

Introduction

Self-awareness is defined as “the conscious knowledge of one’s own character” in the Oxford dictionary whereas mindfulness refers to “being conscious or aware of something”. Self-awareness is a critical component of pharmacy student professional development. Aside from self awareness, wellness and stress reduction are also paramount during high stress health care education¹⁻². While there are very few objective methods of teaching and assessing self-awareness in pharmacy education curriculum, numerous studies have shown that meditative technique can significantly improve mindful self-awareness.³ Furthermore, previous studies have shown that yoga meditation practice can reduce anxiety and increase mindfulness in pharmacy students⁴. The Tamarkoz^(R) method of meditation is a unique meditation technique that is founded in Islamic mystical tradition taught by MTO Shahmaghsoudi School of Islamic Sufism and the Sufi Psychology association. The Tamarkoz^(R) method of meditation is a heart focused meditation with several components including mind relaxation, energy balancing movements (Movazeneh^(R)), deep relaxation, imagery, breathing exercises and heart concentration. The Tamarkoz^(R) method has been utilized in various settings including hospitals and patient care centers and has been scientifically proven to be effective in reducing stress in college students while improving positive emotions and daily spiritual.⁵

Objective

The objective of the study was to evaluate the impact of a 15-week elective course of the Tamarkoz^(R) method of meditation on mindfulness, self-awareness and stress levels of professional year 2 and 3 pharmacy students.

Hypothesis

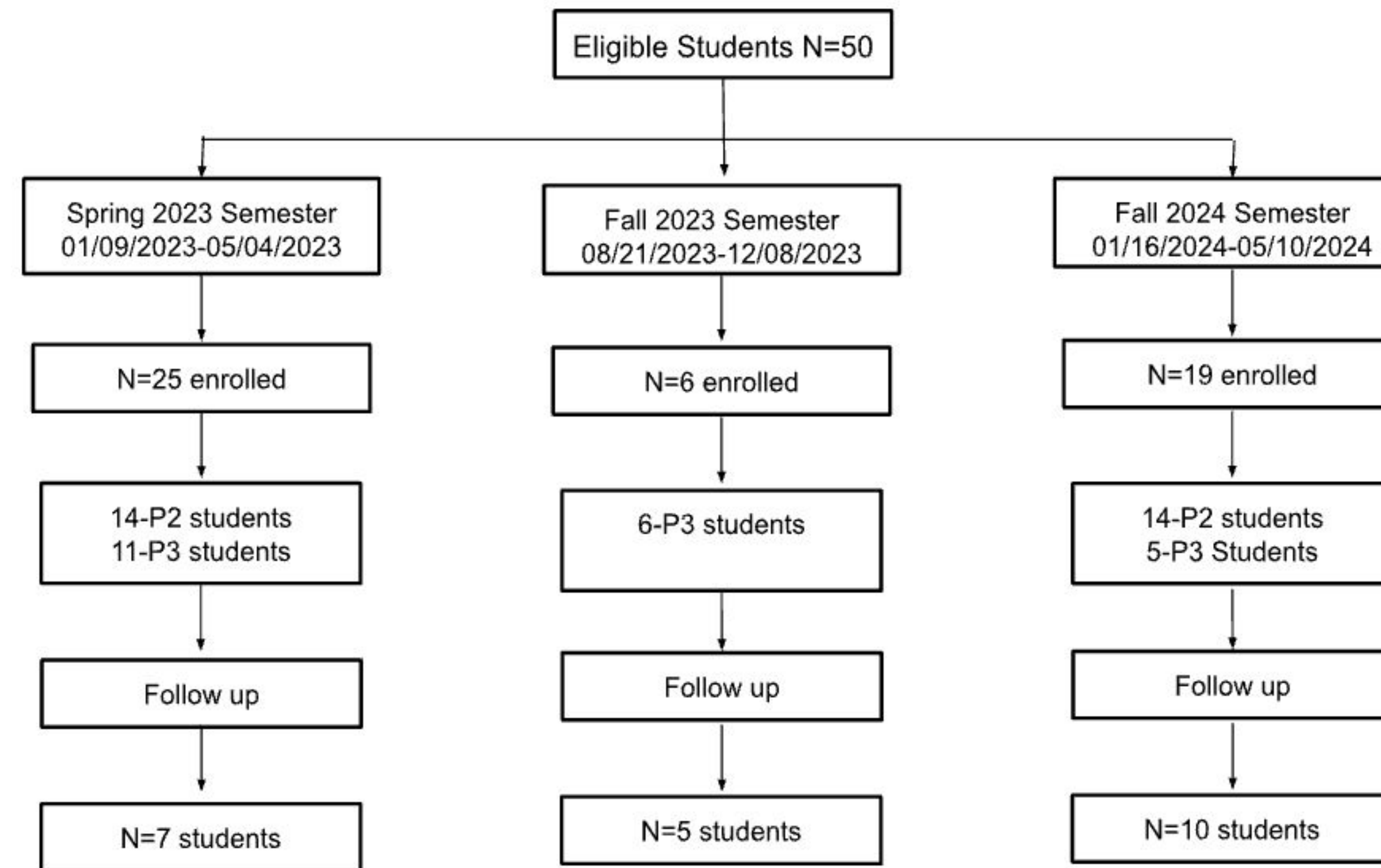
We hypothesized that participation in a self-knowledge and meditation course would decrease stress and improve self-awareness and mindfulness in doctorate of pharmacy students.

