

## Can exercise and mindfulness reduce perseverative cognition and stress

Avril McSweeney and Dr Niamh Higgins  
 Mary Immaculate College, Limerick

### Perseverative Cognition and Stress

Perseverative cognition (PC) is defined as “the repeated or chronic activation of the cognitive representation of one or more psychological stressors” (Brosschot et al., 2006, p.114). It can take the form of worry or rumination, and it describes repetitive, negative, intrusive thoughts.

Excessive PC has been found to cause reduced appetite, fatigue, apathy, anti-social behaviour, disinterest, and several more sickness behaviours (Dunne, 2021).

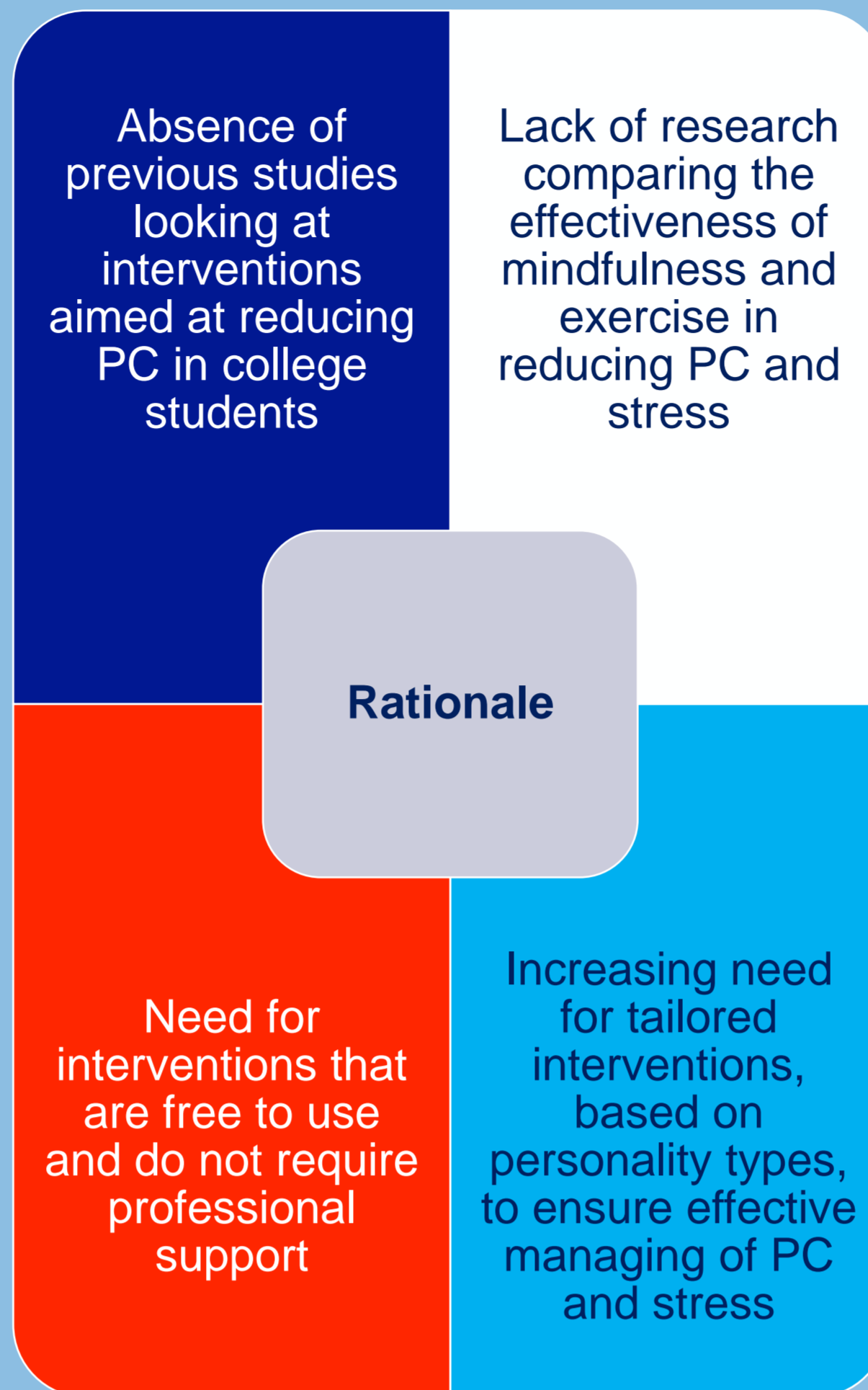
In a recent course on health and happiness carried out by the Royal College of Surgeons Ireland, the importance of implementing effective strategies to reduce stress from rumination was highlighted, to prevent sickness behaviours forming because of excessive stress (Dunne, 2021).

