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ORIGINAL ARTICLE

The Relationship between Socioeconomic Factors, Physical Literacy, Physical Health, and Well-being among Female Athletes: A Construct Theoretical Model

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ABSTRACT

Background. The low participation of women in sports will remain a problem if a more comprehensive formula is not sought. Whereas the level of participation is correlated with the health and psychological well-being of women. **Objectives.** This study aimed to develop a theory that explains the simultaneous relations, both directly and indirectly, between socioeconomic variables, physical literacy, physical health, and psychological well-being in women. **Methods.** As participants were adolescent to elderly women, aged 16-64 years ±32.7 a total of 408 people were in the Surabaya area and its surroundings. Data was collected using questionnaires and scales covering socioeconomic dimensions, physical literacy, health, and psychological well-being. Data were analyzed using Structural Equation Modeling. **Results.** The results showed that the theoretical model which included 4 latent variables and 17 manifest variables was coherent and corresponded with empirical data with RMSEA= 0.08, Chi-square= 3.79, GFI= 0.988, AGFI= 0.984, PGFI= 0.730, and NFI= 0.976. Physical literacy as an exogenous latent variable is contributed by three manifest variables with lambda (λ) of 0.60-0.81. Socioeconomic as an exogenous latent variable is contributed by two manifest variables with λ of 0.42 and 0.79. Meanwhile, physical health as an endogenous latent variable is contributed by six manifest variables with λ of 0.63-0.83. Meanwhile, psychological well-being as an endogenous latent variable is contributed by six manifest variables with λ of 0.25-0.84. The physical health variable influences the psychological well-being variable with a beta (β) of 0.30. **Conclusion.** The findings of this study suggest that our theoretical model, which explores the structural relationship between socioeconomic variables, physical literacy, physical health, and psychological well-being, is both coherent and supported by empirical evidence.

KEYWORDS: ***Physical Health, Physical Literacy, Socioeconomic, Well-Being.***

INTRODUCTION

Women's participation in sports needs to be continuously increased in line with global agreements regarding gender equality such as the UN Convention on the elimination of discrimination against women in the context of the Sustainable Development Goals (1-3). In addition to reasons of justice and equality, women's participation in sports has a positive impact on their quality of life (4-6). There has been a lot of empirical evidence showing that participation in sports has a positive impact on physical health and psychological well-being. However, the participation rate of women in sports is still low.

Research in Indonesia shows that the participation rate for women in physical activity

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is 47%, while for men it is 62% (7). There is a 15% gap between the two. The highest participation rate was achieved in the 6-12-year-old category and decreased at the age of 19. In men, the participation pattern rises again at the age of 50-80 years (7, 8). Meanwhile, for women, the participation rate drops sharply at the age of 50 (5, 9). The low participation of women in sports is not only happening in Indonesia but also in many countries. In Australia, for example, the highest participation rate is at school age and has decreased over time and the lowest point occurs in the elderly (10). Research in Japan proves that the low participation of women in sports is due to bothersome reasons 43.2%, being busy with work and household matters 43.1%, not liking sports 23.3%, and not having enough money to do it 16.2 % (11).

Global data also shows the same, around 31% of adults aged 15 years and over are inactive, reaching 28% for men and 34% for women (12). The prevalence of insufficient physical activity is quite low in the Americas and the Eastern Mediterranean region. In these two regions, nearly 50% of women are inactive, whereas the prevalence for men is 40% in the Americas and 36% in the Eastern Mediterranean. The Southeast Asia region shows the lowest percentage, with 15% for men and 19% for women (12, 13). Across all countries, male enrollment rates are higher than female, with the greatest differences in prevalence in the Eastern Mediterranean countries of Israel, Jordan, Lebanon, and Syria. In general, the reasons for physical inactivity are partly due to a lack of leisure time and increased sedentary behavior during work and household activities. An increase in the use of "passive" modes of transportation is also thought to be associated with a decrease in the level of physical activity. In addition, urbanization problems have resulted in several environmental factors that can inhibit participation in physical activities such as freeway infrastructure, traffic density, low air quality, and lack of parks, sidewalks, and sports/recreational facilities (14, 15).

