

Development and Evaluation of a Physical Activity Program for Kindergarten Children for the improvement of Cognitive Abilities (P 2)

Julia Everke, Department Prof. Woll, Sport Science, University Konstanz, Germany



Cognition and Motor activity in Kindergarten

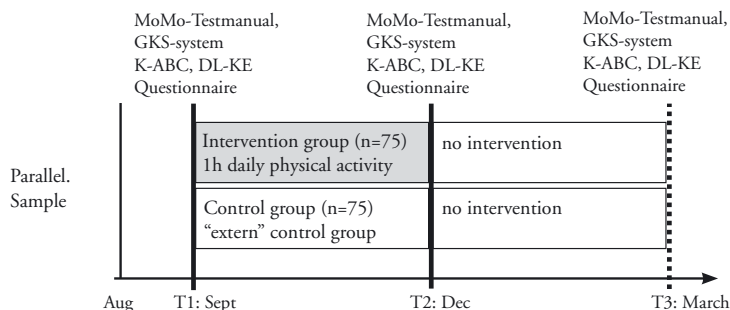
Study

Introduction: Motor development and cognition are closely related, as expressed by Jean Piaget (1975) by the term “sensomotor intelligence” in early childhood. Scientific studies about the connection between motor abilities and cognition have shown different results: from the claim of “no connections” between motor abilities and cognition (e.g. Matsuda & Sugihara, 1973) and “partial connections” (e.g. Leithwood & Fowler, 1971; Schilling, 1973) to “significant connections” between motor function and cognition (e.g. Ismail & Gruber, 1967; Scherrer, 2000; Graf, 2003). There is a tendency towards the last statement in recent scientific studies, especially in terms of the connection between coordination items (balance) and cognitive abilities. However, the sample of preschool children (age 3–5 years) is affected by a lack of research and controlled evidence based intervention studies.

Methods: The purpose of this study is the development of a physical activity program for preschool children (3-5 years) for the improvement of cognitive abilities (e.g. concentration, memory) and motor abilities (coordination skills).

Design

Sample n= 170, preschool-children, 3-5 years old



In a pre- and post-test experimental design, 75 kindergarten children (3-5 years old) participate in a three-month physical activity program, while those in the control group (n=95) participate in the regular curriculum. The experimental group completes two motor ability tests (MoMo-Testmanual, Bös et al., 2004 as well as GKS balance-system, GK-1000 light) and two cognitive tests (K-ABC, Kaufmann/Kaufmann, 1999 as well as DL-KE, Kleber/Kleber, 1974). The parents complete a questionnaire about their socio-economic status, their physical activity and questions about their child’s behaviour. The physical activity program will be conducted by trained kindergarten teachers. The intervention (5times/week) starts in September 2006 and ends in December 2006. The follow-up evaluation will be conducted in March 2007.