as a significant predictor of psychological well-being, corroborating previous evidence that regular engagement in physical activity contributes to emotional regulation, cognitive functioning, and mental resilience among adolescents (Biddle et al., 2019; Liu et al., 2024). From a positive psychology perspective, physical activity may enhance well-being through experiences of mastery, enjoyment, and perceived competence. However, when interpreted alongside the initial contextual observations reported in the background, these findings suggest that the psychological benefits of physical activity are not determined solely by frequency, but also by the quality and meaning of the activity experiences provided in PJOK. An

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instructional focus that emphasizes performance outcomes over enjoyment and personal growth may limit the potential of physical activity to optimally support students' psychological well-being.

Among the predictors examined, social support showed the strongest contribution to psychological well-being. This finding reinforces existing literature highlighting social support as a key protective factor against stress and psychological distress in adolescents (Acoba, 2024); Lei et al., 2025). In the PJOK context, supportive interactions with peers and teachers may foster feelings of belonging, safety, and acceptance, which are central components of psychological well-being. Nevertheless, this result contrasts with initial observations indicating the presence of negative peer interactions, such as teasing during physical activities. This discrepancy suggests that while students may generally perceive adequate social support, the learning climate in PJOK still requires deliberate pedagogical strategies to minimize competitive pressures and promote inclusive, supportive social environments.

Body image also demonstrated a significant, albeit smaller, contribution to psychological well-being. This finding aligns with previous studies indicating that positive body image is closely linked to adolescents' emotional well-being and self-acceptance (Tort-Nasarre et al., 2023). Within PJOK, body image should not be viewed merely as an aesthetic concern, but as a psychological resource that influences students' willingness to participate and engage confidently in physical activities. Emphasizing body functionality, personal progress, and cooperative learning rather than appearance-based comparisons may help foster a more positive body image and, in turn, enhance psychological well-being.

Self-efficacy was another significant predictor, supporting the notion that students' beliefs in their own capabilities play a central role in well-being. Consistent with prior research, higher self-efficacy may strengthen students' resilience and persistence when facing challenges, thereby contributing to more positive psychological outcomes (Peng et al., 2025). From a biopsychosocial perspective, self-efficacy is not solely an individual trait, but develops through successful experiences, social encouragement, and supportive learning contexts. Consequently, PJOK instruction that provides achievable challenges, positive feedback, and opportunities for reflection may be particularly effective in enhancing both self-efficacy and psychological well-being.

An important consideration in interpreting these findings is the apparent discrepancy between the generally moderate-to-positive levels of the measured variables and the more critical conditions described in the background. This divergence may be explained by several methodological and contextual factors, including voluntary participation, the use of self-report instruments, and potential social desirability bias among adolescent respondents. Additionally, qualitative observations often capture extreme or salient cases, whereas quantitative measures reflect aggregated perceptions across a broader population. Rather than indicating a weakness, this discrepancy underscores the complexity and contextual sensitivity of psychological well-being and highlights the importance of cautious interpretation when integrating qualitative impressions with quantitative findings.

Despite its contributions, this study has several limitations. Data collection was conducted online and outside school hours, limiting direct supervision during questionnaire completion. The use of convenience sampling and self-report measures may also restrict the generalizability of the findings and introduce response bias. Furthermore, the study focused on a limited set of predictors, whereas psychological well-being may also be influenced by additional factors such as academic stress, learning motivation, and family dynamics. Future research is encouraged to employ mixed-methods approaches, broader samples, and longitudinal designs to further elucidate the mechanisms underlying students' psychological well-being in physical education contexts.

V. CONCLUSIONS

This study provides empirical evidence that students' psychological well-being within Physical Education (PE) is shaped by the combined influence of physical activity, social support, body image, and self-efficacy. The findings confirm that these factors jointly contribute to students' well-being, reinforcing the view that psychological well-being is a multidimensional construct that cannot be explained by physical or psychological factors in isolation. By adopting a biopsychosocial perspective informed by positive psychology, this study highlights the importance of viewing Physical Education not merely as a context for physical skill development, but as a strategic educational setting for nurturing students' psychological strengths.

Among the examined predictors, social support emerged as a particularly influential factor, underscoring the critical role of supportive peer and teacher interactions in fostering adolescents' psychological well-being during PE classes. At the same time, physical activity, positive body image, and self-efficacy were shown to make meaningful contributions, suggesting that well-being is optimized when students experience enjoyable movement, develop positive self-perceptions, and feel confident in their abilities. These findings emphasize that the quality of learning experiences in Physical Education, characterized by inclusivity, encouragement, and personal growth, is central to promoting students' psychological well-being.

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Overall, this study contributes to the growing body of literature on positive youth development by providing empirical evidence from a madrasah context in Indonesia, which remains underrepresented in international research. The results suggest that Physical Education programs designed with an explicit focus on psychological well-being through supportive social climates, autonomy-supportive instruction, and body-positive pedagogical approaches may play a vital role in enhancing students' overall educational experiences. Future research is encouraged to employ longitudinal and mixed-methods designs to further explore how school-based Physical Education can sustainably promote students' psychological well-being.

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