The low participation of women in sports is not just a matter of cultural construction but is also related to reproductive issues in women (13, 16). More than 80% of adolescent women in Japan state that menstrual conditions affect learning and exercise. Some 36.7% felt uncomfortable due to menstruation, 27.8% due to pain during menstruation, 15.2% due to anemia, and 7.6% due to irregular menstruation. This condition is related to women's problems in sports which are often referred to as the "Female Athlete Triad - FAT", a syndrome that is a combination of three women's problems in sports, namely low nutritional intake which is characterized by eating disorders, menstrual dysfunction, and low bone mineral density which leads to osteoporosis (11, 17). This happens to women who do sports with high intensity, such as athletes. Heavy physical activity that the body's physiology cannot compensate for, coupled with psychological pressure due to competition, can result in the disruption of the metabolic system in the body (17).

The reasons for the low involvement of women indicate that there is a problem with information and knowledge that has not been reached and has even been trapped in a spiral of misinformation. Therefore, physical literacy is an important part of promoting sports activities for women (18, 19). In this regard, sport is not understood as a competition that demonstrates strength, speed, and high-level technical skills, but the sport as a vehicle for obtaining health benefits, happiness, and psychological well-being (16).

The level of progress of a region with all its economic, educational, and technological luxuries does not necessarily mean that its people are active in sports. In some cases, socioeconomic status influences the level of participation in sports, but this has not yet been concluded. People in Jakarta, for example, have a lower sports participation rate than the national average. Jakarta has the highest per capita income in Indonesia, which is IDR274.70 million (20). Meanwhile, Maluku, which has a much lower per capita income, namely IDR26.07 million, actually has a high level of sports participants. Based on the 2021 Sports Development Index report, the level of community participation in Java Island is lower compared to people outside Java Island (21). Almost 60% of Indonesia's economy is contributed by economic activity in Java.

Many studies have been produced related to the benefits of exercise for individual self-development, including in women (22-25). Several studies have proven that women's participation in sports is beneficial to reproductive health and health in general (26). In adult women, physical activity can contribute to

the prevention of cardiovascular disease which causes one-third of female deaths worldwide and half of all female deaths in 50 developing countries (13, 27).

Participation in sports can also facilitate good mental health for women of all ages, including the management of mental disorders such as Alzheimer's disease (28). Exercise can improve psychological well-being by building self-esteem, self-confidence, and social integration, as well as helping to reduce stress, anxiety, loneliness, and depression (29). This issue is very important considering that the rate of depression in women is almost twice as high as that of men, both in developed and developing countries. Physical activity also helps reduce the effects of osteoporosis, in which women have a higher risk than men. Participation in physical activity helps in the prevention and/or treatment of other chronic and degenerative diseases associated with aging, such as type-2 diabetes, hypertension, arthritis, and cardiovascular disorders (30-32). Physical activity also aids in weight management and contributes to the formation and maintenance of healthy bones, muscles, and joints (33).

Physical health and psychological well-being which are the main dimensions of a person's quality of life are also related to the freedom that individuals have in obtaining access to the economy, education, and a good environment (34). The quality of life of individuals and communities can be low due to the lack of equitable access to economic, educational, and health resources. Research conducted by the Gallup-Healthways organization on 450,000 respondents from 1000 Americans found that psychological well-being and life values have a different correlation (35). Income and education were more closely related to life values, but health, caregiving, loneliness, and smoking were relatively strong predictors of everyday emotions. Low income exacerbates the emotional pain associated with misfortunes such as divorce, poor health, and loneliness. The research concluded that high income can "buy" life satisfaction, but not happiness.

The low participation of women in sports will remain a problem if a more comprehensive formula is not sought. Does this problem correlate with their physical literacy? What is the role of social and economic factors? What is the impact on physical health and psychological well-being? Until now there have been no satisfactory answers to a number of these questions, let alone explained based on a theoretical model. This study aims to develop a theory that explains the simultaneous relations, both directly and indirectly, between socioeconomic variables, physical literacy, physical health, and psychological well-being in women. The theoretical model is developed based on a literature review, including relevant research results. The model that has been constructed is then tested with empirical data to ensure that the theoretical model developed is compatible with the facts in the field.

MATERIALS AND METHODS

This study uses a cross-sectional study method, observational research that analyzes data from a population at one moment in time, including differences in age groups to confirm the effect of maturation (36, 37). This method is often used to assess the prevalence of health indicators, understand the determinants of health, and describe the characteristics of a population. The theoretical model is formulated based on a review of the literature, especially research results in the last ten years.

