



Analysis of Factors Influencing Sports Participation in Adults: A Social-Ecological Model Approach

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Abstract

Sports participation in adults is an important component in maintaining individual health and well-being, but participation rates tend to decline with age, especially in developing countries such as Indonesia. This study aims to analyze factors that influence sports participation in adults using a socio-ecological model approach. Using a qualitative descriptive method through a case study design, this study involved 15-20 adult participants aged 25-60 years with varying levels of sports participation. Data collection was conducted through semi-structured interviews, observation, and documentation, then analyzed using the Miles and Huberman model. The results showed that sports participation was influenced by complex interactions of various levels of factors: (1) individual level (health motivation, self-perception of ability), (2) interpersonal level (social support, cultural norms), (3) organizational level (availability of facilities, welfare programs), (4) community level (supporting infrastructure, environmental safety), and (5) public policy level (physical activity promotion programs). This study concludes the importance of a multi-level and integrated approach to increasing adult sports participation by considering the socio-cultural context of Indonesia. Recommendations include developing educational programs, establishing sports communities, providing easily accessible facilities, developing safe public spaces, and formulating policies that support sports infrastructure and public awareness campaigns.

Keywords: Sports participation, socio-ecological model, adults, multi-level factors, physical activity policy

1. Introduction

Participation in physical activity and sports is an important component in maintaining individual health and well-being. For adults, involvement in sports activities not only contributes to improving physical fitness but also has a positive impact on mental and social health (Andrieieva et al., 2022). However, the level of sports participation in the adult population tends to decline with age, especially in developing countries such as Indonesia (Maksum and Indahwati, 2021).

This phenomenon is concerning considering that low physical activity can increase the risk of non-communicable diseases such as diabetes, hypertension, and obesity. Various studies have identified a number of factors that influence sports participation in adults, ranging from individual factors to environmental factors (Meredith et al., 2023; Hu et al., 2021). However, a fragmented approach to analyzing these factors often does not provide a comprehensive picture. The socio-ecological model offers an integrative framework by considering the interaction between individuals and their environment in influencing physical activity behavior (Meghani et al., 2023). This model includes five levels of influence: individual, interpersonal, organizational, community, and public policy.

At the individual level, factors such as age, gender, health status, and personal motivation play an important role in determining sports participation (Hopkins et al., 2022). For example, individuals with a good understanding of the benefits of exercise tend to be more motivated to participate actively. In addition, perceptions of self-ability and past experiences in exercising also influence the decision to engage in physical activity.

The interpersonal level includes influences from family, friends, and coworkers. Social support from the immediate environment can increase motivation and consistency in exercising. Conversely, lack of support or even rejection from the social environment can be a significant barrier for individuals to be physically active. Social and cultural norms also play a role in shaping attitudes and behaviors towards exercise (Cho et al., 2023).

At the organizational level, the availability of sports facilities in the workplace or community can influence participation. Organizations that provide fitness programs or incentives for exercise tend to encourage their employees

or members to be more active. In addition, internal organizational policies that support work-life balance can provide time and opportunities for individuals to exercise (Strassburger et al., 2023).

The community level includes factors such as accessibility of sports facilities, environmental safety, and supporting infrastructure. A safe and pedestrian-friendly environment and the presence of green open spaces can encourage people to be more physically active. Conversely, an unsupportive environment can be a barrier to sports participation (Zhang et al., 2022).

At the public policy level, government regulations and programs that support physical activity can influence sports participation. Policies that provide public sports facilities, health promotion campaigns, and incentives for exercise can increase public awareness and participation in physical activity. Conversely, a lack of policy support can hinder efforts to increase sports participation among adults (Oldridge-Turner et al., 2022).

Although the social-ecological model has been widely used in physical activity research, there are still gaps in its application to the adult population in Indonesia. Most previous studies have focused more on children and adolescents, while factors that influence sports participation in adults have not been explored in depth (Martins et al., 2021; Hopkins et al., 2022). In addition, the unique social and cultural context in Indonesia requires a tailored approach to understanding the factors that influence sports participation in adults (Ma'mun et al., 2022).

This study aims to analyze the factors that influence sports participation in adults using the social-ecological model approach. By understanding the interactions between the various levels of influence, this study aims to effective strategies can be formulated to increase sports participation among adults. The results of this study are expected to contribute to the formulation of more targeted policies and intervention programs. In addition, this study also aims to identify barriers and facilitators that influence sports participation among adults in Indonesia. By understanding these factors, it is expected that more effective and sustainable interventions can be developed to increase physical activity among adults. This study is also expected to provide new insights into the development of a more contextual and applicable socio-ecological model in Indonesia.

