Managing your mind: how simple activities within the curriculum can improve undergraduate students’ mental health and well-being

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Abstract
The transition into higher education stretches students socially, academically and within their personal lives requiring adaptation and development of resilience. For many, such demands may lead to decreased mental well-being and, for some, mental ill-health.

This project aimed to trial simple mental health awareness and well-being tasks with first year undergraduate students, and to determine whether students find these interventions beneficial and worthy of embedding as transition activities within the first-year curriculum. Four activities were trialled with 185 first-year students who reported the activities as beneficial. All activities caused an overall increase in student knowledge of how to maintain good mental well-being. In the light of this project’s findings, such activities are recommended for embedding into the first-year curriculum and throughout higher education.

Introduction
Beginning higher education is challenging for many students and many providers have begun to reflect upon how best to facilitate this transition. There is divergence of opinion in the literature on how this time of transition is best defined (Cheng et al., 2015; Gale & Parker, 2014). A thoughtful viewpoint of transition describes this time as continuous; incorporating the complex and differing demands on the student (Lizzio, 2001; McNaught, 2012). These demands can affect the students’ mental health throughout their time at University (Cleary et al., 2011; Macaskill, 2012, OfS, 2019) with a quarter of students experiencing suicidal ideation in a 12 month period of Higher Education (Thorley, 2017). Mental ill-health can progressively magnify throughout students' time in higher education (Hughes & Spanner, 2019; Macaskill, 2012) due to the increasing workload, pressures of future employment and decreasing social support systems, emphasising the need to address it early.

Quinn et al., (2009) found the provision of mental health awareness throughout the first-year curriculum for both staff (although outwith this project’s scope) and students could ease transition stress. Moran and Gonyea (2003) found that embedded support for transition encouraged engagement, maintained social interaction and friendships, and was essential for creating a sense of belonging and a support network for the individual. These aspects all improve an individual’s mental health and well-being. Embedding well-being activities throughout the curriculum can provide holistic support for students, allowing their development throughout the transition into first year, and onwards throughout their time at University. However, all too often, first-year undergraduate students experience no mental...
health and well-being support nor resilience training as part of their formal teaching and are directed to the University’s mental health resources only when they disclose the need for it. There is currently a gap in the literature of evidence based interventions that are effective in supporting students’ mental health and well-being, and in which contexts they are most helpful to students (Hughes & Spanner, 2019).

This study aims to identify simple interventions that are beneficial to students in helping them to maintain a good mental health and determines if these activities are worthy of embedding into the first year curriculum.

**Methods**

**Context and ethics**

Participants were members of a compulsory second semester first year biology course. These students were enrolled on a 4 year undergraduate degree, structured with 2 semesters per year, within a large school of biological sciences from a UK Russell Group University.

All participants taking part in face-to-face activities were given oral and written information about the study before giving informed consent to participate. All participants were asked to sign ethical consent forms agreeing to the data that they provided being used in the study. Participation in the study was optional and students chose whether they wanted to submit their completed worksheets or not. At all trials, signposting to specialised mental health services and support was available. This trial forms part of a larger project which has formal ethical approval from the School ethics committee.

**Structure of the study**

An overview of the structure of the study is presented in figure 1.

Participants for the focus group were recruited through email invitation to the whole class and personal interactions with some students. Focus groups ran in the middle of the semester with a total of 5 students attending over the two sessions. Focus group data was collected through voice recordings of the discussions and written information on the visual cues and behaviours of the participants. The sessions followed Nagle and Williams’ (2013) guidelines on focus group methodology. Participants were asked to discuss questions about what they found challenging about the move into higher education, what they would like to change or implement to make this easier, and their opinions and awareness of the mental health support available to students.

Viewpoints on the implementation of mental health awareness and well-being activities within the curriculum were gathered using an electronic personal response system at the start of a lecture with the module organiser introducing the topic. Participants then responded to the question of ‘I think that there should be more teaching time designated to mental health awareness throughout the curriculum,’ with the options of strongly agree, agree, disagree, and strongly disagree.

