

Uncovering How Sports Influence Adaptive Behavior in People with Disabilities: Examining Gender and Disability Type

Abdulwahab Saeed Alzahrani¹, Abdulrahman k. Alsayed²

Abstract

This research aimed to investigate the relationship between sports and improvement of the adaptive behavior of people with disabilities, differences in the effect of sports on the improvement of adaptive behavior of people with disabilities in terms of (sex) variable and differences in the effect of sports on the improvement of adaptive behavior of people with disabilities in terms of (type of disability) variable. To achieve these aims, the researcher used the descriptive approach as well as the questionnaire to investigate the effect of practicing sports on the adaptive behavior skills of people with disabilities. The results of the research showed that there are no statistically significant differences at (0.05) concerning “sports and its effect on the adaptive behavior skills of people with disabilities” in terms of (sex) variable and that there are no statistically significant differences at (0.05) concerning “sports and its effect on the adaptive behavior skills of people with disabilities” in terms of (type of disability) variable. The researcher recommended the necessity of encouraging all people regardless of their sex to participate in the sports activities so as to enhance integration and help in improvement of the adaptive behavior skills of all people with disabilities.

Keywords: *Adaptive Behavior in People, Gender and Disability Type.*

Introduction

Sports activities are one of the most important methods of rehabilitation of individuals with disabilities, as they are one of their favorite activities and diversity offers a wide range of different trends and desires of the participants, they are also working to raise the efficiency of the vital organs and significantly improve any poor posture they may have (El-Sawaf, 2015).

Sports have a positive role in the motivation of participating in physical activities and contribute to life skills on disabled individuals who do sports. It is thought that sports will have a positive effect not only on their participation in physical activities, but also in many cognitive learning processes due to the increase in motivation of people with disabilities and help the disabled person to become more active and accepted in the society (CELENK, 2021)

Sports support people with disabilities to overcome their problems, by minimizing loneliness feelings and enable them to maintain a meaningful living process. Many disabled children can experience personality disorders and disharmony more often than normal children as they cannot establish healthy communication. Sports enable individuals to get rid of their narrow worlds and be affected from other environments, individuals, beliefs, and thoughts. With this aspect, sports contribute to establishing and reinforcing new friendships, and social cohesion. Therefore, disabled individuals, who are encouraged to sports, can be integrated to society faster, and prevented from being weary of life (Kizer et al., 2015).

Adaptive behavior (AB) is the collection of conceptual, practical, and social domains and areas of community use, school living, health and safety, self-care, communication, functional academics, self-direction, leisure, social, and work (Waterman et al., 2017).

Adaptive Behavior and Disability

El-Sawaf (2015) studied developmental of motor program of athletics for children and identify its effect on the adaptive behavior of visually impaired participants aged 11-12 years. The research measured various

¹ Manger of Day Care Effa Center, Email: aalzahrani@psrc.org.sa.

² Assistant Professor in the Special Education Department, King Faisal University, Al Hofuf, Saudi Arabia, Email: aalsayed@kfu.edu.sa.

physical and skill variables before and after the intervention. The results showed significant statistical improvements in the level of adaptive behavior, physical variables, and skill variables in favor of the post-measurement (El-Sawaf, 2015).

According to Waterman et al. (2017), the determination of adaptive behavior in individuals with intellectual disabilities can be significantly enhanced through the implementation of an exercise intervention program. Their analysis suggests that regular physical activity not only improves physical health but also positively influences behavioral and social outcomes, thereby contributing to overall adaptive behavior development in this population. Twenty-seven students with intellectual disabilities, aged 18-22, participated in a one-hour exercise intervention for 12 sessions. While the exercise did not influence a composite measure of adaptive behavior, specific areas such as health and safety, social, and work skills showed improvement. However, after correcting for multiple comparisons, no significant differences were found between pre- and post-scores, suggesting that a longer intervention may be necessary to see significant improvements (Waterman et al., 2017).

Adaptive behavior encompasses practical, social, and conceptual skills, which increase with age and the onset of diverse social roles. The importance of adaptive behavior has grown significantly in disability research and intervention, highlighting the need to weigh adaptive behavior and intellectual skills equally when diagnosing disabilities. Factors influencing adaptive behavior include opportunities to learn and perform skills, motivation, health, and context (Tasse, 2021; Lang & Sturmey, 2021).

