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Effects of Social Support on Participation of Children with ADHD in Physical Activity: Mediating Role of Emotional Wellbeing

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Abstract

Background: It has been shown that social support is an essential factor for participation of children in physical activity. However, this issue among children with ADHD has been rarely investigated. Therefore, the aim of the present study was to examine the effects of social support on participation of children with ADHD in physical activity with considering the emotional wellbeing as a mediator.

Methods: This study followed a descriptive-correlational method. Totally, 103 children with ADHD aged 10 to 12 years attended in the special school for children with ADHD participated in this study. Social support, physical activity, and emotional wellbeing were measured by the use of standard questionnaires. Data was analyzed through Structural Equation Modeling (SEM).

Results: Descriptive data showed that our sample had relatively low amounts of physical activity, besides moderate levels of perceived social support and emotional well-being. Social support positively affected physical activity (T=6.954) and emotional wellbeing (T=6.954). Moreover, emotional wellbeing positively affected physical activity (T=6.954). Finally, emotional wellbeing significantly mediated the association between social support and physical activity (P<0.001).

Conclusion: The results of the present study indicate that urgent strategies should be adopted for children with ADHD, as they had small amounts of physical activity. Moreover, social support can be considered as a vital factor in the participation of children with ADHD in physical activities. Finally, we can consider emotional wellbeing as a moderating factor in the effectiveness of social support on the amount of physical activity among children with ADHD.

Key Words: ADHD, Emotional wellbeing, Physical activity, Social suppor.

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1- INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common mental disorders affecting children, which persists into adolescence and adulthood. Symptoms of ADHD include inattention (not being able to keep focus), hyperactivity (excessive movements not fitting to the setting) and impulsivity (hasty acts that occur in the moment without thought). An estimated 8.4% of children and 2.5% of adults have ADHD. ADHD is often first identified in school-aged children when it leads to disruption in the classroom or problems with schoolwork. It is more common among boys than girls (1-3). It has been shown that physical activity and exercise is particularly important for children with ADHD. Many children with ADHD are hyperactive, and physical activity and exercise can be a positive outlet to release pent-up energy. Research suggests that exercise offers several benefits for children with ADHD, including physical and mental health (such as reducing the risk of various chronic diseases and improving quality of life) as well as less aggressive behaviors (5-12). However, several studies have shown that children with ADHD engage less in regular physical activity. In fact, it has been demonstrated that individuals with ADHD do not meet the recommended minutes of participating in physical activity (i.e., 60 minutes of daily moderate-to-vigorous physical activity) (13-14). Thus, it can be assumed that children with ADHD are at risk of negative consequences of physical inactivity. Therefore, it is necessary to find influential factors related to participation of children with ADHD in physical activity.

One of the factors that can play an important role in increasing the participation of children in physical activity is social support (15). Social support is one of the most frequently cited protective factors within physical activity participation. Converging and compelling evidence has emerged for its role in promoting well-being among children. It has been shown that perceived social support has a range of positive outcomes among children, including self-concept and psychological functioning (16). Social support is a subjective construct that reflects one aspect of the content or quality of social relationships. Importantly, perceptions of support have been found to be more predictive of outcomes than are more objective measures of support. According to social cognition theory, receiving appropriate social support from others increases people's self-efficacy in overcoming barriers to participation in physical activity. Furthermore, according to the theory of socialization, social support increases children's competence, causing them to engage in a specific behavior such as physical activity (17). Previous research findings have shown that a set of decisions made by children about their participation in physical activity, i.e., starting, continuing, stopping and quitting physical activity, are influenced by social support received from important others (18). In addition, receiving social support may increase individuals' wellbeing. Wellbeing is not just the absence of disease or illness. It's a complex combination of a person's physical, mental, emotional and social health factors (15). However, this issue has been rarely investigated among children with ADHD. Therefore, the second aim of this study was to investigate the role of emotional wellbeing in the relationship between social support and physical activity in children with ADHD. This study, in total, aimed at examining the effects of social support on the participation of children with ADHD in physical activities, considering the mediating role of emotional wellbeing.

2- METHODS

2-1. Participants

This study followed the descriptive-correlational method. Totally, 103 children with ADHD aged 10 to 12 years old attending the special school for children with ADHD participated in the study. The participants were selected by the use of a convenience sampling method.

2-2. Instruments

Social support was measured through a questionnaire with seven items, scored on a five-point Likert scale (from 1 = strongly disagree to 5 = strongly agree). Cronbach's alpha of this questionnaire was reported to be 0.91 (19). Moreover, we used the Physical Activity Behavior in Leisure-Time Scale to measure leisure-time physical activity of children with ADHD (20). This questionnaire contains three questions scored based on an eight-point Likert scale from zero days (0) to seven days (7). In the current study, Cronbach's alpha coefficient was 0.79. Finally, the children's emotional wellbeing was measured, using the Behavior Assessment System for Children–2nd edition (BASC-2) (21). The BASC-2 is a norm-referenced rating scale frequently used to evaluate the behavioral, social, and emotional functioning of children with 4 to 18 years of age. In this study, only the depression and anxiety scales were used to assess the internal emotional wellbeing. Its Cronbach's alpha was found to be 0.94, in the current study.