Thus, this study is expected to make a significant contribution to efforts to increase sports participation among adults in Indonesia. Through the socio-ecological model approach, this study aims to key factors that influence sports participation can be identified and effective strategies can be formulated to overcome barriers and utilize existing facilitators. The results of this study are expected to be the basis for decision making in the formulation of policies and intervention programs that support an active and healthy lifestyle among adults.

2. Literature Review

2.1. Sports participation in adults: trends and challenges

Sports participation in adults is an important aspect in maintaining physical, mental, and social health. However, studies show a decline in sports participation rates with age, especially in developing countries such as Indonesia (Maksum & Indahwati, 2021). This phenomenon is a serious challenge considering that low physical activity is directly related to the increased risk of non-communicable diseases such as diabetes, hypertension, and obesity. According to Andrieieva et al. (2022), participation in sports activities not only plays a role in improving physical fitness but also contributes to mental health and social well-being. Therefore, understanding the trends and challenges of sports participation in adult age groups is important in formulating effective intervention strategies to increase physical activity in the community.

2.2. Individual factors influencing sports participation

At the individual level, various factors play a role in influencing a person's decision to participate in sports activities. These factors include age, gender, health status, personal motivation, and perception of self-ability (Hopkins et al., 2022). Individuals who have adequate knowledge about the benefits of exercise tend to be more motivated to exercise regularly. In addition, past experiences in sports can also shape positive or negative attitudes towards physical activity. Meredith et al. (2023) added that self-confidence in doing sports activities has a significant effect on the sustainability of participation. A deep understanding of these individual factors is important for designing interventions that are personalized and tailored to the needs of the target audience.

2.3. The Role of the social environment and interpersonal support

The social environment plays an important role in shaping sports behavior through the influence of family, friends, and co-workers. Positive social support, such as invitations to exercise or motivation, can increase a person's likelihood of participating in physical activities (Cho et al., 2023). Conversely, lack of support or the existence of social norms that do not support sports can be a barrier to participation. Hu et al. (2021) emphasized that cultural norms also influence perceptions and attitudes towards physical activity, especially in the context of a society that has a traditional gender role division. Therefore, strategies to increase sports participation need to pay attention to the social dynamics and cultural norms that apply in the local community.

2.4. Availability of facilities and organizational support

Organizational factors, including the availability of sports facilities in the workplace or community, also contribute to the level of adult sports participation. Organizations that provide fitness programs, sports facilities, or incentives for employees to exercise tend to increase engagement in physical activity (Strassburger et al., 2023). In addition, internal organizational policies that support work-life balance also provide time and opportunities for individuals to exercise. On the other hand, the lack of sports facilities or the absence of fitness programs within the organization is a significant barrier. Zhang et al. (2022) highlighted that access to safe, affordable, and comfortable facilities is one of the important determinants in an individual's decision to be active in sports.

2.5. Public policy and physical activity promotion efforts

At the public policy level, the role of government in creating an environment that supports physical activity is crucial. Policies that support the development of public sports facilities, health promotion campaigns, and incentives for exercise have been shown to increase public awareness and participation (Oldridge-Turner et al., 2022). However, in Indonesia, policy support related to sports for adults is still less than optimal compared to programs for children or adolescents (Ma'mun et al., 2022). This gap indicates the need to develop more inclusive and sustainable policies to support adult sports participation. Policies that are responsive to local needs and based on evidence are expected to encourage the creation of a sustainable active lifestyle among adults.

3. Methods

This study uses a qualitative descriptive approach with a case study method to analyze the factors influencing adult sports participation using a socio-ecological model approach. The stages of this study can be seen in Figure 1.

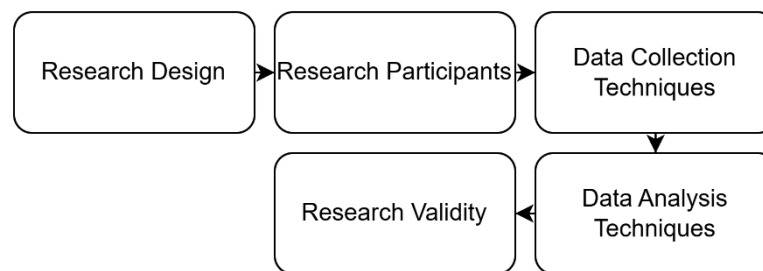


Figure 1: research stages

3.1. Research design

This research uses a qualitative descriptive approach with a case study design to explore the factors influencing adult sports participation through the socio-ecological model framework. The choice of qualitative methods allows an in-depth understanding of individual experiences and environmental contexts that affect physical activity behavior. By applying a case study design, this study focuses on specific communities in Indonesia to explore unique social, cultural, and policy factors relevant to sports participation among adults. This approach is expected to produce contextual insights that are relevant to the socio-cultural background of the research area.