Activity trials took place in the last third of semester 2 and were adapted from those used by Williams & Powell (2017). These activities were then trialled with four separate groups of students on separate days. The sequence of events was modified from earlier pilot trials with these activities and other students not from this class. Individuals (n=185) participated once throughout the study. ‘The Balloon Game’ was trialled before timetabled class and participants completed a Visual Analogue Scale (VAS) (figure 2) that measured participant knowledge of how to maintain good mental health and well-being, both before and after the game. All students then completed compulsory workshop teaching. After teaching, students were offered to complete one of three other trialled activities as well as completing another VAS before and after the activity. Once finished, students were also asked to describe their feelings towards the activity and its implementation into the curriculum by circling words (see analysis section below) on a worksheet that best described their viewpoint. For ‘The Balloon Game’ this was on individual VAS’s per student but for all other activities the results were combined onto one combined VAS.
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**Figure 1** The overall structure of the study. Results from previous trials influenced the following trials.

**Activity descriptions**
All activities trialled are summarised in table 1 (adapted from Williams & Powell, 2017). An example of a completed stress bucket is shown in figure 3. This was the completed example that was provided on students’ worksheets so that they were able to engage and fully understand the activity.
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Figure 2 The individual Visual Analogue Scale (VAS). The VAS asked the students to place marks, one before and a separate one after the activity, on the line to indicate their level of knowledge. This VAS was used individually before and after ‘The Balloon Game’, and cumulatively for trialling of the other activities. The VAS measured 10 cm in length when printed. (Adapted from Wewers & Lowe, 1990).

<table>
<thead>
<tr>
<th>Activity trialled</th>
<th>Activity summary and purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Balloon Game</td>
<td>This activity used imminent popping of the balloon to create minor stress which was immediately followed by questions designed to help students to recognise and address their own negative emotions</td>
</tr>
<tr>
<td>The Stress Bucket</td>
<td>By annotating a picture of a bucket with a hose and tap attached, participants identified aspects of life that they found stressful and what they did to manage and cope with these. The coping strategies were classed as beneficial (for example running) or detrimental (for example smoking). The exercise highlighted to students their current and alternative strategies for improving well-being.</td>
</tr>
<tr>
<td>Dealing with Negative Thoughts</td>
<td>Participants used a table to identify and classify the negative thoughts that they experience and the coping strategies that they can use to tackle these. This provided frameworks and coping strategies for students to tackle their negative thoughts.</td>
</tr>
<tr>
<td>The Resilience Framework</td>
<td>A framework of resilience was interpreted by the students who were asked to explore how this reflected their daily life and coping strategies. Aimed to introduce students to the concept of resilience, to highlight the importance of different aspects of resilience and how these aspects could be utilised and worked on by students to improve their well-being</td>
</tr>
</tbody>
</table>

Table 1 Summaries of the different activities trialled at workshops and their purpose. (Adapted from Williams & Powell, 2017).
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Figure 3 An example of a completed ‘Stress Bucket’ activity. Instructions are shown in black and individual responses are shown in blue. This indicates the stresses of the individual, their coping strategies that are helpful below the taps and the coping mechanisms that are not helpful to the individual that eventually end up causing additional stress in the long term seen in the hose on the right of the image. (Adapted from Williams & Powell, 2017).

Data analysis
Thematic analysis was used to analyse the transcribed focus group recordings and responses to each question/section found on completed worksheets. This followed the methods described by Braun and Clarke (2008) to identify and quantify recurring patterns throughout the data. This produced themes and further subthemes within these to best capture the content of the transcripts (figure 4). This was completed before the development of the question which was used with the electronic personal response system.

Results from the electronic personal response system were imported into Excel to produce a graph of results (figure 5).

The VAS data points were manually transferred into an electronic system for analysis.
Figure 4 The initial stages of coding and theme development. Focus group transcripts were analysed using thematic analysis in line with Braun and Clarke (2008) to produce this broad thematic map of the topics covered in the focus groups. Different themes are shown in ovals, sub-themes in squares and the codes from transcript text contributing to the theme shown as outcrops of each oval/square.

Figure 5 Bar chart showing student responses to the statement ‘I think that there needs to be more teaching time designated to mental health awareness throughout the curriculum’ at the start of a lecture using the electronic personal response software.

