

# Increasing physical activity and sports satisfaction: The role of self-efficacy in physical education for young women

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## ABSTRACT

Physical activity is very closely related to movement skills and can be developed through physical education. By integrating self-efficacy into physical education as an intervention, it is hoped that both can be instilled and developed simultaneously. This study aims to examine the effect of self-efficacy in physical education in order to increase physical activity and sports satisfaction for young women. This research is an experimental research using a randomized pretest-posttest control group design. The instruments used to collect data were the International Physical Activity Questionnaire (IPAQ) for young and middle-aged adults (15-59) and the Basic Needs Satisfaction in Sport Scale (BNSSS) instrument to measure satisfaction in sports which were then processed using an independent sample t-test compares two sample means to determine whether the group means differ significantly. The results of this study can be concluded that by integrating self-efficacy content in physical education lessons, it is very large in supporting the physical activities of female students and also increasing students' motivation and creating a better learning environment. In addition, this intervention can increase satisfaction with physical education learning. These results have an indirect impact on students' satisfaction in sports. Furthermore, it is necessary to conduct research on samples from various regions and samples of elementary school and college students.

**Keywords:** Self-efficacy; physical education; physical activity; sports satisfaction; young woman



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## INTRODUCTION

In an effort to encourage younger generations to lead healthy lifestyles, this sedentary conduct has grown to be a major cause for concern. The results of global research show that around 50% of children (Griffiths et al., 2013) and more than 80% of teenagers behavior sedentary physically active (Hallal et al., 2012) do not do the 60 minutes of physical activity (MVPA) recommended by WHO per day (WHO, 2019). Direct participation in physical activity among adolescents around the world is still low, especially among young girls (Ng et al., 2020). The importance of physical activity as a source of health benefits in the lives of

today's and future young women (Aira et al., 2021). In other words, the level of physical activity participation improves the health and mental development of female adolescents.

Motor skills play an important role in human development. Decreased athletic performance in childhood can hinder the adoption of an active and healthy lifestyle (Robinson et al., 2015). Children with low gross motor capacity tend to be less physically active and do less aerobic and breathing exercises. Conversely, the higher the motor competence, the impact of increased physical activity in childhood is associated with higher levels of PA and fitness (Drenowatz & Greier, 2018). Some research results reveal that education (physical education) has a role in improving motor skills and has an impact on the level of physical activity of students. This is due to the learning climate in physical education which masters basic movement skills helps students' MVPA and VPA levels (Veldman et al., 2020). In addition, movement skills have the potential to improve the quality of health in students. The same thing was confirmed in the results of a study conducted by Babic et al. (2014) which revealed that athletic performance is a key mechanism for facilitating a synergistic and repetitive relationship between physical activity, fitness, and health-related abilities in childhood and youth.

Social cognitive variables include a history of reinforcement and individual beliefs that are sensitive to social influences. However, theoretical studies investigating which social cognitive factors have the greatest impact on physical activity in adolescents are still limited (Amnie, 2018). Self-efficacy (SE) is one of the variables in social cognitive theory (SCT), expressed in the form of belief in one's ability to succeed in a task, course, or particular area (Mendoza-Vasquez et al., 2018) and is an aspect of motivation (Marshman et al., 2018). In particular, SE can have a significant long-term impact as it can push students into feedback loops that positively or negatively impact SE and students' learning outcomes (Marshman et al., 2018). Motivating beliefs derived from value theory are expected to mediate the relationship between self-efficacy and academic achievement. For example, academic performance or students' satisfaction (Doménech-Betoret et al., 2017). Related to this, there are scientific studies that show that students' satisfaction can reduce bad behavior in students. Therefore, developing values (social and emotional skills, cognitive skills, behavioral and ethical skills, perception of positive behavior, beliefs, etc.) is desirable for the future (Sun, 2016).