3.2. Research participants

Participants in this study were selected using a purposive sampling technique with predetermined criteria, namely adults aged 25-60 years who had varying levels of sports participation, both active and inactive. Participants come from various backgrounds, including employees, housewives, and self-employed workers, to represent the diversity of adult roles in society. A total of 15-20 participants are targeted, with the possibility of adding informants if new relevant data emerge during the research process. This participant selection is intended to capture diverse perspectives and experiences across individual, interpersonal, organizational, community, and policy levels as reflected in the socio-ecological model.

3.3. Data collection techniques

Data collection was carried out using semi-structured interviews, observation, and documentation. Interviews were conducted directly and guided by an interview protocol based on the five levels of the socio-ecological model to explore the factors that facilitate or hinder sports participation. Observations were made to assess the availability and accessibility of sports facilities in the community environment, as well as to understand the social interactions that

occur in sports activities. Meanwhile, documentation includes the collection of related policy documents, photos of sports facilities, and relevant statistical data from local agencies. The triangulation of these three techniques aims to ensure the validity and reliability of the data obtained.

3.4. Data analysis techniques

The data analysis process in this study uses the Miles and Huberman model, which includes three stages: data reduction, data display, and conclusion drawing/verification. Data reduction is carried out by selecting, simplifying, and organizing interview transcripts and field notes according to the themes of the socio-ecological model (Korompis et al., 2023). The reduced data are then presented in matrices or narrative tables to facilitate interpretation and comparison between participants and research sites. Finally, conclusions are drawn by identifying patterns, relationships, and interactions between factors at various levels, while continuously verifying the validity of the findings by returning to the data and participants for clarification if necessary.

3.5. Research validity

To ensure the validity and trustworthiness of the research findings, this study applies credibility, transferability, dependability, and confirmability criteria. Credibility is enhanced through triangulation of data sources and methods, prolonged engagement with participants, and member checking. Transferability is achieved by providing a detailed description of the research context so that readers can assess the applicability of the findings in other settings. Dependability is maintained by documenting the research process transparently so that it can be reviewed by other researchers. Confirmability is ensured by maintaining an audit trail of research decisions and analytical processes to minimize researcher bias.

4. Results and Discussion

4.1. Individual factors influencing sports participation

The results of interviews with participants revealed that individual motivation, health status, and personal perceptions were dominant factors influencing sports participation at the individual level. Most active participants stated that awareness of the health benefits of exercise encouraged them to stay physically active despite busy routines. A 42-year-old female employee expressed, "I know that if I don't exercise, my blood pressure increases. So even if I'm tired, I force myself to at least walk every morning."

Conversely, participants categorized as inactive cited lack of motivation and low self-efficacy as primary barriers. Several participants admitted feeling embarrassed or lacking confidence in their physical abilities, especially those with negative past experiences in sports. This finding aligns with Meredith et al. (2023), who emphasize the role of self-efficacy in sustaining participation. Interestingly, age factor also emerged as a determinant. Participants over 50 years old reported physical limitations such as joint pain, making it difficult to engage in high-intensity activities. Table 1 summarizes the individual factors identified in this study.

Table 1: Individual factors influencing sports participation

Individual factors
Motivation to maintain health
Perception of self-ability and self-confidence
Past experience in sports
Age and health conditions
Knowledge of exercise benefits

Table 1 shows the need for personalized intervention strategies to address barriers to motivation and self-confidence among adults.

4.2. Interpersonal and social environmental factors

The study found that social support plays a significant role in shaping participants' sports behavior. Active participants generally received encouragement from family or peers, such as being invited to join morning walks or weekend sports groups. One participant shared, "My husband and I always jog every Saturday; if he doesn't remind me, I tend to skip it."

On the other hand, inactive participants reported lacking social encouragement. Some female participants mentioned cultural expectations and household responsibilities as limiting factors. This supports Hu et al. (2021), who noted that gender roles in certain cultures may restrict women's access to leisure activities like sports.

Participants also reported that social norms in their community influenced perceptions of exercising in public spaces. In some areas, older women feel uncomfortable exercising outdoors due to stigmatization or negative comments. Therefore, interventions should consider culturally sensitive approaches to foster inclusive social norms.

4.3. Organizational factors: access and support

Organizational support emerged as a critical enabler. Participants working in companies that provided sports facilities or wellness programs were more likely to engage in regular exercise. A participant who worked in a government office shared, "There's a gym in my office; every Friday we have a group fitness class. It really motivates me to join." However, participants from informal sectors or small enterprises expressed difficulty accessing affordable sports facilities. Table 2 outlines the availability of sports facilities based on participant occupations.

Table 2: Access to sports facilities by occupation

Occupation	Access to Facility	Participation Level
Government Employee	Office gym, free classes	High
Private Employee	Limited (membership fee)	Medium
Self-employed	No access	Low

The results in **Table 2** show that institutional support through infrastructure or incentives plays an important role. Organizations that do not have such facilities may inadvertently reduce opportunities for employees to engage in sports.

