Online Group Music Therapy: A proactive mental health option

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SCIENCE
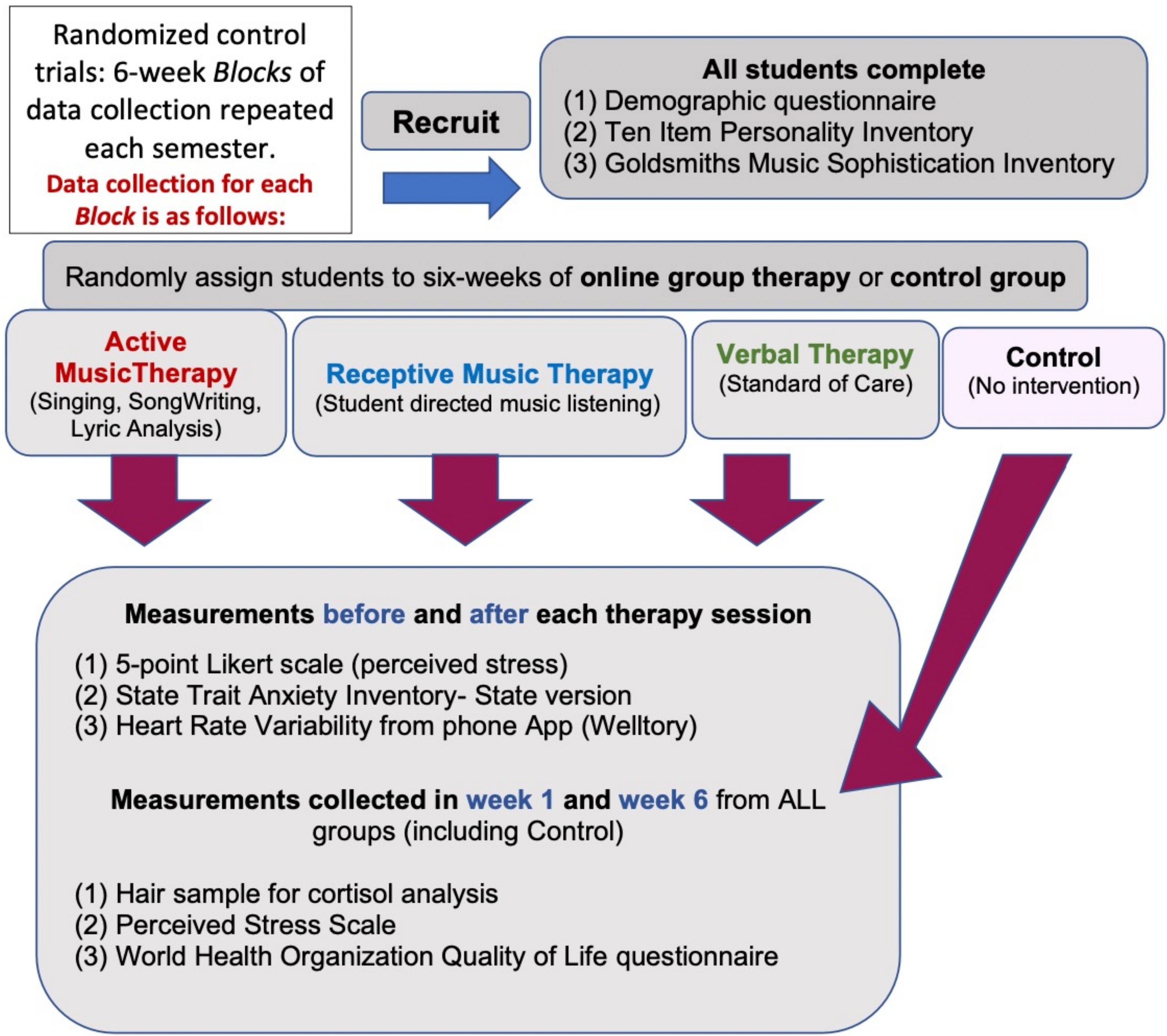Department of Psychology, Neuroscience & Behaviour

Question:

Is online group music therapy effective in proactively reducing stress and anxiety?

More than 75% of students with significant psychological distress do not consult professionals due to negative stigma.
(Rosenthal and Wilson,2008).

