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Using Mindfulness Techniques to Improve Student Wellbeing and Academic Performance for University Students: A Pilot Study

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This paper examines the effectiveness of a three week mindfulness group program as a tool for improving academic performance, managing study stress and improving overall well-being. A mindfulness based approach was chosen due to its effectiveness in reducing stress as well as improving psychological wellbeing and working memory in various groups of university students. Evaluations from students over a three year period have consistently reported improved life and study skills across a number of areas, including capacity to manage stress and to stay more present. They also reported increased focus and improved sleep. The outcomes demonstrate an effective and innovative way to support student learning and wellbeing as well as providing students with a non-threatening way to engage with the counselling service.

INTRODUCTION

Many students find tertiary education highly stressful. These high levels of stress often affect psychological health (Cvetkovski, Reavley & Jorm, 2012) and can adversely affect academic performance (Stallman, 2010). In comparison with the general population, research indicates a high prevalence of psychological distress and mental health problems among Australian university students. Approximately 84% of students report elevated distress levels (Stallman, 2010) which is much higher than age matched peers in the general population (Stallman, 2008).

Increased levels of psychological distress have been associated with increased disability, resulting in a reduced capacity for students to meet their educational demands (Stallman, 2008). Such students have been found to achieve poorer educational outcomes as evidenced by lower grades (Stallman, 2010). Stallman's research (2008) also found that students experiencing very high levels of distress, had impaired capacity to work and study up to 60 % of the time. This may then place them under further pressure and psychological distress as they try to catch up with their workload. In addition, only about 36% of students experiencing high levels of distress access professional assistance (Stallman, 2008). Certain groups such as international students are even less likely to seek assistance from a counselling service (Bradley, Parr, Lan,

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Bingi & Gould, 1995) due to elevated levels of personal stigma attached to psychological distress (Eisenberg, Downs, Golberstein & Zivin, 2009), even though they are a particularly vulnerable group, experiencing more challenges than the rest of the student population (Pedersen, 1991). While the language barrier presents the most significant difficulty for most international students, further difficulties with linguistics, academic requirements, finances, intrapersonal issues (Mori, 2000) and social isolation (Stallman, 2008), constitute other sources of stress. This is concerning given that these students are less likely to engage in help seeking behaviours, yet they make up a significant portion of enrolments.

SETTING FOR THE PILOT STUDY

The pilot study discussed in this paper took place within the university counselling service of a large metropolitan Australian university. The University of South Australia (UniSA), encompasses two city campuses, two suburban campuses and two regional campuses. The mean student population over the duration of this study (2014-2016) was 33,074 students, including 6,847 international, 7,200 post graduate and 6,877 students identified as low socioeconomic status. Although research reports low levels of help seeking among university students, the UniSA counseling service experienced increasing demand for one to one support with students presenting with increasingly complex issues. The elevated levels of distress among students and the impact this had on their overall wellbeing and capacity to study raised concerns for the counselling service. As a pro-active approach for managing the demand and providing skills for managing stress, improving study capacity and overall well-being, the “Improving Focus and Concentration” group program was developed.

RATIONALE FOR CHOOSING A GROUP APPROACH

A psychoeducational group based approach was chosen as it focuses on knowledge acquisition and skill development. It is also the most widely implemented group modality within educational settings (Gerrity & DeLucia-Waak, 2007). This approach focuses not only on the content but also on the group learning process (Champe & Rubel, 2012; Brown, 1997). It was chosen to provide participants with additional advantages such as peer support, the opportunity to learn from others, increased motivation for making changes and to break down some of the barriers to help seeking.

This method of establishing connections with students, especially international students, is also supported by research (Bradley et al. 1995), which suggests that outreach programs exposing counsellors to students are well received. Bradley et al. (1995) also identified that group programs where students are able to learn relaxation skills are valued by students.

RATIONALE FOR CHOOSING A MINDFULNESS-BASED PROGRAM

A mindfulness-based approach was chosen due to evidence of its effectiveness for improving various cognitive skills required for academic performance (Zeidan, Johnson, Diamond, David & Goolkasian, 2010; Mrazek, Franklin, Phillips, Baird & Schooler, 2013) as well as reducing stress (Shapiro, Schwartz & Bonner, 1998) and increasing psychological (Van Gordon, Shonin, Sumich, Sundin & Griffiths, 2014) and physiological wellbeing (Hassed, Lisle, Sullivan & Pier 2009). Mindfulness practice has also been shown to facilitate improvements in adaptive coping style (Palmer & Rodger, 2009) as well as assisting in the reduction of negative mood (Lynch, Gander, Kohls, Kudielka & Walac, 2011), mood disturbance (Rosenzweig, Reibel, Greeson, Brainard & Hojat, 2003) and emotional regulation (Van Gordon et al. 2014).

