



Impact Of Inclusive Sports and Games on The Independent Life Skills of The Intellectually Challenged Individuals

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Abstract

The major goal of the study is to determine how inclusive sports help people with intellectual disabilities develop their fine and gross motor skills, cognitive abilities, and independent living skills. The sample was collected from 100 special students from 5 special schools in Karachi. The students were engaged in inclusive sports and games for 24 weeks, with a 40-minute session taken 5 days a week. The distribution size of questionnaire was 120, divided into two parts first for 20 trainers and second half for 100 parents. Their learning, memory, and gross and fine motor skills were evaluated. There were pre- and post-evaluations done. The results demonstrated that, in comparison to children before they participated in the inclusive sports program, 88% showed improvement socially, emotionally and with improved cognitive and fine/gross motor skill development proving that inclusive sports therapy has a positive impact on the development of different aspects of disabilities.

Keywords: *Inclusive Sports Program (ISP), Vocational Training Skills (VTS), Students with Intellectual Disabilities (SWID), Mild Intellectual Disabilities (MID), Moderate Intellectual Disabilities (MDID)*



Introduction

According to the current definition of intellectual impairment, it is a disorder marked by significant limits in cognitive functioning as well as adaptive behavior, as shown by conceptual, social, and practical adaptive skills. Before the age of 18, the condition manifests itself. In general, those with impairments are among the poorest of the poor in developing nations. They should receive a lot of consideration in large-scale development initiatives. In truth, it's true that people in society tend to view students with special needs as frustrated, ill, emotionally unstable, and generally impaired.

The disadvantages of labeling are lessened by inclusion in general education, which enables special kids to engage with their peers. By taking part in the assessment, program planning, and placement choices for students with special needs, the general education teacher can help them succeed in developing their academic, vocational, socioeconomic, and emotional life skills. The main goal of education is to foster all facets of human nature so that each individual can utilize their skills to the fullest extent possible.

The focus of the majority of inclusion talks is on the diverse population of special education pupils. Disability is characterized as a social issue, as being the inability to engage in society. Some people have physical or sensory impairments. The goal of the study was to determine how much inclusive sports education has an impact on children with special needs in the study area in terms of their life skills.

There are roughly 1.3 billion disabled persons in the globe. Impairments can significantly affect the lives of those who experience them. The study of psychomotricity reveals the elements that enable the child to create his own system of movements, enabling him to behave effectively, spontaneously, and swiftly under any circumstance. According to this research, body language—particularly the movements of the eyes, face, and body—is typically more talking about the nature of emotions and moods than spoken behavior. A game is a spontaneous, physical and mental activity that has no particular aim but instead produces enjoyment, pleasure, and rejuvenation. (Zaman, Z., & Khawaja, U. A. 2022)

Physical activity helps children with impairments integrate into society and is a key component of neuromata rehabilitation. The study that has been examined demonstrates that physical activity can aid in enhancing the children's mobility and functionality. Additionally,



modified programs created especially for this goal have been created, making it simpler for these kids to recover and enhance their social and independent lives.