According to Lemes et al. (2021) associations between sport satisfaction and specific domains of life satisfaction will be explored in exercise-focused and beyond samples. Furthermore, Baudín et al. (2014) there is general consensus about the relationship between individual life satisfaction and satisfaction in various areas of life. Life satisfaction is closely related to sports satisfaction (Baudín et al., 2014). This is due to the general consensus about the relationship between life satisfaction and job satisfaction in different areas of life (Lemes et al., 2021). The purpose of this study was to examine the effects of increased physical activity and sport satisfaction after providing young women with personal learning activities. Because of the increasing importance of sports and physical activity in societies where obesity and physical inactivity are becoming more common, activity satisfaction can become an important area of life satisfaction (WHO, 2016). Subjects who exercised more reported higher overall life satisfaction than those who did not exercise (Iwon et al., 2021).

Physical activity and sports have many benefits, especially in the health sector. The benefits of a physically active lifestyle are described by Bull et al. (2020) include physical, mental, and social benefits this includes improving physical fitness (eg, cardiometabolic health, bone health), cognitive outcomes (eg, academic achievement), mental health (eg, reduced depressive symptoms), and social benefits (eg, increased self-esteem), and these health benefits persist into adulthood (Hayes et al., 2019). Furthermore, highlighted that organized physical activity, especially through the context of sport in physical education, has a positive impact on motor development at school age (Djordjević et al., 2021). The results from research by Larson et al. (2013) revealed that interventions to increase self-efficacy produce results that are consistent with other behavioral interventions designed to increase physical activity. The goal of the self-efficacy-boosting intervention is to encourage protocol adherence in resistance training and to encourage a physically active lifestyle that conforms to physical activity recommendations (Larson et al., 2014). Through students' participation in physical education and sports activities can contribute to the multifaceted development and

life satisfaction of students. Therefore, according to Sağın (2022) through school-based interventions (physical education) that can increase the participation and interest of female students in physical education and sports lessons can be effective. However, there has been no previous research that has tried to increase aspects of adolescent physical activity and the level of students' satisfaction through sports activities in physical education.

This research study is needed to examine the effect of various sports activities in physical education accompanied by an increase in students' self-efficacy on students' participation in physical activity and student satisfaction. This effort is expected to provide further research directions on learning movement and psychological skills and provide useful data to design movement and psychological skills learning in physical education.

## METHOD

This study used a quantitative approach with a form-fitting experimental design to assess how this process affects the target outcome (or outcomes). The activities performed collected pre-test and post-test information on the level of physical activity and students' satisfaction with the sport. This study used a quantitative approach with an in-form experimental design (Creswell & Creswell, 2018) to evaluate how this operation affects the target outcome (or results). This study used a randomized pretest-posttest control group design (Creswell & Creswell, 2018) and was conducted in 11 meeting sessions consisting of one meeting for the initial test, nine meetings for the treatment, where each exercise developed self-efficacy (level, strength and generality) consisting of three meetings, and 1 meeting for the final test.

The program includes six periods consisting of 11 weeks of selected practice sessions. The duration of each session was 90 minutes. Every three sessions there was self-efficacy development material in the form of; 1) Level (level of learning difficulty) whose implications describe how the selection of behavior that is felt capable of being carried out and avoiding behavior that is beyond the limits of the students' self-perceived ability in the learning process; 2) Strength (strength) which describes the level of strength of individual beliefs or expectations regarding students' self-ability in the learning process; and 3) Generality (generalization) which describes how broad the field of assignment is with students' confidence in their ability to complete learning assignments. Sessions take place one day a week according to the program that has been planned. Each session consisted of three parts: warm-up, self-efficacy intervention in physical education core lessons, and cool-down.