This research offers a simpler model for explaining women's health, both physical and psychological, while still considering social and economic variables. The model relies on physical literacy, which on the one hand acts as an independent variable for health variables, and acts as a dependent variable for social and economic status. In SEM logic, two variables explain the relationships in the model, namely latent variables and manifest variables (38). Physical literacy as a latent variable is reflected by three manifest variables, namely self-confidence and physical competence, motivation, and interaction with the environment (39). The socioeconomic status variable is reflected by two manifest variables, namely education level, and income (40). Physical health variables are reflected by six indicators, namely satisfaction, energy, travel, sleep, activity, and work (41). The psychological well-being variable is reflected by six indicators or manifest variables, namely autonomy, environmental mastery, personal development, relationships with other people, life goals, and self-acceptance (42).

Participants. Respondents in this study were 408 women aged 16-64 years ±32.7 from Surabaya and its surroundings. Based on the level

of education, most of the respondents (70.1%) had higher education, 29.41% were in senior high schools, and the rest was in elementary schools. From the type of work, 40.2% were students, 24.51% were civil servants, 16.91% were employees, and 12.5% did not work. As a large city with a population of 2.9 million people and a per capita income of IDR188.73 million, Surabaya has metropolitan characteristics where most of the people's livelihoods are based on the goods and services industry. Community activity and mobility are very high along with the size of the economy that occurs. Such conditions will certainly affect the lifestyle of the people, including in sports. Informed consent has been obtained from the participants. The research also has been approved by the author's institutional review board or an equivalent committee No. RR.09.9/2022.

Instruments and Procedures. Data collection was carried out using a questionnaire that was compiled in an integrated and comprehensive manner. Before arriving at the actual respondents, the use of the instrument was simulated to many people, in this case, the data collectors, to get feedback regarding readability and ease of filling it out. After ensuring that it was feasible, the instruments were distributed to respondents according to predetermined criteria. Socioeconomic status is measured using a self-report questionnaire, which includes the level of education, employment, and income (42). Physical literacy, which is the main variable in this study, was measured using the Perceived Physical Literacy Instrument (PPLI), which includes the dimensions of self-confidence and physical competence, motivation, and interaction with the environment (39). The validity coefficient of this instrument is 0.51-0.82 and the reliability coefficient is 0.78. Physical health was measured by the WHOQOL-BREF questionnaire, especially in the physical dimension (41, 43). The factor analysis of this instrument has a loading factor ranging from 0.51-0.93 and Cronbach's alpha of 0.83. While the psychological well-being variable is measured by the Ryff Scale (42), which includes the dimensions of autonomy, environmental mastery, personal growth, positive relationships, purpose in life, and self-acceptance. The reliability was carried out by a test-retest of .82 and the validity coefficient ranged from 0.46 - 0.58.

Data Analysis. After the data has been collected and validated, it is then analyzed using structural equation modeling, which is a confirmatory multivariate statistical technique to test the structural relations of some variables simultaneously (38, 44, 45). Statistically, SEM is a combination of regression analysis and factor analysis. A model is said to be good if it can explain the actual phenomenon with a small error rate, with the test criteria RMSEA≤ 0.08, GFI≥ 0.90, and CFI≥ 0.90.

RESULTS

Descriptive analysis of data in Table 1, latent variables, and manifest variables shows that among the manifest variables of physical health, the traveling variable has the highest average, which is equal to 4.35 (0.76). Meanwhile, the satisfaction variable has the lowest average, which is equal to 3.76 (0.96). In the physical literacy variable, the motivation variable has the highest average, which is 4.56 (0.52). Meanwhile, the variables of self-confidence and physical competence have the lowest average, which is equal to 4.04 (0.78). In the psychological well-being variable, the personal development variable has the highest average, which is equal to 4.39 (0.61). Meanwhile, the purpose in life has the lowest average, which is equal to 3.34 (0.62).

Of the three main latent variables, physical literacy has the highest average, which is 4.24 (0.57), followed by physical health with an average of 4.07(0.68) and psychological well-being variable of 3.83 (0.47). The data proves that psychological well-being is still a serious problem, especially in the midst of post-Covid-19 recovery efforts. The Covid-19 phenomenon has greatly affected the condition of psychological well-being, bearing in mind that many members of the public have lost their jobs due to layoffs, experiencing burnout due to limited mobility, including serious health threats that have the potential to lose their lives.

