

Equity Frontiers Trial Protocol

“Amplified equity: Digitally-enabled personalised nudge
inventions to support equity students”

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1 Trial overview

Trial title:	Amplified equity: Digitally-enabled personalised nudge interventions to support equity students		
Trial start date:	12 June 2025	Trial finish date:	March 2027
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Sponsoring institution name(s)	The University of Sydney Business School and Curtin University		
Trial summary (<300 words)	<p>This project addresses the persistent challenges faced by equity students in Australia’s higher education sector, who often experience lower success rates in their studies at university, due to factors such as financial stress, mental wellbeing, and disconnection from community support. These challenges impact both grades and completion of chosen degree. Recognising the dual business and social justice imperatives to improve outcomes for these students, the trial seeks to develop and evaluate an innovative, digitally-enabled nudge initiative designed to provide personalised support at scale.</p> <p>The initiative utilises Ecological Momentary Assessments (EMA) delivered weekly via text message to capture real-time data on students’ wellbeing and academic challenges. This information, combined with each student’s profile, informs subsequent Ecological Momentary Interventions (EMI) that offer customised digital nudges. These nudges provide targeted support-ranging from academic and career guidance to counselling and wellbeing resources-tailored to the individual needs of equity students at the University of Sydney and Curtin University.</p> <p>A randomised controlled trial will recruit approximately 650 1st and 2nd year equity student participants who will be assigned to either the initiative or a wait-list control group. Outcome measures, including engagement, empowerment, sense of belonging, wellbeing, and academic performance, will be assessed through one pre- and one post- initiative survey and supplemented by objective academic data. Additionally, qualitative insights will be gathered via focus groups and interviews with both equity students and key practitioners (such as Diversity Equity and Inclusion (DEI) and Indigenous Strategy and Services [ISS] leaders and</p>		

	<p>educators) to ensure the initiative remains student-centric and practically feasible.</p> <p>The findings from this trial are expected to inform best practices and policy for supporting equity students, ultimately contributing to enhanced social mobility, equality, and institutional change across the higher education sector.</p>
Funding (total, and funding sources)	<p>\$245,686 (221,118AUD ACSES; 12,284AUD contribution University of Sydney; 12,284AUD contribution Curtin University)</p>
Ethics approval (grantor, date, reference ID)	<p>2025/HE000306</p>

2 Background and intervention

2.1 Background—Summary of findings from other research relevant to this trial

Equity students in Australia’s Higher Education sector face significantly lower rates of “success” in Higher Education, particularly when they belong to multiple equity groups (Tomaszewski et al., 2020). Engagement within the university community and (qualification) completion rates are often impacted by a range of factors, such as financial stress, mental wellbeing, family/cultural obligations, and distance from family and community support (O’Kane, 2023; Joyce et al., 2010; Australian Government, 2024). For decades, policymakers and researchers have reported on these barriers and have highlighted profound short-, medium-, and long-term socio-economic implications for individuals and society as a whole (Dean, 2024). The Universities Accord reinforces this priority (2023:24), stating: “Without increasing participation from equity cohorts, Australia will find it harder to reach the education attainment levels needed to boost social mobility and equality and address the forecast skills gaps and shortages.”

Given the strong business case and social justice impetus for tailoring support for equity students (Barnes et al 2024), there is a need to develop effective initiatives that will have a meaningful, long-term impact for equity students and for the broader economy and society. Effective initiatives can foster a sense of belonging, improve wellbeing, enhance engagement, and empower students by amplifying their voice (Li & Carroll, 2017). However, despite widespread recognition of the problem, evidence-based initiatives that both address the unique and compounded challenges that equity students face, and provide support relevant to circumstances, remain limited.

The Pullias Center for Higher Education at the Rossier School of Education, University of Southern California, has successfully piloted the integration of EMA and EMI through its initiative, *Bolstering First-Year Success Through Digital Tools*. This project included a texting platform that offered students the opportunity to ask questions of a college success practitioner, as well as text alerts specific to campus deadlines and resources. First-year outcomes showed that participation related to a higher number of units completed, a higher GPA, and a higher percentage of next-year enrolment compared to students who did not receive this support (Muraco et al., 2020). While these results are very promising, an extension and adaptation of the initiative specifically focusing on equity students at a larger and comparative scale (i.e. across two university campuses) offers value to students, educators, and policy makers in the higher education sphere.

The novel application of the EMA and EMI to provide targeted support has been successfully piloted at the University of Sydney (USYD). A total of 136 undergraduate students participated (n = 68 control; n = 68 initiative). Following a nine-week initiative, compared to the control group, students in the intervention group scored significantly higher on all measured outcomes (e.g., belonging, student satisfaction, feeling that staff care, confidence to seek support) with medium-to-large effect sizes ranging from 0.76 to 1.3 (see Table 1). The academic performance (semester’s average mark; SAM) was also significantly higher for the intervention group (SAM mean = 75.53, sd = 11.71) compared to the control group (SAM mean = 71, sd = 18.13 at p = <.05).

Table 1 <i>Means and standard deviation of post survey results pilot study</i>	
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Survey items	M(SD) Control N = 68	M(SD) Initiative N = 68	Independent samples t-test	Hedge s' G Effect Size
Days on campus/week	2.90 (1.01)	3.21 (1.10)	NS	-
Study hours/week	21 (12.58)	20.7 (12.73)	NS	-
I am aware of opportunities and student support services/resources available to me	3.71 (0.92)	4.26 (0.56)	-4.29 (111.36)***	0.76
I have engaged with opportunities and student support services/resources available to me	3.25 (1.00)	3.72 (0.83)	-3 (129.46)**	0.92
I am satisfied with the personalised support that I have received from the Business School	3.03 (1.08)	3.88 (0.76)	-5.32 (120.67)***	0.94
I feel a sense of belonging at the Business School	3.25 (1.11)	3.84 (0.89)	-3.41 (128)***	1.01
I feel part of the Business School learning community	3.22 (1.10)	3.87 (0.85)	-3.84 (125.42)***	0.99
The opportunities and student support services/resources offered are helpful and relevant to my circumstance	3.41 (0.89)	3.94 (0.81)	-3.64 (132.91)***	0.85
I feel staff in the Business School care about me	3.29 (1.05)	3.68 (0.85)	-2.33 (128.59)*	0.96
I feel empowered to make informed choices about opportunities and student support services/resources available to me	3.44 (0.94)	3.97 (0.73)	-3.67 (126.65)***	0.85
I feel confident to engage with opportunities and student support services/resources available to me	3.28 (0.96)	4.07 (0.65)	-5.64(118.17)***	0.83
I have received support that has helped me to succeed in my studies	3.31 (1.04)	3.60 (0.76)	-1.89 (122.32) ^{NS}	0.91
I know how to seek help or additional support with my studies	3.46 (1.00)	3.94 (0.79)	-3.13 (127.21)**	0.91
I have received support that I need relevant to my circumstances	3.19 (1.06)	3.72 (0.69)	-3.47 (115.26)***	0.90
I have been making the most of my university experience by engaging in activities outside the classroom	3.49 (1.07)	3.66 (1.05)	-.97 (134) ^{NS}	1.07
Feeling (wellbeing)	4.38 (1.37)	5.06 (1.27)	-2.98 (133)**	1.33
Note. $p < 0.05 = *$; $p < 0.01 = **$; $P < 0.001 = ***$				

To achieve the aims of the study, we undertake a randomised parallel controlled trial of a personalised support nudge initiative, supplemented with rich qualitative insights from interviews and focus groups. In addition to student interviews/focus groups, practitioners also shape insights. Key practitioner voices include university-wide diversity, equity, and inclusion (DEI) teams; faculty DEI leads; key leaders in the Education portfolio (eg. DVC Education); key leaders in the Indigenous strategy portfolio (eg. PVC ISS). The outcomes of this project inform and guide policy on best practice for supporting equity students in the Australian higher education sector.

