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UNLOCK RESEARCH

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ARTICLE REVIEWED

Sex Differences in 3- to 5-Year-Old Children's Motor Competence: A Pooled Cross-Sectional Analysis of 6,241 Children

Martins, C., Webster, E. K., Romo-Perez, V., Duncan, M., Lemos, L. F., Staiano, A., Okely, A., Magistro, D., Carlevaro, F., Bardid, F., Magno, F., Nobre, G., Estevan, I., Mota, J., Ning, K., Robinson, L. E., Lenoir, M., Quan, M., Valentini, N., Barnett, L. M. (2024). Sex differences in 3- to 5-year-Old Children's Motor Competence: A pooled cross-sectional analysis of 6241 children. *Scandinavia Journal of Medicine & Science in Sports*, *34*(5). https://doi.org/10.1111.

THE PROBLEM

Preschoolers worldwide exhibit low levels of motor skill competence. Additionally, evidence regarding sex differences in fundamental motor skill competence among preschoolers remains inconsistent. However, many have highlighted sex as an important correlate of motor competence (Barnett et al., 2016). Identifying and addressing these sex differences is crucial for promoting equitable improvement in children's fundamental motor skills, regardless of sex. Due to the inconsistencies in existing research, conclusive statements about sex differences in preschoolers' motor skill competence cannot yet be made. There is a paramount need for detailed information and conclusive evidence on sex differences in motor competence in preschool-aged children.

Research Summary

The purpose of this study was to examine sex differences across preschoolers' motor competence. This study included 6,241 children ages 3 to 5 years old from nine different countries, forming a cross-country pooled sample. Each participant's height and weight were measured, while their sex and age were recorded, with age categorized into monthly groups. All children completed the Test of Gross Motor Development, Second or Third Edition. Boys and girls exhibited similar locomotor skills except at 57–59 and 66–68 months, where girls outperformed boys. However, boys consistently demonstrated higher ball skills starting at age 3, with this difference increasing by the end of preschool. A significant improvement in both locomotor and ball skills were noted at 45–47 months for both sexes, marking a critical developmental breakpoint.

Conclusion

While previous literature has explored sex differences in motor competence, this study provides novel insights on a larger scale. Specifically, the identification of a breakpoint in motor competence around 45-47 months offers a fresh perspective in the field of motor development, enriching our understanding of how these skills evolve over time.

Key Takeaway

One key takeaway from this study is the notable increase in children's motor competence with age. Particularly noteworthy is the critical breakpoint in motor skill development occurring between 45-47 months, marked by a significant increase in both locomotor and ball skills between both sexes. This insight holds practical value for physical education and early childhood educators, aiding in the timely identification of motor development delays post this pivotal stage. As early as preschool, children exhibit varying types of motor skills. Recognizing these differences can help create more equitable programs that cater to a wide range of motor skills for all children.

ADDITIONAL RESOURCES

Barnett, L. M., Lai, S. K., Veldman, S. L. C., Hardy, L. L., Cliff, D. P., Morgan, P. J., Zask, A., Lubans, D. R., Shultz, S. P., Ridgers, N. D., Rush, E., Brown, H. L., & Okely, A. D. (2016). Correlates of Gross Motor Competence in Children and Adolescents: A Systematic Review and Meta-Analysis. Sports Medicine, 46(11), 1663–1688. https://doi.org/10.1007/s40279-016-0495-z