This comes as a response to the rising levels of stress being reported, with 56% of 18-34-year-old people in Ireland claiming to be regularly stressed (red C Research, 2021). Notably, the majority of college students in Ireland lie within this age bracket.

### Individual Differences and Stress Coping

Bolger and Zuckerman (1995) found that specific stress coping styles can be effective for certain individuals, but less effective or even harmful for those with different personality traits.

Need to understand which coping strategies are more effective for different individuals based on their personality types, so that more tailored interventions may be developed.



### Method

48 college students recruited (27 females, 21 males), aged 18-24

Levels of stress, PC, and personality measured at pre-intervention

Participants assigned to exercise, mindfulness, or control group (n = 16)

Exercise: 30 mins per day for 5 out of 7 days per week, for 2 weeks

Mindfulness: 10 mins meditation per day, for 2 weeks

Control: no intervention, for 2 weeks

After 2 weeks, levels of PC and stress measured again

Analysis: 3x2x1 ANCOVA

Difference in stress and PC examined pre-intervention to post-intervention

Neuroticism & extraversion included as covariates to see if they impacted effectiveness of intervention

### Contact Information

18223133@micstudent.mic.ul.ie

### Results

#### Perseverative Cognition

- Reduction in levels of PC from pre- to post-intervention across all 3 groups
- No significant difference between all 3 groups, but it may be implied that the interventions were successful based on the differences between intervention and control groups (see Figure 1).
- Neuroticism levels impacted effectiveness of intervention in reducing PC