Method

- The study was approved by the Institutional Review Board of Shenandoah University.
- Pharmacy students in their 2nd and 3rd year were enrolled in an elective course titled: “Self-Knowledge & Meditation for Health Care Providers,” offered at Shenandoah University in collaboration with the Sufi Psychology Association, focuses on the evidence based Sufi meditation method called Tamarkoz^(R).
- Students were required to complete reflective self-assessments, participate in reflective dialogue discussions, and attend mandatory weekly meditation sessions.
- At the beginning of the course, students were asked to complete an electronic questionnaire composed of three validated scales: PSS, SAOQ, MAAS. The survey also included additional lifestyle, personal attitudes and health related activities questions. After a full semester, students were asked to complete the same questionnaire, and a follow-up survey 5 weeks after the course ended.
- All survey scores were compared pre and post course and during follow-up phase to evaluate the impact of the course on study outcomes
- Paired student t-test ($p < 0.05$) was used to assess statistical significance pre-and post-intervention. Repeated measures ANOVA was used to analyze follow up significance ($p < 0.05$).

Results

| Characteristic | N(%) |
|------------------------------|---------|
| Gender | |
| Female | 38(76) |
| Male | 12(24) |
| Age | |
| 20-24 | 16(32) |
| 25-29 | 25(50) |
| 30-34 | 6(12) |
| 35 and above | 5(0.1) |
| Relationship Status | |
| Single | 23(46) |
| Married | 14(28) |
| In a relationship | 13(26) |
| Race | |
| African-American | 10(20) |
| Caucasian | 14(28) |
| South East Asian | 9(18) |
| Hispanic/Latino | 8(16) |
| Middle Eastern/North African | 8(16) |
| Prefer not to disclose/Other | 1(0.02) |
| Pharmacy Year | |
| P2 | 28(56) |
| P3 | 22(44) |



Discussion

- The course was shown to have a significant impact on PSS and 3 of the 4 subscales for SAOQ that persistent after course completion.
- Improvement was shown for MAAS scale but was not statistically significant.
- Previous studies have shown benefits of meditation programs to manage the stress of academic life. This report shows effectiveness of Tamarkoz^(R) method of meditation on student stress levels and self awareness in pharmacy education.
- The limitations of the study include the lack of a control group and the potential for reporting bias due to self-reported outcomes by participants.
- The strengths of the study are high number of participants as well as long-term follow-up analysis.

Conclusion

Our results show that incorporating “self-knowledge and meditation” education in the pharmacy curriculum can be an effective method for teaching self-awareness and reducing stress levels. We advocate for other schools to adopt similar techniques and elective courses to promote the professional development of pharmacy students.

References

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Contact Information

- Sundas Azim, PharmD Candidate
sazim15@su.edu
- Naz Fatah, PharmD Candidate
nfatah21@su.edu
- Saloumeh DeGood, Psy.D
saloumeh.d@sufipsychology.org
- Shahzad Movafagh, PharmD, PhD
smovafag@su.edu