2.2 Intervention

Participants in the initiative group are sent a brief EMA survey once per week. Each EMA takes 1–2 minutes and includes “temperature check” questions about wellbeing, stress levels, positive experiences, and any current challenges. The EMA is delivered via a Qualtrics survey link sent by text message. EMA responses are used to gain real-time insights into individual circumstances. These insights are then combined with each participant’s personalised profile to determine EMLs, which are delivered to students directly after they fill in the EMAs through Qualtrics display logic. For example, if a student is located

in Sydney, and indicates to be currently experiencing stress about exams, information about exam preparation sessions hosted at USYD will be provided. Research assistants and the project officer will additionally continuously monitor EMA responses. If a student reports distress, prompt follow-up and referral to relevant services (such as the USYD wellbeing team) is provided.

2.3 Objectives

In this project, we advance work on inclusive pedagogy by adopting a multi-level approach. Drawing on policy-focused insights (Dean, 2024) and place-based analysis (Macqueen et al., 2023), our approach centers on early initiatives that provide personalised support tailored to the challenges equity students face at two distinct campuses: USYD and Curtin University (Curtin). By engaging equity students at the individual level and actively listening and responding to their voices, we aim to develop initiatives that are both impactful and sustainable, addressing their specific needs and contributing to systemic change in the higher education sector. We expect that the proposed innovative initiative of delivering personalised support to equity students will lead to improved objective academic performance (a primary but “distal” outcome) and equity students’ agency/confidence (“proximal” secondary outcomes that examine students’ agency and confidence to seek support, and to feel like they belong to a supportive community.) In terms of our research focus, we expect that improvements in the student agency/confidence will take place through enhanced and tailored individual support and use of learning and support resources, and that these improvements will have flow-on effects on students’ objective academic performance.

Overall Aims

1. To improve equity students’ experience and success outcomes (primary “distal” outcome: objective academic performance; secondary “proximal” outcomes examining agency/confidence, specifically their experience with support resources and support communication, their help seeking attitude, preferences and strategies, university satisfaction, sense of belonging and empowerment, their relationships with faculty, satisfaction with university support and acceptance, their self-efficacy, university and academic engagement, and wellbeing) by implementing and evaluating tailored digitally-enabled nudge initiatives designed to deliver personalised support at scale.
2. To inform educational and institutional policy, adding to the evidence base on what works and does not work to support equity students in the Australian higher education sector.

Hypothesis 1 (primary “distal”): Compared to a control group (pre-post), the digital nudge initiative of delivering personalised support to equity students leads to improved objective academic performance.

Hypothesis 2 (secondary “proximal”—mechanisms through which primary outcome is influenced): Compared to a control group (pre-post), the digital nudge initiative of delivering personalised support to equity students leads to improved agency/confidence for this group (i.e., their experience with support resources and support communication, their help seeking attitude, preferences and strategies, university satisfaction, sense of belonging and empowerment, their relationships with faculty, satisfaction with university support and acceptance, their self-efficacy, university and academic engagement, and wellbeing).

3 Trial design

3.1 Outcomes

The project uses well-established measures of student success outcomes. The primary outcome is objective performance: students' academic performance will consist of weighted average marks (WAM) which are retrieved from the universities' online systems with student consent.

Secondary outcomes include wellbeing (measured by the Warwick Edinburgh Mental Wellbeing Scales, adapted to the student context); belonging, satisfaction, and engagement (Rich, Lepine, & Crawford, 2010, adapted for student context; Generic Satisfaction Scale, adapted from Weiss, Nicholas, & Daus, 1999; and Beal, Trougakos, Weiss, Green, 2006), and academic self-efficacy (adapted scale from Klassen, Krawchuk, & Rajani, 2008, Motivated Strategies for Learning Questionnaire [MSLQ]—MSLQ Self-Efficacy). Outcomes are measured at two time points (pre- and post-initiative using a university server: Qualtrics as the hosting platform, surveys administered via text SMS) to allow the measurement of initiative-related change.

The follow-up survey (see Appendix 4) includes open-ended questions about students' experience and evaluation of the initiative. Responses are thematically collated using NVivo, analysed, and incorporated into the initiative impact evaluation report. During the analysis phase, reference group participants from each equity group represented in the trial are consulted for input.

3.2 Trial design

- **Part 1—Interviews/focus groups (qualitative):** In line with ethics protocols, insights are gathered from two key participant groups: DEI practitioners and equity students. DEI practitioners, including Indigenous strategy leaders and senior education portfolio representatives, participate in 30–60-minute interviews conducted in person or via Zoom. These discussions explore definitions of equity, the role of Equity Portfolios, diversity more broadly, and opportunities for systemic improvement (see Appendix 1). Equity students from USYD and Curtin participate in a pre-initiative qualitative study designed to capture their lived experiences within higher education. This involves 6–8 focus groups (approximately one hour each) delivered via Zoom or in person. Conversations focus on enablers and barriers to success, ensuring that the initiative is student-centric, practical, and responsive to their needs (see Appendix 2). Insights from both groups are thematically analysed using Braun and Clarke's (2006) approach, supported by software such as NVivo to assist coding and data management. Emerging themes are then synthesised collaboratively within the research team to inform the co-design of the initiative, ensuring that student and practitioner perspectives directly shape both design and implementation of the initiative.

Part 2—Initiative (quantitative): Based on a power analysis (see details below), we aim to recruit *650 equity student participants*. We obtain informed consent from all participants, including permission to access objective academic performance data. We collect mobile numbers and administer a baseline survey (see Appendix 3) that includes demographic questions and self-reported disadvantage factors. This information is used to create each participant's personalised profile. At the end of the initiative period, all participants complete

a follow-up survey. Initiative period participants and control group outcomes are compared using 2×2 *within-between subjects ANCOVAs, controlling for institution*.

After completing consent and baseline data collection, we will randomly assign participants to one of two conditions:

- **intervention group:** receives nudges during the 10-week trial
- **control group:** does not receive nudges.

