THE IMPACT OF YOGA AND PHYSICAL SKILL TRAINING ON MOTOR AND COGNITIVE FUNCTIONS, PHYSICAL SELF-CONCEPT, AND ANXIETY-RELATED BEHAVIOR IN JUNIOR PRIMARY SCHOOL-AGED CHILDREN

Neelam Khadgawat
Research Scholar
Shri JJT University, Chudela, Jhunjhunu

Dr. Jully Ojha
Professor
Shri JJT University, Chudela, Jhunjhunu

Abstract

This pilot study explores the effects of yoga training compared to physical skill training on various aspects of well-being and physical fitness in junior primary school-aged children. The study examines motor and executive function, physical self-concept, and anxiety-related behavior in children aged 6 to 11. The results show that both forms of training have distinct effects on different aspects of physical self-concept and anxiety-related behavior, although no significant differences were observed in motor and executive function outcomes.

***Keywords**: Physical fitness, Well-being, School-aged children, Motor function, Executive function, Physical self-concept, Anxiety-related behavior & Holistic health*

Introduction:

Yoga, a holistic practice encompassing physical exercises, breathing techniques, and meditation, has garnered growing attention in recent years as a means to promote health and well-being. This study explores the effects of yoga training on motor and cognitive functions, physical self-concept, and anxiety-related behavior in junior primary school-aged children. Unlike previous research that primarily targeted adults and older children, this study focuses on the often-overlooked age group of younger children.

Yoga often involves asanas, which are static body positions, and can positively impact static motor function. Studies have shown improvements in hand steadiness, handgrip strength, and endurance in adults and older children who engaged in yoga training (Telles et al., 1993, 1994; Mandanmohan et al., 2003; Thangavel et al., 2014). However, it remains unknown whether these benefits extend to younger children.

The physical self-concept is closely related to physical activity and is integral to one's overall self-concept and self-esteem (EXEM-model by Sonstroem and Morgan, 1989). While research with adults has shown that various physical activities can enhance physical self-concept (Moore et al., 2011; Musanti, 2012), findings in children have been mixed (Mayorga-Vega et al., 2012; Planinsec and Fosnaric, 2005). The effects of yoga on physical self-concept, particularly in younger children, remain unexplored.

Additionally, yoga has been linked to the reduction of anxiety and stress in adults (Yadav et al., 2012; Köhn et al., 2013) and children (Platania-Solazzo et al., 1992; Stueck and Gloeckner, 2005). However, the specific effects of yoga on anxiety and coping strategies in junior primary school-aged children have not been adequately investigated.

Executive functions, including cognitive flexibility, inhibition, and working memory, play a crucial role in academic success (Diamond and Lee, 2011). Yoga's potential to enhance these functions has been examined in adults (Gothe et al., 2013) and older children (Manjunath and Telles, 2001). Yet, research on the effects of yoga on executive functions in younger children is lacking.

This pilot study aims to address these gaps by comparing the effects of yoga and physical skill training on motor and cognitive functions, physical self-concept, and anxiety-related behavior in junior primary school-aged children. By investigating these domains, we hope to shed light on the potential benefits of these interventions for children's overall well-being and development.

Methodology:

The study involved 24 junior primary school-aged children (average age of 8.4 years) who participated in either yoga or physical skill training twice a week for six weeks. The training programs were tailored to the needs and preferences of children.

The research assessed the impact of training on motor and cognitive functions, physical self-concept, and anxiety-related behavior through a series of pre- and post-training measurements and assessments. Data analysis focused on understanding the effects of each training program on these specific domains.

Results:

The study revealed distinct effects of yoga and physical skill training on various domains:

Motor and executive functions were not significantly different between the two training groups.

Physical self-concept showed significant group differences, particularly in perceived movement speed. Yoga training led to perceptions of moving slower, while physical skill training resulted in perceptions of moving faster.

Anxiety-related behavior outcomes showed significant group effects, specifically in avoidance behavior and coping strategies. Avoidance behavior increased following yoga training but decreased following physical skill training. Moreover, following yoga training, children displayed increased use of divergent coping strategies when facing problematic situations, whereas physical skill training led to a decrease in the use of such strategies.

Conclusion:

This pilot study indicates that yoga and physical skill training have distinct effects on specific domains in junior primary school-aged children. While no significant differences were found in motor and executive functions, significant group differences emerged in physical self-concept and anxiety-related behavior. These findings underscore the potential benefits of yoga and physical skill training for children's overall well-being and development.

Recommendations for Future Research:

Larger sample sizes and more rigorous methodologies are needed to further investigate the observed effects. Future studies should continue to explore the influence of yoga and physical skill training on various aspects of children's development, potentially shedding more light on the specific advantages of each modality.

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