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A Study on Structured Physical Activity for Enhancing Self-Esteem in Children with Learning Disabilities in the Light of NEP 2020

Nisha Gautam[1] and Dr. Dibendu Kumar Bej[2]
nisha.gautam0786@gmail.com, dibendubej@rieajmer.ac.in,

[1]M.Ed. Scholar, Regional Institute of Education, NCERT, Ajmer, Rajasthan - 305004, India.
[2]Assistant Professor, Regional Institute of Education, NCERT, Ajmer, Rajasthan - 305004, India.

Abstract

The National Education Policy (NEP) 2020 emphasizes inclusive education and holistic development, recognizing the vital role of physical activity in fostering psychological well-being among children with special needs. This study investigates the impact of structured physical activity interventions on the self-esteem of children with learning disabilities (CWSN), employing a quantitative quasi-experimental design. A total of 60 participants, aged 12 to 16 years, were selected from special and inclusive schools, with 30 assigned to an experimental group receiving an 8-week structured physical activity program and 30 to a control group with no intervention. The program included motor skill training, team games, and cooperative physical tasks tailored to the needs of children with learning disabilities. Pre- and post-intervention self-esteem levels were measured using a standardized tool (Rosenberg Self-Esteem Scale modified for CWSN). Data were analyzed using paired and independent samples t-tests. Results indicated a statistically significant improvement in self-esteem among the experimental group ($p < 0.01$) compared to the control group, demonstrating the positive effects of physical activity in enhancing self-worth and confidence among CWSN. The findings underscore the need for integrating structured physical activity programs within the school curriculum, as advocated by NEP 2020, to support the psychological and social development of children with learning disabilities. This study contributes to the growing body of literature supporting evidence-based interventions for inclusive education and calls for policy-level support to implement such practices nationwide.

Keywords: NEP 2020, CWSN, structured physical activity, self-esteem, learning disabilities, inclusive education

Introduction

Self-esteem is a fundamental component of a child's psychosocial development, influencing not only emotional regulation but also confidence, motivation, and the capacity to form healthy interpersonal relationships. Children with learning disabilities (LD) often face persistent academic struggles, social exclusion, and a diminished sense of self-worth. These challenges frequently result from difficulties in reading, writing, memory retention, and problem-solving—leading to frustration, anxiety, and a lowered self-image. If such issues remain unaddressed, they can significantly impair both the emotional well-being and long-term developmental outcomes of these children. Therefore, identifying effective and inclusive strategies to nurture self-esteem in children with LD is imperative for fostering their holistic growth.

Structured physical activity (SPA) has emerged as a valuable pedagogical tool in this context. Participation in well-designed physical programs—ranging from yoga, dance, and indoor-outdoor games to recreational group activities—has been linked with improved emotional health and enhanced self-perception in children with diverse learning needs. These activities provide not only opportunities for physical engagement but also platforms for

building resilience, a sense of achievement, and personal agency. Importantly, SPA fosters social inclusion and reduces the feelings of isolation often experienced by children with LD by promoting team interaction and peer support, thereby enhancing social competencies.

Several empirical studies underscore the connection between physical activity and self-esteem. For instance, a comprehensive review by Ekeland et al. (2005) demonstrated that exercise-based interventions notably improved self-esteem in children, particularly those who initially presented with low confidence levels. Lubans et al. (2016) also highlighted that participation in structured team-based activities significantly bolsters self-worth, social skills, and emotional resilience among children with learning differences. Regular engagement in physical activity contributes to improved self-efficacy, reducing self-doubt and cultivating a more positive self-concept.

In alignment with these findings, India's National Education Policy (NEP) 2020 emphasizes the role of physical education as an integral part of the school curriculum. Reinforced further by the National Curriculum Framework (NCF) 2023, the policy promotes experiential learning that encompasses physical, emotional, and social development. It encourages educational institutions to integrate structured physical activity programs within daily schedules, recognizing their potential to improve mental health, self-esteem, and social interaction among all learners, including those with learning disabilities.

Objectives of the Study

The primary objectives of this research were:

1. To develop and implement an 8-week structured physical activity intervention specifically designed to align with the cognitive, emotional, and physical capabilities of children diagnosed with learning disabilities.

2. To evaluate the impact of the structured physical activity program on the self-esteem levels of children with learning disabilities by conducting a comparative analysis of pre- and post-intervention assessments.

Methodology

This study adopted a quasi-experimental design with a pre-test and post-test control group framework to explore the effects of structured physical activity on self-esteem in children with learning disabilities (LD). The sample consisted of 60 students aged 12–16 years, purposively selected from special education institutions. Participants were randomly assigned to an experimental group (n=30) and a control group (n=30). The experimental group underwent an 8-week structured physical activity program, while the control group followed their regular academic schedule without additional physical activity intervention.