Impact of Sports on Emotional and Behavioral Problems

Farhangi and Alamdarloo (2015) conducted a study to investigate the effect of sports activities on the behavioral-emotional problems of students with intellectual disabilities. Using a quasi-experimental design with a pretest-posttest and control group, they found that sports activities significantly improved behavioral-emotional problems in the participants. The study recommends the use of sports activities for the prevention, reduction, and elimination of behavioral-emotional issues.

ÇELENK (2021) examined the motivation for sports participation and its effects on the lifestyles of physically disabled individuals. The study involved 732 participants, including both those who engaged in sports and those who did not. The results indicated a significant difference in motivation and lifestyle improvements between these groups. The research found positive correlations between physical activity participation and life skills, suggesting that sports have a significant impact on the behavioral-emotional well-being of disabled individuals.

Sports activities play a crucial role in reducing and eliminating behavioral-emotional problems in children with disabilities. Regular participation in sports helps improve interactions, quality of life, physical fitness, and mental health, ultimately reducing behavioral-emotional issues (Farhangi & Alamdarloo, 2015).

Adaptive Sports and Employment

Lastuka and Cottingham (2015) analyzed the role of adaptive sports in predicting employment for individuals with physical disabilities. Their cross-sectional survey involved 140 mobility-impaired athletes and revealed that each additional year of adaptive sport participation increased the likelihood of employment by approximately 4%. Other positive predictors included education and duration of disability, while veteran status and severity of injury were negative predictors. The study concluded that increased participation in adaptive sports could lead to substantial economic benefits for individuals with disabilities.

Adaptive sports significantly contribute to the professional development of individuals with disabilities by enhancing self-esteem, social integration, physical independence, and life satisfaction. These benefits extend to improved employment outcomes, as sports participation fosters essential skills valued in the workplace (Lastuka & Cottingham, 2015).

Motivation and Lifestyle in Disabled Individuals

ÇELENK (2021) focused on the motivation for sports participation and its impact on the lifestyles of physically disabled individuals. The study found that those who engaged in sports had significantly higher motivation and better lifestyle outcomes than those who did not. The research also noted differences based on the type of disability, with orthopedic, visually, and hearing-impaired individuals showing the most significant improvements in motivation and lifestyle when participating in sports.

Farhangi and Alamdarloo (2015) highlighted the motivational benefits of sports activities in addition to addressing behavioral-emotional problems. Their findings suggest that regular sports participation encourages a more active and healthier lifestyle, leading to improved motivation and overall well-being in individuals with disabilities.

Sport provides numerous benefits to individuals with disabilities, including improved self-esteem, physical fitness, and social integration. These benefits contribute to a more active and motivated lifestyle, which is crucial for maintaining mental and physical health (Lastuka & Cottingham, 2015; Farhangi & Alamdarloo, 2015).

Methodology of the Research

Population and Sample of the Research

The research population was a sample of parents for students with disabilities in the Eastern Province of the Kingdom of Saudi Arabia. The distribution of the research sample according to its variables can be clarified through the following table (1):

Table (1) Frequencies and Percentages of Personal Variables for the Research Sample

| Variable | Categories | Frequency | Percentage (%) |
|---------------------------|---------------------------------------|------------------|-----------------------|
| Sex | Male | 49 | 66.2 |
| | Female | 25 | 33.8 |
| | Total | 74 | 100 |
| Type of Disability | Physical | 8 | 10.8 |
| | Intellectual Disabilities | 27 | 36.5 |
| | Deaf/Hard of Hearing | 2 | 2.7 |
| | Blindness | 0 | 0 |
| | Specific Learning Difficulties | 17 | 23 |
| | Developmental Disorders | 6 | 8.1 |
| | Multiple Disabilities | 14 | 18.9 |
| | Total | 74 | 100 |

Questions Of the Research

- Is there statistically significant relationship between sports and improvement of the adaptive behaviour of people with disabilities?
- Are there differences in the effect of sports on the improvement of adaptive behaviour of people with disabilities in terms of (sex) variable?

- Are there differences in the effect of sports on the improvement of adaptive behaviour of people with disabilities in terms of (type of disability) variable?

