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The Influence of Education and Mental Health on the Choice of Sports Recreation by Adolescents

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ABSTRACT

The present study aimed to investigate the relationship between participation in sport and mental health through a literature review. While sport has long been recognized for its physical benefits, its impact on mental health has recently attracted greater attention. In order to analyze the literature addressing how sport affects mental health, both negatively and positively, a comprehensive search was conducted using data from journal articles, books as well as research reports published in the last two decades. It is crucial to maximize the benefits of exercise while minimizing the risks. This review reaffirms the significance of exercise as an efficacious intervention for mental health, underscoring the necessity for a balanced and informed approach to managing risks. Further research recommendations include longitudinal investigations of the long-term effects of exercise on mental health and studies of the psychological mechanisms behind its benefits. It is crucial to optimize exercise benefits while minimizing risks. This review corroborates the efficacy of exercise as an effective intervention for mental health and emphasizes the need for a balanced and informed approach to risk management. Further research is warranted to examine the long-term effects of exercise on mental health and to elucidate the underlying psychological mechanisms associated with its benefits.

Keywords: *Adolescents, Mental Health, Sport Recreation*

1. INTRODUCTION

The benefits of exercise for physical health are well established, and there is a growing body of evidence demonstrating the significant impact that exercise has on an individual's mental well-being. This topic has attracted considerable interest from researchers over the past several decades. The present study aims to further our understanding of this relationship by conducting a comprehensive literature review. The objective is to provide a detailed overview of the ways in which exercise affects mental health, both positively and negatively.

It is a common misconception that maintaining good health requires significant financial resources. However, numerous studies have demonstrated that many individuals are willing to invest a considerable amount of money to maintain their appearance and health. Exercise is one of the most effective ways to maintain health. [1]. The term "good exercise" refers to sports activities that are carried out with intensity on a regular and continuous basis.

The submaximal aspect of exercise for health is that it does not force the individual to exceed their physical limits in terms of both load and intensity. In addition to physical health, exercise for health is also beneficial for the individual's spiritual and social well-being. This is because, in addition to being safe, easy and cheap, this sport can be done at any time and in any place in a group. [2]

It can be reasonably argued that mental health is an important aspect of an individual's well-being. The World Health Organisation (WHO) defines mental health as a state of well-being in which an individual is aware of their own abilities, can cope with the normal stresses of everyday life, can work productively and is able to contribute to their communi." Mental health conditions may include, but are not limited to, depression, anxiety, stress, and sleep disorders.

Exercise is a proposed intervention for improving mental health due to its efficacy in alleviating symptoms of mental disorders and enhancing overall well-being. Stress coping is the manner in which an individual deals with and controls stress. Stress coping can be classified into two types: problem-focused coping and emotion-focused coping. Problem-focused coping involves problem solving, whereas emotion-focused coping entails managing emotions.

Physical exercise is a method of reducing stress experienced by individuals. [3]. The World Health Organization (WHO) has also indicated that regular exercise is an effective means of managing stress. It is evident that exercise has the capacity to reduce stress, as it stimulates the production of endorphins, a hormone that provides a sense of calm, relieves tension, and reduces pain. Furthermore, endorphins produced during exercise replace stress hormones, thereby stabilizing emotions. Conversely, individuals who engage in minimal physical activity may experience elevated stress levels, which is consistent with the rise in cortisol levels. [4]

A number of studies have demonstrated the positive effects that physical exercise has on mental health. For instance, that regular physical activity can alleviate symptoms of depression and anxiety in adolescents. [5] Additionally, Rebar et al. (2015) demonstrated that participation in regular physical activity is linked with improved mood and emotional well-being. [6] Other benefits associated with exercise include improved self-confidence and sleep quality, as well as decreased stress levels. [7]

The key factor in determining the efficacy of exercise in reducing stress is the intensity of the exercise. Moderate-intensity exercise is the most effective intensity for reducing stress and improving individual mental health. [8] Exercise not only affects the stress experienced by individuals, but it can also reduce the symptoms of anxiety and depression experienced by individuals. Moderate to strong physical exercise intensity can also reduce anxiety. [9] It can be posited that exercise can reduce individual stress levels, which will have an impact on depression experienced by individuals. [10]

