

Can the provision of games equipment at school break time increase the physical activity levels of adolescents?

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1. Study Rationale

- The promotion of physical activity (PA) to young people is a public health priority due to growing concerns over their physical inactivity (6).
- Adolescence in particular is characterised with a decline in PA levels (1).
- Increased concern exists that Physical Education lessons within the National School Curriculum do not assist with downward trends in activity levels, thus the notion of using school break time to promote PA is being explored (5).
- Break time can contribute up to a third of moderate to vigorous PA for young people, levels which can be heightened via the use of a PA intervention (5).
- No existing research evaluating adolescents' break time PA, or analysing the influence of a break time PA intervention on adolescents' PA levels has been performed.

2. Research Aim

- To establish if a PA intervention delivered during school break time could increase the PA levels of adolescents from one secondary school.
- Emphasis was placed on evaluating the intervention in order to establish its effectiveness and not merely reporting statistical findings.

3. Methodology

- Research Design: five week case study completed in a Lincoln based secondary school chosen via purposive convenience sampling (3).
- Research Methods: mixed methods; direct, systematic observation using the System for Observing Play and Leisure Activity in Youth (SOPLAY; 4); and structured interviews conducted with a theoretical sample of the school population (3).
- Research Procedure: observations were completed during lunch break, twice per week, for a period of five weeks (first two weeks featured no PA intervention, final three weeks involved the provision of games equipment). Structured interviews were completed following the observations (see Figure 1).
- Data Analysis: quantitative analysis of observation data was completed via independent paired samples t-tests ($p < 0.05$). Qualitative analysis of interviews was performed using open and axial coding (3).
- The intervention was evaluated and results discussed using the RE-AIM Evaluation Framework: Reach, Efficacy, Adoption, Implementation, and Maintenance (2).

