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The engagement of tertiary students with an online mental health intervention during the coronavirus disease 2019 pandemic: A feasibility study

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The engagement of tertiary students with an online mental health intervention during the coronavirus disease 2019 pandemic: A feasibility study

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Abstract

Background: We discuss the feasibility of a brief, online mental health promotion programme for tertiary students and establish recommendations for future programmes.

Methods: The programme 'Student Elevenses' was delivered at a tertiary education institution. 'Student Elevenses' aimed to promote student wellbeing during the coronavirus disease 2019 crisis, comprised of 10–15-min daily online micro-interventions targeting six lifestyle areas for wellbeing, and was delivered via video conference. Upon programme completion, all students were invited to complete barriers to engagement survey, irrespective of whether they had attended or heard of the programme. Descriptive statistics were calculated for demographics, as well as feasibility and acceptability outcomes including recruitment rates, attendance rates and reported barriers to attendance. Open-ended questions were coded for themes.

Results: Less than 1% of those who consented to participate actually attended the programme, with attendance ranging from 2 to 17 participants. Participants were predominantly female (68%), domestic students (81%) and had a mean age of 29.5 years. The barriers students reported included fixed time, online format, a belief programme would not be helpful, preference for existing supports and perceived impacts of coronavirus disease 2019. Students recommended embedding support within policies/teaching, offering a range of supports and involving students in design.

Conclusion: Barriers to mental health promotion via telehealth should be considered to promote accessibility and acceptability for tertiary students. Future programmes should consider reaching students through mandatory activities (e.g. lectures, tutorials) and should include student consultation and co-design to support the development of programmes that meet student needs and preferences.

Keywords

Student mental health, wellbeing, mental health promotion, online intervention, telehealth, coronavirus disease 2019 pandemic

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Introduction

The national response in Australia to the global pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus causing coronavirus disease 2019 (COVID-19) resulted in the closure of tertiary education settings and adoption of education delivered online. The rapid change, including suspension of in-person classes, uncertainty, greater loneliness, isolation and an inability

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to access on-campus support services, such as counselling, are psychological stressors[1,2] contributing to significantly increased rates of psychological distress, compared with national data from 2017 to 2018.[3] Indeed, much research has shown a decline in student mental health during this time across the globe.[4–6] Accordingly, the COVID-19 pandemic has expedited the adoption of tele-and digital mental health promotion interventions to support and promote mental health.[7]

A recent meta-review shows that digital interventions are particularly suited to mitigating the psychosocial consequences of COVID-19 on mental health at the population level and that digital strategies can be used for continued mental health care and promotion in times of quarantine and physical distancing.[8] Indeed, in Spain, a brief online mindfulness and compassion-based intervention have been shown to decrease stress and anxiety levels among first-year university students during COVID-19-related home confinement.[9] In Britain, a guided, 8-week mindfulness programme delivered online during the COVID-19 pandemic reduced anxiety-like symptoms among students.[10] An 8-week internet-based positive psychology intervention for healthcare students in Tunisia was found to reduce stress, anxiety-like symptoms, depression-like symptoms and improve emotional regulation, optimism, hope, study engagement, and well-being.[11] There are however barriers to access to and engagement with digital mental health interventions that need to be identified and considered in order to develop delivery methods that are accessible and acceptable to target populations.[8,12]

To promote and maintain the physical and mental wellbeing of students of a tertiary education institution during the COVID-19 crisis, we delivered an evidence-informed, timely, accessible, responsive online intervention comprising brief, (initially conducted daily [weekday], then three times weekly and finally once per week) micro-interventions and strategies targeting six essential lifestyle areas for wellbeing (healthy eating, physical activity, reducing alcohol intake, improving sleep, healthy relationships and social connection, and stress management[13]) all of which have been shown to contribute to good mental health.[14–16] Herein, we report on the feasibility and acceptability outcomes of the programme as well as themes from student recommendations for future programmes with the aim of refining the delivery of telehealth promotion initiatives in tertiary populations to promote mental health.

Materials and methods

Setting: The programme was delivered at Victoria University (VU), Australia.

Participants: All students were eligible to participate in the programme 'VU Student Elevenses', with no exclusion criteria or minimum attendance requirements. This study was approved by the VU Human Research Ethics Committee (HRE20-054) and complied with relevant ethical standards.

Recruitment: All Melbourne and Sydney VU students (*n* = 24,000), including Higher Education, Technical and Further Education (TAFE) and Research Students were invited to opt-in to the programme via the following advertising methods: (a) email using the general mailing list; (b) advertising on VU online-learning platforms; (c) student social media pages; and (d) via student body representatives.