The results indicated that exercise habits can influence stress levels. This finding aligns with the conclusions of Wike et al. (2015), who conducted research on the relationship between physical activity, psychological well-being, and stress in a college population. Their findings demonstrated that physical activity and sufficient exercise can impact student stress levels. [11]

Nevertheless, the relationship between exercise and mental health is not always positive. Some research suggests potential risks, including physical injury, competitive pressure, and possible burnout, particularly among athletes who compete at high levels. [12] Therefore, it is crucial to comprehend the context and factors that influence the extent of the mental health benefits of exercise.

It is not only adults who require the development of an exercise habit; children and adolescents also need to do so, as it can facilitate optimal growth and development. Additionally, exercise can also promote positive mental health in children and adolescents. [1] The objective of this literature review is to examine the empirical literature on the relationship between exercise and mental health, identify associated benefits and risks, and provide recommendations for future research and practice. By elucidating the relationship between exercise and mental health, it is hoped that we can optimize the use of exercise as a tool to improve mental health and overall well-being.

2. METHOD

This study employed the literature method to examine the relationship between sport and character education in schools. Data were gathered from a variety of sources, including academic journals, news articles, and books pertinent to the subject matter. [13] The information obtained was subjected to analysis in order to identify patterns, trends, and key findings pertaining to the relationship between sport and character education in schools.

The literature method was employed in this study to examine the relationship between sport and mental health. By reviewing pertinent academic sources, this research endeavored to ascertain the extent to which sport can support mental health and the factors that influence its effectiveness. Through the literature analysis, it also sought to identify optimal practices and strategies that can be implemented to maximize the benefits of exercise in the context of mental health.

The systematic literature review approach was utilized in this study to examine the relationship between physical exercise and mental health. To conduct the literature search, academic databases, including PubMed, Scopus, Web of Science, and Google Scholar, were employed. The search terms, which were combined in various ways, encompassed the concepts of exercise, physical activity, sport, mental health, psychological well-being, mental wellness, relationship, association, and impact.

As an illustration of the Boolean operators employed, consider the search term ("exercise" OR "physical activity" OR "sport") AND ("mental health" OR "psychological well-being" OR "mental wellness") AND ("relationship" OR "association" OR "impact").

Inclusion criteria included articles published in both English and Indonesian, involving human populations, and measuring the effects of exercise on mental health. Articles were excluded if they were review articles without

empirical data, studies involving populations with medical conditions unrelated to mental health, or articles that did not have full-text access.

The selection of articles proceeded in multiple stages, commencing with identification of all articles, subsequent screening on the basis of title and abstract, and concluding with full screening for suitability evaluation. Articles that met the criteria were extracted using a standardized form, which included information on study design, population, type of exercise intervention, and mental health outcomes measured.

The data were analysed qualitatively through the application of a thematic approach, with the objective of identifying the key themes and patterns in the relationship between exercise and mental health. Quantitative analysis was also conducted, with meta-analysis employed where appropriate, to calculate pooled effect sizes of exercise interventions on mental health. In order to ensure the validity and reliability of the review process, two independent researchers were responsible for article selection and data extraction. In the event that any disagreement or ambiguity arose during the review, a third researcher was consulted for guidance and resolution.

Furthermore, this study exclusively utilised previously published secondary data, thus eliminating the necessity for additional ethical approval. With a transparent methodology, the study is expected to provide a profound and accurate understanding of the relationship between exercise and mental health, and to inform future research and interventions.

3. RESULTS AND DISCUSSION

This study reviewed several studies that examined the relationship between exercise and mental health. The findings of the literature analysis indicated that there is a significant correlation between participation in sport and improved mental health.