## Participants

The demographic study population consisted only of her first-year and her second-year students at SMA Negeri 5 Jambi City (N = 582). The statistical sample for this study consisted of 80 students randomly selected using cluster random sampling (Creswell & Creswell, 2018) and then divided into two experimental groups (n = 40) and a control group (n = 40). Physical activity and sports satisfaction were collected from grade 1 and 2 female students at SMA 5 Jambi City (age:  $16.3 \pm 1.83$  years and body weight ranging from  $45.8 \pm 3.51$ ). Individuals have attended physical education lessons for at least six months at school with an intensity of two hours of lessons per week.

## Testing Procedure

Study data were obtained using the International Physical Activity Questionnaire (IPAQ) in young and middle-aged adults (ages 15–59) to measure physical activity in students (Mehta et al., 2018). The IPAQ used consisted of seven statements and the IPAQ application was used for their evaluation. Study data were collected using the International Physical Activity Questionnaire (IPAQ) in young and middle-aged adults (ages 15–59) to measure physical activity in students (Mehta et al., 2018). The IPAQ used consisted of seven statements, and the IPAQ application was used for their evaluation. Validity: The load factor for each item was between 0.890 and 0.995. The Cronbach alpha reliability of the IPAQ questionnaire was 0.884 (0.828 to 0.902) (Dharmansyah & Budiana, 2021).

Study data were obtained using the BNSSS Basic Needs Satisfaction in Sport Scale instrument for measuring basic needs satisfaction in sport (Pineda-Espejel et al., 2019). The BNSSS we use consisted of the autonomy components of Choice, IPLOC, and Volition (10 statements), Competence (5 statements), and Relatedness (5 statements) for a total set of 20 statements. Each agent was rated on a response scale given on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A factorial validity analysis determined that the scores obtained from the BNSSS, namely the Cronbach alpha score ( $\alpha = 0.80-0.87$ ), were considered acceptable at each subscale to ensure internal consistency of the BNSSS subscale scores, and also the three factors that were supported. The three factors show strong correlation ( $r = 0.63 - 0.83$ ). Therefore, the 95% confidence intervals for the factorial validity of scores obtained from the BNSSS (Ng et al., 2011).

### Statistical Analyses

Descriptive statistics (mean  $\pm$  SD) were calculated for all dependent variables (IPAQ and BNSSS) and normal distribution was confirmed by the Shapiro-Wilk test to compare the differences in playing positions between the IPAQ and BNSSS groups. In addition, the t-test was used within the groups to compare the pre-test and post-test of IPAQ and BNSS. This technique used to test the hypothesis was independent sample t-test. Statistical significance was set at  $p < 0.05$  for all analyses. Analysis was performed using SPSS software (version 26.0).

### RESULTS AND DISCUSSION

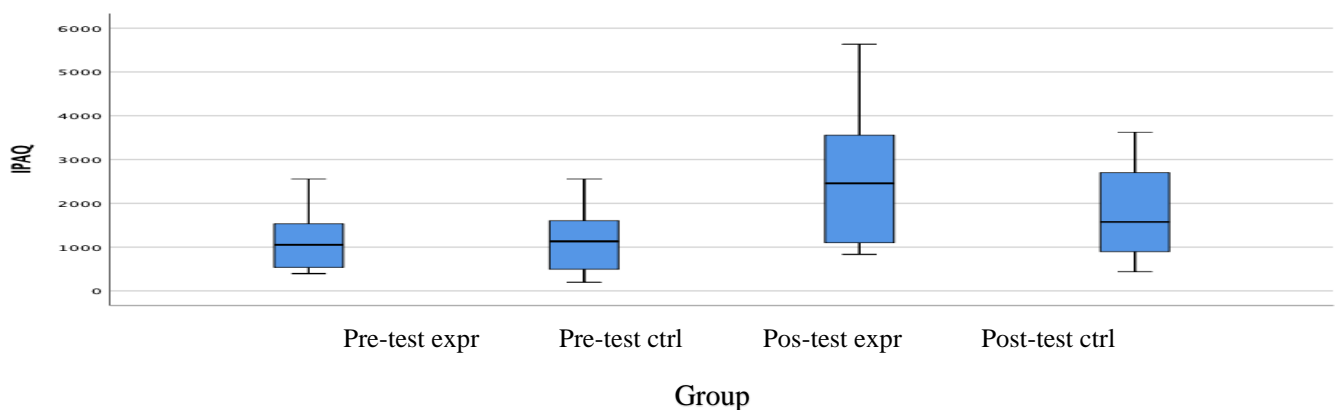
Based on the results of independent sample t- test calculations regarding the application of self-efficacy in physical education learning for female students significantly in increasing sports activity and satisfaction. The test values for Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root have a significance of 0.000 where the probability value (Sig.)  $< 0.05$ .