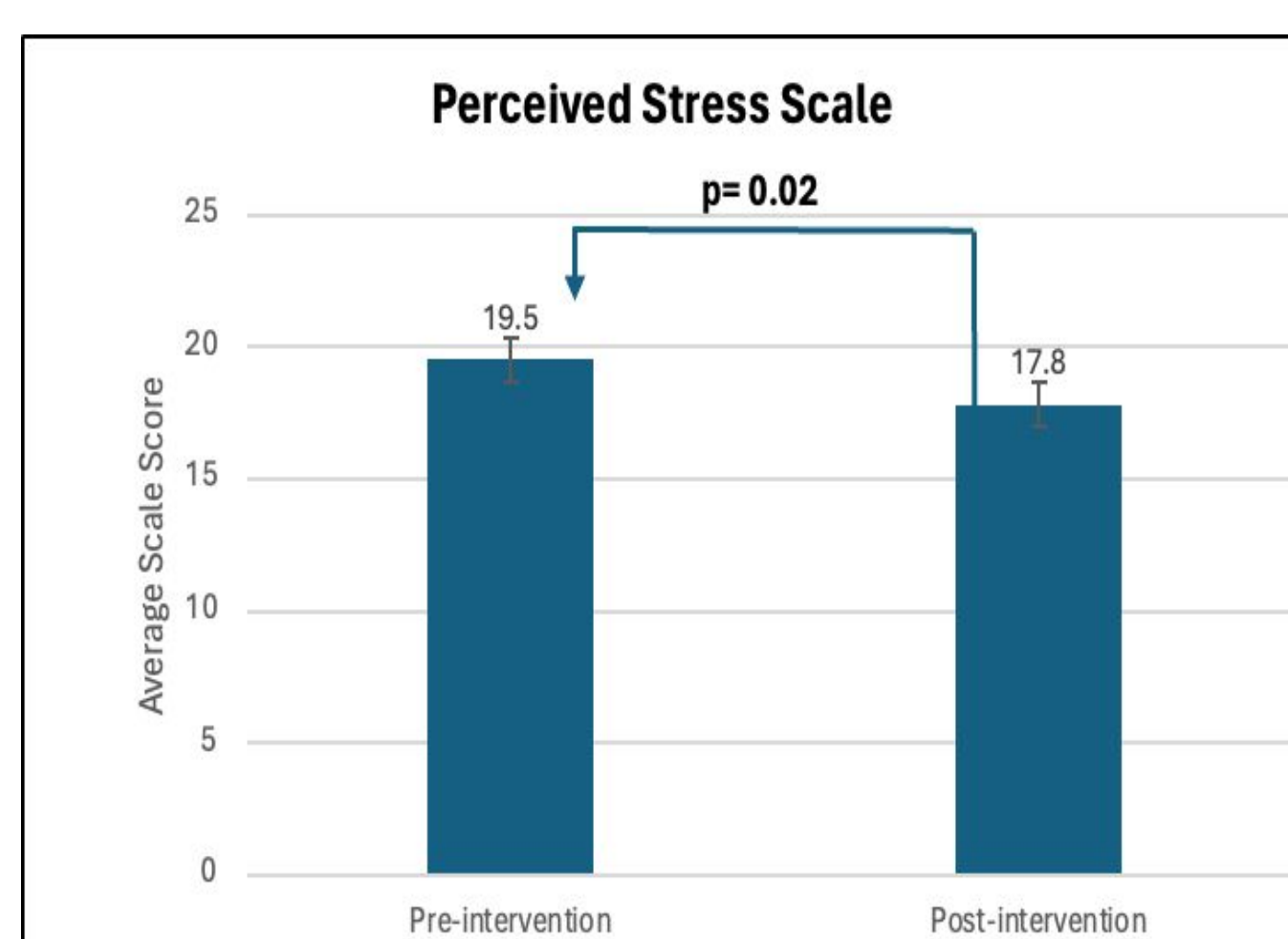


Figure 1. Perceived Stress Scale pre- and post- intervention average (p-value=0.02, N=50)