In this parallel trial, we aim to recruit 650 equity student participants who are randomly assigned to two conditions: an intervention or control group (this group does not receive any nudges or SMS texts during the trial). Following informed consent (including consent to access objective academic performance data), participants provide mobile numbers and complete a baseline survey containing demographic questions and other self-reported disadvantage factors (this information forms participants' personalised profile). Upon submission of baseline survey, (i.e. student sign up to be included in the study) block randomisation is then conducted using the Qualtrics randomiser—based on institution, location, gender, and self-reported disadvantage factors. Rather than complete random allocation, block randomisation is used to ensure balance across key demographic characteristics, namely age, gender, faculty, metro/remote campus, and self-reported disadvantage factors. The randomiser also considers location (i.e., 25% initiative participants from USYD, 25% control participants from USYD, 25% initiative participants from Curtin, and 25% control participants from Curtin) of undergraduate students taking place during welcome week events for equity students and via email lists through equity student groups at the two University sites (purposive sampling), metro and regional. This process is undertaken to ensure there are no statistical differences between the two interventions and the two control groups (metro/remote campus, self-reported disadvantage factors).

As WAM data is retrieved from the Universities' online systems with student consent, participants will be allocated a unique ID and data files will be de-identified at the end of the initiative, once data collection and matching are finalised. Only the Chief Investigator and affiliated project staff will have access to the full identification records.

3.3 Detailed trial process

Student participants are recruited during welcome week and via email (through equity cohort and scholarship email lists, 325 at USYD and 325 at Curtin). In signalling their interest, students receive a trial invitation (including a participant information sheet, consent form, and a link to the baseline survey). Block randomisation will be conducted using the Qualtrics randomiser function. If underrepresentation of certain groups is identified at the recruitment stage (using independent samples t-tests), more targeted recruitment is conducted to ensure diverse representation from across faculty and equal representation in age/gender and metro/regional locations. At the end of the trial, potential differences in baseline survey results are examined (ANCOVA with appropriate covariates) to avoid skewed trial results. The study design and process are also focused on equity through the use of equitable and inclusive sampling and recruitment approaches. We will approach students during convenient times (welcome week) and online (included in email lists with information for equity students) ensuring equitable accessibility to the trial. Students are provided with a gift card in recognition of their time and effort for participation. A \$20 gift voucher upon enrolling in the intervention and an additional \$30 upon meeting an engagement threshold of responding to at least 80% of the nudges throughout the intervention period will be provided. This structure results in a range from \$20 (for participants who sign up but do not actively

engage) to \$50 (for participants who maintain high engagement). Equal representation is sought by considering disadvantage factors, gender, institution (Curtin or USYD) and location (metro and regional) in the randomisation process. EMA surveys will be very brief (1–2 minutes).

3.4 Participants

Phase 1—Interviews/focus groups:

- For the interviews: DEI practitioners, ISS portfolio practitioners and leaders, and key leaders in the Education portfolio are invited for a 30–60-minute zoom interview. Inclusion criteria: a current position at USYD or Curtin involving equity students in higher education. Participants will not be reimbursed as their involvement in the project is in their professional capacity.
- For the focus groups: Equity students are invited for a focus group of one hour via zoom/face to face. 6–8 focus groups are scheduled with a maximum of 10 students per group, or until saturation is reached. Inclusion criteria: Being a self-reported equity student (belonging to one or more of student groups—students from low socio-economic status (SES) backgrounds, First Nations Australian students, students from regional or remote areas, students with disability, students identifying as Women in Non-Traditional Areas (WINTA), and students from non-English speaking backgrounds (NESB) currently enrolled at USYD or Curtin.

Phase 2—Initiative:

Research population consists of undergraduate students studying at USYD or Curtin (metro and regional/remote campuses).

Inclusion criteria = student with at least one of the following equity statuses: students from low SES backgrounds, First Nations Australian students, students from regional or remote areas, students with disability, students identifying as WINTA, and NESB students.

Exclusion criteria = no access to a mobile phone.

To test for the primary “distal” outcome, a power calculation indicated that for repeated measures (comparing pre- and post-survey results) with within-between interactions, an effect size of 0.25, 80% power, and an ICC of 0.01, a total sample size of 124 per arm is necessary (G*Power version 3.1.9.7). As such, we aim to recruit 650 students to maintain 80% power (for the defined primary outcome, allowing for 20% attrition and 10% exclusion based on non-serious attempts).

We will closely monitor attrition by keeping track of students’ response rates during the initiative. When students don’t respond, we will reach out to them via text SMS, to ask if any technology or other assistance is required, and to make sure they are still willing to participate. As the incentive scheme is dependent on filling in at least 80% of the surveys (i.e. to get the full incentive amount, students will be informed they must respond to at least 80% of the nudges). In combining these strategies, we deem risk of attrition to be minimal.

Chances of negative spillover of the initiative are very low, as the provided learning and support resources are accessible to all university students (and are as such not scarce). If students in the control condition are in contact with students in the initiative condition (e.g., friends), the chances of negative spillover are still deemed low, as the recommendations and offered support will be tailored to the specific student’s needs and EMA responses. However, we will include a question (“are any of your peers or friends enrolled in this

study?”) at baseline, allowing us to test whether contamination of the intervention took place. Negative spillover is further reduced through the inclusion of a control group, and sampling of students across metro and regional/remote campuses in New South Wales (NSW) and Western Australia (WA), minimising peer effects.

3.5 Participant withdrawal criteria and procedures

Interview/focus groups:

Equity practitioners and students participating in the interviews and focus groups can withdraw at any point. Participants are reminded of this prior to the start of the interview/focus group. Equity practitioners can request for their interview data to be removed (see Appendix 5). Student participants in the focus group are notified that they are free to withdraw from this study at any time and that they can choose to withdraw any information they have already provided (Appendix 6).

Initiative:

Students can opt out at any time, with support and counselling services available, and are reminded of this throughout the initiative. Following Australia’s telemarketing regulations, a “respond STOP to opt-out” is included at the end of every EMA and EMI text message participants receive. Upon texting “STOP”, data collection is stopped, and participants receive a follow-up email to confirm they have successfully withdrawn from the trial. Data is retained up until the point of drop-out, but students receive the option to request removal of all participant data (see Appendix 7). The participant consent form contains this information and highlights that students can opt-out at any time and that this does not influence their relationship with the USYD and Curtin University, however this does mean they do not receive the digital gift voucher at the end of their participation. Participants are not replaced, and independent samples t-tests comparing baseline scores between retained and dropped-out participants are conducted. Additionally, Little’s Missing Completely at Random (MCAR) test is conducted to examine whether data is MCAR (if MCAR holds, dropout is unlikely to bias results). If missing is not at random (MNAR) we will use a mix of theory, data augmentation, and sensitivity checks as no *statistical fix alone can guarantee unbiased estimates*. In this case, we will follow best practices, i.e. (1) reduce MNAR during data collection, and (2) acknowledge and model it explicitly during analysis.

4 Data management and statistical analysis

4.1 Statistical methods

After initial participant recruitment: underrepresentation of certain groups is identified using independent samples t-tests.

