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Executive Summary

Project Title:

Development and validation of the Global Adolescent and Child Physical Activity Questionnaire (GAC-PAQ): a pilot study

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Introduction: We developed the Global Adolescent and Child Physical Activity Questionnaire (GAC-PAQ) in response to the growing need for a standardized tool to assess physical activity (PA) levels among children and adolescents globally. Existing PA questionnaires were often region-specific and lacked cultural adaptability, leading to inconsistent data collection across different countries. This study aimed to create and validate a universally applicable PA questionnaire that could provide reliable data for global health surveillance. The primary beneficiaries of this research include researchers, public health officials, and policymakers who focus on childhood and adolescent health.

Methodology: The project involves 8 stages. First, we did a systematic review of the reliability and validity of existing PA questionnaires for children and adolescents. Informed by this review, we developed the first draft of the GAC-PAQ questionnaire. Third, we sought feedback about this draft from 62 experts in PA measurement. Fourth, we sought further feedback from 250 dyads including a child/adolescent and one of their parents/guardians across 15 countries. Fifth, we used the feedback from previous phases to improve the GAC-PAQ, develop the first version of the app that we will use to administer the questionnaire. Sixth, we adapted the app to the context of all participating countries. Seventh, we are now conducting a pilot-study to test the app. Eight, following the pilot-study, we will collect data from at least 7,000 8- to 17-year-olds from at least 14 low-, middle-, and high-income countries representing all inhabited continents. It is at the eight stage that we will formally test the reliability of the GAC-PAQ and compare PA estimated by the questionnaire against data from an activity monitor that participants will wear for nine consecutive days to establish the validity of the GAC-PAQ. The main constraints encountered are that our budget was cut substantially by our main sponsor (the Canadian Institutes of Health Research) and we experienced delays in the development of the app. Despite these constraints, we remain in a good position to realize the objectives of our project in due course.

Findings: Our systematic review showed that no existing questionnaire meets accepted standards for both reliability and validity. This confirmed the need for developing a new questionnaire while following a more robust development process involving both experts and members of the target population for the questionnaire (e.g., children and parents). In general, most experts consulted agreed or strongly agreed with the content of our new questionnaire. They provided recommendations that helped improve the questionnaire before we began interviews with children/adolescents and parents/guardians. The latter generally thought that the questionnaire is comprehensive, but some thought that there should be separate versions of the questionnaire for children and adolescents. Some interviewees also made suggestions to simplify the wording of some questions or response options. Based on their suggestions, we revised the questionnaire again prior to developing the first version of the app.

Conclusions: Our questionnaire will address many limitations of current physical activity questionnaires. The app will include narration and images to facilitate comprehension of the questionnaire and illustrate the differences between the different intensities of physical activity. Images will provide diversity in characteristics such as child age, sex, gender, ethnicity, and (dis) ability. By using our questionnaire, we believe that researchers and public health authorities will be able to collect better data about PA among children and youth. This can help better inform policies and interventions aiming to promote PA, and our questionnaire could also be used to assess the effectiveness of these actions. The questionnaire could also be integrated in existing national and/or international surveys, enabling comparisons of PA levels within and between countries.