4.4. Community and environmental factors

Environmental observations revealed disparities in infrastructure across different neighborhoods. Participants living in urban areas with public parks or sidewalks were more likely to engage in walking or jogging. Conversely, participants in suburban or rural areas lacked safe walking paths or public exercise spaces.

One participant living in a densely populated area explained, "It's difficult to jog around here; the streets are too crowded, and there's no park nearby." This aligns with Zhang et al. (2022), who emphasized environmental safety and accessibility as key determinants. Additionally, concerns about stray animals, poor lighting, and traffic hazards were raised by participants, particularly women.

4.5. Public policy and institutional support

Analysis of local government documents revealed that most sports-related policies still focus on youth and student programs, with limited initiatives targeting adult populations. Participants expressed unfamiliarity with any specific public policy promoting adult sports participation. Unfortunately, some participants mentioned benefiting from occasional government campaigns, such as car-free day events, but felt that such efforts were sporadic and lacked sustainability.

This finding supports Ma'mun et al. (2022), highlighting policy gaps in adult physical activity promotion. It suggests that sustainable, inclusive policies are necessary to foster lifelong sports participation. Participants recommended more community-based initiatives, subsidies for fitness memberships, and the development of accessible public facilities tailored to adults.

4.6. Integration of factors in the socio-ecological model

The integration of findings across individual, interpersonal, organizational, community, and policy levels reveals interactions and cumulative effects. For example, a participant with high motivation but no access to safe facilities still faced barriers to participation. The study emphasizes that interventions cannot rely solely on individual-level strategies but must be supported by multi-level, systemic efforts.

4.7. Implications and recommendations

4.7.1. Theoretical implications

The findings of this study strengthen the relevance of the social-ecological model in understanding the complexity of factors influencing sports participation among adults in Indonesia. By identifying interactions between individual, interpersonal, organizational, community, and public policy factors, this study significantly contributes to the development of behavioral theories of physical activity in the Indonesian cultural context. This holistic approach allows for a deeper understanding of how different levels of factors interact and influence individuals' decisions to participate in sports.

4.7.2. Practical implications

In practical terms, the results of this study can provide a basis for program designers and policy makers in designing more effective interventions to increase sports participation among adults. For example, at the individual level, educational programs that emphasize the health and social benefits of sports can increase personal motivation. At the interpersonal level, building a community or sports group can provide the necessary social support. Organizations can provide easily accessible sports facilities and employee welfare programs that encourage physical activity. At the community level, providing safe and comfortable public spaces for sports is essential. Finally, at the policy level, the government can develop policies that support sports infrastructure and public awareness campaigns.

4.7.3. Recommendations for further research

This study provides an opportunity for further in-depth studies, particularly in exploring specific factors that influence sports participation across demographic groups, such as gender, age, and socio-economic background. In addition, longitudinal studies can provide insights into changes in sports behavior over time and the effectiveness of interventions implemented. The use of mixed methods is also recommended to gain a more comprehensive understanding of motivations and barriers to sports participation.

4.7.4. Recommendations for practice and policy

Based on the findings of the study, it is recommended that governments and other stakeholders develop policies that support increased sports participation among adults. This includes the provision of affordable and accessible sports facilities, awareness campaigns on the importance of physical activity, and community programs that encourage active participation. In addition, it is important to involve various sectors, including the private sector, in supporting these initiatives through strategic public-private partnerships.

5. Conclusion

This study analyzes factors influencing sports participation among adults in Indonesia using a socio-ecological model approach. The results show that sports participation is influenced by complex interactions of multiple levels of factors. At the individual level, health motivation, self-perception of ability, and past experiences are key drivers, while lack of self-confidence and physical limitations are significant barriers. At the interpersonal level, social support from family and peers plays an important role in shaping sports behavior, while cultural expectations and unsupportive social norms are barriers, especially for women. At the organizational level, the availability of sports facilities and employee welfare programs have been shown to increase participation, but limited access is a barrier for informal sector workers. Environmental factors such as the availability of public parks, safe pedestrian paths, and supporting infrastructure also contribute significantly to individuals' decisions to exercise. At the policy level, there are still gaps in physical activity promotion programs for adults because existing policies focus more on children and adolescents. This study highlights the importance of a multi-level and integrated approach to increasing adult sports participation, taking into account the social and cultural context in Indonesia. Recommendations include developing educational programs to increase individual motivation, establishing sports communities for social support, providing accessible facilities, developing safe public spaces for sports, and formulating policies that support sports infrastructure and public awareness campaigns. This study provides an important basis for program designers and policy makers to design more effective interventions to increase sports participation among Indonesian adults.

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