At the end of the trial: to evaluate the initiative effects, we propose a 2×2 between-within subjects randomised controlled trial using SPSS (version 29). Independent samples t-tests are conducted prior to ensure there are no significant differences in gender, age, location, disadvantage and intersectionality factors, baseline survey responses, and semester average mark between the control group and the intervention group. If chance imbalances did occur, these variables can be included as covariates in the analysis, and results with and without this adjustment will be presented. Independent samples t-tests comparing baseline scores between retained and dropped-out participants are conducted. SPSS syntax is used for data cleaning and analysis, to enhance transparency and reproducibility. We expect an effect size of 0.25, with 80% power.

4.2 Sample cleaning

SPSS syntax is used for data cleaning and analysis. The data cleaning steps are the following:

1. Download data from Qualtrics.
2. Remove empty rows.
3. Remove variables we don't need (Status, IPAddress, ResponseID—UserLanguage).
4. Check response time to flag non-serious attempts: if participants took less than 1/3rd of the median response time (Frequency—"Duration"—request median), remove individuals scoring less than the 1/3rd median response time.
5. Check invariant responses (4-4-4-4): remove participants who only selected one response across all items.
6. Rename variables and variable labels.
7. Merge baseline, EMA and EMI, and post-trial survey data.

Little's MCAR test is conducted to examine whether data is MCAR. If missingness is random, listwise deletion is applied. Imputation using simulation can be conducted (in the case of MCAR or MAR) to reduce bias (Asendorpf et al., 2014).

4.3 Sample inclusion/exclusion

The randomisation included in the analysis is 325 initiative and control participants from USYD, and 325 initiative and control participants from Curtin.

A 2×2 ANOVA compares intervention versus control groups. Less than 10% of the participants are expected to be excluded based on non-serious attempts (participants taking less than 1/3rd of the median response time or showing invariant responses across the baseline and post-initiative surveys). This is based on the trial initiative conducted at USYD, where one student was excluded for non-serious attempts (leaving the total number of

participants of the trial at $n = 136$ after exclusion of one non-serious attempt and seven responses lost to participant attrition).

4.4 Data management

Interviews/focus groups: Video/audio recordings via Zoom (university protected accounts) and Zoom meeting transcripts are stored on a university-server OneDrive. Raw recording files are kept secure, and any identifiable information (such as name, email address) is removed from the transcript prior to analysis (using a University NVivo account). Only the chief investigator, co-investigators, and other authorised research personnel (listed on the Ethical approval) have access to the materials.

Initiative: Data is stored on the USYD Qualtrics server during the data collection and initiative phase. Afterwards, data is matched, de-identified, and stored on a university-server OneDrive and removed from Qualtrics. Raw data files are kept secure, and a working data file is used for data cleaning and data analytics for quality assurance. Only the chief investigator, co-investigators, and other authorised research personnel (listed on the Ethical approval) have access to the materials.

4.5 Additional analyses

Subgroup analyses using independent-samples t-tests may be conducted to compare initiative effectiveness and effect size between metro and rural/remote groups, and potentially other factors such as self-reported disadvantage factors (low SES, Aboriginal and/or Torres Strait Islander, culturally and linguistically diverse [CALD], WINTA).

4.6 Quality control & quality assurance

Data quality control and quality assurance procedures are implemented and recorded to ensure the integrity of analysis. Data collection adheres to our outlined protocol and incorporates reliable and validated survey instruments. As participant responses are automatically recorded in Qualtrics, no multi-stage verification process such as double data entry is necessary. However, random cross-checking of 10% of records are conducted to guard for inconsistencies or missing data. All CIs are trained in data management best practices, and all data handling complies with Australian privacy laws and institutional ethics requirements. Additionally, process documentation is maintained to document data modifications, ensuring transparency and reproducibility of findings.

5 Publication

5.1 Plans for publication and dissemination of trial results (including any limitations)

A large collaborative launch event (proposed as a Universities Australia pre-event or for the ACSES conference, with USYD, Curtin, SAGE, and other relevant stakeholders such as prominent government/policymakers) is scheduled to present the findings and final report, highlighting recommendations for policy and implementation at scale. We additionally deliver the following products and outputs:

- A manuscript ready for submission to a high-quality peer-review scientific journal, for example, *Access* (Critical explorations of equity in higher education), *HERSDA* (Higher education Research & Development), *Equity in Education and Society* (e.g. Athena Swan SAGE), facilitating wide distribution of our rigorous and novel design and approach, further driving the adoption at other universities in Australia.
- A presentation outlining the design and results for distribution at academic conferences and/or stakeholders.
- A Final Report containing our policy and practice findings.
- An online “tool folder”, including detailed process documentation, survey measures, Qualtrics survey templates, result reports, and policy documents to facilitate the adoption of the initiative by others.

As skilled media presenters, the team will ensure the findings are conveyed to media outlets for broader impact.

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7 Appendices

7.1 Appendix 1—Qualitative protocol: Practitioner interview guide

Amplified equity: Digitally-enabled personalised nudge interventions to support equity students

Professor Dimitria Groutsis

University of Sydney Business School; Work and Organisational Studies

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Project overview

This program of research aims to:

- (i) Improve equity students’ experience and success outcomes (engagement, empowerment, voice, wellbeing, belonging, and objective academic performance) by implementing and evaluating an innovative digitally-enabled nudge intervention designed to deliver personalised support at scale.
- (ii) Inform educational and institutional policy on best practice for supporting equity students in the Australian higher education sector.

Interview discussion

Themes and subthemes	Covered
<p>Interviewer introduces self and role in project.</p> <p>Acknowledgement of Country</p> <p>I would like to acknowledge the Indigenous custodians of the land on which we stand and pay my respects to Elders past and present.</p> <p>I am Zooming in from XXX land.</p> <p>The first thing I’d like to do is to thank you for your participation, I know how busy you must be in your role, and I really appreciate your generosity in chatting with me.</p> <p>By way of context:</p> <p>We know from extant research that equity students in Australia’s higher education sector face significantly lower success rates, particularly when they belong to multiple/intersecting equity groups. Participation and completion rates are often impacted by a range of factors, such as financial stress, mental wellbeing, family/cultural obligations, and distance from family and community support. For decades, policymakers and researchers have reported on these barriers and have highlighted profound short-, medium- and long-term socio-economic implications for individuals and society as a whole. The recent Universities Accord has noted that there is an urgency to address this gap in order to “<i>boost social mobility and equality and address the forecast skills gaps and shortages.</i>”</p> <p>The project takes a multi-level and multi-method approach across two campuses—The University of Sydney (USYD) and Curtin University (Curtin)</p> <p><u>Overall Aims of the project are:</u></p> <ol style="list-style-type: none"> 1. To improve equity students’ experience and success outcomes 	

