

ORIGINAL ARTICLE

Physical Self-concept of High School Adolescents: Differences Based on Living Area and Gender

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ABSTRACT

Introduction: Physical self-concept has an essential role in a healthy and active lifestyle, where the environment is a factor that affects both. The purpose of this study is to examine the differences in physical self-concept (PSC) between adolescents living in rural and urban areas and based on gender. **Methods:** These cross-sectional study observations involved 101 (51 male and 50 female) high school students in West Java, Indonesia. Participants filled out the Physical Self-Description Questionnaire (PSDQ) questionnaire consisting of 40 question items. **Results:** Univariate analysis showed no significant difference between adolescent PSC levels in rural and urban areas ($p > .05$). High school adolescent males had a higher level of PSC than females ($p < .05$). There was a significant interaction effect between residence and gender ($p < .05$). Urban adolescent males have a higher level PSC than rural, while different conditions occur in women's groups where they live in rural areas more than urban areas ($p < .05$). **Conclusion:** Living area does not directly affect the PSC level of adolescent high school students. Gender is the crucial moderator of influencing PSC level among adolescents. Based on these conclusions, the right strategy in PSC intervention to increase adolescent physical activity is to pay more attention to gender factors.

Keywords: Active lifestyle, Living area, Physical activity, Self-esteem, Self-perception

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INTRODUCTION

Regular physical activity is believed to have a positive impact on children and adolescents' physical fitness (1–3), cognitive function (4), mental health (5), academic achievement (6), quality of life (7), and immunity (8–13). However, most adolescents still do not meet the physical activity guideline (14). It is known that around 31.1% of people aged 15 years and over worldwide are not physically active, and this phenomenon occurs with age, both in developed and developing countries (15). Research shows that children and adolescent physical activity levels were significantly different between rural and urban, wherein Moore et al. study found that the adolescent's physical activity level in urban areas was

higher than in rural areas (16). In contrast, Joens-Matre et al. found different results, were urban adolescents were the least active overall (17). In addition, another study found differences in physical activity by gender where men were more active than women (18–20).

Physical activity is believed related to physical self-concept (PSC), especially in children and adolescents (21). PSC specific component is closely related to physical activity, fitness and BMI (22). PSC is also believed to be closely related to intrinsic motivation and significantly impacts life satisfaction (23). It is predicted that PSC in adolescence will affect physical activity and exercise participation (24). PSC mediates a cross-sectional relationship between physical activity and sports participation (25). Thus, making PSC a research study material is very important because it relates to physical activity and sports participation.

There have been many studies examining self-concept in children and adolescents—the study of Wankhade et al. compared self-concept between urban and rural.

The results found significant differences between adolescents' self-concepts in urban and rural areas (26). Other studies examine PSC by gender, where the female PSC level is lower than male (27). To our knowledge, research examining PSC based on urban-rural and gender is limited.

Therefore, this study aims to investigate the PSC levels difference between adolescent urban and rural. This study also investigates different PSC levels by gender. The third objective is to determine the interaction between the place of residence (rural-urban) and gender on PSC. This study was conducted in Indonesia because this type of research is still relatively limited, mainly based on the living area (rural and urban) of high school students.

MATERIALS AND METHODS

This cross-sectional study was conducted according to the ethical clearance guaranteed by the ethics committee for research of the Centre of Research and Community Service, Universitas Pendidikan Indonesia. No. B-0843/UN40.LP/PJ.00.00/2021

Participants

This study sample was 101 tenth and eleventh graders aged between 16-17 years old, consisting of 51 male and 50 female students. This age group was chosen because it is a period of transition from late adolescence to early adulthood, which is having some psychological problems (28). They were selected from urban and rural schools in West Java Province. All participants were drawn from those involved in sports extracurricular activities in their respective schools to ensure homogeneity. All participants have agreed to participate in this research and have received approval from their school administrators and Universitas Pendidikan Indonesia.