Self-esteem was assessed using the Rosenberg Self-Esteem Scale (RSES), a globally recognized and psychometrically validated instrument. The intervention program was designed to include a blend of yoga, pranayama, Zumba, aerobic exercises, indoor and outdoor games, indigenous activities, and recreational sports, scheduled four times per week over the course of eight weeks. Activities were tailored to accommodate varying physical abilities and cognitive profiles typical among children with LD.

Table 1: Study Variables and Instruments

S.No.	Variables	Type	Instrument Used
1	Self-Esteem	Dependent	Rosenberg Self-Esteem Scale (RSES)
2	Physical Activity	Independent	Structured Intervention Activity Schedule

Reliability and Validity: The RSES demonstrates high internal consistency and construct validity for measuring global self-esteem in adolescents, including children with neurodiverse learning profiles.

Table 2: Intervention Framework

The weekly activity structure is outlined below:

Week	Day 1	Day 2	Day 3	Day 4
1	Yoga (30 min)	Zumba (40 min)	Aerobics (40 min)	Indoor games (40 min)
2	Pranayama (20 min)	Recreational games (40 min)	Indigenous games (40 min)	Yoga (30 min)
3	Aerobics (40 min)	Zumba (40 min)	Indoor games (40 min)	Pranayama (20 min)
4	Yoga (30 min)	Outdoor games (40 min)	Aerobics (40 min)	Recreational games (40 min)
5	Zumba (40 min)	Pranayama (20 min)	Yoga (30 min)	Indoor games (40 min)
6	Aerobics (40 min)	Outdoor games (40 min)	Zumba (40 min)	Indigenous games (40 min)
7	Yoga (30 min)	Indoor games (40 min)	Pranayama (20 min)	Aerobics (40 min)
8	Zumba (40 min)	Recreational games (40 min)	Outdoor games (40 min)	Yoga (30 min)

The intervention plan gradually transitioned from calming and emotionally grounding activities (e.g., yoga, pranayama) to more dynamic, interactive group-based tasks (e.g., team sports, indigenous games). The design encouraged emotional regulation, peer bonding, self-efficacy, and goal achievement. Sessions were continuously monitored and adapted based on participant feedback and observed engagement levels to ensure inclusivity and optimal participation.

Results and Discussion

Table 3: Descriptive Statistics Experimental and Control Group - Self-Esteem

Group	Test Type	Mean	Std Dev	Min	Max
Experimental	Pre-Test	56.67	8.65	43.33	73.33
	Post-Test	73.56	9.13	50.00	86.67
Control	Pre-Test	57.11	8.82	40.00	73.33
	Post-Test	63.44	10.09	46.67	83.33

Table 4: Inferential Statistics (Paired t-test results)

Group	Test Type	t-Statistic	p-Value	Interpretation

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Experimental	Paired t-test	-14.32	< 0.001	Significant improvement
Control	Paired t-test	-4.50	< 0.001	Moderate improvement