2-3. Data analysis

Mean and standard deviation were utilized to describe the variables. Pearson correlation test was used to compute the bidirectional relationships between variables. Structural equation method by the use of SmartPLS was implemented to examine the effects of social support on the participation of children with ADHD in physical activities with a consideration of emotional wellbeing as a mediator. P-value was set at $P < 0.05$.

3- RESULTS

3-1. Demographic data

According to **Table 1**, our sample had relatively low amounts of physical activity.

Table-1: Descriptive data

Parameter	Social support	Physical activity	Emotional wellbeing
Mean	2.60	1.22	56.72
SD	0.72	0.59	19.51

3-2. Relationships between variables

Based on **Table 2**, social support was revealed to have a significant direct relationship with physical activity (P<0.001), and emotional wellbeing (P<0.001). Also, emotional wellbeing was directly and significantly related to physical activity (P<0.001).

Table-2: Results of associations between the research variables

Parameter	1	2	3
1. Social support	-	-	-
2. Physical activity	r=0.558 P<0.001	-	-
3. Emotional wellbeing	r=0.647 P<0.001	r=0.407 P<0.001	-

3.3 Structural Equation Modeling

According to **Table 3** and **Figure 1**, social support positively affected physical activity (T=6.954), and emotional wellbeing (T=6.954). Moreover, emotional wellbeing positively affected physical activity (T=6.954). Finally, emotional wellbeing has significantly mediated the association between social support and physical activity (P<0.001). Results of model fit showed that our model has a good fit (GOF=0.90).

Table-3: Results of path analysis

No	Path	β	T-value
1	Social support => Physical activity	0.367	3.658
2	Social support => Emotional wellbeing	0.307	3.156
3	Emotional wellbeing => Physical activity	0.334	3.347
4	Social support => Emotional wellbeing => Physical activity	Z=3.271	P-value =P<0.001

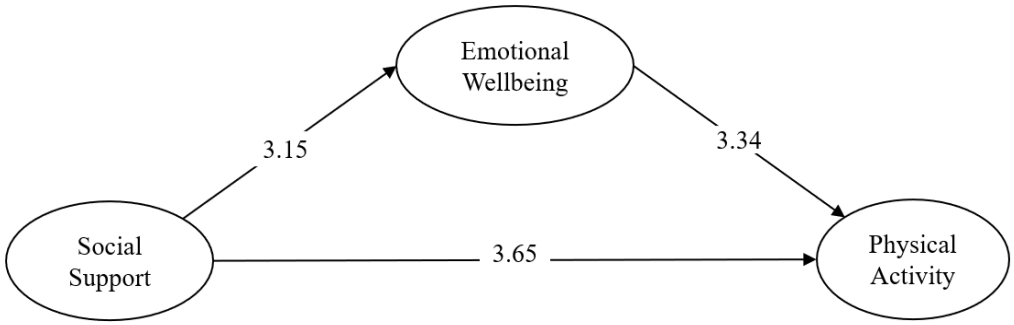

Fig. 1: Structural equation modeling

4- DISCUSSION

It has been shown that social support is an essential factor for participation of children in physical activities (15-18). However, this issue has been rarely investigated among children of special groups. Therefore, the aim of the present study was to examine the effects of social support on the participation of children with ADHD in physical activities with a consideration of emotional wellbeing as a mediator. Generally, in line with the findings of some previous studies, our samples were found to have low physical activities (22). Thus, it is necessary to adopt appropriate strategies for children with ADHD to encourage them to participate more in physical activities. Furthermore, the findings of this study, in line with the findings of previous studies on healthy children, revealed that social support positively influenced physical activity among children with ADHD (15-16). In addition, emotional wellbeing plays a mediating role in the relationship between social support and physical activity participation among children with ADHD. The effect of social support on children's physical activity has been proven in previous studies (17-18). However, social support through factors such as emotional wellbeing can affect the level of physical activity (18-23-24). Individual wellbeing often develops in environments with high levels of social support. The increase in the quality of one's friendship with peers, observing the success of peers in physical activities, experiencing physical activity with peers, being encouraged by peers during physical activity and getting feedback from peers on how to do a physical activity are some

of the factors that can motivate individuals, enhance their wellbeing, and increase the amounts of physical activity among them. Therefore, it can be expected that along with increasing the social support from peers, the adolescents' wellbeing will increase; and so they will be more inclined to perform physical activities.

4-1. Limitations of the study

The main limitation of this study is that we used questionnaires to measure physical activity; so, the results might be affected by self-reporting bias (25-28). The relatively small sample size in this study is another limitation. It is then recommended that further studies be conducted with larger sample sizes to increase the reliability of data.

5- CONCLUSION

In sum, the results of the present study indicate that urgent strategies are needed for children with ADHD, as they have small amounts of physical activity. Moreover, social support can be considered as a vital factor in the participation of children with ADHD in physical activities. Finally, we can consider emotional wellbeing as a moderating factor in the effectiveness of social support on the amount of physical activity among children with ADHD.

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