

# Correlates of Psychosocial Health-related Quality of Life Measures for Normal Weight and Obese Children Participating in an Active Play Program

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## Abstract

**Objective:** The purpose of this investigation was to examine changes in quality of life indicators from normal weight (NW) and overweight (OW) children to a play-based fun physical activity (PA) intervention. Methods: Children (n=33) were assessed prior to and following an eight-week (4 d/wk; 55 min/d) active play program. Children were assessed by the PedsQL survey for psychosocial function and perception of physical function, PA enjoyment and PA participation.

**Results:** These were related to changes in body composition, cardiovascular measures and physical activity participation. OW children showed a reduction in waist circumference (1 mm) and sum of skinfold (12 mm) (p<0.05), in contrast to NW group (p>0.05). NW and OW groups experienced similar reductions in blood pressure (p<0.05). The changes in body composition (body mass waist circumference and sum of skinfolds) were related (r from -0.36 to -0.51) with psychosocial function for NW and OW children (p<0.05). In contrast the cardiovascular measures were related to changes in the OW group for blood pressures and heart rate.

**Conclusions:** In summary NW children had a less pronounced response for cardiovascular measures to play-based PA when compared to the OW group. Nonetheless both groups benefitted in terms of improvements in body fat (waist circumference; sum of Skinfolds). Therefore active play PA programs, in contrast toams,benets for children and adolescents

childrens PA is weight status, compared to normal weight, children adolescents show less PA participation and manifest a lower health-related quality of life, thereby increasing their risk for developing chronic disease. Indeed, this is a positive correlation between excess weight in childhood and growing challenges with physical and emotional health. Studies indicate that incorporating aerobic-exercise as a means of treatment for individuals diagnosed with depression results in improvement in depression and decreases relapse rates than individuals only on medication. What is unclear is the extent to which short-term, PA intervention programs promote positive benefits for cardiovascular health, self-esteem and depressive symptoms in obese children [1,4,6]. Also unknown is the effectiveness of a PA ins quantified play-based PA participation and h

health and psychological outcomes in children and adolescents. However, Canadian PA guidelines promote children and youth (ages 5 to 17 yrs) to participate in 60 min/day of vigorous physical [10]. A study using sixty overweight and obese children and adolescents were randomly assigned them to either an intervention group or a control group. The intervention group was required to do 60 min of guided PA twice a week for five months. While this extent of PA does not meet Canadian PA guidelines, the study can be used as a less extensive representation of the ideal. As expected, the overweight and obese individuals reduced in overall percentage body fat by 1.8%, while the control group decreased by 0.9%. As indicated the children who participated in two days of 60 min PA reduced their percentage body fat on average by 2.0% [11]. This suggests that PA is effective in lowering or reversing obesity in children [36]. The purpose of this investigation was to examine changes in various health variables and psychological well-being indicators of children who participated in an eight-week guided active play program. The specific questions



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The 33 participants that took part in the program included males and females (55% and 45% respectively). The mean age was 10±0.3 years. Eleven or 33% of the children were identified as overweight (OW) or at increased risk for obesity and cardio-metabolic issues based on their waist circumference measurements. The mean age was similar for both the overweight and normal groups ( $p>0.05$ ). The baseline comparison of overweight and normal groups is summarized in Table 1. The overweight groups weighed on average 21 kg ( $\pm 0.3$ ) more than the normal group, had a waist circumference 19 cm ( $\pm 0.1$ ) greater and had an average sum of skin folds 86mm greater than the normal groups. The average diastolic and systolic blood pressure and resting heart rate was comparatively higher in the overweight group by 7 mmHg, 5 mmHg and 5 bpm ( $\pm 0.5$ ) respectively. A statistically significant difference was not seen in quality of life scores between the two groups, except that the overweight children scored an average of 9% higher on their perception of physical functioning than normal.