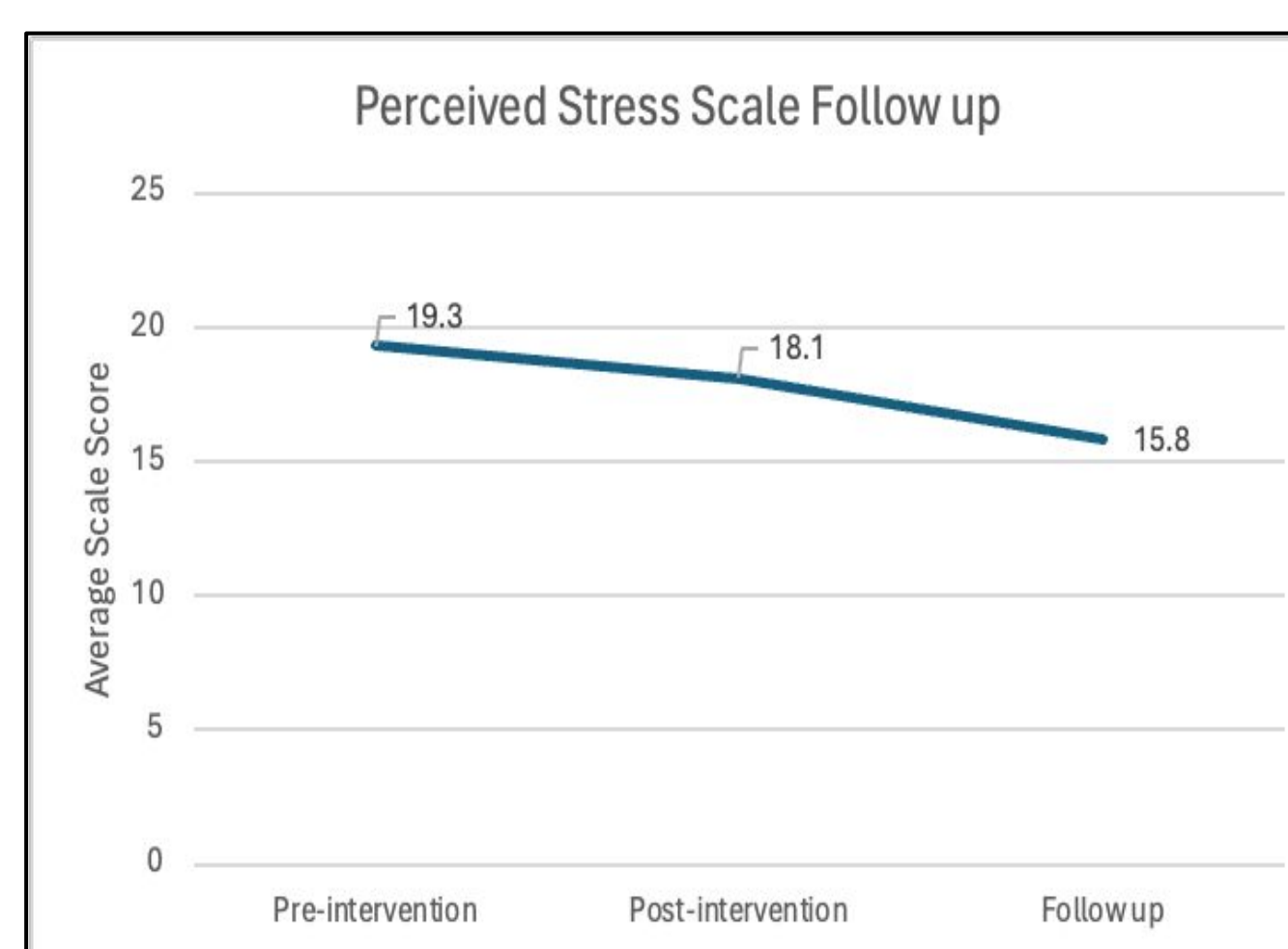


Figure 4. Perceived Stress Scale Follow up Analysis; (p-value=0.01, N=22).