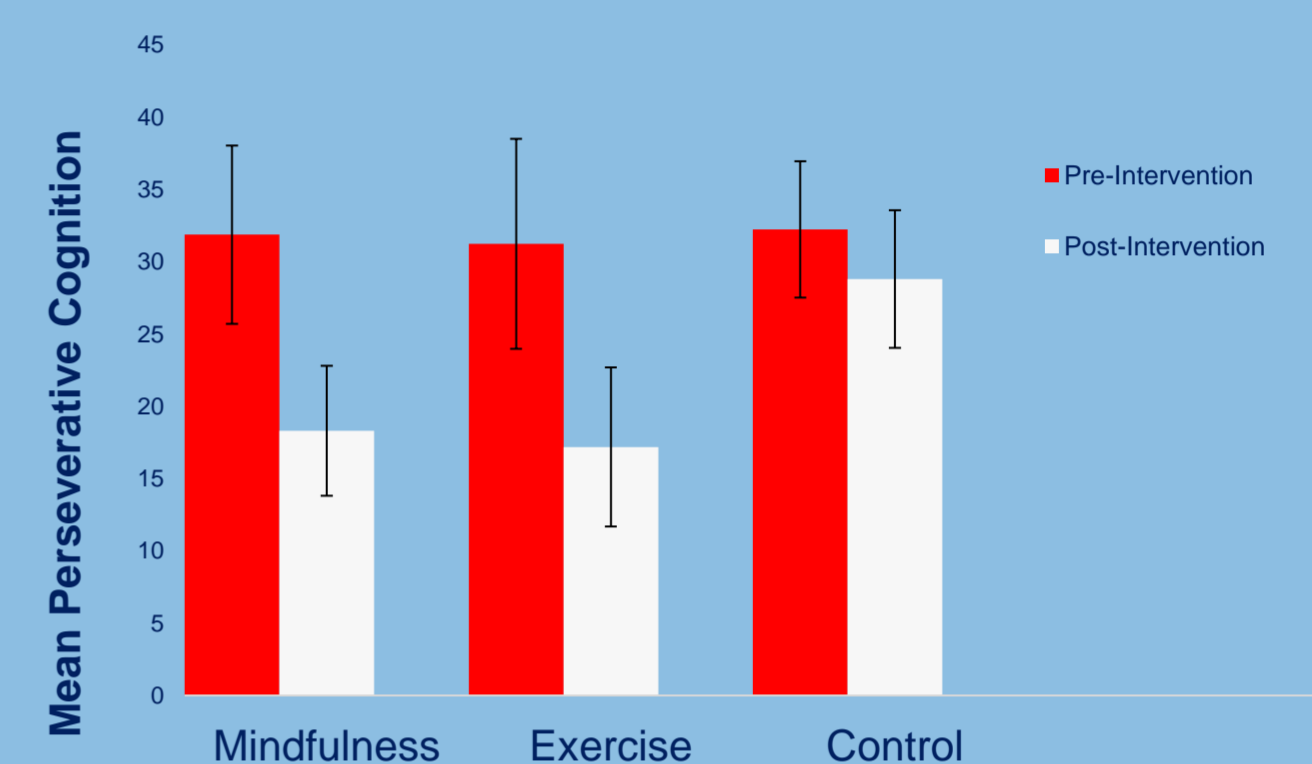


Figure 1. Levels of PC

#### Stress

- Reduction in stress levels from pre- to post-intervention across all 3 groups
- No significant difference between all 3 groups, but it may be implied that the interventions were successful based on the differences between intervention and control groups (see Figure 2)
- No relationship between extraversion or neuroticism, and effectiveness of intervention in reducing stress

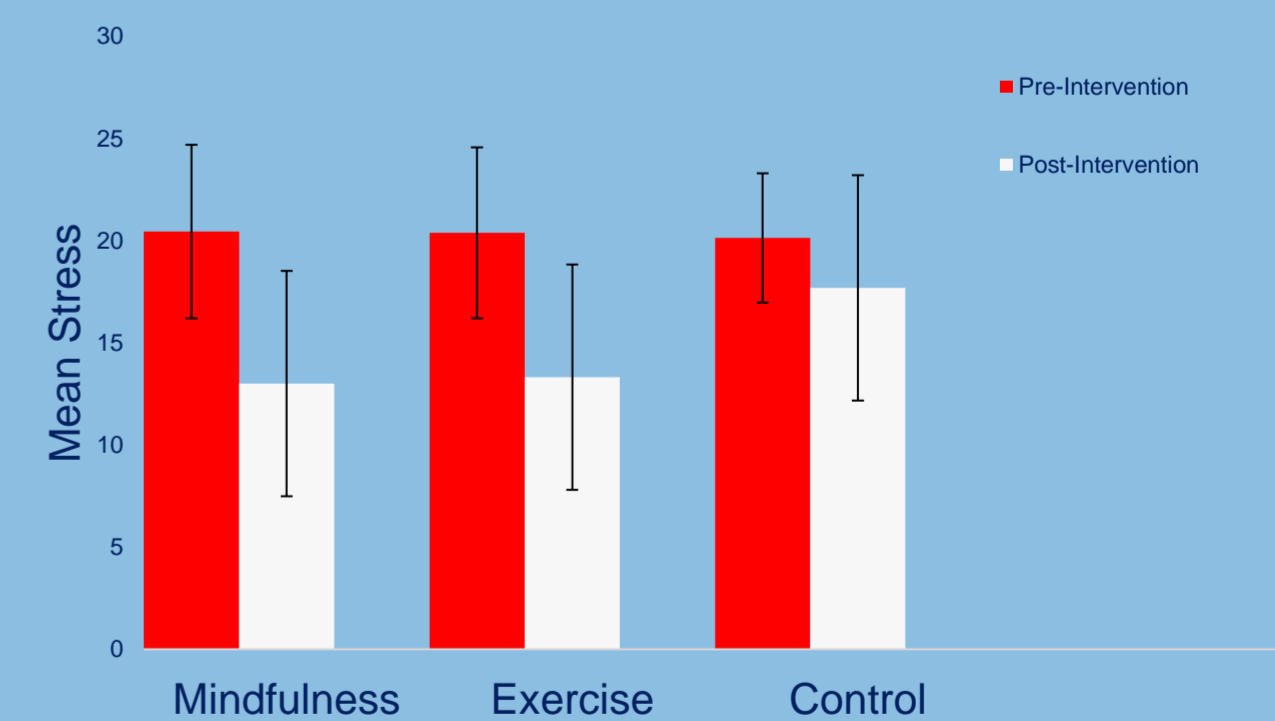


Figure 2. Levels of stress

### Conclusion

This study emphasises the potential benefits of a brief mindfulness and exercise intervention, in reducing levels of PC and stress in college students. Both interventions were self-administered, free to use, and did not require professional support, making them widely accessible. Such interventions could be paramount in mitigating the harmful effects that prolonged PC and stress can have on health. Furthermore, the current study provides evidence of the potential relationships between personality traits, and the effectiveness of interventions.