Participants & Methods

Undergraduate University Students who were not necessarily in crisis/diagnosed with a mental illness were randomly assigned to either

(1)online active music therapy group,
(2)online receptive music therapy group
(3)online verbal therapy group
(4)Control group

Randomized control trials: 6-week *Blocks* of data collection repeated each semester.
Data collection for each *Block* is as follows:

Recruit

All students complete
(1) Demographic questionnaire
(2) Ten Item Personality Inventory
(3) Goldsmiths Music Sophistication Inventory

Randomly assign students to six-weeks of **online group therapy** or **control group**

Active MusicTherapy (Singing, SongWriting, Lyric Analysis)

Receptive Music Therapy (Student directed music listening)

Verbal Therapy (Standard of Care)

Control (No intervention)

Measurements before and after each therapy session
(1) 5-point Likert scale (perceived stress)
(2) State Trait Anxiety Inventory- State version
(3) Heart Rate Variability from phone App (Welltory)

Measurements collected in week 1 and week 6 from ALL groups (including Control)
(1) Hair sample for cortisol analysis
(2) Perceived Stress Scale
(3) World Health Organization Quality of Life questionnaire

Measures Collected in Week 1: Demographic information, Ten Item Personality Inventory (TIPI), Music Sophistication (GOLD-MSI)

Measures Collected Pre/Post each Therapy Session:
State Anxiety (STAI-S), Likert Stress Scale(1-5), Heart Rate Variability (HRV)

Measures Collected in Week 1 & 6
Perceived Stress(PSS), Hair Samples (Cortisol) , Quality of Life (WHO-QOL-Bref)

Conclusion

The sample size is too small for definitive conclusions, however, the reductions in stress and anxiety measures suggests that online group music therapy may prove to be an effective addition for proactive management of student wellness. An in-person, on campus, version of this study will be conducted in Feb 2023.

Results

n=83 students(after attrition);
Active Music Therapy (n=18), Receptive Music Therapy (n=28),
Verbal Therapy (n=18), Control Group (n=19).
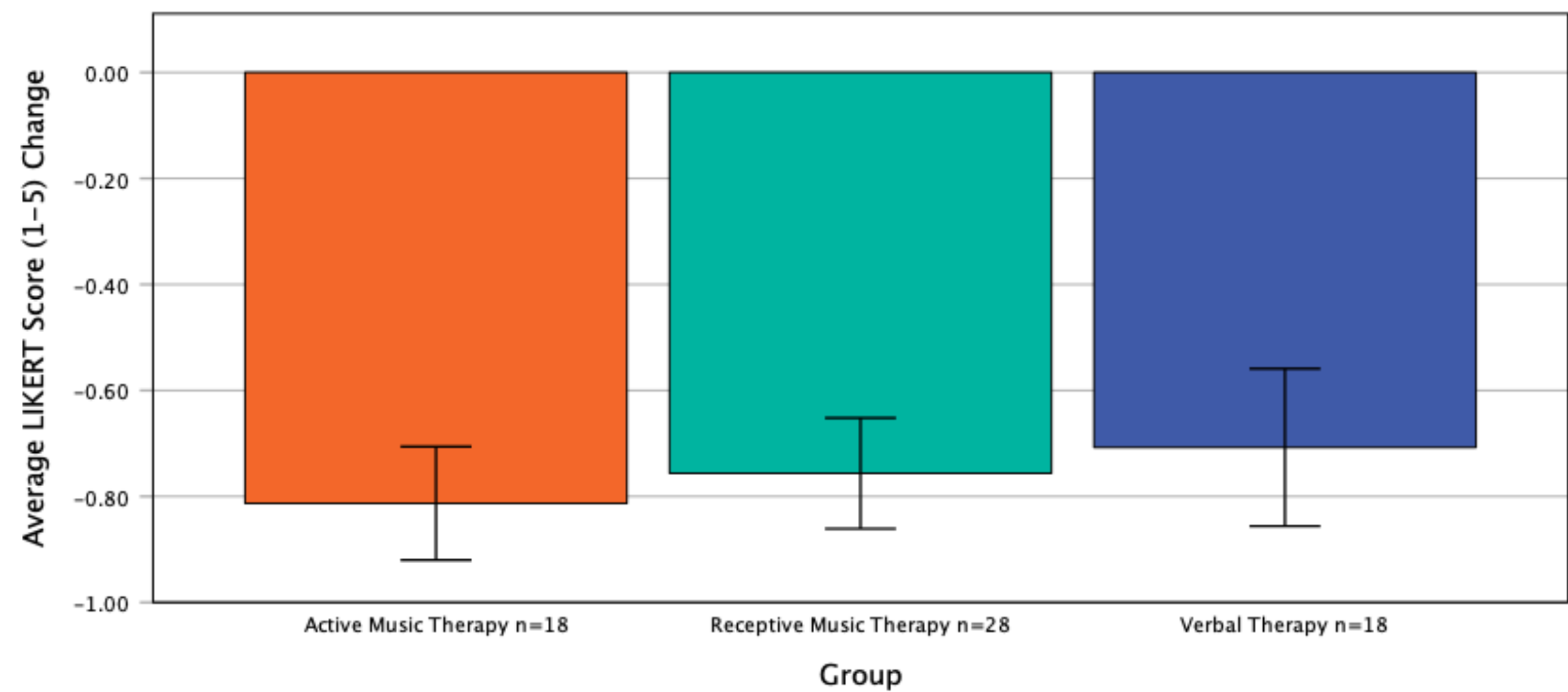16 students self-identified as male.
Due to the high variability and absence of control for collecting HRV, results are not reported.