The theoretical model in this study involves 4 latent variables and 17 manifest variables. The four latent variables are socioeconomic variables, physical literacy, physical health, and psychological well-being. The four latent variables are exogenous and endogenous, depending on the position of the variable in the construction of the theoretical model. The manifest variables include self-confidence and physical competence, motivation, interaction, education, income, dependence, energy, mobility, sleep, activity, work, autonomy, environmental

mastery, personal growth, relationships, purpose in life, and self-acceptance.

The theoretical model explains that physical literacy, which is an exogenous latent variable, directly influences physical health and psychological well-being as endogenous latent variables. The physical literacy variable also has an indirect effect on the psychological well-being variable through the physical health variable. Socioeconomics as an exogenous latent variable influence on physical health and psychological well-being as an endogenous variable. Socioeconomic variables also have an indirect effect on psychological well-being through physical health variables. Meanwhile, socioeconomic variables correlate with physical literacy variables.

Table 1. Descriptive Analysis of Latent and Manifest Variables

Latent & Observed Variables	Mean	Std. Deviation
Physical Health	4.07	.68
Satisfaction/Dependence	*3.76*	*.96*
Energy and fatigue	*4.21*	*.81*
Travel/Mobility	*4.35*	*.76*
Sleep and rest	*3.91*	*.99*
The activity of daily living	*4.09*	*.87*
Work capacity	*4.08*	*.85*
Physical Literacy	4.24	.57
Confidence & competence	*4.04*	*.78*
Motivation	*4.56*	*.52*
Interaction	*4.14*	*.80*
Psychological Well-being	3.83	.47
Autonomy	*3.62*	*.68*
Environment mastery	*3.99*	*.67*
Personal growth	*4.39*	*.61*
Relations	*3.74*	*.78*
Purpose in life	*3.34*	*.62*
Self-acceptance	*3.89*	*.75*

The structural model relations were then tested simultaneously using SEM, a confirmatory multivariate analysis technique to examine the structural relations of some variables. The test results as shown in Figure 1 proves that the theoretical model is compatible with data with RMSEA= 0.08, Chi-square= 3.79, GFI= 0.988, AGF = 0.984, PGFI= 0.730, and NFI= 0.976. Physical literacy as an exogenous latent variable is contributed by three manifest variables with a lambda (λ) of 0.60-0.81. Socioeconomic as an exogenous latent variable is contributed by two manifest variables with λ of 0.42 and 0.79. Meanwhile, physical health as an endogenous latent variable is contributed by six manifest variables with λ of 0.63-0.83. Meanwhile, psychological well-being as an endogenous latent variable is contributed by six manifest variables with λ of 0.25-0.84 (see Table 2).

The physical literacy variable affects the physical health variable with a gamma (γ) of 0.83 and the psychological well-being variable with γ of 0.41. Socioeconomic variables affect physical health with γ of 0.17 and psychological well-being with γ of 0.36. The physical health variable influences the psychological well-being variable with a beta (β) of 0.30. There is no correlation between physical literacy variables and socioeconomic variables as indicated by a coefficient of 0.10 at a significance of 0.14 ($p>0.05$).

In SEM logic, besides being able to know the structural relationships between variables, it can also be seen the direct and indirect effects of one variable on another. For example, socioeconomic variables have a direct effect on psychological well-being with γ of 0.36 and an indirect effect on self-acceptance with λ of 0.35. The physical literacy variable has a direct effect on physical health with γ of 0.83 and an indirect effect on the life satisfaction variable with λ of 0.52 (see Table 3). All of these coefficients describe how the direct and indirect impacts of one variable on another variable in the construction of the theoretical model that has been formulated.

