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Study of relationship between physical activity and mental well-being among male and female goan adolescents

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Abstract
The purpose of the research was, to study the relationship between physical activity and mental well-being among male and female Goan adolescents. For which 50 male and 50 female adolescents were selected using purposive sampling technique. Descriptive relationship method was used to find out the relationship between physical activity and mental well-being. Physical Activity Questionnaire (PAQ-A) and the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) were used to measure physical activity and mental well- being respectively. The collected data was statistically analyzed and the calculated mean (±standard deviation) of physical activity and mental well-being for males were 2.76 (±0.91) and 45.72(±7.56) respectively and that of female were 3.14(±0.85) and 46.10(±9.05) respectively. In order to study the relationship between physical activity and mental well-being, Pearson correlation coefficient was calculated. The calculated coefficient of co-relation was -.10 and 0.47 respectively for males and females. The results indicate that in case of females there is significant relationship (p=0.00), but in case of males it shows no significant relationship (0.47) at the 0.01 level of significance. Therefore, it can be concluded that in case of females, Mental Well-being are significantly influenced by an individual's Physical Activity. While, in case of males, there is no influence of Physical Activity on Mental Well-being.

Keywords: Physical activity, mental well-being, adolescents

1. Introduction

Adolescents is a critical phase of life characterized by significant physical, emotional, and social changes. During this period, individuals are more vulnerable to mental health issues, such as anxiety, depression, and stress (Hankin *et al*., 2006) [6]. The World Health Organization (2018) [12] emphasizes the importance of physical activity in promoting overall health and well-being, particularly during adolescents.

Ensuring mental well-being during adolescent period is crucial, as it influences academic performance, social relationships, and overall quality of life. Regular physical activity has been identified as a key factor in promoting mental health among adolescents. Engaging in consistent exercise is associated with improved mood, reduced symptoms of depression and anxiety, and enhanced self-esteem (Mahindru, Patil and Agarwal, 2023) [8].

Research has consistently shown that physical activity has a positive impact on mental health, including reduced symptoms of anxiety and depression, improved mood, and enhanced cognitive function (Stubbs *et al*., 2016; Hillman *et al*., 2016) [10]. However, the relationship between physical activity and mental well-being may vary across different populations, including males and females. Some studies suggest that physical activity may have a more pronounced effect on mental health in females compared to males.

Despite the growing body of research in this area, there is a need for further investigation into the relationship between physical activity and mental well-being among adolescents, particularly in the context of gender differences. This study aims to explore the relationship between physical activity and mental well-being among male and female adolescents, with a focus on identifying potential gender differences in this relationship.

In the Indian context, studies have highlighted the positive impact of physical activity on mental health. Despite the general understanding of the benefits of physical activity, there is a scarcity of region-specific research, particularly concerning adolescents in Goa. Understanding the relationship between physical activity and mental well-being in this unique cultural and lifestyle context is essential. This study aims to explore the relationship between physical activity and mental well-being among Goan adolescents.

2. Materials and Method

Descriptive co-relation method was used to study the relationship between physical activity and mental well-being among male and female Goan adolescents.

For this study, a total of 100 (50 males and 50 females) adolescent students aged 17-years from Goan higher secondary schools participated in the study who were selected by Purposive Sampling Technique.

The variables are physical activity and mental well-being, where physical activity was measured by Physical Activity Questionnaire (PAQ- A), which was developed by Kowalski, Crocker, and Kowalski, 1997. This Physical Activity Questionnaire for Adolescents (PAQ-A) is a self-administered tool designed to assess moderate to vigorous physical activity levels in adolescents aged 14 to 19 years. It consists of 9 questions that evaluate physical activity participation over the past 7 days in various settings, including school, leisure time, and sports activities. Responses are scored on a 5-point Likert scale, with higher scores indicating greater physical activity levels.