WHAT IS MINDFULNESS?

Mindfulness has been defined as “paying attention ... on purpose, in the present moment,” (Kabat-Zinn, 1994, p. 4). It involves consciously bringing ones awareness to the present moment, with curiosity, openness and acceptance of both pleasant and unpleasant experiences. Emphasis is placed on seeing and accepting things as they are rather than trying to change them. Through that purposeful focusing of attention, mindfulness also encourages awareness of our habitual mental functioning or what is sometimes called “the auto-pilot mode”.

Mindfulness practice involves the focusing of attention on a sensory or mental experience, such as the sensation of the breath or body, with full acceptance of the experience, while being aware of any distractions. When the mind wanders due to internal or external distractions, the practitioner’s task is to gently bring the attention back to the breath or body and maintain a state of relaxed alertness. Although it is not a goal-directed activity the practice can have additional benefits. For example, it may bring about relaxation although it is not primarily a “relaxation exercise”.

Mindfulness can be cultivated by a variety of techniques both formal and informal. Formal practices include sitting or lying down meditations. Informal practices can include mini-meditations throughout the day or bringing awareness to and stepping out of “autopilot” mode when performing everyday tasks.

MINDFULNESS BASED THERAPEUTIC PROGRAMS

Two seminal programs include the Mindfulness Based Cognitive Therapy (MBCT) program (Segal, Williams & Teasdale, 2002) originally developed to prevent relapse into major depression, and the Mindfulness Based Stress Reduction (MBSR) program (Kabat-Zinn, 2005), created to assist patients to better cope with pain and distress (MBSR). A meta-analysis of the 8 week MBCT program has indicated that it is an effective intervention for relapse prevention in people experiencing major depressive disorder (Piet &

Hougaard, 2011). A meta-analysis on MBSR reported decreased levels of stress and depression as well as improvements in quality of life in healthy individuals (Khouri, Sharma, Rush & Fournier, 2015). A further meta-analysis on these programs (Gu, Strauss, Bond & Cavanagh, 2015) provided evidence for decreased levels of rumination and worry, improved cognitive and emotional reactivity, and suggested some improvement in psychological flexibility. Khouri, Lecomte and Fortin (2013) concluded that mindfulness based therapies are effective for reducing depression, stress and anxiety.

Although these programs have been effective in a range of settings, including universities (Collard, Avny & Boniwell, 2008; Shapiro et al. 1998) and have provided evidence based interventions for increasing wellbeing and reducing psychological distress, anxiety and worry (Ruths, de Zoysa, Frearson, Hutton, Williams & Walsh, 2012), they require extensive time commitments. The UniSA counselling service's previous experience of running group programs on campus indicated that time constraints and life pressures experienced by university students resulted in high drop-out rates from workshops. In order to reach a broader, more diverse audience and increase retention, a shorter program than the standard 8 week MBCT and MBSR courses was needed.

There is evidence that supports brief mindfulness training as an effective intervention for improving wellbeing and cognition. For example, Zeidan et al. (2010) found that a four day (20min/day) meditation training program increased the ability to sustain attention, improve cognition and mood, reduce fatigue and anxiety and increase mindfulness. Moreover, brief mindfulness training significantly improved visuospatial processing, working memory, and executive functioning (Zeidan et al. 2010). Five days of Integrative Body Mind Training also improved mood and cognitive processes (Tang, Yinghua, Wang, Yaxin, Feng & Lu, 2007). In another study Zeidan, Gordon and Goolkasian (2009) found that three days of meditation training was more effective at reducing anxiety in participants compared with other cognitive interventions such as a relaxation exercise or a math distractor task.

Mindfulness research has also indicated that various practices correspond with the activation of distinct areas of the brain (Holzel, Lazar, Gard, Schuman-Oliver, Yago & Ott, 2011; Tang, Holzel & Posner, 2015) which may enable practitioners and therapists to fine-tune the use of specific mindfulness exercises to target specific psychological issues. This research has helped to inform the process of creating mindfulness based programs focusing on treating specific psychological issues or improving the function of specific cognitive processes.