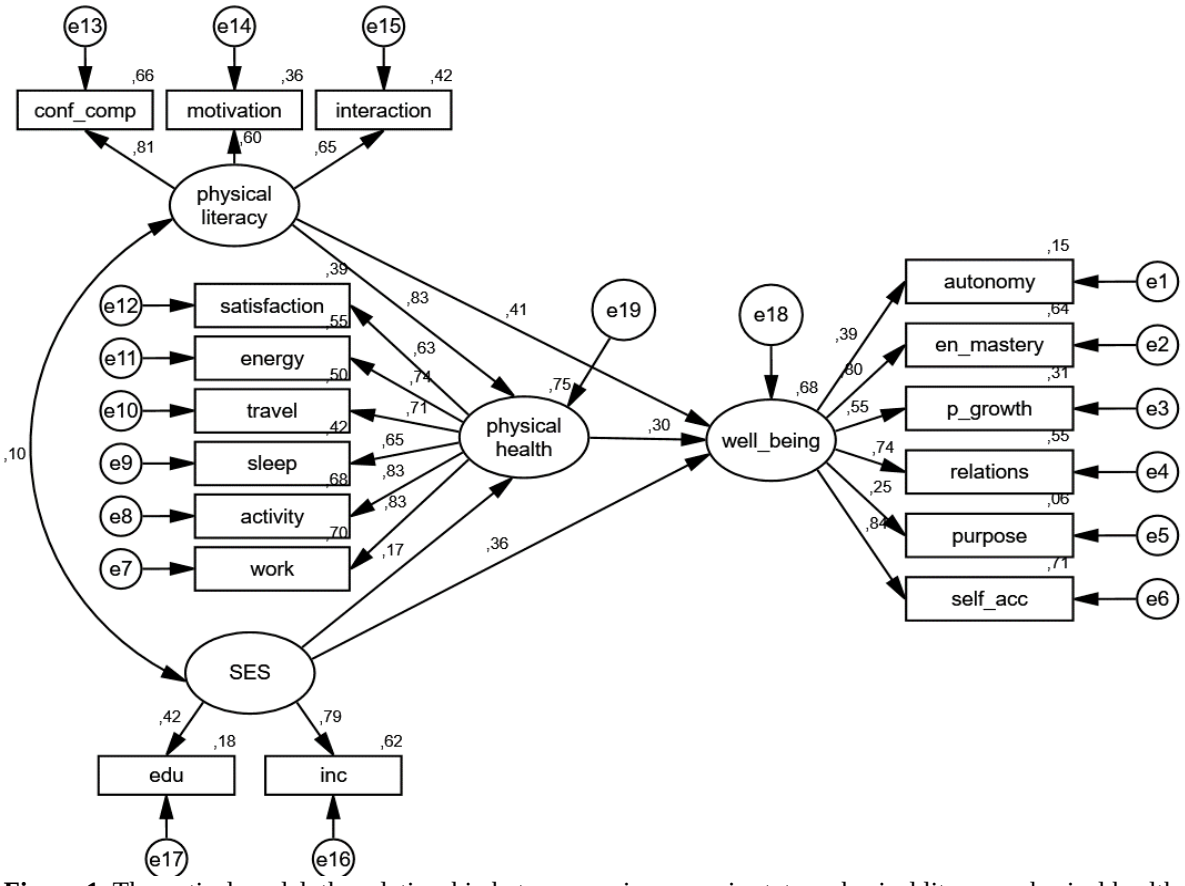

Figure 1. Theoretical model, the relationship between socioeconomic status, physical literacy, physical health, and psychological well-being

Table 2. Coefficient Effect of Exogenous Variables on Endogenous Variables

Effect between Variables			Coefficient (γ, β, λ)	p
Physical_health	←-	SES	.17	***
Physical_health	←-	Physical_literacy	.83	***
Well-being	←-	Physical_health	.30	***
Well-being	←-	Physical_literacy	.41	***
Well-being	←-	SES	.36	***
Autonomy	←-	Well-being	.39	***
Env._mastery	←-	Well-being	.80	***
Personal_growth	←-	Well-being	.56	***
Relations	←-	Well-being	.74	***
Purpose	←-	Well-being	.25	***
Self-acceptance	←-	Well-being	.84	***
Working	←-	Physical_health	.83	***
Activity	←-	Physical_health	.83	***
Sleeping	←-	Physical_health	.65	***
Traveling	←-	Physical_health	.71	***
Energy	←-	Physical_health	.74	***
Satisfaction	←-	Physical_health	.63	***
Conf._competence	←-	Physical_literacy	.81	***
Motivation	←-	Physical_literacy	.60	***
Interaction	←-	Physical_literacy	.65	***
Income	←-	SES	.79	***
Education	←-	SES	.42	***

DISCUSSION

This research has found a theoretical model that explains the structural relationship between the variables of socioeconomic status, physical literacy, physical health, and psychological well-being in women. That is, the formulated theoretical constructs are supported by empirical facts. This model is urgent for describing how women participate in sports, which is still a serious problem, not only in Indonesia but also in some countries (10, 11, 16, 21). The findings of this study explain that physical literacy as the main variable has a significant effect on the physical health and psychological well-being of women. The results of this study are in line with previous research which states that knowledge, skills, and attitudes toward sports are positively correlated with one's involvement in sports activities (6, 8, 21). The effect of physical literacy on physical health is higher than the effect of physical literacy on psychological well-being.