<p>(engagement, empowerment, voice, wellbeing, belonging, and objective academic performance) by implementing and evaluating an innovative digitally-enabled nudge intervention designed to deliver personalised support at scale.</p> <p>2. To inform educational and institutional policy on best practice for supporting equity students in the Australian higher education sector.</p> <p>The interview should take about 30 minutes to an hour and with your permission I'd like to record it so that I can accurately capture your views. Please note that ethical protocols will be followed, and pseudonyms will be used in any publications to follow.</p> <p>Check to ensure that the consent form has been signed.</p> <p>Note that participants can withdraw from discussion at any point (no penalty/impact on their relationship with USYD/Curtin)</p>	
<p>First, I'm going to ask you some questions about your role at USYD/Curtin</p> <ul style="list-style-type: none"> • What is your role at USYD/Curtin, what do you do (what does your role involve)? How long have you been in the role? • Who do you consider (or who in your portfolio) falls into the category of equity students? 	
<p>1. Understanding current support systems</p> <ol style="list-style-type: none"> a. Can you describe the current support systems in place for equity students at your institution? b. What are the strengths and weaknesses of these support systems? 	
<p>2. Challenges faced by equity students</p> <ol style="list-style-type: none"> a. What are the most common challenges equity students face in your experience? b. How do these challenges impact their academic performance, their sense of inclusion in the university community, and their overall wellbeing? 	
<p>3. Effectiveness of current interventions</p> <ol style="list-style-type: none"> a. Have you implemented any interventions aimed at supporting equity students? If so, what did these involve and what were the outcomes? b. What aspects of these interventions were most effective, and what areas need improvement? 	
<p>4. Personalised support needs</p> <ol style="list-style-type: none"> a. How do you think personalised support can benefit equity students? b. What types of personalised support do you believe would be most impactful for equity students? c. We are planning to hold focus groups with equity students as part of our data collection to better understand their perspective. With the equity student groups that you work with, what are some strategies we could use to create a safe/inclusive space to open-up about their experience? 	
<p>5. Digital interventions</p> <ol style="list-style-type: none"> a. What is your opinion on using digital interventions (e.g., text message nudges) to support equity students? b. What potential benefits and challenges do you foresee with implementing a digitally enabled nudge intervention? 	

<p>6. Feedback on proposed intervention</p> <ul style="list-style-type: none"> a. Based on your experience, how do you think the proposed nudge intervention could be improved? b. Are there any specific elements or features you would recommend including in the intervention? 	
<p>7. Institutional policy and practices</p> <ul style="list-style-type: none"> a. How do current institutional policies support or hinder equity students? b. What policy changes would you recommend to better support equity students? 	
<p>Do you have anything you'd like to add that we haven't covered in the discussion? Or anything you'd like to go back to?</p>	
<p>That is the end of our discussion. Thanks so much for sharing your views and expertise. Thanks</p>	

7.2 Appendix 2—Qualitative protocol: Focus groups discussion guide

Amplified equity: Digitally-enabled personalised nudge interventions to support equity students

Professor Dimitria Groutsis

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Project overview

- This program of research aims to:
 - (i) Improve equity students' experience and success outcomes (engagement, empowerment, voice, wellbeing, belonging, and objective academic performance) by implementing and evaluating an innovative digitally-enabled nudge intervention designed to deliver personalised support at scale.
 - (ii) Inform educational and institutional policy on best practice for supporting equity students in the Australian higher education sector.

Warm-up activity

Introductions

“Let’s start with a quick round of introductions. If you’re comfortable, please feel free to share your name or just a general introduction, such as what year you’re in or something about yourself. You’re also welcome to tell us one thing you enjoy about university life—but there’s absolutely no obligation to share anything you don’t wish to.

Before we start, I’d like to remind everyone that participation is completely voluntary. If at any point you feel that being in a group discussion is not comfortable for you, you are absolutely free to withdraw, there will be no penalty, and it won’t affect your relationship with the university in any way.”

Section 1: Understanding experiences

1. Current experience

- a. Can you describe your overall experience as an equity student at this university?
- b. What aspects of your university experience do you find most challenging? (prompt: studying, making (new) friends, balancing work and studying, feeling part of the university community, such as participating in events and activities on campus)

2. Support systems

- a. What types of support services have you used at the university?
- b. How did you find out about these services?
- c. How effective have these support services been in addressing your needs? (E.g. what worked and what didn't work?)

3. Barriers to success

- a. What specific barriers have you encountered that have impacted your
 - i. Academic performance?
 - ii. Wellbeing?
 - iii. Anything else?
- b. How have these barriers affected your sense of belonging and engagement with the university community?

4. Wellbeing and stress management

- a. How do you currently manage stress and maintain your wellbeing?
- b. What additional support or resources would help you better manage stress and improve your wellbeing?

5. Academic and career support

- a. What types of academic support do you think would be most beneficial for you?
- b. How can the university better support your career aspirations and employability?

Section 2: Discussing the intervention

Introduction to the intervention

We are planning to implement a digitally-enabled, personalised nudge intervention to support equity students. This approach has been successfully piloted at the University of Sydney among School of Business students, where it showed significant positive results in areas such as belonging, student satisfaction, and academic performance.

As we expand this project to provide tailored support to equity students, this is our plan.

Weekly check-ins: For 10 weeks, you'll receive a brief survey via text message once a week. These surveys will take about 1–2 minutes to complete and will ask about your wellbeing, stress levels, successes, and any challenges you're facing. You can respond directly via text message.

Personalised support messages: Based on your weekly check-in responses and personalised profile, you'll receive weekly customised digital nudges, via text. These messages will provide support information and resources tailored to your needs, such as wellbeing tips, academic support, career advice, and social connections. For example, if you identify as Indigenous and are interested in mentorship, you might receive information about relevant programs and resources. If you report low wellbeing, the messages will prioritize mental health support services.

Additional support options: *You can ask for more information or request a direct 1:1 line of contact for additional support by replying to the messages. These requests will be referred to appropriate services.*

Post-intervention survey: *At the end of the 10-week period, you'll complete a post-survey to evaluate the impact of the personalised digital nudges.*

1. Feedback on proposed intervention

- a. Based on what we've shared about the intervention, what are your initial thoughts?
- b. Are there any specific features or elements you would like to see included in the intervention?

2. Personalised support

- a. How do you feel about receiving personalised support through digital nudges (e.g., text messages?)
- b. What kind of information or resources would you find most helpful in these digital nudges?

3. Communication preferences

- a. How do you feel about receiving text (SMS) based information and support from the university (directly on to your mobile)?
- b. How frequently would you like to receive this nature of digital nudges?
- c. What time of the day would you think it's best to receive this nature of digital nudge (i.e. when do you think you would pay attention to such a message during the day?)

4. Suggestions for improvement

- a. What improvements or changes would you suggest to enhance the proposed nudge intervention?
- b. How can we better tailor the nudges to meet your specific needs and preferences?

7.3 Appendix 3—Quantitative protocol: Baseline survey

Amplified equity: Digitally-enabled personalised nudge interventions to support equity students

Lecturer Hannah Kunst

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Default question block

Hi $\{m://FirstName\}$,

Thank you for participating in the Amplified Equity Project! The aim of this project is to bring you customised support at your fingertips, to help you thrive at uni!