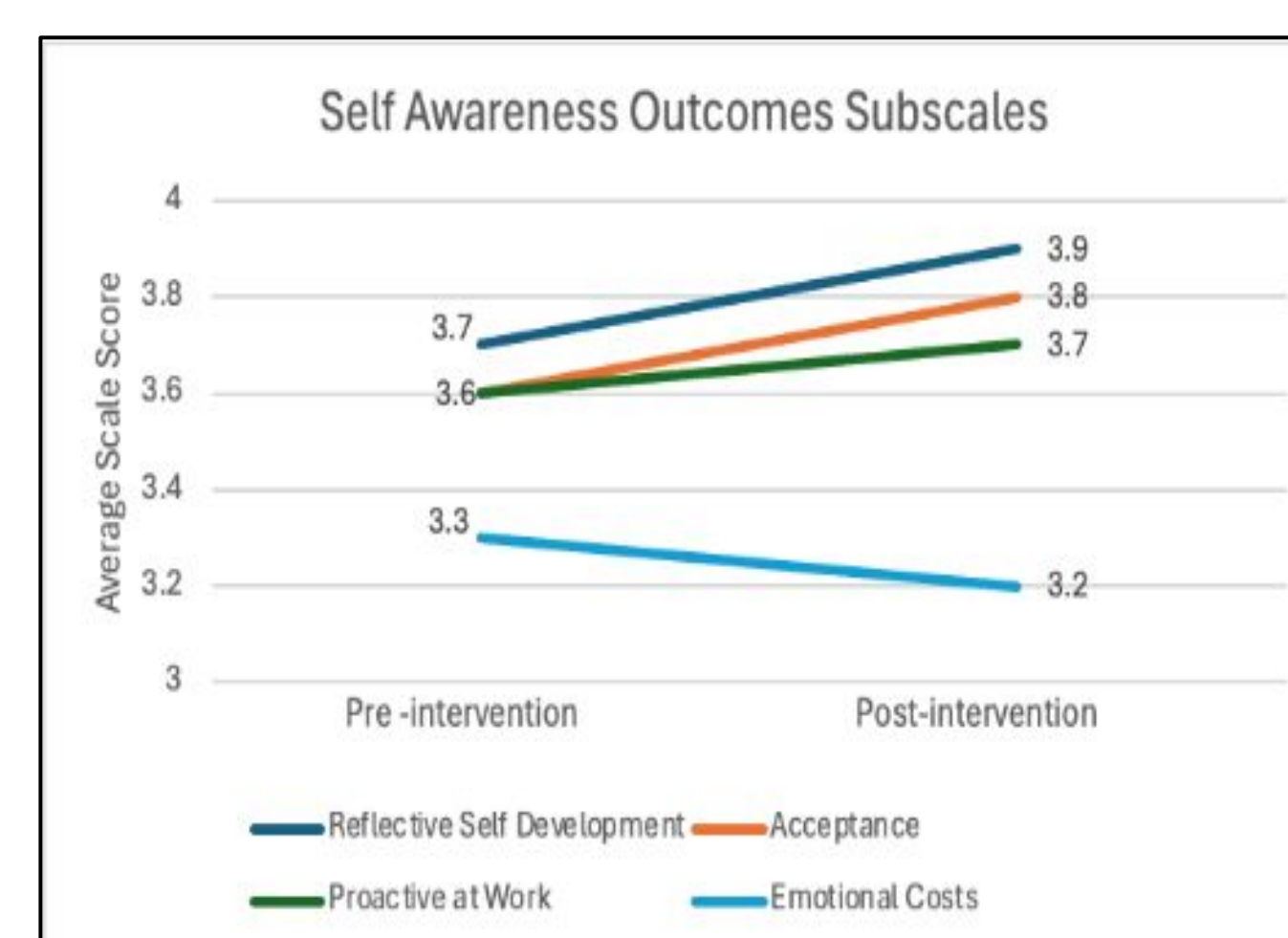


Figure 2. Self-Awareness Outcomes Questionnaire: RSD p-value=0.04, ACC p-value=0.03, PRO p-value=0.04, EC p-value=0.26