Linear models revealed that personality traits, music sophistication, and changes in quality of life were not predictors of stress or anxiety scores.

A significant reduction in State Anxiety (STAI-S)(n= 64)and Stress (Likert Score 1-5)(n=64) was observed pre/post each therapy session as revealed by one tailed paired student t-tests for each therapy group ($p<0.001$).
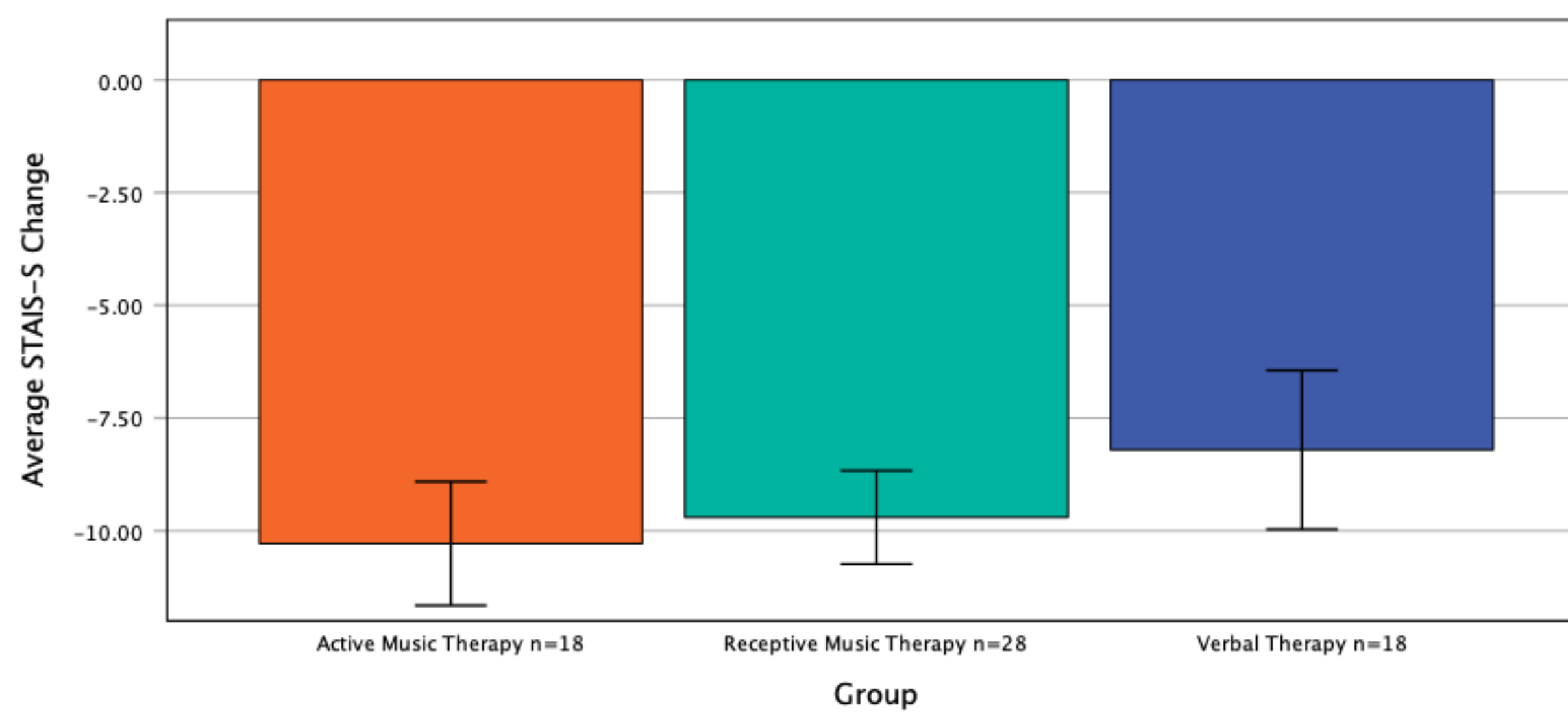ANOVAs reveal no significant difference in the mean change of STAI-S or LIKERT scores between therapy groups.