Participation in this study consists of filling in two surveys: one near the start, and one near the end of the first semester. If you consent to participate, you can fill in the first one now!

After filling in this survey, you will be randomly allocated to either a control group, or a “text” group. If you are in the “text” group, you will receive weekly personalised support via text SMS—based on what you need in the moment! If you are in the control group, you don’t get these texts. This will help us test whether this project is actually helpful.

Upon completion of this survey, you will receive a \$20 digital gift voucher that can be used at 400+ brands (like Uber, Netflix, Twitch, Woolworths).

The second survey will take place in week 10. When you fill in the second survey (and if you are in the “text” group, when you interact with at least 80% of the SMS texts), you will receive an additional \$30 digital gift voucher—so \$50 all up!

Keen to participate? Please fill in the survey below!

- 1. What is your Student ID?**
- 2. Do you identify with any of the following equity groups? (Select all that apply)**
 - a. MySydney /E12/ Broadway scholarship recipient at the University of Sydney (USYD) or Equity/Enabling/STAR/Need-based scholarship recipient at Curtin University (Curtin)
 - b. Have a disability
 - c. From low socio-economic background
 - d. First-in-family to attend university
 - e. From regional or remote area
 - f. Aboriginal and/or Torres Strait Islander
 - g. From a Culturally and Linguistically Diverse (CALD) background
 - h. A woman studying in non-traditional fields (eg: Engineering, IT, Construction, STEM)

Section 1: A BIT ABOUT YOU

1. What is your university?
 - a. USYD
 - b. Curtin
2. What is your age in years?
3. What gender do you identify with?
 - a. Male
 - b. Female
 - c. Non-binary
 - d. Prefer not to say
4. What is your faculty? (if your degree is multidisciplinary, please select multiple)

For USYD

- a. Faculty of Arts and Social Sciences
- b. Faculty of Engineering
- c. Faculty of Medicine and Health
- d. Faculty of Science
- e. School of Architecture, Design and Planning
- f. Business School
- g. Conservatorium of Music
- h. Sydney Law School

For Curtin

- a. Faculty of Business and Law
- b. Faculty of Health Sciences
- c. Faculty of Humanities
- d. Faculty of Science and Engineering
- e. Centre for Aboriginal Studies

5. What year of study are you in?
 - a. 1st
 - b. 2nd

Section 2: EMPLOYMENT—WHAT'S YOUR EXPERIENCE?

6. On average, how many days a week are you on campus?

7. How many hours do you have to travel to get to campus?
8. On average, how many hours do you study a week?
9. Do you have a part-time/full-time job?
 - a. Yes, part-time/casual
 - b. Yes, full-time
 - c. No, I don't have paid work
10. On average, how many hours do you assign to paid work per week (including overtime?)
11. Would you prefer to work:
 - a. More hours
 - b. Fewer hours
 - c. Not applicable as my working hours are what I want
12. Do you have any carer's responsibilities (caring for another family member or close friend/relatives)?
 - a. Yes
 - b. No

Section 3: UNI—WHAT'S YOUR EXPERIENCE

FACTOR 1: YOUR EXPERIENCE WITH SUPPORT RESOURCES AND SUPPORT COMMUNICATION

To what extent do you agree with the following statements?

1. **Support awareness:** I am aware of student support resources and services offered by USYD/Curtin
 - a. Strongly Disagree
 - b. Disagree
 - c. Neither Agree nor Disagree
 - d. Agree
 - e. Strongly Agree
2. **Information relevance:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1. Information I received about the university's student support/resources/services is applicable to me.					
2.2. Information I received about					

the university's student support/resources/services is related to my needs/interest.					
2.3. In general, information about student support/resources/services are relevant to me.					

Information overload: To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.4. I am distracted by the excessive amount of information about the university's student support/resources/services.					
2.5. I am overwhelmed by the amount of information about the university's student support/resources/services.					
2.6. I feel that there is too much information about the university's student support/resources/services instead of not having enough information.					

Communication overload: To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.7. I receive too much communication about the university's student support/resources/services.					
2.8. I receive too many notifications about the university's student support/resources/services.					
2.9. I often feel overloaded with communication about the university's student support/resources/services.					
2.10. I receive more communication about the university's student					

support/resources/services than I can process.					
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3. Difficulty navigating information: To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
3.1. I often don't know where to look for information about student support/resources/services.					
3.2. It is difficult to locate the information I need about student support/resources/services.					
3.3. Information about student support/resources/services is hard to find when I need it.					
3.4. The university does not make it clear where to access information about student support/resources/services.					
3.5. I spend too much time trying to figure out where information about student support/resources/services is located.					

FACTOR 2: ACADEMIC HELP-SEEKING ATTITUDE, PREFERENCE, AND STRATEGIES

1. Academic help-seeking preferences and strategies: To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I have no problems asking university staff (academics, professional staff, advisors) for help when I have questions.					
1.2. I seek assistance from classmates or peers when I need help.					
1.3. I am comfortable seeking help from university staff when I need it.					
1.4. I use online resources (e.g., discussion board, online forums, social media, email) when I need					

assistance.					
1.5. I prefer virtual resources (rather than in-person) when seeking help for my academic needs.					
1.6. I adjust my help-seeking strategies based on different challenges I face at university.					
1.7. I use the same methods for seeking help throughout the semester, regardless of the situation.					

2. **Academic help-seeking avoidance:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1. Asking for help would be an admission that I am just not smart enough to succeed at university.					
2.2. If I didn't understand something at university, I would guess rather than ask for help and seek assistance.					

3. **Academic help-seeking behavior and outcome/efficacy:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
3.1. I have accessed student support resources and services offered by USYD/Curtin.					
3.2. I have received support to help me succeed in my study.					
3.3. I have received support that I need relevant to my circumstances.					
3.4. I know how to seek help or additional support with my studies.					

FACTOR 3: UNIVERSITY SATISFACTION, SENSE OF BELONGING, AND

EMPOWERMENT

1. **Overall satisfaction:** Which face best describes how satisfied you are with this university?



2. **University sense of belonging and empowerment:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1. I feel a sense of belonging to this university.					
2.2. I see myself as part of the university community.					
2.3. I am enthusiastic about this university.					
2.4. If asked, I would recommend this university to others.					
2.5. I feel part of a supportive community.					
2.6. I feel valued at the USYD/Curtin.					
2.7. I feel that staff (academics, professional staff) care about me.					

FACTOR 4: FACULTY AND STAFF RELATIONS

1. **Faculty and staff relations:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I feel connected to faculty/staff members at my university.					
1.2. I feel that faculty/staff members appreciate me.					
1.3. I have opportunities to connect and interact meaningfully with other students.					

FACTOR 5: SATISFACTION WITH UNIVERSITY SUPPORT AND ACCEPTANCE

1. **University support and acceptance:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. My university provides opportunities to engage in meaningful activities.					
1.2. I believe there are supportive resources available to me on campus.					
1.3. My university environment provides me with an opportunity to grow.					
1.4. My university provides opportunities to have diverse experiences.					
1.5. I believe I have enough academic support to get me through university.					
26.6. I am satisfied with the academic opportunities at my university.					
26.7. My university values differences.					

