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## An Exploratory Study of Strengthening Non-Dominant Side of Exercises on ADHD Children in Primary Schools

Lu Chen  
*East China Normal University*

Xiaozan Wang  
*East China Normal University*

Meiyuan Chen  
*East China Normal University*

Xizhe Bai  
*East China Normal University*

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### Abstract

Empirical studies indicate that children with attention deficit hyperactivity disorder (ADHD) benefited significantly from exercise interventions. Further investigation shows that strength training of non-dominant limbs improves children's athletic ability and cognitive development. This study tested the effectiveness of a strength training intervention on non-dominant limbs for primary school children with ADHD, evaluating its impacts on children's motor skills. In this experiment, 15 children with ADHD aged 6-10 years were recruited, including 12 boys and 3 girls. All meet the diagnostic criteria of the American Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) for ADHD. Randomly divided into age-matched experimental and control groups, children in the experimental group received intensive training intervention on non-dominant side limbs, and the control group had ADHD Children are not involved in the intervention. Before the experiment, the children and their parents were interviewed on the basic situation of ADHD children. Before and after the experiment, these children of both groups were tested on the TGMD basic motor skills development test and the SNAP-IV scale test, and the parents and children signed the informed consent. The results showed that (1) After the experiment, the experimental group had significantly better overall level of manipulative motor skills and fundamental movement skills than the control group; (2) For the results of SNAP-IV scale, the experimental group (the non-dominant side limb intensive training group) made significantly better progress than the control group (Again, you need to insert t statistics, degree of freedom along with p value here). At the same time, the attention deficit factor of the experimental group and the control group was significantly different before and after the experiment ( $p < 0.05$ ). More details are needed on the pre- and post-change for both conditions. The results suggest that intensified training on non-dominant limbs can not only improve the motor skills of ADHD children, especially the control ability, but also improve the attention level compared with conventional exercise intervention. It is recommended that strengthening training of non-dominant limbs can be used as more effective exercise intervention for children with ADHD.

## **An Exploratory Study of Strengthening Non-Dominant Side of Exercises on ADHD Children in Primary Schools**

Lu Chen<sup>a</sup>, Xiaozan Wang<sup>a</sup>, Meiyuan Chen<sup>a</sup>, Xizhe Bai<sup>a</sup>

<sup>a</sup>East China Normal University

### **Abstract**

Empirical studies indicate that children with attention deficit hyperactivity disorder (ADHD) benefited significantly from exercise interventions. Further investigation shows that strength training of non-dominant limbs improves children's athletic ability and cognitive development. This study tested the effectiveness of a strength training intervention on non-dominant limbs for primary school children with ADHD, evaluating its impacts on children's motor skills. In this experiment, 15 children with ADHD aged 6-10 years were recruited, including 12 boys and 3 girls. All meet the diagnostic criteria of the American Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) for ADHD. Randomly divided into age-matched experimental and control groups, children in the experimental group received intensive training intervention on non-dominant side limbs, and the control group had ADHD Children are not involved in the intervention. Before the experiment, the children and their parents were interviewed on the basic situation of ADHD children. Before and after the experiment, these children of both groups were tested on the TGMD basic motor skills development test and the SNAP-IV scale test, and the parents and children signed the informed consent. The results showed that (1) After the experiment, the experimental group had significantly better overall level of manipulative motor skills and fundamental movement skills than the control group; (2) For the results of SNAP-IV scale, the experimental group (the non-dominant side limb intensive training group) made significantly better progress than the control group (Again, you need to insert t statistics, degree of freedom along with p value here). At the same time, the attention deficit factor of the experimental group and the control group was significantly different before and after the experiment ( $p < 0.05$ ). More details are needed on the pre- and post-change for both conditions. The results suggest that intensified training on non-dominant limbs can not only improve the motor skills of ADHD children, especially the control ability, but also improve the attention level compared with conventional exercise intervention. It is recommended that strengthening training of non-dominant limbs can be used as more effective exercise intervention for children with ADHD.