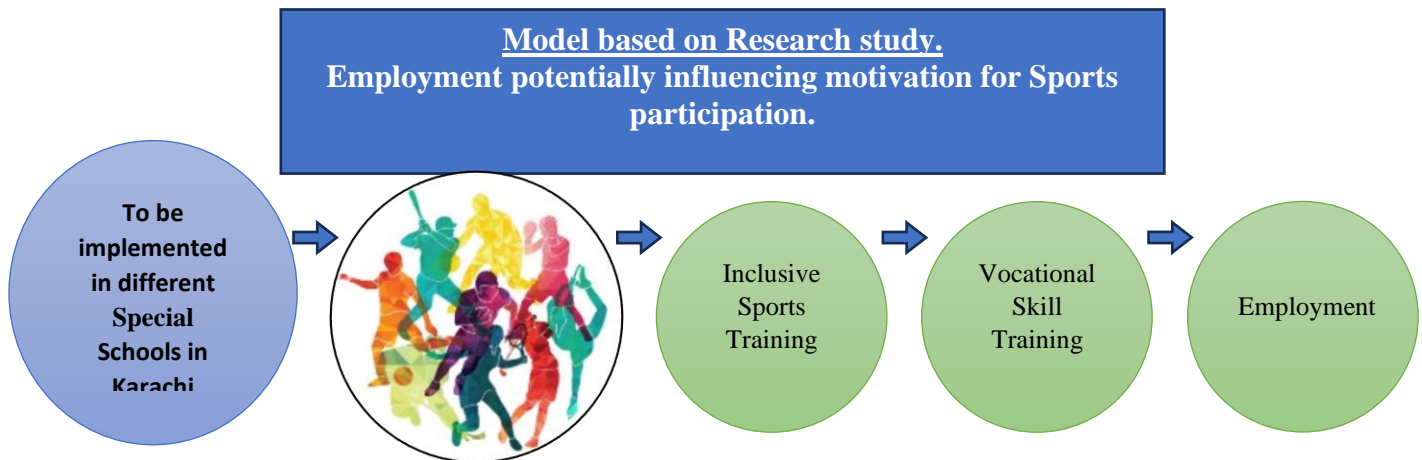
Social isolation is a common problem for people with intellectual disability. Because of the stigma and discrimination connected with this handicap on a global scale, it has been challenging for them to interact with their peers, leading to their isolation. Further separating them from the general population are the numerous specialized services that are provided to those with intellectual disabilities and their families . A vision of inclusion for these people is established by the UN Convention on the Rights of Persons with Disabilities, which mandates that they must be able to participate in society fully and effectively. (Fraser, S., & Bosanquet, A. M. 2006)

In 2004, Mirela Dan and Vasile Marcu from Oradea, Romania, began investigating the possibility that a kinetic program designed by a kinesiologist for children with special educational needs (nine institutionalized children aged 4-6, with low mental delay) could promote motility development and expand these children's sphere of integration. One of the conclusions reached shows that game therapy programs for kids with the aim of fostering psychomotor skills may help, along with other factors, to facilitate kids' absorption into regular classrooms.

Significance of the study

1. The study examines how inclusive sports help develop fine and gross motor skills, cognitive abilities, and independent living skills in individuals with intellectual disabilities.
2. The study had a large sample size of 100 special needs students from 5 special schools in Karachi, Pakistan.
3. The students participated in inclusive sports and games for 24 weeks, with 40-minute sessions 5 days a week.
4. Both trainers and parents provided feedback through questionnaires to evaluate the students' learning, memory, and motor skill development.
5. The results showed that 88% of the students demonstrated improvements in their social, emotional, cognitive, and motor skill development after participating in the inclusive sports program.

Figure 1



It is important to note that research in this field is ongoing, and further studies are needed to fully understand the impact of inclusive sports on the independent life skills of intellectually challenged individuals. However, the existing research suggests that inclusive sports programs have the potential to make a positive impact and contribute to the overall development and well-being of intellectually challenged individuals.

Objectives of the Study:

1. To find out the role of inclusive sports on the cognitive development of the intellectually challenged.
2. To find out the role of inclusive sports on the development of fine and gross motor movement skills of the intellectually challenged.
3. To find out the provision of inclusive sports in special education Needs schools of Karachi.
4. To find out the relationship/co relation between inclusive sports vocational training and employability of the intellectually challenged.
5. To suggest an inclusive sports training model for the intellectually challenged

Literature Review

Inclusive sports are designed to accommodate individuals of all abilities, including those with intellectual deficits. These sports not only promote physical fitness and well-being but also contribute to the development of adaptive living skills, social interaction, and self-confidence.