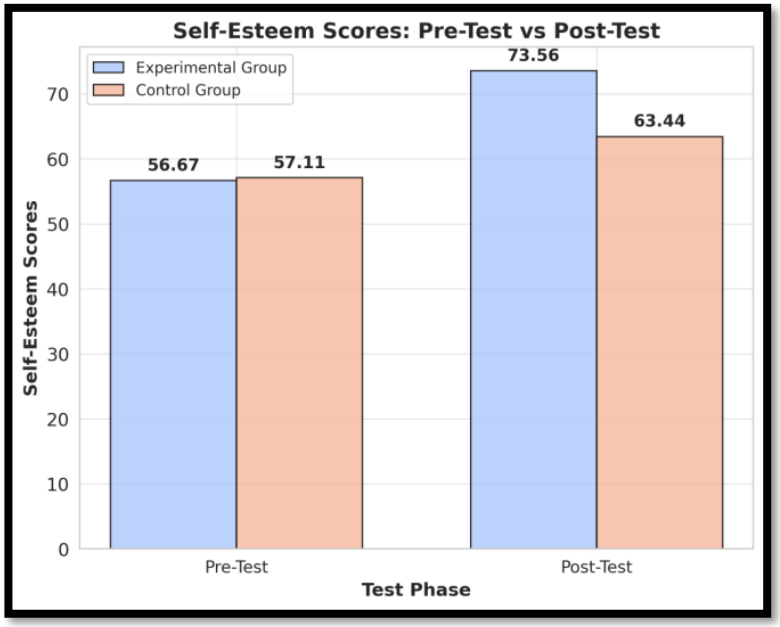

Figure 1: Graphical representations of Self- esteem scores

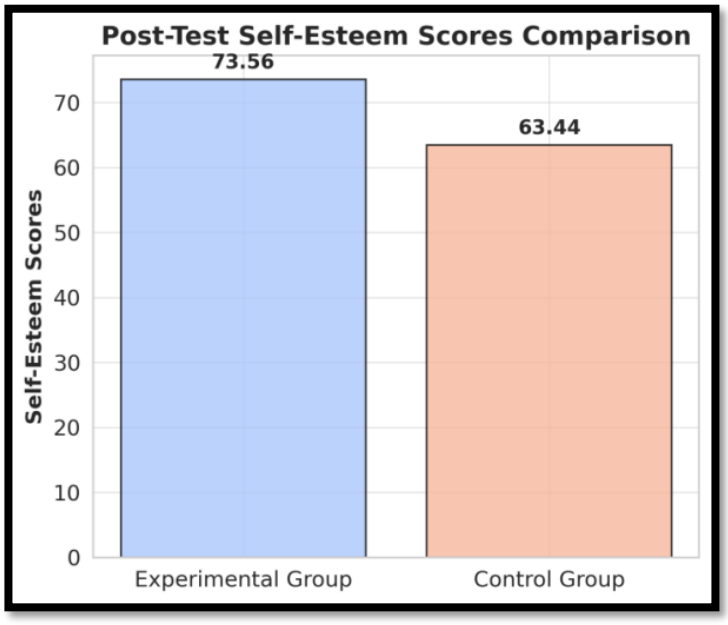

Figure 2: Graphical representations of comparison between Post-test scores in Self- esteem scores for both the groups.

The findings indicate a statistically significant enhancement in self-esteem for the experimental group following the 8-week intervention. The mean self-esteem score increased from 56.67 to 73.56, while the control group exhibited

only modest gains (57.11 to 63.44). This supports the hypothesis that structured physical activity interventions foster notable psychological benefits in children with LD.

Discussion of Findings

The progressive enhancement in self-esteem among participants in the experimental group can be attributed to several programmatic elements. Calming activities in the early weeks (yoga, pranayama) facilitated emotional grounding, which is foundational for children with LD who often experience heightened stress. As the program advanced, engaging in Zumba, aerobics, and group-based sports enabled participants to internalize a sense of mastery, purpose, and inclusion—core ingredients of self-worth.

These results align with earlier findings by Ekeland et al. (2005), which highlighted the efficacy of exercise-based interventions in improving psychological well-being in children. Lubans et al. (2016) also emphasized the role of structured physical activity in promoting emotional regulation, social acceptance, and self-efficacy in neurodivergent youth. This study extends the literature by contextualizing these benefits within the NEP 2020 framework, advocating for holistic and experiential learning models.

Implications for Educational and Therapeutic Interventions

The study reinforces the critical role of structured physical activities in fostering psychological and social development among children with learning disabilities. Based on the findings, the following recommendations are proposed:

- **Curriculum Integration**: Schools should integrate structured movement-based interventions as a core part of their curriculum, consistent with NEP 2020's vision for experiential learning.
- **Therapeutic Application**: Physical activity can serve as a therapeutic tool for enhancing attention span, emotional resilience, and executive function in children with LD.
- **Social Development**: Group-based sports and recreational activities promote inclusion, peer bonding, and collaborative skill-building.
- **Stakeholder Engagement**: Educators, special educators, therapists, and caregivers should collaborate to design and monitor inclusive activity schedules.
- **Policy Implementation**: Education policy frameworks should mandate accessible physical education facilities and inclusive activity programming.
- **Cultural Relevance**: Use of indigenous and familiar recreational games ensures cultural inclusivity and fosters deeper emotional engagement.

Conclusion

This study underscores the transformative potential of structured physical activity in enhancing self-esteem among children with learning disabilities. The significant improvement observed in the experimental group's post-test scores reflects the holistic benefits of a movement-based intervention that combines mindfulness, social interaction, and physical engagement. Aligned with the principles of NEP 2020, these findings support the integration of physical activity into school systems as a means of nurturing self-worth, social competence, and emotional well-being in learners with special educational needs.

In conclusion, structured physical activity is not merely a supplementary co-curricular engagement but a powerful tool for therapeutic intervention and inclusive education. Embedding such practices within the broader educational ecosystem can help bridge psychological gaps, enabling every learner to flourish with dignity, confidence, and purpose.

Contribution

Scholar conceptualized the study, conducted data collection, analysis, and drafted the initial manuscript. Dr. Dibendu Kumar Bej provided guidance in research methodology, supervised the statistical analysis, and critically reviewed the final manuscript. Both authors reviewed and approved the final version of the study.

Conflict of Interest

The authors declare that they have no competing interests.

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