Instrument of the Research

The research used the questionnaire as a research tool to investigate the effect of practicing sports on the adaptive behavior skills of people with disabilities.

Standardizing the Research Instrument

- **Face Validity:** to verify the validity of the questionnaire, it was presented to a number of experts so as to ensure that the questionnaire measures what it was supposed to measure. Modifications were made according to what most reviewers agreed upon.
- **Internal Consistency Coefficient:** the correlation coefficients of each item score with the total score of the domain it belongs to were calculated through the following table:

Table (2) The Correlation Coefficients of Each Item Score with The Total Score of The Domain It Belongs To

| Domain | n. | Correlati on Coefficie nt | Domain | n. | Correlati on Coefficie nt | Domain | n. | Correlati on Coefficie nt |
|---|----|------------------------------------|--|----|------------------------------------|--|----|------------------------------------|
| The status quo of the role of group play in improving the adaptive behavior of people with disabilities | 1 | **0,573 | Requirements of developing the role of group play in improving the adaptive behavior of people with disabilities | 1 | **0,552 | The status quo of the role of friendships in improving the adaptive behavior of people with disabilities | 1 | **0,779 |
| | 2 | **0,670 | | 2 | **0,723 | | 2 | **0,708 |
| | 3 | **0,490 | | 3 | **0,749 | | 3 | **0,720 |
| | 4 | **0,669 | | 4 | **0,760 | | 4 | **0,761 |
| | 5 | **0,615 | | 5 | **0,751 | | 5 | **0,762 |
| | 6 | **0,736 | | 6 | **0,780 | | 6 | **0,685 |
| | 7 | **0,643 | | 7 | **0,780 | | 7 | **0,746 |
| | 8 | **0,615 | | 8 | **0,743 | | 8 | **0,702 |
| | 9 | **0,515 | | 9 | **0,772 | | | |
| | 10 | **0,629 | | | | | | |

statistically significant at (0.01)**

Results of table (2) show that all values of correlation coefficient were positive and statistically significant at (0.01). the values of correlation coefficient of each item score with the total score of the domain it belongs to ranged between (0.490) and (0.779) which indicate a good, significant, strong, and almost complete relationship between the score of each item and the total score of the whole domain to which it belongs.

Reliability of the Questionnaire

the reliability of the questionnaire was calculated through using Cronbach's Alpha Coefficient as shown in the following table (3):

Table (3) Cronbach's Alpha Reliability Coefficient for Each Domain of The Questionnaire

| Domain | N. of statements | Reliability Coefficient |
|--------|------------------|-------------------------|
|--------|------------------|-------------------------|

| | | |
|--|----|-------|
| The status quo of the role of group play in improving the adaptive behavior of people with disabilities | 10 | 0,850 |
| Requirements of developing the role of group play in improving the adaptive behavior of people with disabilities | 9 | 0,915 |
| The status quo of the role of friendships in improving the adaptive behavior of people with disabilities | 8 | 0,903 |

Results of table (3) show that Cronbach's Alpha reliability values for all domains of the questionnaire are high and statistically acceptable.

The answer of the first question:

- Are there differences in the effect of sports on the improvement of adaptive behaviour of people with disabilities in terms of (sex) variable?

The t-test was used to identify the significance of differences in the effect of sports on improving the adaptive behavior of people with disabilities in terms of the (sex) variable. This can be shown in the following table:

Table (4) T-Test to Identify the Significance of Any Differences in The Research Sample's Responses in Terms of The (Sex) Variable

| Domain | Sex | N. | The arithmetic mean | The standard deviation | T-test |
|--|--------|----|---------------------|------------------------|----------|
| The status quo of the role of group play in improving the adaptive behavior of people with disabilities | Male | 49 | 2,76 | 0,248 | **0,388 |
| | Female | 25 | 2,74 | 0,295 | |
| Requirements of developing the role of group play in improving the adaptive behavior of people with disabilities | Male | 49 | 2,76 | 0,288 | **-0,782 |
| | Female | 25 | 2,82 | 0,325 | |
| The status quo of the role of friendships in improving the adaptive behavior of people with disabilities | Male | 49 | 2,76 | 0,294 | **0,616 |
| | Female | 25 | 2,72 | 0,355 | |

statistically significant at (0.05)**

The above table (4) shows that there are no statistically significant differences at (0.05) concerning “sports and its effect on the adaptive behaviour skills of people with disabilities” in terms of (sex) variable. This could be due to the fact that the positive effect of sports on the adaptive behaviour may not significantly vary between males and females.