1. Swimming is a low-impact sport that can help improve overall fitness, coordination, and muscle strength. It also promotes water safety skills and enhances self-esteem and social interactions through group swim lessons and activities.
2. Unified basketball teams include players with and without intellectual deficits, fostering teamwork and friendship. This sport enhances motor skills, hand-eye coordination, and communication while building a sense of belonging and camaraderie.
3. Track and field events provide opportunities for participants to engage in various activities such as running, jumping, and throwing. These events help improve physical fitness, coordination, and confidence, while also encouraging healthy competition and personal growth.
4. Bocce is a sport that involves rolling balls towards a target, promoting precision, strategy, and concentration. It is suitable for individuals of all abilities and offers opportunities for social interaction, decision-making, and motor skill development.
5. Adapted soccer programs allow individuals with intellectual deficits to engage in modified versions of the sport. Soccer promotes cardiovascular fitness, balance, coordination, and communication skills, while participating in team activities can boost social interaction and confidence.
6. Inclusive gymnastics programs focus on flexibility, balance, and body awareness. These activities help enhance physical fitness, motor skills, and self-esteem, while also encouraging participants to set and achieve personal goals.
7. Bowling is a sport that can be adapted to accommodate individuals with intellectual deficits. It enhances hand-eye coordination, social interaction, and patience, making it a suitable activity for skill development and recreation.



Different sports and activities can have varying effects on gross motor skills, fine motor skills, and cognitive development. Here's how some of the sports mentioned earlier can impact these aspects of development:

According to (Dreier et al., 2018), people are constantly participating and contributing to changing the world. Active participation is therefore a social practice. Participation in events and activities is considered a human act. This gives a feeling of belonging and recognition (Larsen et al., 2011). Whatever a person learns by participating in one activity is always implemented in another activity context. Learning from an achievement can also be transferred to other areas of life. Sports, for example, teach leadership and empathy towards others. Participants can apply the skills learned in inclusive sport to other areas of life where these skills are needed. Thus, they can make an impact and are in a better position to change their life in a positive way. In another research published by (kissow et al., 2015), impact of participation on young children personality were been examined. According to the author, physical activity like inclusive sports plays an important role in shaping social life of physically challenged kids. However, it cannot be determined that whether these skills are transferable in other parts of life as well or not. This emphasis on physical activity has the potential to improve the quality of life of people with disabilities, it is also important to know yourself and how physical activity can change your actions in a different life context.

The research by Mulyana, B., et al. (2022). *Accessibility of Inclusive Sports Facilities for Training and Competition in Indonesia and Malaysia* has described some of the principal barriers and potential changes to increase sports participation of athletes with a disability. From the study, some of the main barriers include: a lack of physical infrastructure, a lack of specialized equipment, and small transport problems. Secondly, it also inured the need for universal design principles in the sports structure to prosper accessibility for all. Solutions include enforcing policy guidelines, training for staff and more funding for facility upgrades.



The study highlights the considerable role of accessible sports facilities in increasing the participation of para-athletes, contributing to the social inclusion and physical wellbeing of these athletes.

Research Methodology

The study was of mixed research in nature and designed to explore the inclusive sports training facility provided to intellectually challenged students. A mixed method research design is a procedure for collecting, analyzing, and “mixing” both quantitative and qualitative research and methods in a single study to understand a research problem. The data was collected with the help of a questionnaire for the trainer and parent which consisted of 6 and 13 questions respectively. This study also helped to find out the correlation between inclusive sports training, vocational training and job placements through pre and post questionnaire and result and marks through Individualised vocational plan leading towards employability. The results were analysed through percentages and graphs.

Data source

The data implemented in the study was gathered from primary sources. The key data for the quantitative technique is obtained via an instrument provided to the trainers and through qualitative technique from parents.

Target population

The population we selected for our study were male and female parents and trainers. We selected intellectually challenged students from different schools in different areas of Karachi so that we could understand the perspectives of various individuals who belong to different mindsets and different social classes.

Sampling and Sample size

The sample size for research is intended to be 100. Simple sampling approach. This research had a total of 100 participants. They were chosen based on the assessment and criteria for their participation in sports and vocational training.

Sampling technique

The sample strategy utilized in the study is more convenient to record responses from each study respondent. Furthermore, Convenience sampling is used to record the responses of each respondent who is conveniently accessible for the study.