FACTOR 6: ACADEMIC SELF-EFFICACY

1. **Academic self-efficacy:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I am developing skills to be successful in my study.					
1.2. I believe I will receive an excellent grade this semester.					
1.3. I'm certain I can understand the most difficult material presented in my units this semester.					
1.4. I'm confident I can understand the basic concepts taught this semester.					
1.5. I'm confident I can do an excellent job on my assignments					

this semester.					
1.6. I expect to do well this semester.					
1.7. I'm certain I can master the skills being taught in my units this semester.					
1.8. Considering the difficulty of my units, the teachers, and my skills, I think I will do well this semester.					
1.9. I feel confident that I will succeed in my study this semester.					

FACTOR 7: UNIVERSITY AND ACADEMIC ENGAGEMENT

1. **Physical engagement (effort and energy in academic work):** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I study with intensity for my university courses.					
1.2. I exert my full effort in my academic work.					
1.3. I devote a lot of energy to my university studies.					
1.4. I try my hardest to perform well in my coursework.					
1.5. I strive as hard as I can to complete my academic tasks.					
1.6. I exert a lot of energy on my university assignments.					

2. **Emotional engagement (feelings toward university experience):** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1. I am enthusiastic about my university studies.					
2.2. I feel energetic when engaging with my academic work.					
2.3. I am interested in my university courses.					
2.4. I am proud to be a					

university student.					
2.5. I feel positive about my university experience.					

3. **Cognitive engagement (mental focus and attention):** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
3.1. When studying, my mind is focused on my academic work.					
3.2. I pay a lot of attention during lectures and study sessions.					
3.3. I focus a great deal of attention on my university tasks.					
3.4. I am absorbed in my university studies.					
3.5. I concentrate deeply when working on academic assignments.					
3.6. I devote a lot of attention to my university coursework.					
3.7 I have been making the most of my university experience by engaging in activities outside the classroom.					

FACTOR 8: WELLBEING

1. **Subjective Wellbeing:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I've been feeling optimistic about the future.					
1.2. I've been feeling useful.					
1.3. I've been feeling relaxed.					
1.4. I've been feeling interested in other people.					
1.5. I've had energy to spare.					
1.6. I've been dealing with problems well.					
1.7. I've been thinking clearly.					
1.8. I've been feeling good about myself.					
1.9. I've been feeling close to					

other people.					
1.10. I've been feeling confident.					
1.11. I've been able to make up my own mind about things.					
1.12. I've been feeling loved.					
1.13. I've been interested in new things.					
1.14. I've been feeling cheerful.					

7.4 Appendix 4—Quantitative protocol: Follow up survey

Amplified equity: Digitally-enabled personalised nudge interventions to support equity students

Lecturer Hannah Kunst

University of Sydney Business School; Work and Organisational Studies

Phone +61 4 3444 9969 | Email: hannah.kunst@sydney.edu.au

Default question block

Hi `{m://FirstName}`,

Thank you for participating in the Amplified Equity Project! The aim of this project was to bring you customised support at your fingertips, to help you thrive at uni!

This is the second of two surveys. If you are in the “text” group, you will receive a \$30 digital gift voucher once you have completed this survey and have met the 80% SMS engagement rate by simply having responded to texts received. If you are in the control group, you will receive a \$30 digital gift voucher upon completing this survey.

We thank you in advance for your input and honest responses.

What is your Student ID?

Section 1: UNI – WHAT’S YOUR EXPERIENCE

FACTOR 1: YOUR EXPERIENCE WITH SUPPORT RESOURCES AND SUPPORT COMMUNICATION

To what extent do you agree with the following statements?

1. **Support awareness:** I am aware of student support resources and services offered by the University of Sydney (USYD)/Curtin University (Curtin)
 - a) Strongly disagree
 - b) Disagree
 - c) Neither agree nor disagree
 - d) Agree
 - e) Strongly agree

2. **Information relevance:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1. Information I received about the university’s student support/resources/services is applicable to me.					

2.2. Information I received about the university's student support/resources/services is related to my needs/interest.					
2.3. In general, information about student support/resources/services are relevant to me.					

3. **Information overload:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
3.1. I am distracted by the excessive amount of information about the university's student support/resources/services.					
3.2. I am overwhelmed by the amount of information about the university's student support/resources/services.					
3.3. I feel that there is too much information about the university's student support/resources/services instead of not having enough information.					

4. **Communication overload:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4.1. I receive too much communication about the university's student support/resources/services.					
4.2. I receive too many notifications about the university's student support/resources/services.					
4.3. I often feel overloaded with communication about the university's student support/resources/services.					
4.4. I receive more communication about the university's student					

support/resources/services than I can process.					
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5. **Difficulty navigating information:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
5.1. I often don't know where to look for information about student support/resources/services.					
5.2. It is difficult to locate the information I need about student support/resources/services.					
5.3. Information about student support/ resources/services is hard to find when I need it.					
5.4. The university does not make it clear where to access information about student support/resources/services.					
5.5. I spend too much time trying to figure out where information about student support/resources/services is located.					

FACTOR 2: ACADEMIC HELP-SEEKING ATTITUDE, PREFERENCE, AND STRATEGIES

1. **Academic help-seeking preferences and strategies:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I have no problems asking university staff (academics, professional staff, advisors) for help when I have questions.					
1.2. I seek assistance from classmates or peers when I need help.					
1.3. I am comfortable seeking help from university staff when I need it.					
1.4. I use online resources (e.g., discussion board, online forums, social media, email) when I need					

assistance.					
1.5. I prefer virtual resources (rather than in-person) when seeking help for my academic needs.					
1.6. I adjust my help-seeking strategies based on different challenges I face at university.					
1.7. I use the same methods for seeking help throughout the semester, regardless of the situation.					

2. **Academic help-seeking avoidance:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1. Asking for help would be an admission that I am just not smart enough to succeed at university.					
2.2. If I didn't understand something at university, I would guess rather than ask for help and seek assistance.					

3. **Academic help-seeking behavior and outcome/efficacy:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
3.1. I have accessed student support resources and services offered by USYD/Curtin.					
3.2. I have received support to help me succeed in my study.					
3.3. I have received support that I need relevant to my circumstances.					
3.4. I know how to seek help or additional support with my studies.					

FACTOR 3: UNIVERSITY SATISFACTION, SENSE OF BELONGING, AND EMPOWERMENT

1. **Overall satisfaction:** Which face best describes how satisfied you are with this university?



2. **University sense of belonging and empowerment:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1. I feel a sense of belonging to this university.					
2.2. I see myself as part of the university community.					
2.3. I am enthusiastic about this university.					
2.4. If asked, I would recommend this university to others.					
2.5. I feel part of a supportive community.					
2.6. I feel valued at USYD/Curtin.					
2.7. I feel that staff (academics, professional staff) care about me.					