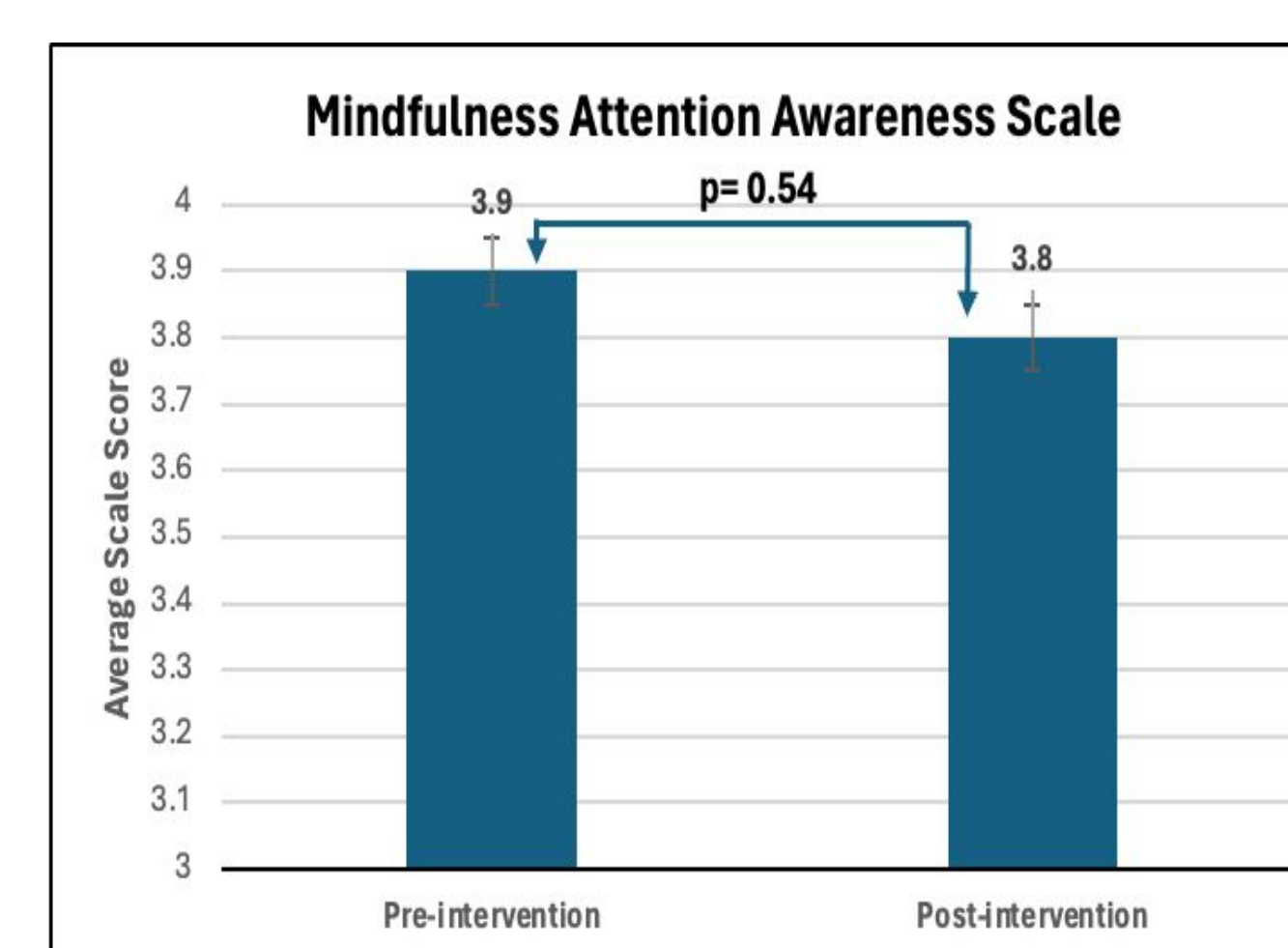


Figure 3. Mindfulness Attention Awareness Scale Stress Scale pre- and post- intervention average (p-value=0.54, N=50)