**Table 1. The Demographic of Physical Activity and Sport Satisfaction**

	Before	After
n	40	
Age	16,3 (1,83)	
Weight	45,8 (3,51)	
IPAQ**	1203,89 (865,19)	2189,59 (1282,85)
VPA	336 (536,79)	669 (951,07)
MPA	386,5 (426,15)	696 (469,26)
Walking	481,39 (370,10)	824,59 (442,65)
BNSS**	84,23 (12,82)	94,55 (16,92)

Abbreviations: International Physical Activity Questionnaire = IPAQ, Vigorous Physical Activity = VPA, Moderate Physical Activity = MPA, Basic Needs Satisfaction in Sport Scale = BNSSS

\*\* the assumption of normality is accepted (Kolmogorov-Smirnova test,  $p > 0.05$ ) and homogeneity of variance assumed ( $p > 0.05$ )



**Figure 1. Significant Difference for Pre-Test and Post-Test Physical Activity**

The results of the pre-test and post-test analysis of physical activity after being given a charge of self-efficacy in physical education by using the independent sample t- test line were obtained sig. < 0.005 (sig. 0.000) and in the pretest and posttest class lines the sig. < 0.005 (sig. 0.000). Furthermore, the results of the pre-test and post-test analysis of sports satisfaction after being given a charge of self-efficacy in physical education by using the independent sample t-test obtained a sig value. < 0.005 (sig. 0.001) and in the pre-test and post-test class lines the sig. < 0.005 (sig. 0.001).

