



Universität
Basel

Research Project

Cardiorespiratory fitness and stress reactivity during school exams (CROSS-Study)

Project funded by own resources

Project title Cardiorespiratory fitness and stress reactivity during school exams (CROSS-Study)

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Organisation / Research unit

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Project start 01.11.2022

Probable end 31.12.2023

Status Completed

The overall goal of this project is to examine whether the physiological and psychological reactivity in response to an acute “real-life” academic stressor (exam in mathematics) is associated with students’ cardiorespiratory fitness level. Further potential moderators will be assessed and examined, including self-reported physical activity, perceived stress (worries, tension, demands, joy), test anxiety (thoughts, off-task behaviors, autonomic reactions), mathematics self-concept, and mental toughness. These research questions will be examined with identical methods in three independent populations (study 1-3). Replication of the findings across studies will provide important insights regarding the generalizability of the findings and increase external validity.

Primary objective: To examine whether cardiorespiratory fitness moderates the physiological and psychological reactivity in response to an academic (real life) stressor (mathematics exam).

Secondary objective 1: To examine whether students physiological and psychological reactivity in response to an academic stressor (mathematics exam) depends on further assessed moderators (self-reported physical activity, grip strength, perceived stress, test anxiety, and mental toughness).

Secondary objective 2: To examine whether the relationship between perceived stress and students’ psychological functioning (assessed via the Strength and Difficulties Questionnaire [SDQ] and the Patient Health Questionnaire-9 [PHQ-9] Depression Scale) is moderated by cardiorespiratory fitness levels, self-reported physical activity levels, grip strength or mental toughness.

Keywords stress, stress reactivity, fitness, maths, school, adolescents

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