

A reflective-impulsive model of spontaneous physical activity (#391)

Author(s)

Lily Clark (Auburn University) - lcc0007@auburn.edu
Marcos Daou (Auburn University) - mzd0046@auburn.edu
Keith Lohse (Auburn University) - krl0022@auburn.edu
Matthew Miller (Auburn University) - mwm0024@auburn.edu

Created: 01/11/2016

Made public: 01/11/2016

1) What's the main question being asked or hypothesis being tested in this study?

Does inhibitory control moderate the influence of reflections about physical activity and impulses towards physical activity on a physical activity behavior?

2) Describe the key dependent variable(s) specifying how they will be measured.

Physical activity behavior will be measured as whether participants choose to take the elevator (as indicated by pressing the elevator button) or stairs to participate in the study

3) How many and which conditions will participants be assigned to?

There are no experimental manipulations (observational study).

4) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will conduct a multiple logistic regression to examine the main question. The primary outcome measure for all regression models is whether or not participants chose to take the stairs up to the research lab upon arrival to the building. (The only alternative is the elevator.)

The first step of the regression will include the following independent variables: Sex, Age, and Usual Physical Activity Behavior (derived from the International Physical Activity Questionnaire as done by Cheval, Sarrazin, & Pelletier, 2014).

The second step of the regression will add the following independent variables: Physical Activity Reflections (as derived from our three-item questionnaire) and Physical Activity Impulses (as derived from the Manikin Task; see Cheval, Sarrazin, Isoard-Gauthier, Radel, & Friese, 2014).

The third step of the regression will add in the interaction between Physical Activity Reflections and Inhibitory Control (as derived from the Stroop Task interference score; see Xu, Li, & Lu, 2014, for example), and the interaction between Physical Activity Impulses and Inhibitory Control.

5) Any secondary analyses?

We plan to conduct two secondary multiple logistic regressions. The first secondary regression will add Sedentary Impulses (as derived from the Manikin Task; see Cheval, Sarrazin, Isoard-Gauthier, Radel, & Friese, 2014) as a fourth step in the regression and the interaction between Sedentary Impulses and Inhibitory Control as a fifth step in the regression.

The second secondary regression will substitute the Tangey Self-Control Scale score for the Stroop Task interference score to index inhibitory control in the main regression or the first secondary regression, depending upon which of these two regressions explains more variance

6) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We will collect data from 120 participants. This number was derived with an a priori power calculation in G*Power 3.1. Our test type was a multiple regression: fix model, R2 increase. We assumed a small effect size of $f^2 = .1$, an alpha of .05, and a beta of .8. Our tested predictors were the two interaction terms in the third step of our regression, and the total number of predictors included all seven predictors present in the third step of the regression.

7) Anything else you would like to pre-register? (e.g., data exclusions, variables collected for exploratory purposes, any unusual analyses planned?)

We are collecting BMI for exploratory purposes, and we are collecting data about whether participants have access to a bicycle or car, as such access could affect their responses to our Reflections about Physical Activity Questionnaire. If participants who own a bicycle and/or car respond to our questionnaire statistically different from participants who do not own a bicycle and/or car, then we will statistically control for access to a bicycle or car.

8) Have any data been collected for this study already?

No, no data have been collected for this study yet.
Available from: <https://aspredicted.org/public/204787165.pdf>

(Permanently archived at http://web.archive.org/web/*/https://aspredicted.org/public/204787165.pdf)