Average Change In Likert Scores (1-5) Pre/Post Each Therapy Session Over Six Weeks, By Group
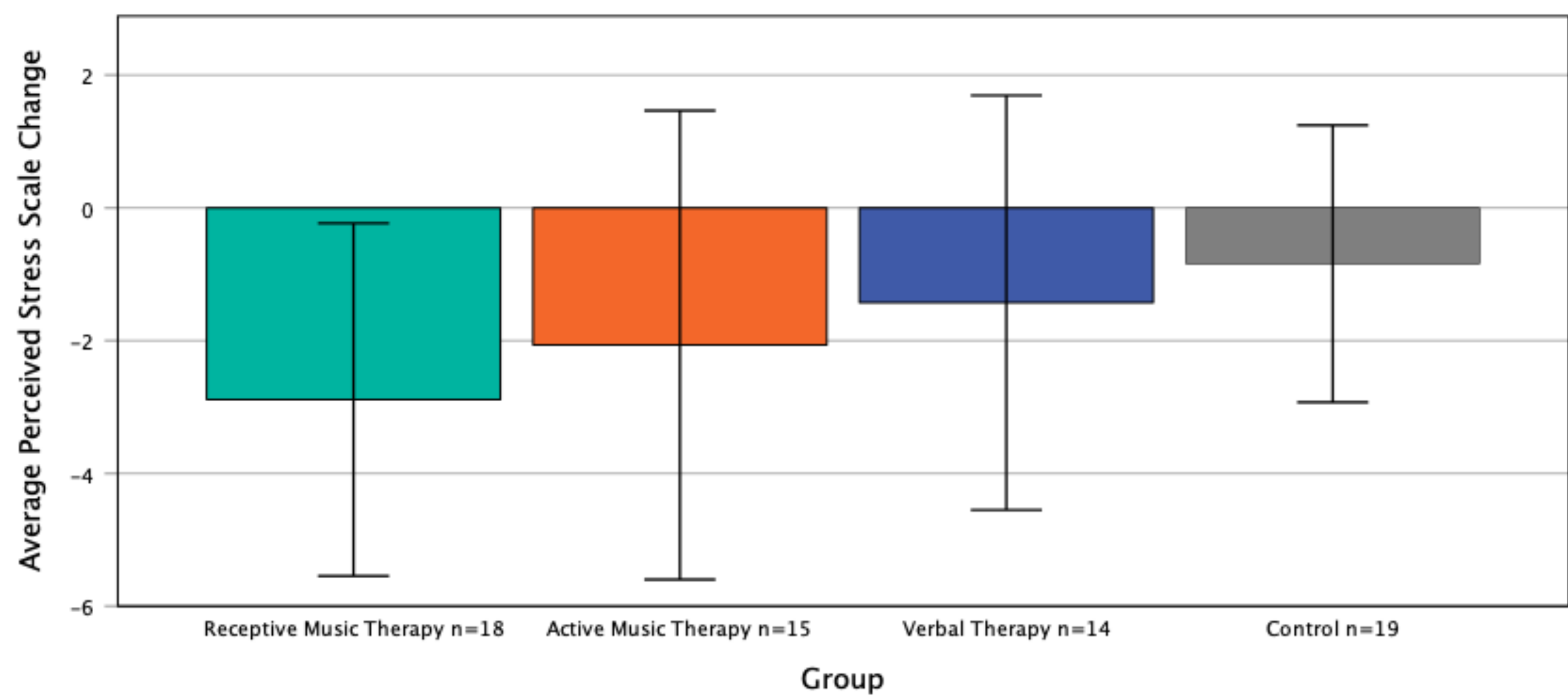Error Bars: +/- 1 SE

Average Change in State Anxiety Pre/Post Each Therapy Session Over Six Weeks, By Group
Error Bars: +/- 1 SE