USING MINDFULNESS WITH UNIVERSITY STUDENTS

A number of studies among university students (Shapiro et al. 1998) including senior medical students (Warnecke, Quinn, Ogden, Towle & Nelson, 2011) and student nurses (Kang, Choi & Ryu, 2009), have shown that the practice of

mindfulness contributes to a reduction in stress and anxiety. Further research has indicated that mindfulness practice is effective at reducing fatigue (Zeidan et al. 2010) and symptoms of psychological stress (Shapiro et al. 1998). A number of cognitive factors essential for study have also been enhanced using various mindfulness techniques, leading to better academic performance. Students practicing mindfulness were better able to maintain focus and sustain attention, showed greater efficiency in higher order processing and long term memory retrieval (Zeidan et al. 2010). One study indicated that university students with two weeks of mindfulness practice increased levels of reading comprehension and working memory capacity while reducing the occurrence of distracting thoughts and mind wandering (Mrazek et al. 2013). These students practiced maintaining their focus on a single aspect of experience, e.g., their breath, and were then able to redirect this same focus and concentration to a challenging task. This assisted with reduced levels of mind wandering despite frequent internal or external interruptions. Through these findings, this study confirmed that mindfulness practices can deliver immediate short term benefits for students (Zeidan et al. 2010).

In summary, based on research evidence a brief mindfulness based program that carefully selects mindfulness exercises to target the functions of specific cognitive processes was chosen as a valid pro-active intervention for helping students improve both academic performance and general wellbeing.

THE IMPROVING FOCUS AND CONCENTRATION WORKSHOP

This initial research into the short term effectiveness of mindfulness interventions for wellbeing and academic success led to the development of the three week “Improving Focus and Concentration” workshop. The aim of this workshop was to provide students with the fundamental knowledge of mindfulness as well as simple tools and techniques that students could use to support their learning and wellbeing.

The three week program consisted of a one hour session per week over three weeks. Each week a different theme was introduced which guided the content of the session; (1) introduction to mindfulness; (2) being aware; and (3) being present with your thoughts. The sessions consisted of formal practice, discussions and debriefing of the exercises to provide participants with opportunities to share their experiences and learn from each other. Week two and three also incorporated elements of Cognitive Behaviour Therapy (CBT) and Acceptance and Commitment Therapy (ACT) to bring awareness to the relationship between thoughts, feelings and actions. The workshops were delivered by members of the UniSA counselling service who had received training in mindfulness interventions including MBCT and ACT.

Each session started with a “five minutes of mindfulness” exercise designed to assist participants to redirect their focus to the workshop. Week one introduced the concept of mindfulness by using the experiential exercises of “mindfulness

of eating” and “mindfulness of the body”. Time was allocated after each exercise for debriefing and discussion focused on barriers to being mindful. Home practice was set, encouraging students to choose a regular activity to do mindfully each day. Week two focused on “being aware” and introduced the “hands as thoughts” exercise to aid in defusing or distancing oneself from thoughts. Various visualisation exercises were also used to assist with learning to let go of thoughts. Week three focused on “being present with your thoughts”, accepting thoughts and feelings, and learning strategies for creating distance from thoughts. It also introduced a longer “mindfulness of breath” exercise. There was discussion on how to use these skills in daily life, to reduce study stress and increase overall wellbeing. Students were given a number of handouts to assist with ongoing home practice.

METHODOLOGY

The findings discussed in this paper are based on evaluations from workshops run between 2013 and 2016 across the four metropolitan campuses. A total of 23 workshops was run during this period.

The three-week workshop was evaluated by a survey (see Appendix 1) which was created primarily to capture information to assist in program development. The survey comprised of open ended questions. It was given to students in paper format to complete at the end of week three. Completion of the survey was voluntary. In 2013 and 2014 most of the workshops were evaluated to assist in the development of the program, however evaluations were not collected from one workshop in 2014. In 2015 and 2016 a decision was made to only evaluate one workshop per year due to consistent high levels of satisfaction reported by participants in previous years.

The data reported in this paper consist of a random sample of 40 completed surveys including data from each year. Thematic analysis was used to identify the main themes in the qualitative data. This type of analysis searches for repeated patterns, themes or meaning across a data set (Braun & Clarke, 2006) and provided the means to analyse the open ended questions in the survey.