3.1. Reduction of Depression and Anxiety Symptoms

A review of studies by Biddle and Asare (2011) indicates that physical activity is consistently associated with reduced symptoms of depression and anxiety in children and adolescents. This article reviews a range of existing reviews to conclude that physical activity is consistently associated with a range of mental health benefits, including reduced symptoms of depression and anxiety, as well as improved self-esteem and emotional well-being. [5]

The article notes that although numerous studies have yielded positive results, there are still some limitations in the methodology of existing research. These include a reliance on observational research designs and variations in the definition and measurement of physical activity and mental health outcomes. Furthermore, the article highlights the need for further research to explore the mechanisms underlying the relationship between physical activity and mental health and to determine the most effective dose and type of physical activity for mental health benefits in this age group.

In conclusion, Biddle and Asare posit that increasing participation in physical activity represents a promising avenue for mental health promotion among children and adolescents. However, further research is still needed to address some of the uncertainties.

A similar conclusion was reached in a study by Rebar et al (2015), which found a correlation between participation in sports and reduced depressive symptoms in an adult population. The findings suggest that physical activity has a significant, positive effect on reducing depressive and anxiety symptoms in adult populations without clinical conditions. This meta-meta-analysis combines the findings from previous meta-analytic research to provide more comprehensive evidence on the mental health benefits of physical activity in adult populations.[6]

Specifically, the results indicated that depression symptoms were consistently and significantly reduced by physical activity. However, the magnitude of this effect was observed to vary according to the type, intensity, and duration of physical activity, suggesting that these factors influence the observed outcome. Similarly, anxiety symptoms were also shown to be reduced by physical activity, although the effect was found to be somewhat less consistent than depression. This may be attributable, in part, to methodological and contextual factors, which were observed to contribute to variations in the results.

In their conclusions, the authors emphasize that these findings provide support for the use of physical activity as an effective non-pharmacological intervention to reduce symptoms of depression and anxiety in general populations. They also note the necessity for further research employing more rigorous research designs, such as randomized controlled trials, to strengthen the evidence base for causality and to elucidate the mechanisms underlying these observed outcomes. In addition, further research is required to determine the most effective types and doses of physical activity for reducing symptoms of depression and anxiety.

In conclusion, the findings of this article highlight the potential of physical activity as a public health strategy to enhance mental well-being among adults who do not suffer from clinical depression or anxiety.

3.2. Improved Mood and Emotional Wellbeing

As outlined by Craft & Perna (2004), the act of exercise can act as a natural antidepressant, improving mood through the release of endorphins. This article reviews the various studies that have been conducted regarding the effects of exercise on individuals experiencing clinical depression and finds strong evidence supporting the effectiveness of exercise as a therapeutic tool. [7]

The main points of conclusion of this article are as follows; 1). Effectiveness: Exercise was found to have a significant effect in reducing symptoms of depression, often on par with traditional therapies such as psychotherapy and antidepressant medication; 2). Mechanisms: Several mechanisms were proposed to explain how exercise can help reduce depression, including increased endorphin release, changes in body temperature, improved sleep, and distraction from stress and worry. Type and Intensity of Exercise

While various types and intensities of exercise can be beneficial, aerobic exercises such as running and cycling seem to have the most consistent effects. However, strength training and other physical activities can also provide benefits. Research shows that regular and sustained physical exercise is more effective in the long term. A program lasting at least four weeks with a frequency of at least three times a week is considered optimal. The benefits of exercise are not limited to a specific age group or gender, but rather apply to a diverse group of individuals with clinical depression.

The authors additionally assert that exercise can be an invaluable supplement to standard depression treatment, primarily due to its low cost, minimal side effects, and additional health benefits. They recommend integrating exercise programs into treatment plans for patients with clinical depression. Overall, it can be concluded that exercise is an effective and versatile intervention to reduce symptoms of clinical depression and promote exercise as an essential component of a holistic approach to mental health care.