Word circling exercises were quantified by tabulating words chosen three times or more after the removal of coordinating conjunctions from free text responses. Responses were then categorised as positive or negative towards the implementation of the activities into the curriculum. Mixed responses are those that contain positive and negative words, selected or written in response to the respective trialled activity, and those that contained the word Neutral. Circled words that were classed as positive were: Essential, Insightful, Productive, Worthwhile, Beneficial, Helpful, Provocative, Useful, Valuable, Needed, Applicable, Constructive, Eye opening, Rewarding. Circled words that were classed as negative were: Boring, Incompetent, Intrusive, Unwanted, Distressing,
Unnecessary, Clinical, Excessive, Offensive, Triggering, Unhelpful, Invasive, Extreme, Annoying, Insulting. These results were then imported into Excel and the Tree diagram of words (see figure 7) was produced.

**Results**

**Students want transition activities, including those focussing on mental health awareness, well-being and support, embedded into the curriculum.**

Focus groups sought the opinions of students on curriculum improvement and explored ideas around mental health support and availability. The analysis produced initially 5 themes as shown in figure 4 which, after further analysis became two major overarching themes – managing change and mental health awareness – with other sub-themes developing from the data within each overarching theme. Outcomes and illustrative quotes are shown in table 2.

**Managing Changes**

Proposed reasons for lack of student-staff relationships were lecturers not being available to students and large class sizes. Students felt teaching was not “on a personal level” compared to previous relationships with teachers. One individual commented that peer relationships matured over the time at university with dependence initially on flatmates.

**Mental Health Awareness**

Most students commented on the lack of course coverage of mental health services and poor personal knowledge of the provision in place. The influence of social media was used by students to inform and shape their own opinions.

The responses to the electronic personal response system show an overall split in opinion regarding the implementation of mental health teaching into the curriculum (figure 5). 52% of students wanted an increase in teaching time designated to mental health awareness and 48% disagreed, of those who agreed, a larger proportion voiced strong support for the concept than amongst those who strongly disagreed.

**Activities trialled for workshop teaching are received positively by students and most increase knowledge of how to maintain a good mental well-being.**

Students completing all four activities showed a self-rated improvement in knowledge of how to maintain good mental health and well-being compared to their rating before the activity. Unpaired data showed an overall improvement in self-rating of students’ current knowledge of how to maintain a good mental health and well-being after each activity. The data for ‘Dealing with Negative Thoughts’ is shown below (figure 6) as this was the activity with the smallest reported effect on students’ knowledge of how to maintain a good mental health and well-being. The other activities of ‘The Balloon Game’, ‘The Resilience Framework’ and ‘The Stress Bucket’ produced data that showed a greater improvement in the students’ knowledge of how to maintain a good mental health and well-being.

Responses from the word circling exercises overwhelmingly support the implementation of these activities into the curriculum, with many describing them as useful, constructive, insightful, helpful and beneficial (figure 7). In free text responses to the ‘Dealing with Negative Thoughts’ activity, students expressed the need for help in recognising negative thoughts and for open discussion about this topic within the university community. Participants of ‘The Stress Bucket’ activity felt that the ‘essential skills’ of identifying stresses as well as identifying and classifying coping strategies that the students learnt should be taught to all first-year students with additional promotion of mental health and well-being needed. Although overall opinion of the Resilience Framework activity was positive (figure 7) and many felt it was a necessary inclusion (spread the activity “uni wide” and “further”), a few thought it excessive (“Don’t think I need it” and “not necessarily forced [up]on”).

Accumulation of all word selection responses indicate an overwhelmingly positive (88%) reaction to the implementation of the activities into the curriculum (figure 8).
### Table 2

The overarching themes and their subthemes resulting from analysis of focus group transcripts from discussions around transition and mental health support. Example quotes for each sub-theme are also shown.

