Feelings about Exercise: Statistical Analysis Plan

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Statistical analysis

Preliminary analyses were conducted to compare the groups (exercisers vs. non-exercisers) with respect to demographic variables including age, BMI, and gender. Chi Square tests were to assess between-group differences in categorical variables and independent two-sample t-tests were used for continuous variables. First, unadjusted between-group differences in anticipated affect, pre-exercise affect, and post-exercise affect were assessed using independent two-sample t-tests. Next, using a series of longitudinal linear mixed effects models, we examined between-group (exercisers vs. non-exercisers) differences in serial measures of during-exercise affect (5, 10, 15, 20, 25 minutes) and post-exercise affect (immediate and 15 minutes post-exercise). Models included a subject-specific intercept and adjusted for repeated measures within participant over time. A similar analytic strategy was used to examine group differences in recalled affect (1, 3, and 7 days post-exercise). The goal was to determine the degree to which global recalled affect is associated with (i.e.. biased toward) affective responses during or after PA and whether this differs between exercisers and non-exercisers. Correlation analysis was used to examine whether affective recall bias was correlated with anticipated affect towards future exercise. Finally, between-subjects ANOVAs were used to compare non-exercisers receiving the brief cognitive intervention to those in the control group on anticipated affect, affective response to exercise session 3, recalled affect for exercise session 2, and minutes/week spent in MVPA (assessed via the armband). All analyses were carried out in SAS 9.3 with significance level set at .05 a priori. Mixed effects models use a likelihood based approach to estimation, thus making use of all available data without directly imputing missing value.