

A FEASIBILITY TEST OF THE SYSTEMATIC TERRACED EXERCISE PROTOCOL (STEP) IN FOURTH GRADE CHILDREN

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Purpose: The purposes of this study were to: 1) evaluate the feasibility of implementation of this school-based modified 10,000 steps-a-day protocol in 4th grade children; and 2) evaluate what anthropometric and performance changes were apparent in participants after intervention completion.

Method: The Systematic Terraced Exercise Protocol (STEP) used a quasi-experimental pretest-posttest design, with quantitative and qualitative phases. Phase One was quantitative and consisted of two levels. Phase One – Level One involved collecting demographic, anthropometric, and physical data. Phase One – Level Two involved cardiorespiratory fitness field-testing with a sub-sample of three participants. Phase Two was qualitative and consisted of two focus groups, one with the child participants and one with teachers of these participants, and a parental survey mailed to all parents of those participants who completed the ten-weeks of the STEP intervention.

Findings: Participant waist measurements decreased by 1.7%, body mass index (BMI) decreased by 1.3%, waist-to-hip ratio decreased by 2.3%, and BMI percentile decreased by 6%. In addition, participants increased the mean number of steps-a-day by 197% over baseline values. Field-testing of participant fitness was conducted as a measure of feasibility for such testing in the future. It was found that fitness field-testing was feasible in such school-based interventions. Further, field-testing identified changes in the two of the three performance indicators; however, the sample was too small to allow inferences to be drawn regarding these changes. Parents, teachers and child participants all expressed satisfaction with STEP when questioned in the respective focus groups and as a part of the mailed survey instrument.

Discussion: STEP was successful in achieving both study purposes. In previous research, 10,000 steps-a-day programs have been used in adults with great success to lower weight, percentage of body fat, systolic and diastolic blood pressure, and to increase daily levels of activity, i.e., steps-a-day. STEP was unique in that, instead of adults, this intervention had prepubescent children as the target population in an attempt to gauge the feasibility of intervening with this population in a similar manner to increase activity, i.e. steps-a-day. Early indications in data analysis indicate that STEP was a feasible as a school-based intervention with the intention of improving participant activity levels. The cost of implementation for STEP were minimal for the school used as the testing site and teachers and administrators indicated that STEP was integrated seamlessly into the school day so as to have a negligible impact on classroom teaching time/curricula plans and on the overall school day. As well, STEP was well received by all stakeholders. All stakeholders provided positive feedback regarding STEP. When prompted, respondents provided only minor constructive comments for improvements to STEP, specifically in the nature and timing of incentives and the pedometers used. Based on the outcomes of this feasibility test, it is recommended that full grant funding be aggressively sought for a full experimental field-testing of the STEP intervention.