Intervention programme: The 'VU Student Elevenses' programme focussed on mental health promotion, which included universal, selected and indicated prevention strategies.[17] The programme aimed to provide psychoeducation but also to create an online community. Therefore, during live sessions, participants were able to post in the chat box. Before and after the formal sessions commenced and completed, the presenter greeted participants and encouraged them to unmute and say hello or goodbye to the entire group should they want to. The programme was not designed to develop social competencies among participants. The programme comprised daily, 10–15 min, evidence-informed micro-interventions and strategies to promote physical and mental wellbeing via video conference at 11:00 am each weekday. The intervention had three main phases: (a) managing immediate concerns and stressors, (b) adjusting to working and studying remotely, and (c) preparing to return to study on campus. The design and implementation of the programme were guided by the principles of inclusivity, accessibility, responsiveness, consistency, and connectedness. The sessions were live and unpolished to maintain authenticity and connection, and to provide the rapid sharing of evidence-based clinical content for mental health and wellbeing support.

A collective of VU practitioners and researchers rotated and delivered an intervention relevant to one of six identified lifestyle areas.[18] Each micro-intervention aimed to promote skill building through simple mindfulness strategies, deep breathing exercises, relaxation exercises, time-management and routine-setting strategies, self-compassion strategies, physical activity guidance, sleep tips, nutrition advice, and fun activities for community connection (e.g. quizzes and group singing sessions; see Table 1). Members of the programme team consulted regularly to plan the following week of content and presenters. Sessions were delivered each weekday (5 days/week) for 7 weeks, followed by twice per week for 14 weeks, and finally, one time per week for 7 weeks. The total programme duration was 28 weeks.

Data collection: Upon completion of the programme, approximately 24,000 Melbourne and Sydney VU students, including TAFE and Research Students were emailed and invited to complete a barriers to engagement survey, irrespective of whether or not they had attended or heard of the programme. Therefore, this study entailed data

Table 1. Overview of the 'VU student elevenses' micro-interventions to promote physical and mental wellbeing.

Lifestyle intervention theme	Approximate percentage of total sessions covered topic	Presenter/s	Topics covered
Stress management	44%	Clinical and community psychologist/research academic	Mindfulness strategies, deep breathing exercises, relaxation exercises, self-compassion strategies, time-management and routine-setting strategies
Physical activity	34%	Accredited exercise physiologist/ research academic, personal trainer, yoga teacher	Physical activity guidance and sessions, delivered in the home setting e.g. aerobic exercises, yoga, high-intensity interval training
Healthy eating	10%	Research academic	Nutrition advice, eating well during lockdown
Social connection/ Healthy relationships	8%	Clinical and community psychologist/ teaching and research academic, senior health and wellbeing advisor	Role expectations, maintaining social connection in isolation, fun activities for community connection, e.g. trivia, karaoke
Reducing alcohol intake	3%	Clinical psychologist/teaching and research academic	Education, tips to reduce intake, routine setting
Improving sleep	3%	Clinical psychologist/research academic	Sleep tips, education and routine setting

collection from three separate cohorts of students: (a) those who attended the 'VU Elevenses' programme; (b) those who had heard of the programme (recalled receiving the first invitation email) but did not opt-in to or partake in the programme, and (c) those who had not heard of the programme (did not recall receiving the first invitation email) and did not opt-in to or partake in the programme, as shown in Figure 2.

Survey: All data was collected via a cloud-based subscription software platform to design, send and analyse surveys online (Qualtrics). Informed consent was obtained from all participants by completing a tick box within the survey. Students who had never heard of the programme were provided with a brief written introduction about the programme and asked what would stop them from participating. Students who had heard of programme but did not attend were asked to indicate what stopped them from participating in the programme. Students who had heard of and attended the programme were asked what made it difficult for them to regularly attend the programme sessions. Feasibility and acceptability outcomes were recruitment rates, attendance rates and reported barriers to attendance.[19] Students were asked if the following factors were barriers to engaging with the 'VU Student Elevenses' programme, or if they anticipated the following would be barriers to them engaging in an online health promotion programme: (a) fixed delivery time (11 am); (b) duration of delivered sessions; (c) the online format; (d) if they did not think it

would be helpful; (e) if they preferred their existing wellbeing supports; or (f) peer presenters, or (g) if there were any other barriers that they could identify. In addition to this, the survey asked students an open-ended question, asking what they would do if they were making a brief mental health and wellbeing programme for VU students.

Statistical analyses: Descriptive statistics were calculated for demographics, as well as feasibility and acceptability outcomes. Open-ended questions were coded for themes independently by two members of the research team.