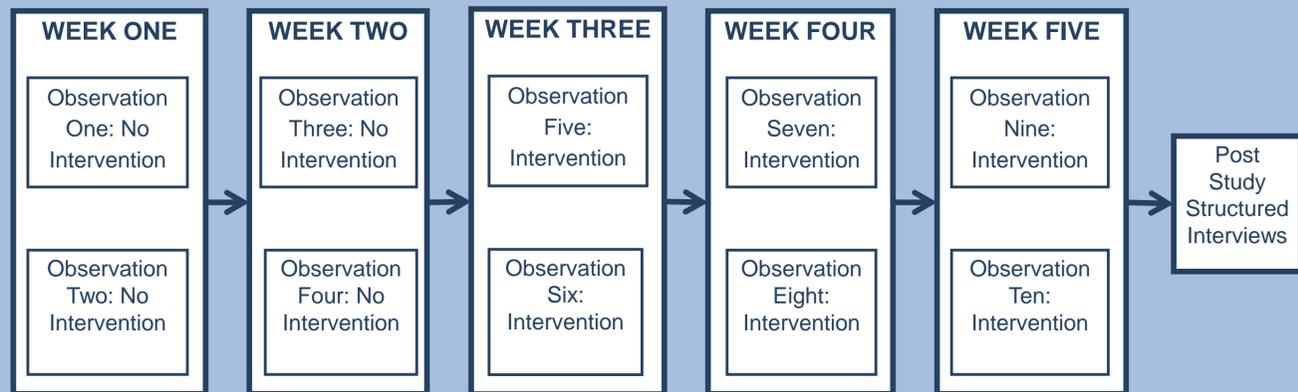


Figure 1: Research Procedure

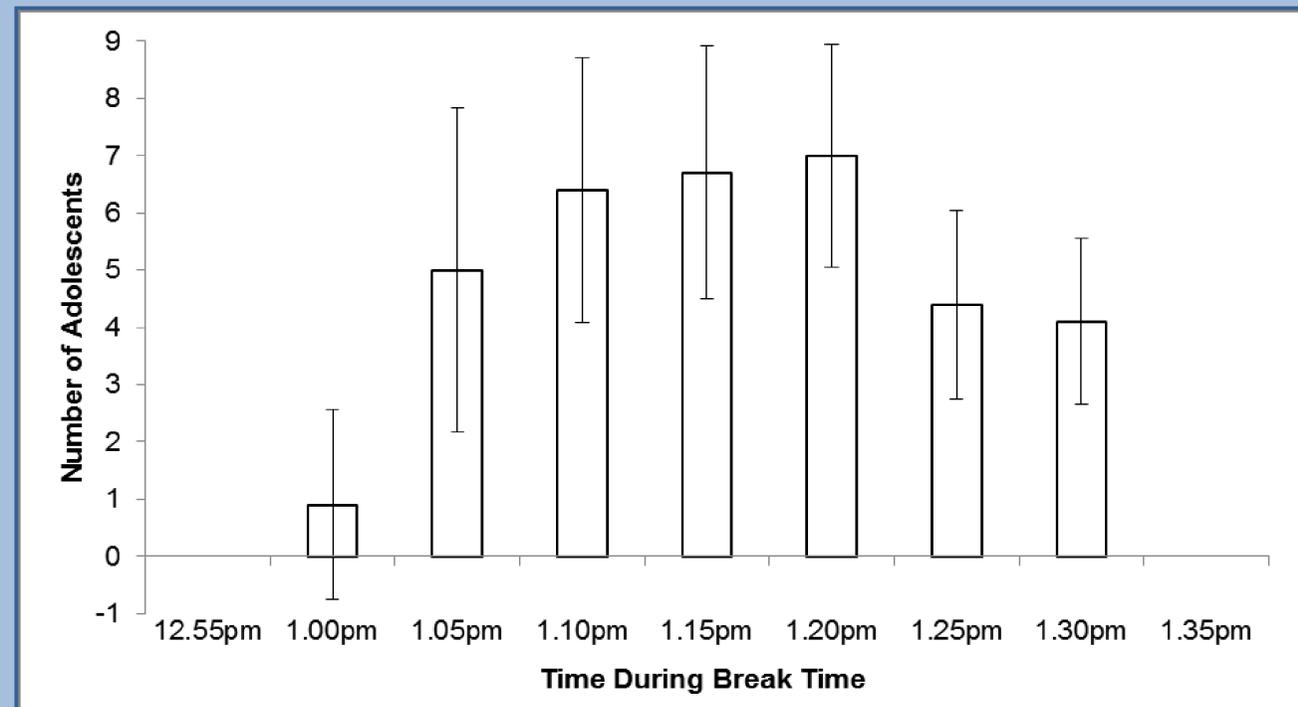


Figure 2: Mean number of adolescents observed during all SOPLAY observations completed across time intervals at break time (Error bars = \pm SD)

4. Results and Discussion

- Statistical analysis determined the intervention had poor efficacy with minimal significant differences reported between adolescents' activity levels before and during the intervention for both males and females.
- Mean observational data highlighted a data trend; during a forty minute break adolescents' activity clustered around a central time zone in the middle of break time, which lasted for only fifteen to twenty minutes (see Figure 2).
- Structured interviews with adolescents presented two predominant themes surrounding their break time PA habits and intervention engagement: 'time constraints' and 'lack of intervention awareness'.
- All adolescents interviewed expressed a lack of awareness about the intervention. This suggested an absence of commitment from the school for promoting the intervention, and a marginal interest in improving their pupils' break time PA behaviours.
- Time restrictions at break time appeared to inhibit adolescents ability to engage in the intervention or other forms of PA. Minimal or no activity took place at the start of break and towards the end, reducing the opportunity for sustained PA to occur.

5. Conclusion and Recommendations

- Quantitative data suggested minimal improvements in PA were achieved through the use of games equipment, thus it is not recommended as a break time PA intervention for adolescents. Future research should seek to apply and evaluate different forms of intervention, as there still exists a considerable shortage of research within this field.
- Further studies should focus on investigating the school environment itself to assess if structural factors such as timetabling and support for activities are limiting PA opportunities. If these forms of barriers are consistently apparent across other secondary schools then no form of PA intervention will be able to positively impact adolescents' break time PA behaviours until they are removed.