REGISTRATION DATA

Registration data were collected for the first two years, 2013 and 2014 to assist with the development and promotion of the program and to ensure that the program was reaching a cross section of the university population. Workshop registration data were split by local and international student registrations, gender and degree level. The data were also compared against UniSA enrolment data.

Local students represented 78% while international students represented 22% of the total registrations. The data are representative of the overall UniSA enrolment data which indicate that international student enrolments fluctuated between 19% and 22% for 2013 and 2014.

Table 1. Registrations by campus, local and international students

Campus	City West		City East		Mawson Lakes		Magill		Total
	Local	Int	Local	Int	Local	Int	Local	Int	
2013	40	14	24	9	38	12	25	5	167
2014	36	7	30	5	18	9	n/a	n/a	105
Total	76	21	54	14	56	21	25	5	272

Table 2. Number of registrations by gender

Male	112 (41%)
Female	159 (59%)

Table 3: Registrations by degree level

Undergraduate	226 (83%)
Postgraduate	47 (17%)

In table 2 the data were split by gender. Registrations for the workshops are slightly higher for females when compared to the overall enrolments which indicate that around 57% of enrolled students are female at UniSA but the difference is not significant.

Table 3 shows the data split by undergraduate and postgraduate registrations. The majority of registrants were undergraduate students. This is what the authors expected since most postgraduate students have had previous experience of study at tertiary level and time to develop successful strategies for improving their ability to focus and concentrate. The majority of postgraduate students who registered for the workshops were studying a master's degree by coursework. These students may be more likely to be attracted to this type of workshop as many of them would have had a significant break before returning to study.

Overall, the data show that registrations for the workshops match enrolment data indicating that the workshops attract a cross section of the university population. Once the data confirmed that the program was reaching our intended audience no further registration data were collected.

STUDENT EVALUATIONS

Of the respondents, 100 percent indicated that they would recommend the workshop to others. They identified the skills and techniques learnt as useful and beneficial to all university students. This strongly suggests that this type of workshop is relevant to tertiary students.

Respondents were asked to specify what was most useful from the three week program. They were able to provide multiple responses. Seventy percent of respondents identified the exercises that were taught, and tips given in the

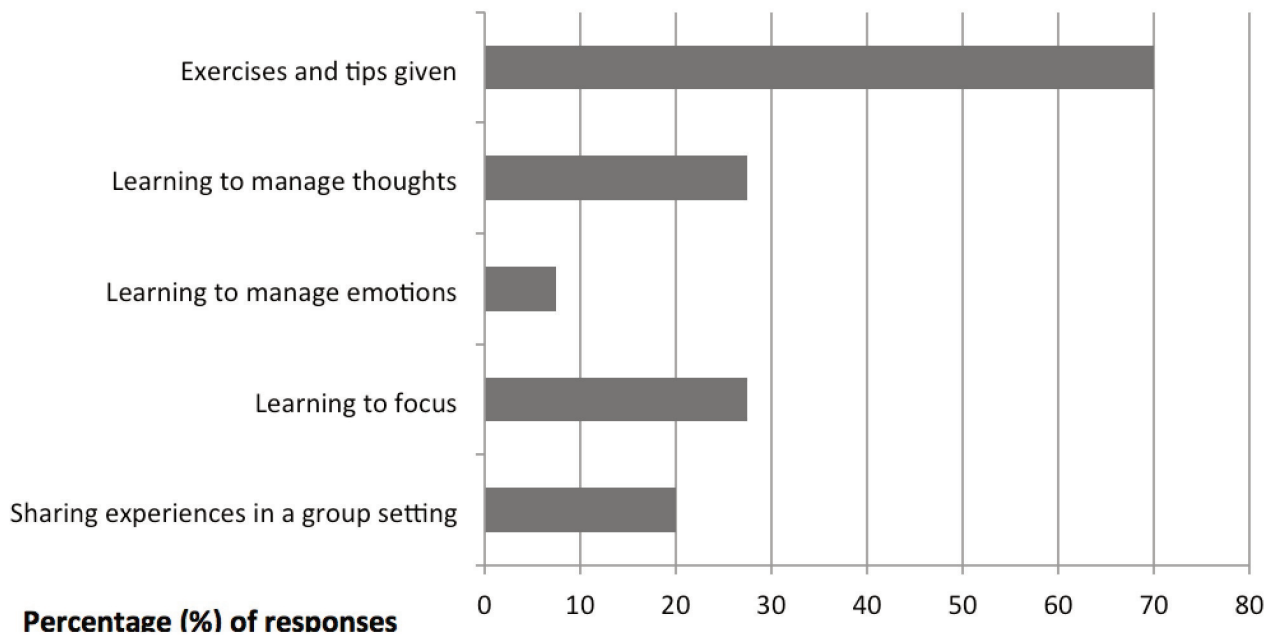


Figure 1. What was most useful from the 3 week workshop?