The study by Hansen et al. (2001) also supports these findings, demonstrating an improvement in mood following a moderate exercise session. The study found that the duration of physical exercise has a significant effect on mood improvement. The objective of this study was to determine the minimum duration of exercise required to experience psychological benefits, specifically mood enhancement. [4]

Duration of Exercise, The study found that even a relatively short duration of exercise can result in a significant improvement in mood. Specifically, 10, 20 and 30 minutes of physical exercise all provided positive mood benefits, although the greatest effects tended to be seen at longer durations. Mood Improvement: Participants consistently reported positive mood changes following exercise, with increased positive affect and reductions in tension, depression, anger, fatigue, and confusion.

Minimum Limit, while mood improvements can occur with shorter exercise durations, this study indicates that a minimum of 20 minutes of exercise may be optimal for significant benefits in mood improvement. Participant Engagement

Those who exercised for 20 and 30 minutes reported greater improvements in mood compared to those who exercised for only 10 minutes. However, 10 minutes of exercise still resulted in improvements in mood compared to no exercise at all.

In addition to aerobic exercise, which is widely recognized to be beneficial to adolescents' mental health, other physical activities that can contribute to this benefit include kickboxing and strength and resistance training, which are commonly found in gym settings and can be beneficial when done in conjunction with proper guidance and supervision. These activities are supported by research findings from Costigan et al. (2016) and Parker et al. (2016). [14] [9]

The World Health Organization (2022) reports that adolescents who engage in high-intensity physical activity exhibit superior self-concepts compared to those who engage in low-intensity physical activity or no physical activity at all. Yusuf et al. (2020) corroborate this finding. [15]

This is consistent with the results of previous research, which demonstrate that physical activity that focuses on enhancing fitness and endurance through aerobic exercise methods, for instance, can facilitate the development of physical competence and skills associated with enhanced self-esteem among adolescent girls and boys (Babic et al., 2014). These research findings can inform the development of recommendations for interventions for adolescents who experience mental health problems.[16]

In conclusion, it can be stated that physical exercise is an effective tool for improving mood, and even short durations of exercise can provide meaningful psychological benefits. However, for optimal results, a minimum of 20 minutes of exercise is recommended. These findings support the integration of physical exercise in daily routines as an accessible strategy to improve emotional and mental well-being.

3.3. Improved Self-Confidence and Self-Image

A review of studies indicates that participation in sport is associated with increased self-confidence and self-image. This article reviews studies that explore the relationship between sport and psychological components such as self-esteem and self-perception. The main points of conclusion of this article are as follows:

(1) Physical activity is consistently associated with improved self-esteem. Physical exercise helps individuals feel more confident and positive about themselves.

(2) Self-Perception Exercise contributes to better self-perception in various aspects, including body image, physical competence, and social acceptance. Individuals who engage in physical activity tend to have a more positive view of their physical abilities and body appearance.

Several mechanisms have been proposed to explain how exercise improves self-esteem and self-perception. These include improvements in physical condition, acquisition of new skills, experiences of accomplishment, and positive social interactions that often occur in the context of physical activity. (4). Benefited Populations

The psychological benefits of exercise apply to different age groups, genders, and physical conditions. Children, adolescents, adults, and the elderly can all experience improved self-esteem and self-perception through participation in physical activity. (5). Duration and Frequency

Although the article does not provide specific recommendations regarding the duration and frequency of physical activity required to observe psychological benefits, there are indications that regular and sustained participation in exercise yields superior outcomes.

It can be concluded that exercise is an effective tool for improving self-esteem and self-perception. This article supports the integration of physical activity as an important part of interventions aimed at improving psychological well-being and emphasizes the importance of promoting exercise for its broad psychological benefits across different populations.

Furthermore, That physical activity can enhance self-perception and diminish feelings of low self-esteem. This study reviewed numerous studies that evaluated the impact of physical activity on children's physical, psychological, and social development. The primary conclusions of this article are as follows: Physical Development: Physical activity plays a pivotal role in children's physical development.

