学位論文題目

Study on physical activity of preschool children and their mothers
－With a focus on mother-child physical activity－

氏名
SHIONOYA　Yuko

The purpose of this study was to examine the relation between mother-child physical activity and levels of physical activity and maternal health as well as levels of physical fitness and physical activity of their preschool children.

The aims of study 1 were to examine the relationships between (1) preschool childrens' frequency of participation in physical-motor-play with their mothers and their physical fitness, and (2) mother's frequency of participation in physical-motor-play with their children and maternal health.

103 children (5-6 years of age) participated in physical fitness tests, whereas their mothers answered questionnaires in 11 public preschools in Tokyo. T-tests were carried out between each frequency of their participation in physical-motor-play with mothers and each result of children's physical fitness; moreover, health differences were examined between groups of mothers formed on the basis of frequency of their mother's participation in physical-motor-play with them. The results exhibited that the time for preschool girls to complete a 25-meter run, was significantly shorter when the frequency of children's participation in physical-motor-play with mothers was more on weekends. Furthermore, the preschool girl's stamina measured by the duration of sustaining their own body weight with both arms was significantly shorter when it was more on weekdays. But no such significant correlation was observed for boys. Additionally, the reported maternal levels of stress were significantly lower when the frequency of their involvement in physical-motor play with preschool boys during weekends, or with preschool girls on weekdays was higher.

In study 2, the main goal was to examine the factors to improve children's and maternal physical activities, including mother-child physical activity and other maternal efforts for their children.

Firstly, we measured the number of steps and time per week spent on physical activity using a triaxial accelerometer in 65 pairs of mother and her preschool children. Secondly, we performed a questionnaire survey mainly asking about maternal health and their effort to enhance physical activity of their children and collected data. The results did not show significant correlations between children's moderate-to-vigorous physical

activity (MVPA) and maternal efforts to involve their children in physical activity. The time of mother-child physical activity was a significant explanatory variable of maternal MVPA during weekends by multiple regression analysis. When the mothers were divided into two groups according to their time spent on mother-child physical activity, significant differences were observed between the two groups of girls' mothers in steps counts and MVPA during weekends. While significant differences were observed between the two groups of girls according to their time spent on mother-child physical activity in steps counts during weekdays as well as steps count and MVPA during weekends only for girls. However, no such significant difference in physical activity between two groups for boys and their mothers was obtained.

In addition, working time except the time of housework and child care by mothers in one week became significant explanatory variables of childrens' MVPA both on weekdays and weekends. MVPA time of preschool children got longer on weekdays if working time of their mothers was longer, while MVPA time of children got longer on weekends if working time of their mothers was shorter. In other words, it was suggested that children of working mothers would have relation between their MVPA activity and factors other than mother-child physical activity on weekdays. Thus, it would be important that not only mothers but also any other persons could be concerned with physical activities of preschool children.

From these results, it was suggested that mother-child physical activity had a positive relation with improving physical fitness of girls, as well as on the activity levels of girls and their mothers. However, for boys, no significant relation was obtained between mother-child physical activity and their physical fitness and their physical activities. Thus, there were gender differences in relations between mother-child physical activity and physical activity levels of preschool children and their mothers as well as physical fitness of preschool children. On the other hand, no clear relationships could be observed between the levels of mother-child physical activity and maternal health. Future studies with a stronger focus on these factors might be able to establish the existence and nature of relationships between the levels of moter-child physical activity and maternal health.