Results

As seen in Figure 1, of the 24,000 eligible students invited to attend the programme, a total of 1% (255) opted-in and consented to partake in the 'VU Student Elevenses' programme, which ran from April 2020 to October 2020. Less than 1% of those who opted-in actually attended the programme, with attendance to daily sessions ranging from 2 to 17 participants ($M = 7$).

A total of 327 students completed post-programme survey. Respondents were predominantly female (68%, $n = 222$), domestic students (81%, $n = 267$) with a mean age of 29.5 years. Only 12% of the survey respondents were aware of 'VU Student Elevenses' Programme.

As presented in Figure 2, regardless of whether students had attended the programme or not, they commonly

reported that: (a) the fixed delivery time of the programme did or would make attendance difficult; (b) they preferred their existing wellbeing supports; (c) and that they felt that COVID-19 impacted their ability or motivation to attend the programme. Among students who did not attend the programme, approximately one-quarter of the participants reported that they did not find an online delivery format appealing or did not feel the programme would be helpful to them, regardless of whether they reported having heard of the programme or not.
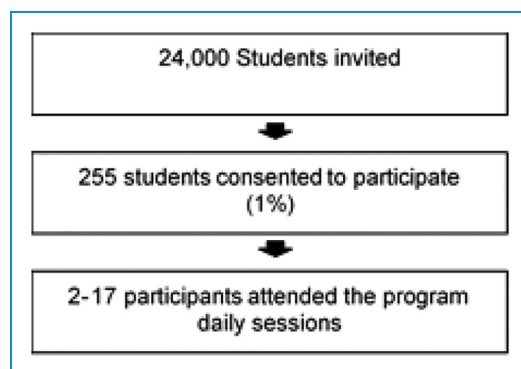

Figure 1. Study flow-chart for students who attended the 'VU Student Elevenses' programme.

A subset of survey respondents ($n = 162$) provided recommendations for a brief mental health and wellbeing programme for VU students. From these qualitative responses, five key themes emerged as presented in Table 2 (in descending order of frequency): the suggestion of a diverse range of programme offerings that needed to be interactive, supportive, individualised, fun, and appropriate for diverse groups, which was the most strongly endorsed theme that emerged (theme 1); the importance of talking and listening to students in programme development and adjusting to their needs (theme 2); providing instrumental support (e.g. fee relief, address assignment policies, subsidise external support services) (theme 3), students suggested that they thought there was a good provision of support, but many were not aware of what was available to them (theme 4); finally, students proposed integration of supports within teaching curriculum (theme 5).

Discussion

This study examined the feasibility of delivering daily, evidence-informed, online micro-interventions and strategies for tertiary education students during the COVID-19 crisis, and provided recommendations for future programmes. We found that uptake and engagement with the programme were low. Upon completion of the programme,
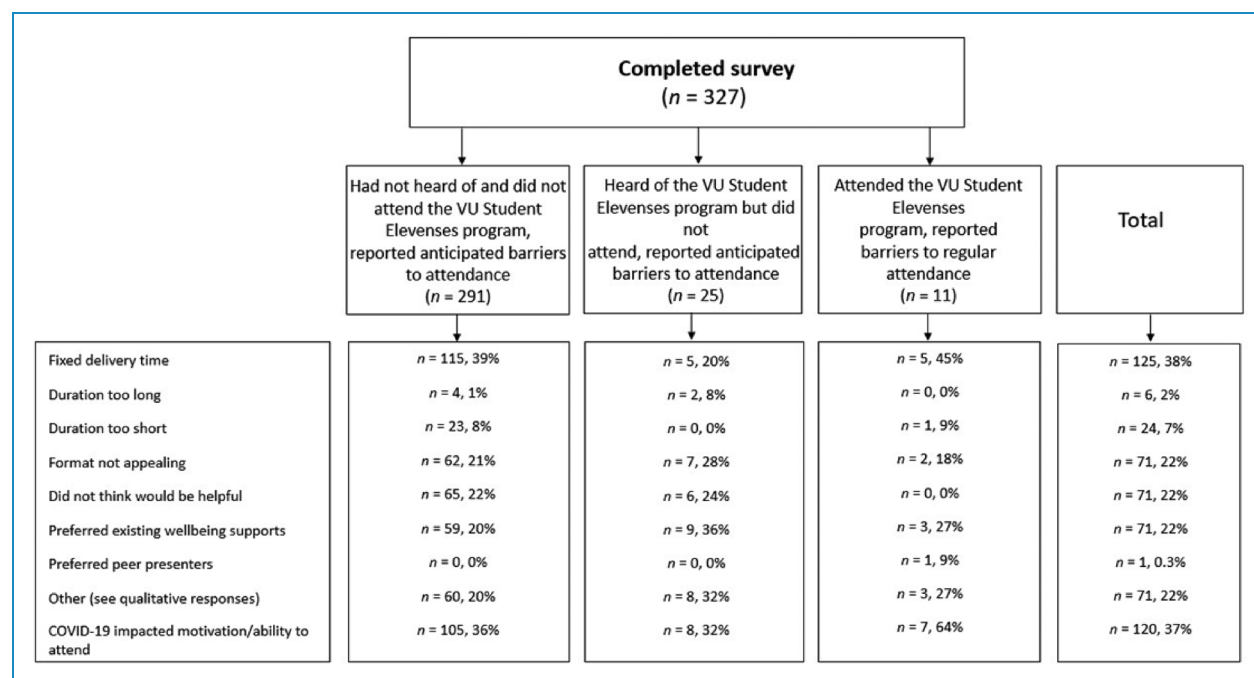
Figure 2. Reported barriers to attendance in the 'VU Student Elevenses' programme fixed delivery time = the delivery time of 11 am each day made attendance difficult; duration too long = students felt the 10–15 min duration of daily interventions was too long and therefore made attendance difficult or unappealing; duration too short = students felt the 10–15 min duration of daily interventions was too short and therefore made attendance difficult or unappealing; format not appealing = the online delivery format (zoom/online) was not appealing to students; did not think would be helpful = students did not feel the programme would be helpful to their mental health or wellbeing; preferred peer presenters = students would prefer that content was delivered to them by peer rather than by staff/professionals.

