

Changes in Loyalty to Physical Activity and Inactivity From Childhood to Adolescence

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Purpose: Loyalty to behaviour can be defined as a consistent preference for a specific way of acting, maintained over time. Physical activity (PA) and inactivity behaviours established in childhood and adolescence may persist in adulthood and affect health throughout the life cycle. The purpose of the present study is to monitor behavioural loyalty among children and adolescents.

Methods: Data were collected from three Finnish School-Age Physical Activity studies (2016, 2018, and 2022) involving 4,631 students in 1st, 3rd, 5th, 7th, and 9th grades, aged 7–15 years. Participants wore hip-worn accelerometers for seven consecutive days. Moderate-to-vigorous physical activity (MVPA) was analysed using the mean amplitude deviation, smoothed with a 1 minute exponential moving average. Each school or non-school day was classified as active if it included at least 60 minutes of MVPA, and inactive otherwise. The analysis was done in two independent categories, loyalty to physical activity (LtPA) and loyalty to physical inactivity (LtPI). The day was classified as LtPA if an active day was followed by another active day and as LtPI if an inactive day was followed by another inactive day. Active-inactive and inactive-active pairs are not reported here.

Results: On school days, LtPA showed a decreasing pattern with an increasing grade. The proportion of days classified as LtPA was 97%, 94%, 92%, 79%, and 70% for grades from 1st to 9th. A similar downwards pattern was observed on non-school days, although the proportions were lower: 88%, 79%, 70%, 62%, and 49%. In contrast, LtPI increased with an increasing grade level. On school days, the proportion of days LtPI were 21%, 26%, 24%, 46%, and 51%. The proportions were higher on non-school days with values of 41%, 43%, 56%, 63%, and 76%.

Conclusion: On school days, there is a large drop in LtPA and a corresponding increase in LtPI between 5th and 7th grade. On non-school days, the harmful trend was observed across all grade levels. These findings suggest that PA promotion efforts during school days should be especially targeted at 7th grade students. On non-school days, the PA promotion should begin already for 1st grade students.