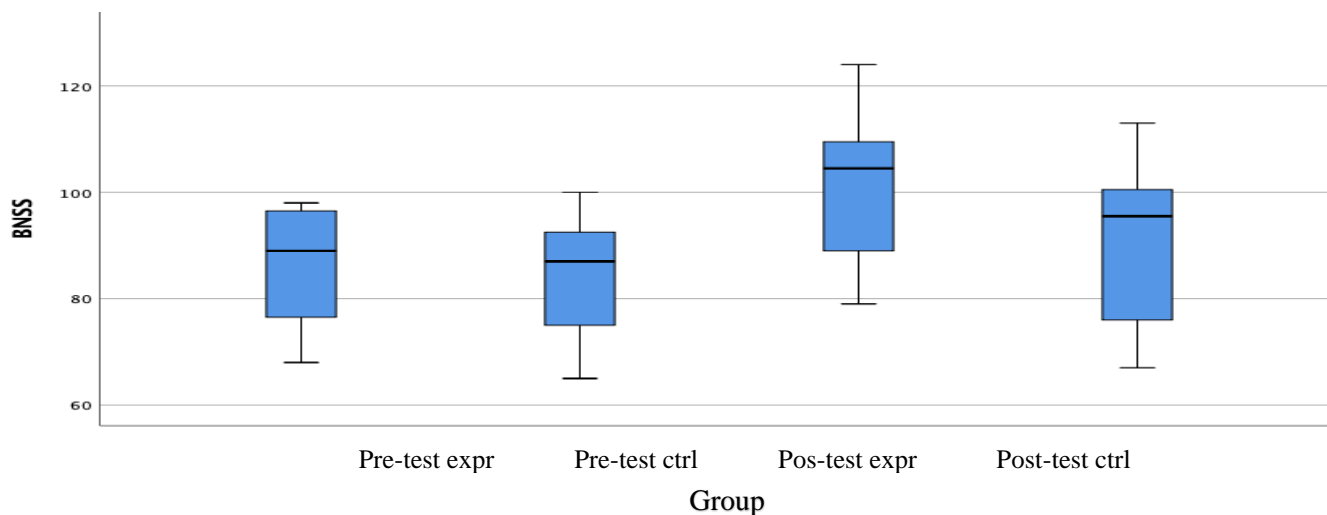


Figure 2. Significant Differences for Pre-Test and Post-Test Sports Satisfaction

#### a. Impact of Integration of Self Efficacy in Physical Education on the Level of Sports Satisfaction

Social cognitive theory proposes two key cognitive components. Expectations of achievement and self-efficacy can influence students' behavior, resulting in improved achievement and helping students determine how much effort they put into a task (Hampton et al., 2020). Developing self-efficacy while studying physical education classes can help students feel more confident and motivated to improve their physical skills. This helps improve students' performance and learning outcomes in physical education. In addition, high self-efficacy increases the motivation of individuals to exercise regularly. People who believe they can reach their exercise goals may be more motivated to perform well, which may result in greater satisfaction with their activity. High self-confidence also helps people survive or give up when they encounter obstacles and challenges in sports. They tend to believe they can overcome difficulties and keep trying, and overcoming obstacles increases their satisfaction. Learning self-efficacy influences a learners' approach, attitudes, ability to acquire skills, choice of activities, and willingness to continue behavior (Liaw & Huang, 2013).

A good sense of self-efficacy helps improve athletic performance. People who are confident in their abilities tend to take productive actions and focus on the effort necessary to achieve the desired result. Being successful in sports and achieving these goals increases personal satisfaction. High self-efficacy also leads to cycles of positive training experiences. A personal belief in improving one's skills can prompt one to try new and challenging activities (Prifti, 2022). Success leads to greater effectiveness and greater happiness. Overall, high levels of self-efficacy may have a positive impact on sport satisfaction. People with high self-efficacy tend to be more satisfied with their sporting activities because of their high motivation, resilience to obstacles, improved performance, and positive experiences. Self-efficacy should be contextualized in terms of specific self-efficacy, rather than general self-efficacy, thus students' belief in their ability to perform a particular task (Skapinaki & Salamoura, 2020).

Regarding the effect of self-efficacy on satisfaction, a research project conducted by Son (2020) has confirmed that self-efficacy can be explained clearly in relation to satisfaction with sports activities. Students with high self-efficacy work harder, work harder, try harder to complete assignments, and are more diligent because they tend to pursue difficult goals. The results of this study support the opinion that self-

efficacy affects motivation and can increase achievement (Trautner & Schwinger, 2020). In addition to having to develop and acquire skills to perform specific tasks, students must develop a strong belief that they can successfully complete those tasks. Thus, the motivating component of perceived self-efficacy seems to reflect positive tangible achievement (Komarraju & Nadler, 2013).

#### **b. The Impact of Integration of Self-Efficacy in Physical Education on Physical Activity**

From the perspective of social cognitive theory, human behavior and its consequences are determined by the interaction between individuals and their environment, which is shaped by how individuals perceive themselves and their environment. More importantly, the relationship between the individual and the environment is determined by self-efficacy. Self-efficacy is a set of task-specific beliefs about the perceived ability to complete an activity or achieve a desired outcome (Mudrak et al., 2016). This basic structure of social cognitive theory has been shown to have far-reaching implications for all areas of human functioning (Hortz et al., 2015), such as how PA affects a person's quality of life. Self-efficacy, or an individual's belief in one's ability to achieve certain goals, has a significant impact on many aspects of life, such as physical education classes through increased physical activity.