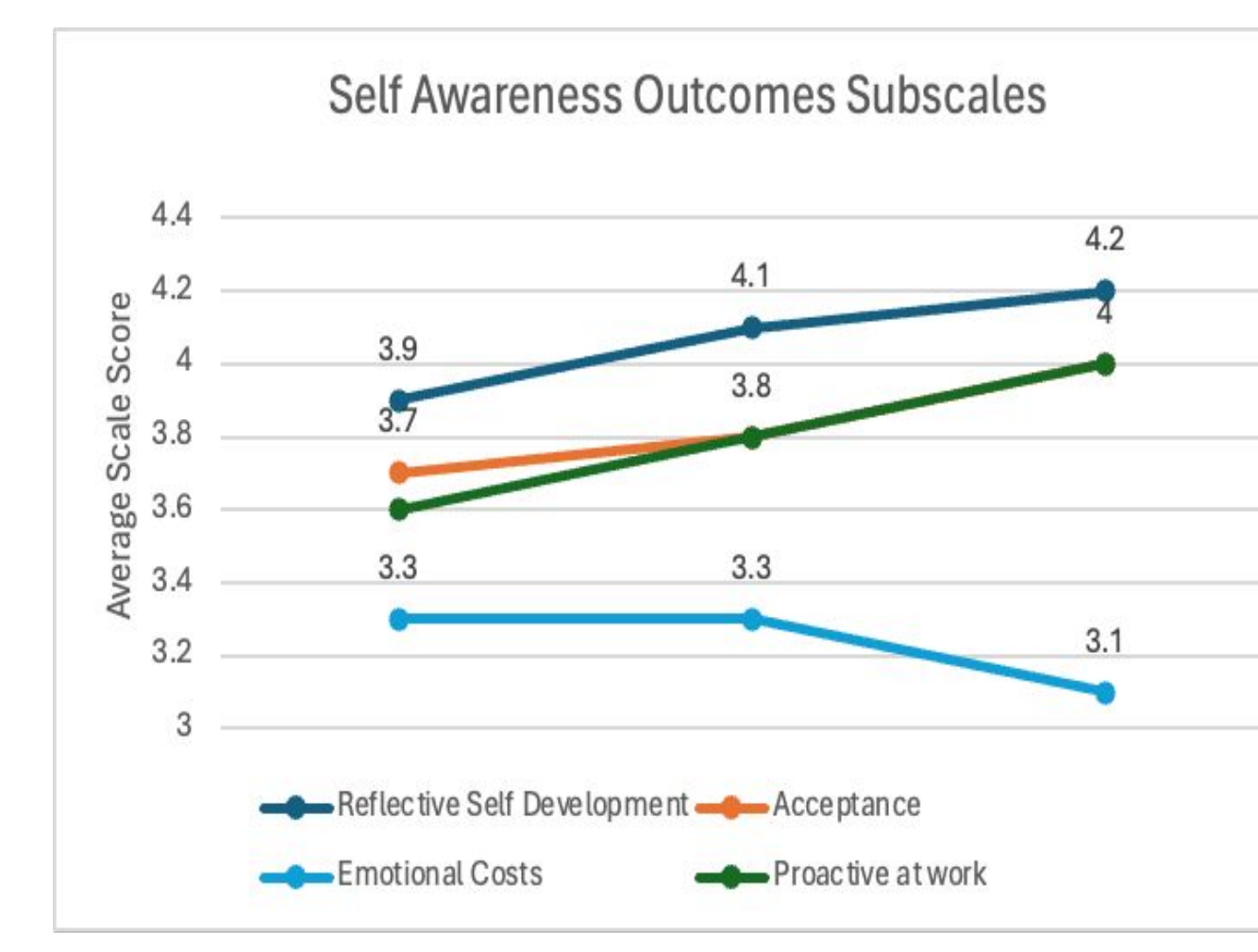


Figure 5. SAOQ Subscale Follow up Analysis; RSD p-value=0.01, ACC p-value=0.02, PRO p-value=0.01, EC p-value =0.18 , N=22)

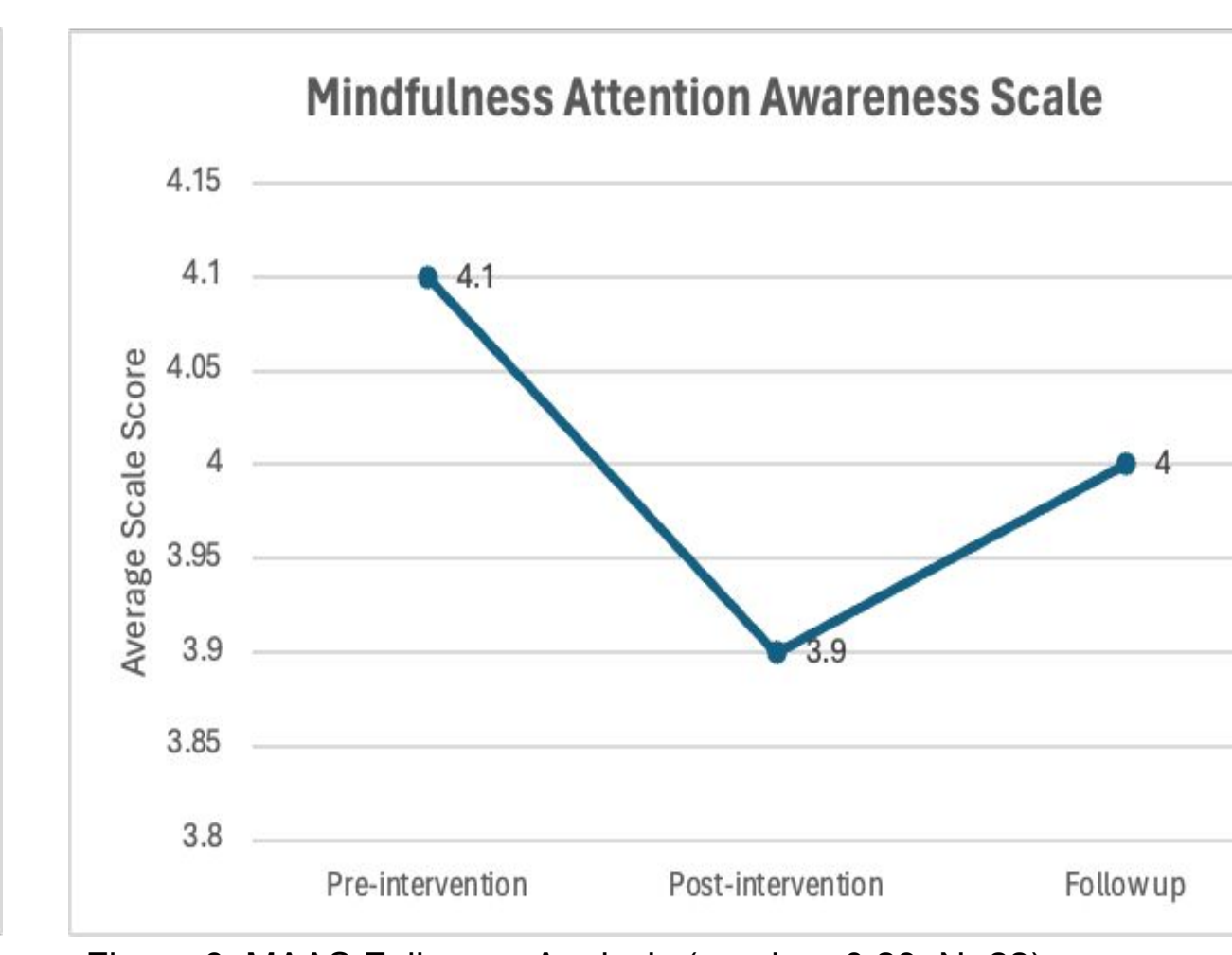


Figure 6. MAAS Follow up Analysis (p-value=0.29, N=22)