Hypotheses

Considering the primary objective of our research the following hypothesis have been developed:

- H0: Inclusive sports and games do not have any effect on the independent life skills of the intellectually challenged individuals.
- H1: Inclusive sports and games improve the independent life skills of the intellectually challenged individuals.

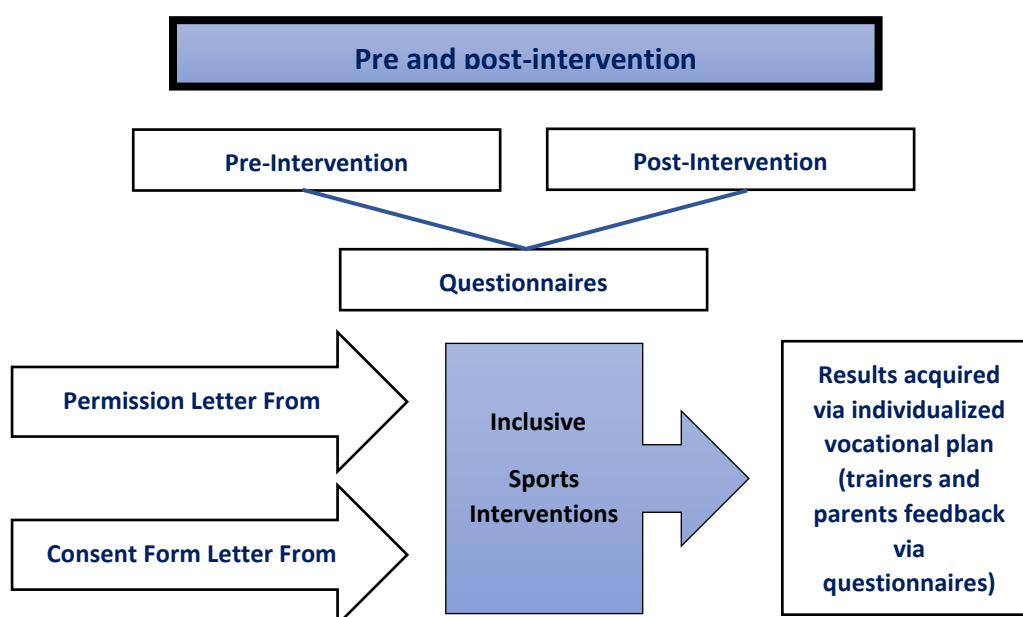
Data collection technique

For collection of data, questionnaires were used. To conduct this study two questionnaires were used, one for trainers and the other for parents. Trainers answers were based on quantitative data i.e results of individualized vocational plan. Parents data and answers were based on qualitative data and open ended questions.

Procedure of Data Collection

Data collection was separated into two parts: pre-assessment and post-assessment, in order to document the changes that occurred during sessions. All of the questions in the trainer's questionnaire were multiple choice and was based on the results received from Individualized vocational plan. Whereas the questionnaire for parents was based on yes or no. A questionnaire was provided to parents and trainers to record their responses.

Figure 2





Limitations of the study

Due to time and cost limitation, the research has been conducted in Karachi. The sample size that is selected for the study is also limited to the students in five special schools of Karachi, those schools which are actively working for inclusive sports program and other related activities. Many schools are not aware of the importance of inclusive sports for the development of these special children.

Data Analysis and Discussion

The data implemented in the study was gathered from primary sources. The key data for the quantitative technique is obtained via an instrument provided to the trainers and through qualitative technique from parents. The population we selected for our study were male and female parents and trainers. We selected intellectually challenges students from different schools in different areas of Karachi so that we could understand the perspectives of various individuals who belong to different mindsets and different social classes.