Individuals with high self-efficacy in physical education may be more motivated and participate in physical activity. People who have a high level of confidence in their physical and athletic abilities can be more motivated to participate in physical activity. They are able to reach their goals and be successful in a variety of physical activities. In addition, higher self-efficacy is also associated with greater perseverance in overcoming physical challenges. People with high self-confidence are better able to overcome obstacles and difficulties in physical activity, so they tend to perform these activities more consistently and regularly. Other mediating cognitive factors include outcome expectations, perceived social support, or self-regulation (McAuley et al., 2011). Many attempts have been made to explain the nature of the relationship between an individual's PA and quality of life by considering self-efficacy and other social cognitive variables.

In addition, high self-efficacy gives individuals the confidence to undertake physical activity. Students become more comfortable and confident in participating in physical activity both of inside and outside physical education classes. This can help you deal with the social anxiety and embarrassment that can come from participating in sports and physical activity in front of others.

People with high self-efficacy tend to set more realistic and challenging physical activity goals. They believe that they can achieve these goals and are motivated to work hard towards them. This allows you to gradually increase physical activity. Increased participation in PA is predictive of increased self-efficacy and better physical and mental health (Mudrak et al., 2016). Conversely, self-efficacy, PA, and physical and mental health status are positively correlated with overall quality of life as reflected in respondents' life satisfaction. In addition, according to Hidayat et al. (2023), increased self-efficacy affects students' perceptions and feelings about competence and achievement. So it is possible that increasing students' self-efficacy will change their behavior related to their participation in physical activity.

People with high self-efficacy tend to have cognitive control over their ability to influence their physical performance. They are more likely to engage in regular physical activity because they feel in control of their fitness and health. This result confirms the importance of the social cognition factor. Feeling physically fit was found to be positively associated with participation in physical activity (Mudrak et al., 2016). Although this effect is primarily related to the mastery experience of physical activity, self-efficacy may influence physical activity through social influences, such as the effects of experiencing physical activity through social support or indirect experience of physical activity (Ilham et al., 2023). It is suggested to give Therefore, physically active people are not only directly involved in physical activity, but they also represent patterns of PA and reach out to other physically active people who can provide additional support and encouragement. You may feel more productive because you are more likely to meet.

Although this effect is primarily related to the experience of mastering physical activity, it has been suggested that self-efficacy influences physical activity through social influences. For example, social support in physical activity and the effects achieved through the indirect experience of physical activity (Stevens et al., 2020). Therefore, physically active people not only participate directly in physical activity,

but also look to other physically active people who can represent PA patterns and provide additional support and encouragement. To increase physical activity through physical education, it is important that educators and coaches pay attention to and enhance students' self-efficacy (Wintle, 2022). Creating a supportive environment, providing positive feedback, creating opportunities for success, and teaching strategies for overcoming challenges can help increase individual effectiveness in physical education classes and, in turn, physical education. You can increase your out-of-class participation and physical activity.

## CONCLUSION

The results of this study can be concluded that by integrating self-efficacy content in physical education lessons it is very large in supporting the physical activity of female students. Through physical education, students can learn basic motion competencies to special techniques in sports. With the content of self-efficacy in physical education lessons, students are motivated and able to survive all the challenges contained in the lesson. Through this, students are expected to be able to carry out physical activities both of in physical education lessons and outside physical education hours. Furthermore, creating a supportive environment, providing positive feedback, creating opportunities for success, and teaching strategies for dealing with challenges can help increase individual effectiveness in physical education classes and can increase your participation and physical activity outside the classroom. Its It can also increase students' motivation and create a better learning environment. In addition, it is possible to further increase the satisfaction of physical education learning. These results have an indirect impact on students' satisfaction in sports. However, it is important to recognize the limitations of this study that it used a sample of adolescents and only girls. In addition, the research was only conducted in one school in the city of Jambi. Furthermore, it is necessary to conduct research on samples from various regions and samples of elementary school and college students.

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## CONFLICT OF INTEREST

The authors have no conflict of interest to declare

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