This includes improvements in cardiovascular fitness, muscle strength, flexibility, and motor control. Children who engage in regular physical activity tend to have a healthier body composition, including a more ideal body weight and a lower proportion of body fat. Mental and Emotional Health Physical activity is also associated with significant psychological benefits, including improvements in self-esteem, self-confidence, and emotional well-being. Physical activity helps reduce symptoms of anxiety and depression in children.

Social development: Participation in physical activities often involves positive social interactions, which may enhance social skills and facilitate the development of positive relationships with peers. In particular, team sports teach the values of cooperation, fair play, and discipline.

Academic achievement: There is evidence suggesting a correlation between physical activity and academic performance in children. This may be due to the positive impact of exercise on cognitive functions, including attention, memory, and information processing speed, all of which are crucial for learning.

Other physical activities or forms of exercise with a positive influence on the enhancement of adolescent mental health include crossfit training and dancing. CrossFit represents a specific form of exercise designed to enhance various physical fitness components, and it is widely regarded as an effective and popular exercise regimen among adolescents and adults. [17]

The brief duration and high intensity of this exercise make it an appealing option for adolescents. [16] Research indicates that crossfit can enhance adolescents' self-esteem and self-concept, which are associated with positive mental health outcomes. This is consistent with the findings of Duberg et al. (2020), who demonstrated that physical activity through dancing can also mitigate emotional distress, particularly in adolescent girls. [18]

Both physical activities that are popular with adolescents have been demonstrated to elicit an "enjoyment" effect in participants and to confer psychological and social benefits, foster positive health perceptions, and generate positive energy. [15]

In conclusion, it can be stated that physical activity plays an essential role in children's holistic development, offering a multitude of benefits, including physical health, mental well-being, and social competence. The authors underscore the significance of encouraging regular participation in physical activity from an early age to maximize children's developmental potential in various aspects of their lives.

3.4. Stress Reduction

Research by Salmon (2001) indicates that exercise can reduce stress levels by modulating the body's stress response system. [19] This article reviewed a number of studies that evaluated the impact of exercise on mental health and responses to stress, and found that physical exercise was consistently associated with reduced anxiety and depression. In addition, exercise also helps to improve emotional well-being and decrease sensitivity to stress, allowing individuals to more effectively deal with stressful situations.

Salmon posits that the mechanisms underlying these benefits include increased endorphin release, decreased hypothalamic-pituitary-adrenal (HPA) axis activity, and increased body temperature, all of which contribute to feelings of relaxation and improved mood. Physical exercise also helps in building better coping skills and increasing self-confidence. This article highlights the importance of integrating physical activity into mental health treatment programs, given its wide-ranging positive effects and lack of side effects compared to pharmacological interventions. Salmon underscores the necessity for further research to ascertain the most efficacious doses and types of exercise, as well as to elucidate more intricate psychophysiological mechanisms. In conclusion, this study substantiates the efficacy of exercise as an efficacious and versatile intervention in the management of anxiety, depression, and stress.

3.5. Improved Sleep Quality

Research by Sherrill et al. (1998) indicates that regular exercise is associated with improved sleep quality, which in turn has a positive impact on overall mental health. [20] This study examined data showing that physically active individuals tend to have better sleep quality and a lower risk of various sleep disorders compared to those who are

inactive. Specifically, participation in regular physical activity is associated with a reduced incidence of sleep disorders such as insomnia and obstructive sleep apnea.

This article outlines the potential benefits of physical activity on sleep efficiency, duration of deep sleep, and sleep latency (the time it takes to fall asleep). Proposed mechanisms for these benefits include decreased stress and anxiety, improved body temperature regulation, and an improved balance of sleep-related hormones such as melatonin.