Measurement

Physical self-concept was measured using the short version of the Physical Self-Description Questionnaire (PSDQ) instrument consisting of 40 question items (25). All 40 questions have a validity range that varies between 0.7 – 0.94, with a reliability of 0.81. Semua item pertanyaan memiliki rentang validitas bervariasi antara 0.7 – 0.94, dengan reliabilitas 0.81. The PSDQ scale measures nine specific PSC components: body fat, appearance, physical activity, endurance, strength, coordination, flexibility, sports competence, and health. Beforehand, the PSDQ questionnaire was first translated into Indonesian and validated by three linguists.

Procedure

PSDQ questionnaire and 'respondent's identity was completed online using Google Form. Participants were guided to avoid any mistakes in understanding the questions. When completing the questionnaire, all

participants were confirmed to recheck their answers to avoid bias in data collection. Participants were asked to complete the questions once by spending between 30-60-minute time allotments.

Data Analysis

Before processing and analysis, the data obtained were first checked for their completeness. If there are incomplete data, the participants would be asked to correct it. Multivariate analysis of variance (MANOVA) was conducted for group comparisons (living area: urban vs. rural) x (gender: males vs. females). All analyses were carried out using SPSS, version 24.

RESULT

Table 1 describes the means and standard deviations for each group. The mean level of PSC score for adolescents living in rural areas was higher than those in urban areas (M = 151.30, SD = 26.97; M = 148.38, SD = 28.89). Overall, male adolescent had higher mean PSC scores than females (M = 159, SD = 23.42; M = 140.06, SD = 29.22). The average PSC among rural male adolescents was lower than urban male adolescents (M = 153.50, SD = 23.30; M = 163.17, SD = 23.04), while for female adolescents living in rural areas it was higher than in urban areas.

Table I: PSC data description

Group	N	M	SD
Rural	51	151.30	26.97
Urban	50	148.38	28.89
Male	51	159.00	23.42
Female	50	140.06	29.22
Male Rural	25	153.50	23.30
Male Urban	25	163.17	23.04
Female Rural	26	149.00	30.76
Female Urban	25	133.59	26.75

According to table 2, the data analysis results showed no significant differences in PSC level between adolescents living in urban and rural areas ($p > .05$). Overall, 'boys' and 'girls' PSC were significantly different ($p < .01$). There was a significant interaction between residence and gender on the average PSC score ($p < .05$). 'Tukey's test results (Table 3) showed a PSC difference between

Table II: Tests of between-subjects effects

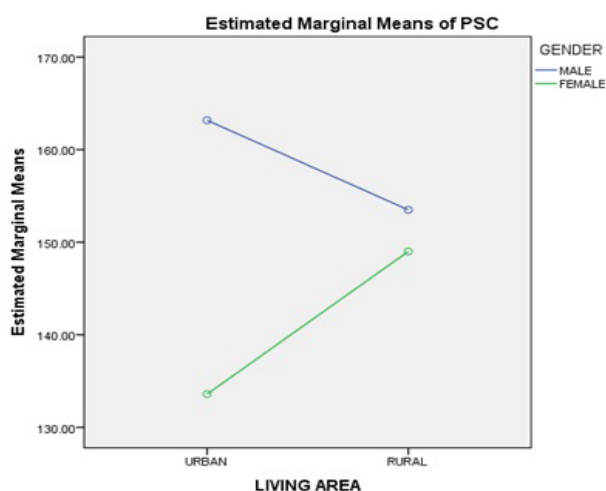
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	13121.031a	3	4373.68	6.51	.000
Intercept	2216198.88	1	2216198.88	3296.26	.000
Living Area (LA)	203.43	1	203.43	.30	.584

CONTINUE

Table II: Tests of between-subjects effects (CONT.)

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
GENDER	7170.30	1	7170.3	10.67	.002
LA * GENDER	3883.74	1	3883.74	5.78	.018
Error	65216.67	97	672.34		
Total	2339452.00	101			
Corrected Total	78337.70	100			

a. R Squared = .167 (Adjusted R Squared = .142)

**Fig 1: Interaction effects between living area and gender**

Male Urban and Urban Female ($p < .01$) and between Male Rural and Female Rural ($p < .05$).