Table 3. Effect Size in Adjusted Structural Equation Model

Dependent Variables	Independent Variables											
	SES			Physical Literacy			Physical Health			Well-being		
	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE
Physical health	.17		.17	.83		.83						
Well-being	.36	.05	.41	.41	.25	.66	.30		.30			
Education	.42		.42									
Income	.79		.79									
Interaction				.65		.65						
Motivation				.60		.60						
Conf. Competence				.81		.81						
Satisfaction		.11	.11		.52	.52	.63		.63			
Energy		.13	.13		.61	.61	.74		.74			
Traveling		.12	.12		.59	.59	.71		.71			
Sleeping		.11	.11		.54	.54	.65		.65			
Activity		.14	.14		.69	.69	.83		.83			
Working		.14	.14		.69	.69	.83		.83			
Self-Acceptance		.35	.35		.56	.56		.25	.25	.84		.84
Purpose		.10	.10		.17	.17		.07	.07	.25		.25
Relations		.30	.30		.49	.49		.22	.22	.74		.74
Personal Growth		.23	.23		.37	.37		.16	.16	.56		.56
Environment Mastery		.33	.33		.53	.53		.24	.24	.80		.80
Autonomy		.16	.16		.25	.25		.11	.11	.39		.39

This study also found evidence that socioeconomic variables had no significant effect on physical literacy. The results of this study further clarify the position of socioeconomic variables concerning sports participation which is still being debated. The findings of this study reinforce several studies showing that there is no correlation between socioeconomic variables and a person's involvement in sports (21, 46-48). Even though the socioeconomic variables affect physical health and psychological well-being, the effect is not as big as the physical literacy variable. The findings of this study also explain that to increase women's participation in sports, socioeconomic variables are not a factor that must be considered. Referring to the results of research in Japan, women's perceptions regarding the impact of exercise on body metabolism disorders and busy domestic affairs affect more women's low involvement in sports (11). That is, physical literacy that leads to knowledge, motivation, self-confidence, and physical competence to engage in sports activities is very important (18, 49).

The physical literacy variable is more dominantly influenced by self-confidence and physical competence factors compared to motivation and interaction factors. This finding also proves that in terms of physical literacy, involvement in physical activity is more important than just knowledge, motivation, and attitude. Someone may know that exercise is important for health, but this knowledge does not necessarily lead that person to do physical activity. This fact is also confirmed by the results of a study involving more than 20,000 respondents in 34 provinces in Indonesia. Provinces on the island of Java are relatively advanced economically and educationally the level of participation in sports for their citizens is relatively low, below the national average (21).

This fact is also in line with conditions in several developed countries. Most adults in Western cultures are physically inactive, despite decades of warnings about the potential negative health consequences of sedentary habits (50). Efforts to promote physical activity have focused on identifying determinants and designing interventions that may be effective for promoting regular physical activity. Many factors encourage adults to initiate and maintain a physical activity program. Some factors are permanent, such as gender, race, and ethnicity, and some factors are considered modifiable, such as behavior, personality, environment, and community. Several social and environmental factors have systematically emerged as determinants of physical activity in adults. Within ethnic minorities, for example, the removal of barriers such as unaffordable facilities and unavailable childcare, high crime rates, fear for personal safety, and culturally inappropriate activities is paramount. Social support from family, peers, community, and healthcare providers has resulted in improvements.

Longitudinal studies show that the components of physical fitness are temporary, depending on the daily activities performed (50). It is very possible when children and adolescents are very fit, but when adults and the elderly their fitness levels are very low. Therefore, physical activity is necessary throughout life (18). Interventions will be successful if they adapt the program to individual needs, take into account personal fitness levels, allow personal control over activities and their results, and provide social support for the family, peers, and the community. The initiation and maintenance of regular physical activity in adults depend on many biological and sociocultural variables that demand attention throughout the lifespan.