As demonstrated in research conducted by McMahon et al. (2021) and Zhang et al. (2022), certain physical activity exercises, including yoga and Tai Chi, have been shown to be effective in improving adolescent mental health. These activities can be classified as light intensity sports. [21] [22]

Yoga and tai-chi emphasise meditation practices which have been demonstrated to enhance an individual's ability to regulate their emotions, including their emotional awareness when performing an action or behaviour (Gard et al., 2014). Additionally, these practices impart principles which encourage adolescents to reflect on their long-term life goals in the future and direct the appropriate behaviour to achieve these goals. [23]

This principle counsels adolescents against acting on short-term emotional reactions. [24] The outcomes of this research concur with those of Olvera et al. (2023), who also utilized yoga as one of a number of physical activities proven to diminish anxiety and enhance sleep quality in adolescents. [25] Sleep disturbances are regarded as a causal factor in psychological distress, which may subsequently give rise to anxiety and depressive conditions. [26]

The practice of meditation and breathing exercises within the context of yoga can serve to prevent and alleviate these issues. This study underscores the significance of incorporating physical activity into daily routines as a non-pharmacological approach to enhance sleep quality and mitigate sleep disturbances. The findings indicate that augmenting physical activity levels can serve as an efficacious intervention to optimize sleep health, with long-term favorable consequences on overall well-being.

3.6. Benefits for Special Populations

Research by Herring (2010) indicates that exercise can reduce anxiety symptoms in individuals with generalized anxiety disorder. The research reviewed a number of studies that evaluated the impact of various physical exercise programs on anxiety levels among patients with various medical conditions. [27] The results demonstrated that participation in a regular physical exercise program can result in a significant reduction in anxiety symptoms. Aerobic exercises, such as running and cycling, as well as strength training, were found to be effective in reducing anxiety. The study observed that the anxiety-reducing benefits of physical exercise were evident in a diverse range of patient populations, including those suffering from chronic health conditions.

Herring also notes that the frequency, intensity, and duration of exercise play an important role in determining the level of benefit obtained. In general, exercise programs of moderate to high intensity performed consistently showed more significant results in the reduction of anxiety symptoms compared to low-intensity or irregular exercise. The authors concluded that physical exercise should be considered as an effective non-pharmacological intervention to reduce anxiety, offering a valuable alternative or adjunct to traditional medical and psychological therapies. This research supports the promotion of physical exercise as an integral part of health care programs for patients with anxiety, with the potential to improve quality of life and overall well-being.

Furthermore, a study by Blake et al. (2009) demonstrated that exercise can enhance mental health in an elderly population. [28] This article reviews studies evaluating the impact of physical exercise on an elderly population with symptoms of depression. The research found substantial evidence that participation in physical exercise programs significantly reduces depressive symptoms among older people. The most effective interventions included various types of physical activity, including aerobic exercise, strength training, and combined fitness programs. The results of the study indicated that aerobic exercises, such as walking and running, consistently demonstrated positive effects in reducing depressive symptoms.

Furthermore, the duration and intensity of the exercise also have an effect on the results obtained. Exercise programs lasting more than 12 weeks with a higher frequency of exercise tended to result in a more significant reduction in depressive symptoms than shorter or less intensive programs. The authors concluded that physical activity interventions can be considered an effective non-pharmacological strategy to reduce depression in older adults, providing additional benefits that include improved physical health and overall quality of life. This study supports the integration of physical exercise into routine care plans for older people with depression, with the aim of improving their mental and physical well-being. However, further research with a more robust design is recommended to confirm these findings and explore the mechanisms underlying the positive effects of physical exercise on depression in the elderly.

4. CONCLUSION

A synthesis of extant literature reveals a robust association between physical activity and positive mental health outcomes. Research findings consistently demonstrate the efficacy of exercise in alleviating depressive and anxiety symptoms, as well as improving psychological well-being, encompassing self-esteem and diminished stress. Moreover, physical activity exerts a positive influence on cognitive functions, such as memory and attention, which

can enhance academic performance and other cognitive abilities in individuals. Furthermore, findings demonstrate that engagement in sports at an earlier age confers long-term advantages for mental health in adulthood. Overall, exercise can be regarded as a highly efficacious non-pharmacological intervention for improving mental health across diverse age groups. As a consequence, it is imperative for policy and programmatic initiatives to facilitate engagement in physical activities with the goal of attaining optimal mental health outcomes.

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