<table>
<thead>
<tr>
<th>Overarching Theme</th>
<th>Sub-theme</th>
<th>Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing Changes</td>
<td>Study Skills</td>
<td>“I struggled a bit” regarding the change in teaching and learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>You could implement more “small catch up sessions… or structured revision sessions… or exam technique sessions”</td>
</tr>
<tr>
<td></td>
<td>Academic</td>
<td>Lectures have information “spoken at you”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lesson information was “almost like spoon fed to us”</td>
</tr>
<tr>
<td></td>
<td>Relationships</td>
<td>“I have less of a relationship with the lecturers” compared to teachers at school</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peer relationships are “a nice support system” “really lonely”, I use them “when I need them”</td>
</tr>
<tr>
<td>Mental Health</td>
<td>Support</td>
<td>“I don’t think our course has really covered anything” regarding where to find help for mental health</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Stuff on Facebook like [social media pages]”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Parents just took care of [balancing] everything” regarding support for everyday life</td>
</tr>
<tr>
<td></td>
<td>Opinions</td>
<td>“Sabbatical staff officers came and like spoke about like looking to use all these like help and like [students union]”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“On [Facebook page] like everyone complains” about the mental health support available</td>
</tr>
</tbody>
</table>

**Figure 6** The overall improvement in self-assessed awareness and knowledge of how to maintain good mental health and well-being after completing the ‘Dealing with Negative’ thoughts activity. Only the position on the left-right horizontal is relevant to the results, vertical height was assigned to allow visualisation of all points.
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**Figure 7** Tree map showing words used in response to ‘The Resilience Framework’. No negative words were used frequently enough to be included in the figure. Words used less than 3 times are reported below and their usage shown in brackets (). Negative words are shown in blue: Boring (0), Essential (2), Intrusive (0), Unnecessary (2), Unwanted (2), Incompetent (0), Distressing (1), Excessive (1), Offensive (1), Annoying (0), Triggering (0), Clinical (1), Insulting (0), Rewarding (2), Unhelpful (2), Extreme (1).

**Figure 8** Bar chart showing the accumulation of word circling exercise responses to ‘The Stress Bucket’, ‘Dealing with Negative Thoughts’ and ‘The Resilience Framework’ activities, analysed together. Responses were classified based on the words chosen and provided by participants in the free text section.
Discussion
This study aimed to determine whether students find mental health awareness and well-being tasks beneficial and worthy of embedding as transition activities within the first-year curriculum. Results showed that, after activity completion, opinions towards implementation of these activities into the curriculum were increasingly positive and that students found the activities beneficial in increasing their knowledge of how to maintain a good mental health and well-being.

Students want embedded interventions addressing mental health and well-being.
During focus group conversations and in response to activities, students voiced the opinion that more open discussions regarding mental health are needed within the university community. Regardless of engagement, the activities trialled could prompt peer conversations which may strengthen relationships, thus producing stronger support networks for students. Importantly, this could serve as a ‘conversation starter’ for approaching discussions about mental health and well-being.

Relationships of students with staff and the need for developing the confidence to disclose mental health issues or the need for support are important within the university community. As reflected in the focus group discussions, students feel distant from staff, indicating their lacking sense of community and trust between staff and students (Kift, 2009; Matheson et al., 2018). Implementation of such activities may improve the staff-student relationship through facilitating conversations between staff and students and normalising the topic of mental health, thus providing students with added support and combatting the barriers students face in disclosing mental health issues to staff (Quinn et al., 2009).

Interventions trialled in this study were helpful in improving student’s mental health knowledge and well-being.
Embedding activities within timetabled teaching would circumvent potential timetabling clashes between core teaching and optional tutorials provided by the institution. Additionally, this would normalise attention to mental well-being avoiding stigmatisation. The prevalence of mental ill-health may be underestimated due to the stigma that remains regarding students’ ‘failure to cope’ (Quinn et al., 2009). Stigmatisation could be reduced by the provision of mental health awareness to all students throughout the curriculum. Students would be enabled to notice changes in themselves, empowering them to seek help.

Aspects of student welfare that would have been previously controlled by parents or carers were often identified in this study as those requiring attention. For example, ‘belonging’; where the parental figure is central, and ‘basics’; where living and diet are frequently managed by others. Auerbach et al., (2018) describe similar findings that, during transition, respondents balance constructing their adult identity whilst simultaneously reconstrcucting their framework of relationships and everyday tasks. This was reflected in our focus group discussions where students described balancing academic and social lives and building friendships and support networks in their new surroundings. Similar themes emerged in responses to ‘The Stress Bucket’, confirming the areas for improvement such as providing mental health support within the curriculum, as raised by the Student Mental Health Strategy (Cameron et al., 2017). This identified aspects requiring raised awareness throughout the University and additional guidance on how students can tackle such areas. The implementation of the activities trialled in this study into the curriculum can address students’ position of balancing and managing different and new aspects of their lives, helping them to do this successfully whilst maintaining good well-being.