According to Table 2 and Figure 1, there is an interaction between the living area and gender. On the other hand, the average PSC score for urban male adolescents was higher than that in rural areas; conversely, the PSC for rural female adolescents was higher than that in urban areas. It means that apart from being influenced by residence, PSC is also moderated by gender variables.

DISCUSSION

The current study aimed to investigate the PSC difference level between adolescent high school students in urban and rural areas. The research findings show no significant difference in PSC levels between urban and rural high school students. The difference in the mean scores is slight, with the overall PSC score of urban youth is lower than rural youth.

However, the current study's findings do not support the previous research, where there are differences in self-concept between rural and urban teenage students (26). The previous inconsistent results related to living area differences in PSC levels may be explained by differences in the self-concept focus, instrument, and sample characteristics. In the studies reporting lower self-esteem levels among rural student going adolescents.

The variable that was measured is global self-esteem, not specific to physical self-esteem as in this study. The instrument used is the Swatva Bodh Parikshan (SBP) Self-Concept Questionnaire, while this study uses the PSDQ, where there are several dimensions and slightly different forms of questions. One of them is global self-esteem which is part of the PSC, where this dimension contributes 37% to the variant of adolescents in urban areas (29). The next possible reason for differences in the characteristics of the sample. In this study, high school students (aged 16-17) were involved in extracurricular sports. The previous research was aged 13-14 years and only explained that the sample was randomly selected from rural and urban schools. Meanwhile, another study found that students involved in sports extracurricular activities have a better PSC than those not (30).

The second objective of this study is to examine the differences in PSC level by gender. This study confirms that there is a significant difference in PSC levels between adolescent males and females. Teenage girls' PSC levels are lower than boys, both in the overall group and by place of residence. This finding is in line with previous research that, on average, females tend to have lower average PSC levels than males (27). The same condition also occurs in elementary and junior high school students, where boys are higher in global and specific physical self-concepts than girls (31). The involvement of boys and young men in physical activities and sports tends to lead to the belief in their identity as a man. They feel that toughness in sports makes them more masculine as real men (32). Meanwhile, women tend to want to look feminine even though they are athletes (33). That's why males physically self-concept higher than females. Male and females have different views in assessing their physical condition (34). Self-confidence is also one factor influencing PSC differences (35). Specifically, in terms of physical dimensions, male students have a higher tendency of self-confidence than female students. Other findings reveal that PSC might be better placed as an antecedent than the result of training (36).

The current study also investigates the interaction effect between the living area and gender on the PSC level. Based on statistical analysis results, there is an interaction effect between residence (urban-rural) and gender (male-female) on the PSC level. Rural female students have higher level physical self-concept scores than urban students, while male students have the opposite effect. Following the present results, previous studies have demonstrated that gender was a significant moderator for general physical self-concept (21). Another study also found significant effects of identity and region on self-concept (37).

Meanwhile, other research found no interaction effect between age and gender on physical self-perception (38) and physical activity with the gender on global self-concept (39). Contrasting the results of this study

with those of other studies, of course, must be careful. It is because some of the variables studied are not the same. Another reason is that cross-cultural physical self-concept research has a wide variety of results (27,40). Therefore, the cultural differences of each country are also very likely to affect the differences in research results.

Another's finding from this research is that male adolescent PSC levels are higher in urban than rural. Meanwhile, in adolescent girls, those who live in rural areas have higher PSC levels than those who live in urban areas. There is a correlation between physical activity, gender, and location of residence (41), it is possible for these differences to occur. It is known that physical self-concept is influenced or has a significant relation to physical activity (42). Meanwhile, physical activity and sedentary behavior are different among rural and urban (43).

These findings may help us to understand the PSC level influenced by living area and gender. However, with a small sample size, caution must be applied, as the results might not be generalized to the same population in each country. Future studies on the current topic are therefore recommended with a larger sample.

CONCLUSION

This study identified that the PSC level of adolescents did not differ between those living in urban and rural areas. Overall, boys have higher PSC levels than girls. The PSC level is also influenced by the interaction between the place of residence and gender. These findings contribute in several ways to our understanding of PSC level on adolescents and provide a basis for future intervention-related PSC problems.

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