Divided/cumulated exercise schedules - May2019 (#23766)

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
Does the type of motivation (autonomous vs controlled) affect how motivating cumulated (longer, infrequent sessions) versus divided (briefer, more frequent sessions) exercise schedules are? We expect that people with highly autonomous motivation to exercise will be more motivated by a divided schedule than a controlled schedule but people low in autonomous motivation or high in controlled motivation will show no such preference.

3) Describe the key dependent variable(s) specifying how they will be measured.
Two dependent variables:
1. motivation to exercise (single item, 7 point scale)
2. likelihood to exercise (single item, 11 point scale)

4) How many and which conditions will participants be assigned to?
Two conditions: Participants will read about recommended physical guidelines. In the divided condition, the guidelines will read "Adults aged 18-65 should accumulate at least 150 minutes of physical activity per week - preferably in short but frequent sessions (e.g., in 15 sessions of 10 minutes each)" . In the cumulated condition, the guidelines will read "Adults aged 18-65 should accumulate at least 150 minutes of physical activity per week - preferably in longer, infrequent sessions (e.g., in 3 sessions of 50 minutes each)"

Two measured predictors: controlled and autonomous motivation to exercise will be measured with BREQ (Mullan, Markland, & Ingledew, 1997) 24 items, will be aggregated into two motivation indices (controlled and autonomous).

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will conduct an ANCOVA with rated autonomous and controlled motivation as between-subject (continuous) predictors by 2 (schedule: aggregated vs. segregated) between-subject conditions, with motivation to exercise as DV, likelihood to exercise as DV, and with averaged motivation and likelihood to exercise as DV.
We expect a schedule X autonomous motivation interaction on all DVs.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We do not expect outliers. We will exclude people with >80% missing data and those who exit the survey before answering the dependent variables.

7) 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 post 220 participation slots on Mturk (US & Canada only, 18-65 years old only).
This number was determined by an approximate power analysis (see below).

F tests - ANCOVA: Fixed effects, main effects and interactions, Analysis: A priori: Compute required sample size
Input: Effect size f = 0.20, α err prob = 0.05, Power (1-β err prob) = 0.80
 Numerator df = 1, Number of groups = 2, Number of covariates = 2
Output: Noncentrality parameter λ = 7.9600000, Critical F = 3.8895888, Denominator df = 195, Total sample size = 199, Actual power = 0.8016322

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
We have included some exploratory questions and how the time spent exercising is viewed and how difficult, enjoyable, effective the two types of exercise schedule would be.