In our study we found that lack of parental or family presence caused increased stress in many students, which was interestingly still prevalent in the second semester. This is particularly important when students progress into higher years as mental ill-health becomes increasingly magnified (Macaskill, 2012). This extended period of stress supports the inclusion of transition activities within second semester and throughout higher education (Gale & Parker, 2014) to truly foster transition as development (Gale & Parker, 2014). Further research will be required to clarify the best timing and nature of such proposed activities and how they can be implemented in the whole.
The majority of students who trialled the activities thought them to be beneficial additions to the curriculum. A small minority of students found these activities to be not worthy of curriculum time which could have been due to concerns regarding reduction in curriculum teaching time (Ecclestone and Hayes, 2008).

**Strengths and Limitations**

Study strengths include the development of activities that are easy to administer to large student cohorts whilst still obtaining the valuable benefits gained. Significantly, this study was able to engage students into participating or observing activities that others found beneficial to their mental health and well-being. This may have prompted conversations regarding such topics thus, not only improving knowledge but strengthening relationships between students and opening up the topic of mental health in the university community. It can be applied not only to the students in the same class, but more widely as students talk with flatmates and other friends. Irrespective of participation, all students who attended or watched the recorded versions of the lectures of whole class teaching will have seen and heard about the activities which will have caused increased awareness of the topic of mental health and well-being. Additionally, staff who cooperated with the trialling of study activity may have been seen as more approachable to students if they were concerned about their own mental health and needed support.

Small sample sizes and no outreach to other campuses and institutions restricts the generalisability of the findings to the wider student population. Additionally, this study covered a sensitive and difficult topic for many students and relied upon self-reporting which may have limited the honest and true responses gained from the activities. However, the results included very personal viewpoints and experiences which were gathered through the anonymous completion of activities. All aspects of the study, apart from the focus groups, maintained anonymity. These two aspects strengthen the confidence in the results gained. Furthermore, the findings are in line with published literature in this area. Further research into implementation of activities in higher years is needed as this study focused only on students within their first year of undergraduate education. The study also produced only non-paired data from VAS’s during the trials thus limiting the results gained. With careful study design it is possible to obtain paired data which would have been more meaningful. Additionally, throughout trialling the VAS’s marked with the left-hand side of the scale as positive and the right-hand side as negative. Upon reflection, this is against conventional methods (Halfaker et al., 2011) and may have impacted data collection or results gained.

A further limitation of the study was the restricted participation to students and not staff. However, implementation could reveal the need for staff well-being support, as seen in Falmouth University (Houghton & Anderson, 2017). Although outside this project’s scope, this is a topic of importance and one for future research.

Of the four activities that we present, ‘The Resilience Framework’ produced the least pronounced improvements in participant’s knowledge. All other activities trialled showed an improvement in students’ knowledge of how to maintain a good mental health and well-being. In contrast to other activities, ‘The Resilience Framework’ activity is quite complex and may not have been fully evaluated by a single VAS, with self-rating of resilience a possible addition that could have emphasised that, despite daily challenges, students are resilient. Recognising this would arguably have contributed to the foundations to maintaining a good mental well-being.

All activities reflect the need for new initiatives for student resilience. Embedding these activities into lectures or workshops would achieve the curriculum ‘infusion’ recommended by Houghton and Anderson (2017).

**Conclusion**

Simple interventions, such as the ones trialled in this study, improve students’ knowledge of coping strategies and are received positively. Embedded activities are needed to normalise
consideration of mental health and well-being to remove stigmatisation, and normalise mental health conversations within the university community, thus providing students with confidence to seek personal help where required.

As a result of this research we recommend that mental health awareness and well-being activities should be embedded into the curriculum and completed individually by students, with the provision of signposting to relevant sources of help. Student responses have indicated further areas suitable for additional transition activities, such as lifestyle and creating a sense of belonging and community. We have shown that students welcome structured in-class well-being activities which they find to be beneficial towards maintaining a good mental well-being.

References


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