Table 2. Emergent themes from qualitative responses in descending order of frequency of student endorsement.

Themes for the question: 'If you were making a brief mental health and wellbeing program for VU students, what would you do?'
1   Diverse range of services and programmes acceptable to different cultures and different age groups in different formats on different platforms (e.g. app, telephone counselling)
1a   Offering exercise programmes, yoga, meditation, mindfulness, games, fun outdoor activities, travel, music therapy, dance, knowledge about healthy diet, gifts. Programmes need to be: Interactive, supportive, fun, individualised, culturally appropriate, at different/flexible times, diverse in format and platform, acceptable for different age groups, co-developed with students
E.g.   'Encourage healthy habits; such as exercise, meditation, doing stuff you enjoy and conversations about emotions. Also, include fun activities that draw people in and include a short debriefing/cooldown activity after delivering mental health content. Having something that is accessible on multiple platforms - i.e web pages, zoom, in person, emails etc.'
2   *'We all just want to be understood'*: Communication is key, students want to be heard, they appreciate when staff talk to them, listen and acknowledge their needs
3   *Instrumental support* - build better overall support system and policies (especially for groups that need additional support such as international students/groups or students' who are also parents) rather than focus just on individual services (e.g. implement the strategy for mental health promotion) and focus on removing stressors (e.g. reduced fees, assignment due dates on Sunday not Friday, free studying)
E.g.   '...I have been fortunate to be a domestic student and have an excellent support system this means being able to build a network of support systems rather than a single source. Being an international student is a completely different ball game... I have heard from several international students of the unavailability of help and resources offered at VU. Not in monetary or financial terms but more so of guiding and having a helping hand for support...'
4   *Promote what you have better*!: Existing programmes and services should be promoted better as students do not know about them
5   Integration of mental health and wellbeing programmes within curriculum

Two students expressed extreme dissatisfaction with current well-being services offered at VU but because they did not make clear recommendations for alternatives we did not code it as a separate theme.

we, therefore, surveyed students regarding barriers to uptake and to explore what they wanted and how they wanted it to be delivered, in order to inform future researchers and care providers.

Common participation barriers and anticipated barriers to partaking in the programme included fixed delivery time, the online format, a belief the programme would not be helpful, and a preference for existing wellbeing supports and COVID-19. Our finding that only 1% of invited students consented to the programme, and less than 1% of those who consented actually participated in the programme, demonstrates a lack of reach, low uptake and participation in the programme. As only 12% of survey respondents were aware of the 'VU Student Elevenses' programme, this indicates that our method of promoting mental health support initiative, via email, online-learning platforms, student social media pages and via student body representatives was largely ineffective. It is possible that during the time of recruitment, students were focussed on and consumed by news related to COVID-19, lockdown and adjusting to remote learning and therefore did not pay attention to other forms of communication or announcements. This is an important consideration as it indicates that it may be hard to reach people to provide supports during periods of crisis. Future initiatives may consider reaching students through classes (e.g. lectures, tutorials) they attend, as during periods of crisis such as lockdown, it may not be feasible to expect students to be engaged beyond their mandatory activities.