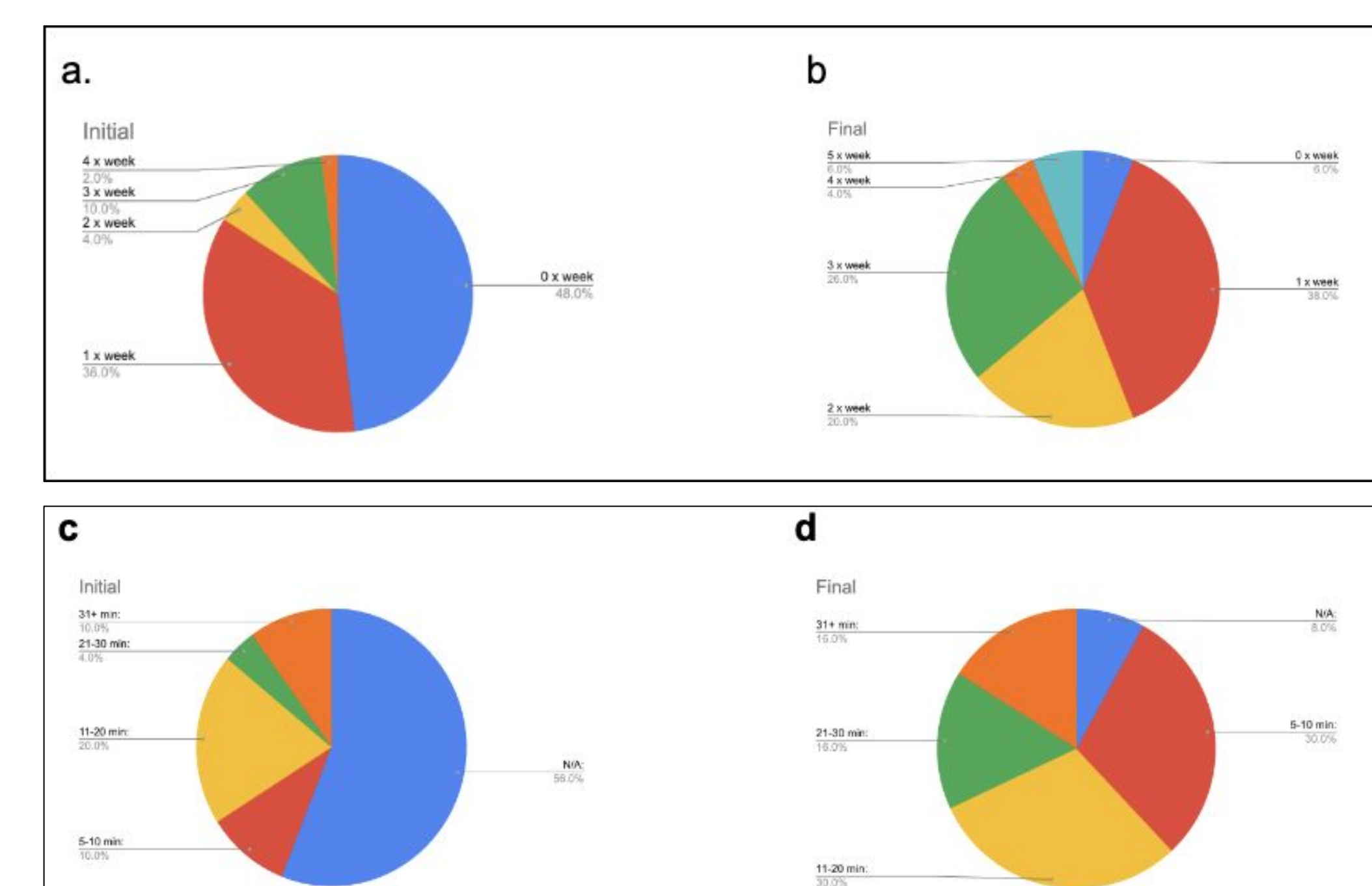


Figure 8. Lifestyle Question: “How many times a week do you practice meditation (e.g. mindful breathing, visualizations, etc)?” (a) pre-intervention and (b) post-intervention. “If you practice meditation, how many minutes do you meditate per session (write N/A if you do not practice meditation)?” (c) pre-intervention and (d) post-intervention.