

## The Relationships between Physical Activity Levels, Enjoyment of Physical Activity, and Body Mass Index among Bruneian Secondary School Adolescents

**Authors :** David Xiaoqian Sun, Khairunnisa Binti Haji Sibah, Jr., Lejak Anak Ambol

**Abstract :** The purpose of the study was to examine the relationships between objectively measured physical activity levels (PALs), enjoyment of physical activity (EPA), and body mass index (BMI) among adolescents. A total of 188 12-14-year-old Bruneian secondary school adolescents (88 boys and 100 girls) voluntarily took part in this study. Subjects wore the RT3 accelerometer for seven consecutive days in order to measure their PALs. Times of students' engagement in total (TPA), light (LPA), moderate (MPV), and vigorous PA (VPA) were obtained from the accelerometer. Their BMIs were calculated from their body height and weight. Physical Activity Enjoyment Scale (PACES) was administrated to obtain their EPA levels. Four key enjoyment factors including fun factors, positive perceptions, unexciting in doing activities, and negative perceptions were identified. Subjects' social economic status (SES) was provided by school administration. Results show that all the adolescents did not meet the recommended PA guidelines even though boys were engaged in more MVPA than girls. No relationships were found between BMI and all PALs in both boys and girls. BMI was significantly related to the PACES scores ( $r = -.22$ ,  $p = 0.01$ ), fun factors ( $r = -.20$ ,  $p = 0.05$ ) and positive perceptions ( $r = -.21$ ,  $p < 0.05$ ). The PACES scores were significantly related to LPA ( $r = .18$ ,  $p = 0.01$ ) but not related to MVPA ( $r = .04$ ,  $p > 0.05$ ). After controlling for age and SES, BMI was only significantly related to the PACES scores in girls ( $r = -.27$ ,  $p < .01$ ) but boys ( $r = -.06$ ,  $p > 0.05$ ). Fun factors were significantly related to LPA and MVPA ( $p < .01$ ) in girls while negative perceptions were significantly related to LPA and MVPA ( $p < .01$ ) in boys. This study provides evidence that enjoyment may be a trigger of LPA but MVPA and may be influenced by their BMI status particularly in girls. Based on these findings, physical and health educators are suggested to not only make PA more enjoyable, but also consider gender differences in promoting adolescents' participation in MVPA.

**Keywords :** accelerometer, body mass index, enjoyment of physical activity, moderate to vigorous physical activity

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