Mental well-being was measured by The Warwick-Edinburgh Mental Scale (WEMWBS). Developed by researchers at the universities of Warwick and Edinburgh, it assesses positive mental health by focusing on psychological functioning and emotional well-being. The scale consists of 14 positively worded statements, each rated on a 5-point Likert scale (1 = none of the time, 2= rarely, 3= some of the time, 4= often, 5= all of the time), covering aspects such as optimism, relaxation, autonomy, and interpersonal relationships.

The researcher collected the data after gaining approval from respective principal's, using pen and paper, which was collected during first half of the school within two days.

3. Results and Discussion

The findings of this research provide a nuanced understanding of the gender-specific relationship between physical activity and mental well-being among Goan adolescents. A significant positive relationship was observed between physical activity and mental well-being in females, whereas no such relationship was found in males.

This suggests that females are more likely to experience psychological benefits from physical activity, including reduced anxiety, improved mood, and enhanced self-esteem. Group-based activities, such as team sports or fitness programs, offer social interaction and emotional support, which are particularly beneficial for female adolescents. Research by Eime *et al*. (2013) [4] highlights the role of social interactions in team-based physical activities, which contribute to psychological well-being, especially among females (Eime *et al*., 2013) [4]. Biddle & Asare (2011) [2] found that adolescent females who participated in regular physical activity reported lower levels of anxiety and depression compared to their inactive peers. This may be attributed to the fact that females are more likely to engage in physical activity as a coping mechanism for stress and emotional regulation (Penedo & Dahn, 2005) [9].

In contrast, the lack of a significant relationship in males suggests that their mental well-being may be influenced by factors other than physical activity, such as academic stress, peer pressure, or competitive goals. Males may view physical activity as a tool for skill development or competition rather than a source of emotional regulation. Babiss and Gangwisch (2009) [1] observed that males derive fewer emotional benefits from physical activity unless it involves measurable outcomes or achievements (Babiss & Gangwisch, 2009) [1]. Studies suggest that while physical activity is beneficial for both genders, Adolescent males may rely more on social factors such as peer support and competitive success for their psychological well-being (Ekeland, Heian, & Hagen, 2005) [5]. Additionally, boys may engage in physical activity for reasons other than mental well-being, such as skill development or socialization, which might not directly translate into improved mental health (Lubans *et al*., 2016). This difference highlights the need for interventions that align with the intrinsic motivations of each gender.

3.1 Tables

Table 1: Descriptive statistics of physical activity and mental well-being

Gender		Physical activity	Mental well-being
Males (N=50)	Mean	2.76	45.72
	Std. error of mean	0.13	1.07
	Std. deviation	0.91	7.56
Females (N=50)	Mean	3.14	46.10
	Std. error of mean	0.12	1.28
	Std. deviation	0.85	9.05

Table 2: Pearson coefficient correlation between physical activity and mental well-being

Gender	N	Pearson correlation	Sig (2- tailed)
Males	50	-.10	0.47
Females	50	0.47	0.00

The Table No. 1 shows the descriptive statistics of physical activity and mental well-being of Goan adolescents. As shown in the table, mean (±standard deviation) of physical activity and mental well-being for males were 2.76 (±0.91) and 45.72(±7.56) respectively and that of female were 3.14(±0.85) and 46.10(±9.05) respectively.

The above Table No. 2 states the Pearson coefficient correlation value of physical activity and mental well- being. The calculated r value is -.10 which is not significant at 0.01 level of significance (p=0.47) for males and the calculated r value is 0.47 which is significant at 0.01 level of significance (p=0.00) for females.

The analysis of the data collected through PAQ- A and WEMWBS revealed that there is significant relationship for females between physical activity and mental well-being among Goan adolescents while in case of males there is no significant relationship between physical activity and mental well-being.

4. Conclusion

Based on the findings of the study, it can be concluded that in case of females, Mental Well-being are significantly influenced by an individual's Physical Activity. While, in case of males, there is no influence of Physical Activity on Mental Well-being.

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