workshop as most useful, followed by learning to manage thoughts (27.5 %) and learning to focus (27.5 %). The authors undertook careful and thorough research in selecting the weekly exercises to support the development of skills most relevant to tertiary students. Evaluation responses indicated that the types of exercises chosen were very relevant to this population. See Figure 1 below.

There were no specific questions seeking feedback from participants about the delivery mode and format. However one question asked participants what was most useful to them. Twenty percent of respondents reported that the group program assisted them to normalise thoughts and feelings. They also stated that the opportunity to share their experiences and support each other provided them with new ways of coping with the pressures of study. Below is a sample of comments from participants that highlight the importance and benefits of being part of the group:

- *Hearing other people's experiences was really helpful to make me feel not alone.*
- *Learning about the different distractions experienced by students and what techniques work for them.*

These comments indicate that students benefit from the skills being taught in the workshop. Being part of a group also has benefits in terms of supporting student wellbeing and normalising some of the challenges of being a student.

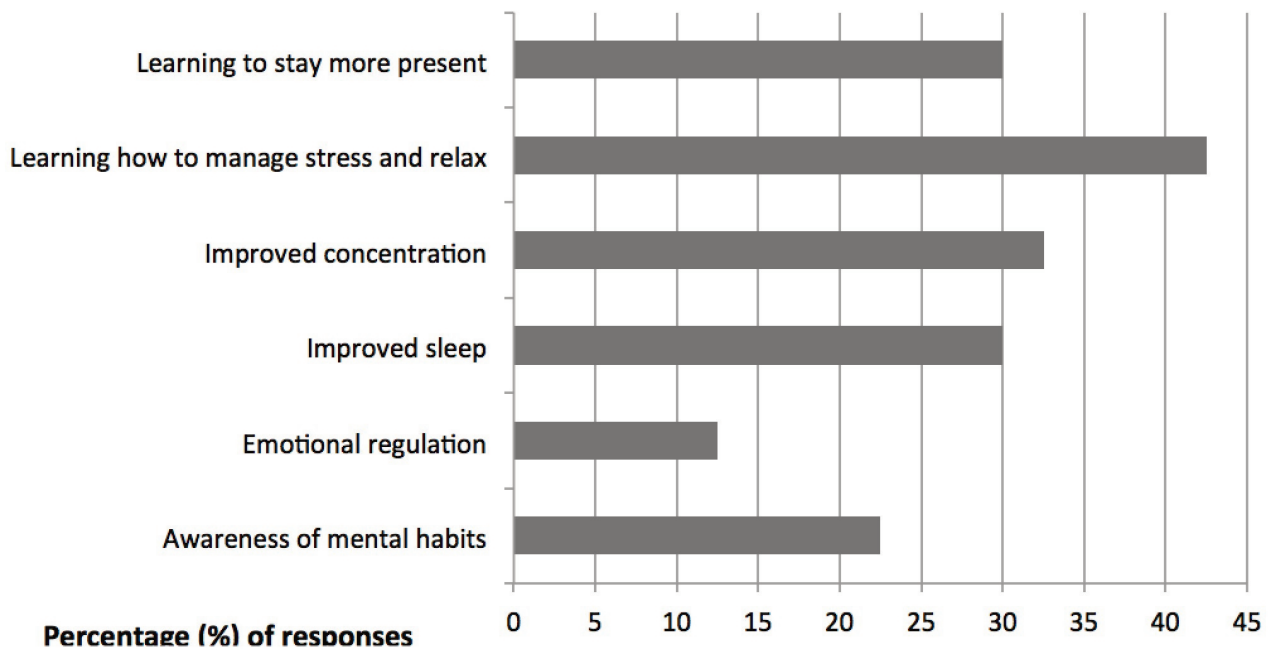


Figure 2. Question 3. How has it helped you?