The answer of the second question:

- Are there differences in the effect of sports on the improvement of adaptive behaviour of people with disabilities in terms of (type of disability) variable?

One-way ANOVA test was used to investigate the differences in the research sample’s responses pertaining “sports and its effect on the adaptive behavior skills of people with disabilities” in terms of (type of disability) variable. This can be shown in the following table:

Table (5) One-Way ANOVA Test to Identify the Significance of Any Differences That Might Be Found Between the Mean Scores of The Research Sample’s Responses in Terms of the (Type of Disability) Variable

| Domain | Sources of Difference | Sum of squares | Degrees of freedom | Mean of squares | F |
|--|-----------------------|----------------|--------------------|-----------------|-------|
| The status quo of the role of group play in improving the adaptive behavior of people with disabilities | Between treatments | 0,329 | 5 | 0,066 | 0,941 |
| | Within treatments | 4,753 | 68 | 0,070 | |
| | Total | 5,082 | 73 | | |
| Requirements of developing the role of group play in improving the adaptive behavior of people with disabilities | Between treatments | 0,669 | 5 | 0,134 | 1,535 |
| | Within treatments | 5,928 | 68 | 0,087 | |
| | Total | 6,597 | 73 | | |
| The status quo of the role of friendships in improving the adaptive behavior of people with disabilities | Between treatments | 0,373 | 5 | 0,075 | 0,739 |
| | Within treatments | 0,6861 | 68 | 0,101 | |
| | Total | 7,234 | 73 | | |

- statistically significant at (0.05)**

The above table (5) shows that there are no statistically significant differences at (0.05) pertaining “sports and its effect on the adaptive behaviour skills of people with disabilities” in terms of (type of disability) variable. This may be due to the fact that people with disabilities may have different needs and requirements towards sport and its effect on the adaptive behaviour. Besides, if the sport practised does not effectively meet those needs, they may have similar experiences in terms of adaptive behavior skills.

Limitations

One of the main limitations of this study is the relatively small sample size, consisting of 74 participants from the Eastern Province of Saudi Arabia. The limited sample size may not adequately represent the diverse population of individuals with disabilities, especially considering the wide range of disability types, severity levels, and different individual experiences. This limited the generalizability of the findings to broader populations, including those in different geographical regions within Saudi Arabia or individuals with disabilities from socio-economic backgrounds. Moreover, the application of participants in a specific geographical area, such as the Eastern Province, might introduce regional biases that do not reflect the conditions and educational opportunities available in other parts of the country. Factors such as access to

specialized services, cultural attitudes toward disability, and regional economic disparities could all influence the outcomes, further restricting the applicability of the findings beyond this specific locale. To address these limitations, future studies should aim to increase the sample size and include participants from a wider range of regions across Saudi Arabia, including both urban and rural areas. Additionally, ensuring a balanced representation of participants across different types and severities of disabilities would help in developing a more comprehensive understanding of the population.

The study categorizes participants into several disability groups, including physical disabilities, intellectual disabilities, deaf/hard of hearing, and multiple disabilities. However, the small number of participants in certain categories, such as only two individuals in the deaf/hard of hearing group, limits the ability to draw significant conclusions for these specific groups. Moreover, the lack of representation for certain disabilities, such as blindness, further restricts the generalizability of the findings across all types of disabilities.

The research employs a descriptive approach with a questionnaire to explore the relationship between sports participation and the improvement of adaptive behavior in people with disabilities. While this approach provides valuable insights, it lacks the experimental or longitudinal design necessary to establish a causal relationship between sports participation and adaptive behavior improvement. Future studies could benefit from incorporating experimental and single subject designs to better understand the causal effects and long-term impact of sports on adaptive behavior.

The study relies on a self-reported questionnaire to measure the effects of sports on adaptive behavior. Self-reported data are inherently subject to biases, such as social desirability or recall bias, which could affect the accuracy and reliability of the results. Additionally, the study does not specify whether the questionnaire was tailored or validated for different types of disabilities, which could influence how well it captures the specific needs and responses of each group. Using a combination of qualitative and quantitative (mixed) methods, including observational assessments and interviews, could provide a more comprehensive understanding of the effects of sports on adaptive behavior.