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Table 1

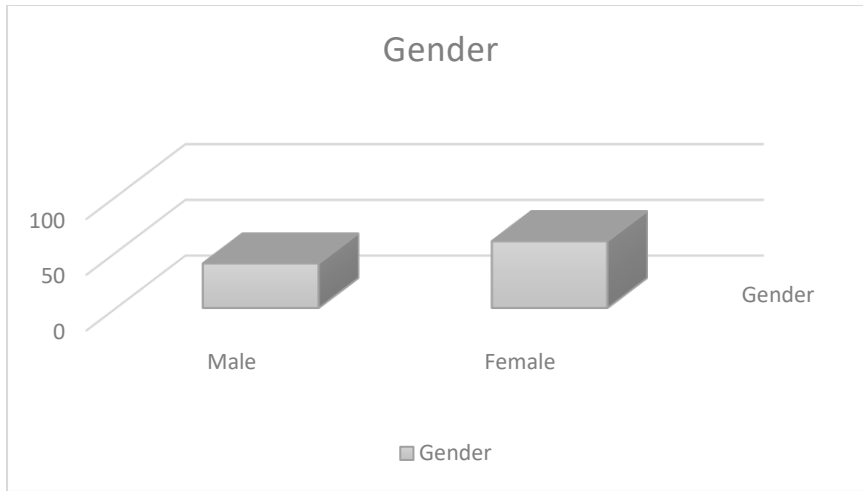
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Data Range		Frequency	Percent	Cumulative Percent
Valid	Male	40	40.0	40.0s
	Female	60	60.0	100.0
Total		100.0	100.0	

Using the following descriptive statistics, we have tabulated and graphed the demographic information of the survey participants:



Figure 2



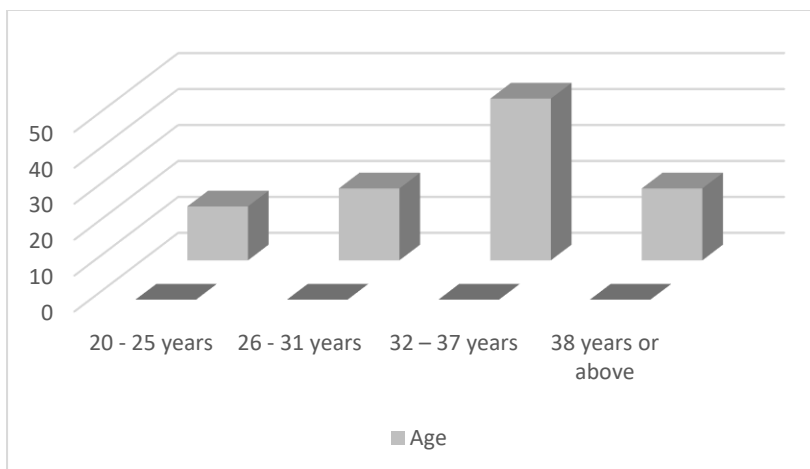
The above table represents that 40% of the respondents were male, whereas 60% were female.

Table 2

Age

Data Range	Frequency	Percent	Cumulative Percent
Valid			
20 - 25 years	15	15.0	15.0
26 - 31 years	35	35.0	40.0
32 - 37 years	22	22.0	72.0
38 years or above	28	28.0	100.0
Total	100.0	100.0	

Figure 3





As per Table 4.2., 15% respondents belong to the age group of 20 – 25 years, 35% fall between the age of 26 – 31 years, 22% were of the age from 32 – 37 years and the remaining 28% were of 38 years or above.

Table 3
 ANOVA: SINGLE FACTOR Analysis

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Pre-assessment	100	152	1.52	0.252121
Post assessment	100	143	1.43	0.247576

The statistical technique known as ANOVA, or Analysis of Variance, compares the means of three or more groups to see if any differences are statistically significant. In this scenario, we have two groups: "Pre-assessment" (100 observations) and "Post assessment" (100 observations). For each group, the summary table shows the count, total, average, and variation.

The count column shows how many observations are in each category. In this scenario, both the Pre and Post assessment groups had 100 observations, suggesting that the sample sizes for both groups are identical. The "Pre-assessment" group has an average score of 1.52, while the "Post assessment" group has an average score of 1.43. This indicates the scores in the "Pre-assessment" group are slightly greater on average than those in the "Post assessment" group. The average column, often referred to as the mean average indicates the overall pattern of the data in each group and offers an idea of the usual value within the group.

