



INTRODUCTION

- Mindfulness is defined as accepting and viewing the present moment—positive or negative—without judgment, bias, or commentary (Bishop et al., 2004; Blackmore & Troscianko, 2018).
- Previous research has demonstrated that short mindfulness exercises prior to a stressful task can increase psychological benefits (Geisler et al., 2018), memory performance (Lloyd et al., 2016), and short-term academic performance.
- Given that memory and good cognitive functioning are important factors to academic performance, our study investigated whether a brief mindfulness meditation intervention could improve memory performance when compared to a relaxation group (i.e., classical relaxation music).
- Females have been more responsive to mindfulness meditation in previous research (Rojiani et al., 2017).

Hypotheses:

- 1) *The mindfulness group will have higher memory performance than the relaxation group.*
- 2) *There will be no main effect for gender.*
- 3) *There will be an interaction whereby females will outperform males in the mindfulness group, but there will be no gender difference in the relaxation group.*

RESULTS

- A 2 (group) x 2 (sex) between-subjects factorial ANOVA was conducted to evaluate the impact of the mindfulness meditation session and gender on memory performance.
- As seen in Table 1, the only statistically significant difference was for DV1.
- Contrary to our hypothesis, the classical relaxation music group recalled a higher percentage of words for original list items than the mindfulness group (Figure 1).

Table 1
Two-Way Analyses of Variance for Original List Item, Unrelated Lure Item, and Related Lure Item.

	F	p	η^2_p
DV1: Original Item			
Group	7.62	.009	.18
Sex	0.03	.854	.00
Group x Sex	0.03	.856	.00
DV2: Unrelated Lure			
Group	1.20	.280	.03
Sex	0.59	.448	.02
Group x Sex	1.35	.254	.04
DV3: Related Lure			
Group	0.69	.413	.02
Sex	0.87	.358	.02
Group x Sex	0.87	.358	.02

Figure 1.
Means and Standard Deviations for Memory Performance.



Note. High scores for original list item are good, low scores for related lure items are good, and low scores for unrelated lure items are good.

DISCUSSION

- The present study attempted to show that a brief mindfulness intervention can lead to better memory performance. However, **our data did not support our hypotheses.**
 - A main effect for original item recall was observed, but opposite to our original prediction: the relaxation group recalled a higher percentage of items than the mindfulness group.
 - One possible reason is that the relaxation music had a calming effect on the mind, therefore memory resources were more accessible.
- Limitations:**
- **Small sample size:** Due to the historic COVID-19 pandemic, we were unable to collect more data.
 - **Different settings:** Because of room availability, we were forced to use different rooms. In these rooms, the noise levels varied, which may have impacted participants' performance. Furthermore, time of day may have impacted participants' memory performance.

Future Direction: A longitudinal study of mindfulness with regular practice is recommended to assess memory.

REFERENCES

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METHODS

Participants

- 40 participants (18 males, 22 females) were recruited via direct recruitment in-person and online via KPU's research pool.

Mindfulness Group:

Males: Ethnicity = 7.5% Caucasian, 7.5% Asian Indian, 2.5% Asian, 5% South Asian Indian, 5% Other
Year of study = 73% Y1/2, 27% Y3/4

Females: Ethnicity = 17.5% Asian Indian, 5% South Asian Indian, 5% Other
Year of study = 45% Y1/2, 55% Y3/4

Relaxation Group:

Males: Ethnicity = 5% Caucasian, 5% Asian Indian, 5% Asian, 2.5% South Asian Indian
Year of study = 57% Y1/2, 43% Y3/4

Females: Ethnicity = 15% Caucasian, 10% Asian Indian, 2.5% Other
Year of study = 82% Y1/2, 18% Y3/4

	n	M age	SD
Mindfulness Group			
Males	11	21.3	3.8
Females	11	20.8	2.1
Relaxation Group			
Males	7	24.4	12.2
Females	11	21.3	3.13

Materials

- Nine-minute *Waking Up* Guided Meditation on YouTube.
- Nine-minute audio of classical relaxation music on YouTube.

CogLab False Memory Task

- **DV 1** – Original List Item (% words recalled)
- **DV 2** – Unrelated Lure Item (% words recalled)
- **DV 3** – Related Lure Item (% words recalled)

Procedure

- Participants were randomly assigned to the in-person mindfulness meditation or relaxation session.
- Participants then completed the false memory task using a computer. In this task, 15 words were shown – each was presented for one second. After this, a list of words with three categories was presented (original list words, related lure words, and unrelated lure words) in which participants chose original items. There were six trials in total.