The research is conducted within the specific context of the Eastern Province of Saudi Arabia, which may have unique cultural, social, and institutional characteristics influencing the outcomes of sports participation for people with disabilities. Factors such as societal attitudes towards disability, availability of sports facilities, and support from local organizations may vary significantly in other regions or countries, limiting the applicability of the findings to different contexts. Future research could examine similar relationships in different cultural or socio-economic environments to assess the broader applicability of the results.

The study does not provide data on the long-term effects of sports participation on adaptive behavior, which limits understanding of whether the observed benefits are sustained over time. Adaptive behavior skills may evolve, improve, or decline due to various factors, including changes in health status, social environment, or continued participation in sports. Longitudinal studies that follow participants over extended periods would be valuable in determining the persistence and durability of the benefits of sports participation for individuals with disabilities.

While the study focuses on adaptive behavior, it does not comprehensively explore other potential benefits of sports participation, such as emotional well-being, cognitive development, or community integration. These factors could play a significant role in improving the overall quality of life for individuals with disabilities. Future research could expand the scope to examine a broader range of outcomes, providing a more holistic view of the impact of sports on people with disabilities.

The study does not account for potential confounding variables that might influence the relationship between sports participation and adaptive behavior. Factors such as the participants' baseline health status, socio-economic background, level of access to sports facilities, and prior experience with sports activities could all affect the results. Controlling for these variables in future studies would help clarify the direct impact of sports participation on adaptive behavior.

Recommendations of the Research

Encouraging Inclusive Sports Participation for All Genders

Given the research findings that there are no significant differences in the improvement of adaptive behaviour skills between males and females, it is essential to promote sports participation among all individuals with disabilities, regardless of their sex. Participation in sports activities can serve as a powerful tool for social integration, providing opportunities for people with disabilities to interact with others, build confidence, and develop essential life skills. This inclusive approach ensures that both men and women benefit equally from the positive impacts of sports on adaptive behaviour, thereby promoting a more integrated and cohesive community.

Developing Varied and Comprehensive Sports Programs

Since the research indicates no significant differences in adaptive behaviour improvements across different types of disabilities, it is crucial to design and implement varied and comprehensive sports programs that cater to the needs of all individuals with disabilities. These programs should include a wide range of activities, personalized to different abilities and preferences, to effectively stimulate and enhance adaptive behaviour skills. By incorporating diverse challenges and exercises, these programs can foster physical, emotional, and cognitive development, ensuring that people with all types of disabilities have equal access to the benefits of sports participation.

Promoting and Enhancing Women's Participation in Sports

The research findings suggest that women's participation in sports activities should be actively encouraged, as there are no significant differences in adaptive behaviour improvements between sexes. To address this, sports organizations and events should create an inclusive environment that encourages female participation and recognizes the valuable role women can play in these activities. This includes implementing policies and practices that reduce barriers to entry, such as providing adequate facilities, training opportunities, and community support specifically tailored to women with disabilities. Ensuring equal opportunities for women in sports not only enhances their adaptive behaviour skills but also contributes to gender equality and empowerment.

Using Sports as a Tool for Community Integration

Based on the evidence that no significant differences exist regarding sex or type of disability, sports participation should be promoted as an effective means of enhancing community integration for people with disabilities. Sports provide a unique platform where individuals can come together, share experiences, and build meaningful connections, irrespective of their backgrounds or abilities. This sense of belonging and community is essential for improving the quality of life and overall well-being of people with disabilities, helping them to feel more included and valued in society.

Encouraging Institutional and Community Support

To maximize the benefits of sports for people with disabilities, it is imperative to garner support from both institutions and communities. Organizations, schools, sports clubs, and community groups should be encouraged to host and support sports events that are designed to improve adaptive behaviour skills including people with disabilities. This support could include providing funding, facilities, training, and volunteer assistance, as well as raising awareness about the importance of inclusive sports programs. By fostering a supportive environment, institutions and communities can play a pivotal role in promoting participation, enhancing adaptive behaviour, and ensuring that people with disabilities have access to the full range of benefits that sports activities offer.

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