The variance measures the distribution or variability of scores within each category. The variance for the "Pre-assessment" group is 0.252121212, while it is 0.247575758 for the "Post assessment" group. These results suggest that there is merely a slight amount of variation in scores between the two groups. The ANOVA (Analysis of Variance) test is used to assess the significant differences between the two groups. ANOVA compares between-group variability to within-group variability to determine if the means of the groups are substantially different from one other. Because we are comparing the meaning of two groups, we have a single-factor ANOVA.

Table 4



ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.405	1	0.405	1.620982	0.204448	3.888853
Within Groups	49.47	198	0.249848			
Total	49.875	199				

The table above displays the results of an analysis of variance (ANOVA) performed on a collection of data. ANOVA is a statistical approach for comparing the means of different groups and determining whether there are any significant differences between them. The variance in the data is separated into two sources in this analysis: between groups and within groups. The inside Groups source of variation reflects variance inside each group, whereas the Between Groups source of variation represents variation between groups.

For each source of variance, the table includes multiple statistical metrics. The term "SS" stands for the sum of squares, and it measures the variability explained by each source. The letters "df" stand for degrees of freedom, which denote the number of independent pieces of information available for estimate. "MS" is an abbreviation for mean squares, which are determined by dividing the total of squares by the degrees of freedom. The test statistic "F" evaluates the ratio of between-group variance to within-group variance, showing whether there are significant differences between groups. The "P-value" is the probability linked with the test statistic that indicates the possibility of such severe findings occurring by chance. The "F crit" value is the critical value of F needed to reject the null hypothesis.

The Between Groups source of variation in this study has a sum of squares (SS) of 0.405 with 1 degree of freedom (df), resulting in a mean square (MS) of 0.405. The computed F statistic is 1.620982414, with a P-value of 0.204447627. At the specified significance level, the critical value of F is 3.888852933. With an SS of 49.47 and 198 degrees of freedom, the Among Groups source of variation has an unclear MS. The overall SS for the analysis is 49.875, with 199 degrees of freedom. These findings shed light on the importance of the disparities between the groups under consideration. The estimated F statistic and its related P-value can be used to assess if the differences between groups are statistically significant or happened by chance.



Conclusion and Recommendation

First objective of the study was achieved by the need analysis based on assessment of the intellectually challenged students regarding their, capabilities, aptitude, strengths, stamina, limitations etc.

The second objective involved the designing and selecting of sports activities and games on the basis of need analysis and the resources available. The resources included physical trainer for sports training, training equipment according to the needs and a conducive learning environment. The training was then conducted and also evaluated from time to time as and when required.

The third objective involved the implementation of the sports training program in 5 special schools of Karachi with 20 students each, which was again evaluated based on the results of cognitive, gross and fine motor developments of the students.

The fourth objective was the induction of the student in vocational training after the desired development in cognitive, fine and gross motor development and the respective evaluation. The Individualized Vocational plan gave the quantified results of the improvement of the child after his involvement and active participation in inclusive sports activities.

The fifth objective is to recommend a model of inclusive sports training leading towards vocational training and then employment.

Recommended Model

The first step is the need analysis based on assessment of the intellectually challenged students regarding their capabilities, aptitude, strengths, stamina, limitations etc.

The second step involves the designing of sports activities and games on the basis of need analysis and the resources available. The resources include physical trainer for sports training, training equipment according to the needs and a conducive learning environment.

The training is then conducted and also evaluated time to time as and when required.

The third step involves the implementation of the sports training program which is again evaluated based on the results of cognitive, gross and fine motor developments of the students.

The fourth step is to induct the student in vocational training after the desired development in cognitive, fine and gross motor development and the respective evaluation.



The fifth step is to recommend a model for all special schools based on the research to initiate this model to Provincial and National Level to get the Intellectually challenged students at a level of being the earning members of the family.

Figure 4



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