The physical health variable is more dominantly influenced by activity and work factors compared to other factors such as sleep conditions and satisfaction with physical conditions. These findings prove that for women, physical health is more perceived as the physical ability to work and carry out daily activities. That's the most important. Physical activity can improve health. Physically active people tend to live longer and have a lower risk of heart disease, stroke, type 2 diabetes, depression, and some cancers. Physical activity can also help control body weight, which is a problem for women because the prevalence is higher than for men. Inactive adults have a higher risk of premature death, heart disease, stroke, type 2 diabetes, depression, and others (51).

Although sport provides benefits for women, its implementation in the field is not as simple as one might imagine. Something that is not a problem for men, could be a problem for women. Exercise is widely thought to improve or maintain mental health, but it can be problematic for women. The results of research in Australia that focused on in-depth interviews with two female hockey players showed how women negotiate and manage their mental health and recovery from trauma through sports participation due to the pressures of competition and matches (16). This phenomenon is reminiscent of the events at the 2020 Tokyo Olympics, where a gymnast from America, Simone Biles, withdrew from the women's team competition due to high stress in the competition. His expression was so dramatic when announcing his retirement at the Ariake Gymnastic Centre, that his mental health was far more important than winning a gold medal at the Tokyo Olympics. This fact at the same time confirms the phenomenon of the “Female Athlete Triad” among women who exercise (11, 17).

This study also found that the psychological well-being variable was more dominantly influenced by self-acceptance, mastery of the environment, and relationships with other people. Psychological well-being is urgent for many women as their jobs deal a lot with the domestic area such as taking care of children, cooking, washing, and ironing which often cause high stress. Research conducted using the meta-analysis method proves that participation in physical activity in the open has a better impact on psychological well-being compared to physical activity indoors (52). Exercising in a natural environment provides feelings of revitalization and greater positive engagement, decreases tension, confusion, anger, and depression, and increases energy. They felt greater enjoyment and satisfaction with outdoor activities and expressed greater intentions to repeat the activity in the future.

This research has limitations related to the respondents who are mostly highly educated. This happened because when this research was conducted, the Covid 19 pandemic in Indonesia had not completely subsided so the reach of respondents could not be maximized. Therefore, the results of this study need to be tested on the characteristics of the more diverse respondents.

CONCLUSION

In general, this study has concluded that the theoretical model explaining the structural relationship between socioeconomic variables, physical literacy, physical health, and psychological well-being is coherent and corresponds to empirical facts. Physical literacy, which is reflected in self-confidence and physical competence, motivation, and interaction, has direct and indirect effects on physical health and psychological well-being. The impact of physical literacy is relatively dominant on physical health, especially in terms of the ability to work and carry out daily activities. As for the psychological well-being variable, the influence of physical literacy is relatively dominant on aspects of self-acceptance and familiarity with the surrounding environment. Socioeconomic variables reflected in education and income do not correlate with physical literacy but contribute to women's physical health and psychological well-being. The contribution of socioeconomic variables to psychological well-being is higher than physical health. Physical health has a significant effect on women's psychological well-being, especially in terms of self-acceptance, familiarity with the environment, and relationships with other people. These three aspects are increasingly relevant for women following the pandemic and post-pandemic conditions where life pressures are increasing due to economic difficulties and the possibility of being infected with a virus that can threaten their lives.

APPLICABLE REMARKS

- Physical literacy is an important variable in explaining women's participation in sports. Therefore, more serious, systematic, and collaborative efforts need to be made to increase physical literacy in women's groups.
- Socioeconomic variables are not correlated with physical literacy in women. Therefore, promotive and preventive efforts to increase women's participation in sports do not need to consider socioeconomic factors. This means that sports activities need to have campaigned at all levels of society regardless of socioeconomic background.
- Physical health as a result of sports activities has been shown to have a direct effect on women's psychological well-being. Therefore, sports activities can be an alternative solution for women in maintaining and improving their mental health.

AUTHORS' CONTRIBUTIONS

Study concept and design: Nanik Indahwati & Ali Maksum. Acquisition of data: Nanik Indahwati & Ali Maksum. Analysis and interpretation of data: Ali Maksum & Nanik Indahwati. Drafting of the manuscript: Nanik Indahwati & Ali Maksum. Critical revision of the manuscript for important intellectual content: Ali Maksum & Nanik Indahwati. Statistical analysis: Ali Maksum & Nanik Indahwati. Administrative, technical, and material support: Nanik Indahwati & Ali Maksum. Study supervision: Nanik Indahwati & Ali Maksum.

CONFLICT OF INTEREST

This study contains no material that could be considered a conflict of interest by the authors.

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