Descriptives reveal the greatest reduction in the average PSS scores in the music therapy groups. A linear mixed effect model comparing therapy groups to the control group reveals no significant difference in the average PSS changes between the groups.
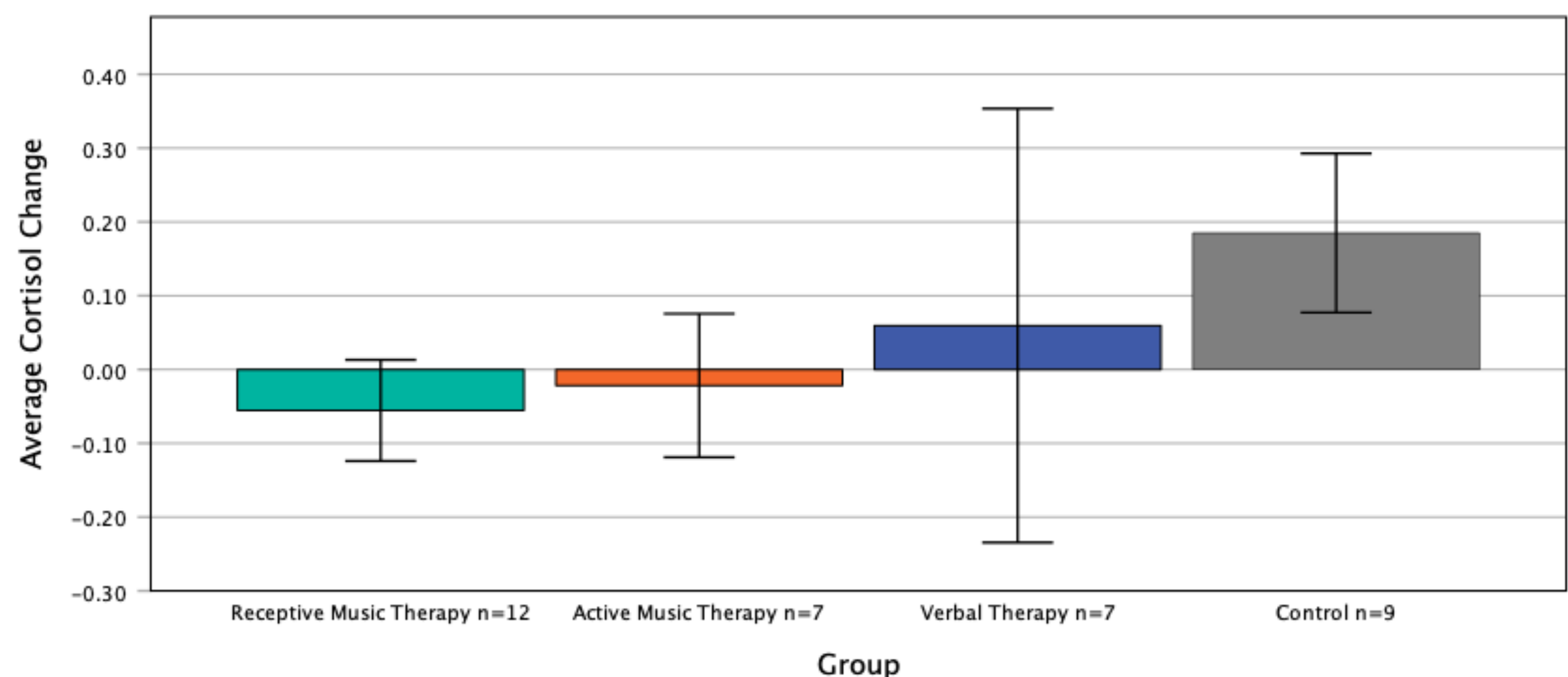

Average Perceived Stress Scale Change from Week 1 to Week 6, by Group
Error Bars: +/- 1 SE

Cortisol levels increased in the control group over the 6 weeks, but not in the therapy groups. A linear mixed effects model comparing the therapy groups to the control group reveals a significant difference in the RMT group compared to the control group $p=0.035$

Average Cortisol Change From Week 1 to Week 6, by Group
Error Bars: +/- 1 SE

Thank you

Rosenthal, B., & Wilson, W. C. (2008). Mental health services: use and disparity among diverse college students. Journal of American college health : J of ACH, 57(1), 61–68. https://doi.org/10.3200/JACH.57.1.61-68