Some prior work engaging students in digital interventions during COVID-19 has not reported the acceptance rate of invited students,[10] while other work has reported a much high acceptance rate than in the current study (86%–87%).[9,11] A key difference between these previous studies and the current study is the population engaged. In our study, the entire student cohort was invited to participate, while in these previous studies, only psychology and health care students were invited to participate. Owing to their selected study areas, these students were likely already interested in health promotion, and arguably more likely than students from non-health-related courses to self-selected to participate in a health-promoting programme. Therefore, students should be consulted prior to developing similar initiatives to help inform and co-design programmes, so they can be tailored to specific students' needs, expectations, and preferences. This is consistent with the recommendations of Mrazeket al., (2019) who suggest that if programme creators are to build optimally effective online (mindfulness) interventions, they must first understand their audience and consider conducting user research on target audience behaviours, needs, and motivations to inform the design and content of the digital interventions.[20] In the current research, we did not conduct user research to inform the content development, delivery or advertisement, primarily due to the responsive nature of the intervention and its aim to quickly provide a

service to support students due to a period of crisis. However, in future work, it would be valuable to conduct user research to inform digital intervention design and delivery.

The current finding that the online delivery format was a barrier to participation supports the findings of a recent meta-review, that a blended care model can promote adherence to digital interventions. The meta-review found that effectiveness, acceptability, feasibility, and user satisfaction are particularly high if digital interventions are embedded in a therapeutic context and include some form of social contact with a mental health professional.[8] Indeed some form of social contact may be particularly important in the COVID-19 context given that students have reported greater loneliness and isolation.[1,2]

Further, in the current study, we were unable to personalise the programme to individual students, which has previously been demonstrated to facilitate sustained engagement with digital interventions.[20] Therefore, future initiatives might consider embedding telehealth or digital mental health promotion strategies within traditional or face-to-face support services, as well as personalising these programmes to help users engage with content.

The rapid development of this programme did not allow for thorough consultation of student needs, perspectives or experiences, which is identified as a key principle in the recently released University Mental Health Framework (Orygen), and should be integrated into all university-based mental health programmes.[21] The framework also highlights the need for adopting a 'whole university' approach to students' mental health and wellbeing,[21] which also emerged from qualitative analysis in the current study. Indeed, the factors that students have reported to cause distress during COVID-9 such as suspension of in-person classes, uncertainty, and an inability to access on-campus services[1,2] were unable to be directly address by the 'Student Elevenses' programme and therefore, in future initiatives, the social environment, teaching and learning practices, university policies, academic culture, tertiary education community awareness and communication across institution and other experiences should be actively improved to promote supportive and positive eco-systems within tertiary institutions.[21,22]

Study strengths and limitations

The content of our programme was evidence-informed and was grounded in essential lifestyle intervention areas for wellbeing[13] shown to influence coping, resilience and mental health generally, as well as in the context of stressful experiences.[23] However, COVID-19 was commonly reported as a barrier to participation, and therefore programmes aiming to promote mental health, particularly during times of crisis, need to be delivered at the right time in order to facilitate engagement. Work with cancer survivorships shows that the timing of intervention delivery

is predictor of engagement, as if interventions are delivered too early, while patients are still processing distressing information that they are less likely to engage as they are feeling generally overwhelmed.[24] Therefore, when delivering interventions to promote wellbeing during times of crisis, it is important to consider what type of interventions, and at what time, are most acceptable to participants.

One limitation is that participants who opted into the programme and who participated in the research component may be subject to self-selection bias, as participants who value mental health promotion initiatives may be more likely to participate. Approximately 55% of the VU student body was female during the time of data collecting and therefore the gender disparity in participation in the survey (females: 68%) may reflect gender differences in help-seeking behaviours related to mental health, or attitudinal or societal barriers reported by men in accessing mental health support,[25] which should be considered for future programme marketing and content development. Finally, the barriers reported in this report are from only a small subset of students and conclusions may not be generalisable to the wider student body, or to other student cohorts.

Another limitation of the current study is possible method bias or variance that is attributable to the measurement method. In the current study, it is possible that various sources of method biases, such as participants mood states, their desire to respond in a socially desirable manner, the measurement context (online survey) may have influenced participant responses.[26] As possible method biases were not controlled for, the potential impact of these is unknown

Conclusions

Poor understanding about what students want and how they want it to be delivered likely contributed to poor uptake of the programme. We identified a number of barriers to the utilisation of mental health promotion services delivered using telehealth as well as recommendations for future programmes, which should be taken into account in order to develop delivery methods and materials which are accessible and acceptable to tertiary students.

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