Participants were also asked to give feedback on how the skills that they learnt helped them with their studies and in their day to day lives. Feedback from participants highlighted that after three one-hour sessions they were able to apply these new skills to their study and daily life. Participants identified improved life and study skills across a number of categories as listed in Figure 2. The main benefits reported by respondents were learning how to manage stress and relax (42.5%); the ability to stay more present (30%); improved concentration (30%) and improved sleep (30%).

The comments below highlight some of the skills students developed as a result of the workshop:

- *I am able to catch myself when I overthink and worry.*
- *I realise when my mind is drifting, when I really need to be focused and I can bring it back now.*
- *Being able to accept how I am thinking and feeling and just getting on with what I have to do.*
- *It's given me skills to deal with the pressure of full time study and it's a reminder to take time for myself.*

These self-reported benefits are consistent with those of longer mindfulness based interventions such as the MBSR program, and support earlier research findings by Zeidan et al. (2009; 2010) and Tang et al. (2007) that brief mindfulness training is an effective intervention for improving wellbeing and cognition.

Finally, participants also provided feedback that indicated an impact on student retention and success. This was not expected, as this had not been identified in any of the previous research explored. Here is a small sample of those comments:

- *This was a really valuable experience & has helped me feel more on top of my study.*
- *Without these tips I probably would have quit, but with these new skills I feel I can deal with the pressure.*

CONCLUSION

Tertiary study is stressful for many students. Learning practical strategies for managing stress appears to be beneficial to academic performance and overall wellbeing. In recent times mindfulness practice has attracted significant attention in research. It is also being used in psychological intervention practices as a useful technique for managing stress and increasing wellbeing in a variety of settings. Analysis of evaluations from the Improving Focus and Concentration workshops run by the counselling service at UniSA, indicates that mindfulness, when used as an intervention technique in a tertiary setting, can help students to improve life and study skills that support positive learning and wellbeing outcomes.

Based on the findings from this analysis, it appears that a group model may work well for students, and that learning mindfulness techniques in a group setting may have some broader benefits. These include the opportunity to learn from the presenters and each other, and to normalise experiences. Using a group model offers possibilities for meaningful student engagement outside of the classroom as well as opportunities for skills development, sharing of experiences and coping strategies. A group model, such as the one described in this paper, also appears to improve motivation to learn new skills and to make changes through having peer support. This is likely to be particularly beneficial to students who are new to the tertiary environment and for those such as rural, interstate and international students who have moved away from the normal support networks.. It may help to break down barriers to help-seeking for some students as they get to know and learn to trust staff. However, as a program it does require the facilitators to have both mindfulness training and experience in facilitating groups. Both of those skill sets need to be learnt.

It is likely that a brief intervention model is more manageable for tertiary students who are often time poor. Both the literature and our experience show that mindfulness can be taught effectively as a brief intervention, with positive outcomes for participants, as long as the exercises are carefully selected to meet the goals of the program. The skills learnt can then be supported further by information sheets, online recordings of exercises, the multitude of online apps available, on campus mindfulness clubs and community groups.

This was a real world study conducted within an Australian University counselling service which resulted in a number of limitations to the design and type of methodology used. The program was run by members of the counselling team across four metropolitan campuses. The measures used were designed by the counselling service to provide information to assist in the development and delivery of the program. Therefore no statistically valid measure was used. Only some of the workshops were evaluated providing a limited sample size of completed student evaluations, and registration data were only collected for the first two years. There was no control group to measure against the attendees. Limited resourcing allowed no follow up with students after the program to see if they continued to use the skills they developed in the workshop. There was also no measure to determine any changes to students' academic performance, apart from self-reporting.

Despite these limitations, the findings indicate that learning mindfulness techniques to improve focus and concentration in a group setting has the potential to offer a cost and time effective model for staff and students. More broadly it demonstrates that mindfulness based interventions are applicable and appropriate to a tertiary setting and provide a unique model that can support both student wellbeing and academic success. They also have the potential to be incorporated into a number of other educational contexts in and outside of the classroom to support students.

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APPENDIX 1

Focus and Concentration Workshop Evaluation

- How did you find out about the workshop?
- What was most useful from the 3 week workshop?
- How has it helped you?
- Would you recommend the workshop to other students?
- Any other comments?

Thank you

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