FACTOR 4: FACULTY AND STAFF RELATIONS

1. **Faculty and staff relations:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I feel connected to faculty/staff members at my university.					
1.2. I feel that faculty/staff members appreciate me.					
1.3. I have opportunities to connect and interact meaningfully with other students.					

FACTOR 5: SATISFACTION WITH UNIVERSITY SUPPORT AND ACCEPTANCE

1. **University support and acceptance:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. My university provides opportunities to engage in meaningful activities.					
1.2. I believe there are supportive resources available to me on campus.					
1.3. My university environment provides me with an opportunity to grow.					
1.4. My university provides opportunities to have diverse experiences.					
1.5. I believe I have enough academic support to get me through university.					
1.6. I am satisfied with the academic opportunities at my university.					
1.7. My university values differences.					

FACTOR 6: ACADEMIC SELF-EFFICACY

1. **Academic self-efficacy:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I am developing skills to be successful in my study.					
1.2. I believe I will receive an excellent grade this semester.					
1.3. I'm certain I can understand the most difficult material presented in my units this semester.					
1.4. I'm confident I can understand the basic concepts taught this semester.					
1.5. I'm confident I can do an excellent job on my assignments this semester.					
1.6. I expect to do well this semester.					
1.7. I'm certain I can master the skills being taught in my units this					

semester.					
1.8. Considering the difficulty of my units, the teachers, and my skills, I think I will do well this semester.					
1.9. I feel confident that I will succeed in my study this semester.					

FACTOR 7: UNIVERSITY AND ACADEMIC ENGAGEMENT

1. **Physical engagement (effort and energy in academic work):** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I study with intensity for my university courses.					
1.2. I exert my full effort in my academic work.					
1.3. I devote a lot of energy to my university studies.					
1.4. I try my hardest to perform well in my coursework.					
1.5. I strive as hard as I can to complete my academic tasks.					
1.6. I exert a lot of energy on my university assignments.					

2. **Emotional engagement (feelings toward university experience):** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
2.1. I am enthusiastic about my university studies.					
2.2. I feel energetic when engaging with my academic work.					
2.3. I am interested in my university courses.					
2.4. I am proud to be a university student.					
2.5. I feel positive about my university experience.					

3. **Cognitive engagement (mental focus and attention):** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
3.1. When studying, my mind is focused on my academic work.					
3.2. I pay a lot of attention during lectures and study sessions.					
3.3. I focus a great deal of attention on my university tasks.					
3.4. I am absorbed in my university studies.					
3.5. I concentrate deeply when working on academic assignments.					
3.6. I devote a lot of attention to my university coursework.					
3.7. I have been making the most of my university experience by engaging in activities outside the classroom.					

FACTOR 8: WELL-BEING

1. **Subjective wellbeing:** To what extent do you agree with the following statements?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1. I've been feeling optimistic about the future.					
1.2. I've been feeling useful.					
1.3. I've been feeling relaxed.					
1.4. I've been feeling interested in other people.					
1.5. I've had energy to spare.					
1.6. I've been dealing with problems well.					
1.7. I've been thinking clearly.					
1.8. I've been feeling good about myself.					
1.9. I've been feeling close to other people.					
1.10. I've been feeling confident.					
1.11. I've been able to make up my own mind about things.					
1.12. I've been feeling loved.					
1.13. I've been interested in new					

things.					
1.14. I've been feeling cheerful.					

Section 2

1. What aspects of “the weekly resources and support” did you find most helpful or beneficial? Please explain why these aspects were valuable to you.
2. What changes or improvements would you suggest for “the weekly resources and support” to better meet your needs or expectations? Please provide specific examples or ideas.

7.5 Appendix 5—Participant consent form: Practitioner interview

Interview (key informants) Participant Information Statement

Amplified equity: Digitally-enabled personalised nudge interventions to support equity students

Professor Dimitria Groutsis

University of Sydney Business School; Work and Organisational Studies

Phone +61 2 9351 2485 | Email: dimitria.groutsis@sydney.edu.au

Participant Name: _____

I agree to take part in this program of research work. In giving my consent, I confirm that:

- The details of my involvement have been explained to me, and I have been provided with a written Participant Information Statement to keep.
- I understand the purpose of this interview is to inform a study focused at improving the experiences and success outcomes of equity students in Australian higher education by implementing and evaluating a digitally-enabled, personalised nudge intervention.
- I acknowledge that the risks and benefits of participating in this program of research works have been explained to me to my satisfaction.
- I understand that as part of this research program, I will participate in an interview. During this interview I will be asked to share my insights as a practitioner (in diversity, equity, and inclusivity [DEI] teams, Indigenous strategy leaders, or education portfolio leaders) on the challenges faced by equity students, the effectiveness of current support interventions and services available to them, and the current landscape of institutional policies addressing their needs.
- I understand that participation involves being recorded via audio and video.
- I understand that if I provide consent my information may be used in future research.
- I understand that participation in this study is completely voluntary
- I am assured that my decision to participate will not have any impact on my relationship with the research team of the University of Sydney/Curtin University.
- I understand that I am free to withdraw from this study at any time and that I can choose to withdraw any information that I have already provided (unless the data has already been de-identified or published.)
- I have been informed that the confidentiality of the information I provide will be protected and will only be used for purposes that I have agreed to. I understand that information identifying me will only be told to others with my permission, except as required by law
- I understand that the results of this program of research work may be published, and that publications will not contain my name or any identifiable information about me.

- I confirm the following:

- | | |
|--|--|
| I consent to recordings (audio) | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| I consent to being contacted for future studies | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| I consent to my data being used in future research | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| I would like feedback on the overall results of this research | Yes <input type="checkbox"/> No <input type="checkbox"/> |

If you answered **yes** to receiving feedback or being contacted in future, please provide your preferred contact details (email/telephone/postal address):

- I understand that after I sign and return this consent form it will be retained by the researcher, and that I may request a copy at any time.

Participant name: _____

Signature: _____

Date: _____

I would like to receive a one-page summary of the overall study findings at the conclusion of the project. Please enter your email address below so we can send it to you:

Email: _____

7.6 Appendix 6—Participant consent form: Equity students focus group

Interview (key informants) Participant Information Statement

Amplified equity: Digitally-enabled personalised nudge interventions to support equity students

Professor Dimitria Groutsis

University of Sydney Business School; Work and Organisational Studies

Phone +61 2 9351 2485 | Email: dimitria.groutsis@sydney.edu.au

Participant name: _____

I agree to take part in this program of research work. In giving my consent, I confirm that that:

- The details of my involvement have been explained to me, and I have been provided with a written Participant Information Statement to keep.
- I understand the purpose of this interview is to inform a study focused at improving the experiences and success outcomes of equity students in Australian higher education by implementing and evaluating a digitally-enabled, personalised nudge intervention.
- I acknowledge that the risks and benefits of participating in this program of research work have been explained to me to my satisfaction.
- I understand that as part of this research program, I will participate in a student focus group. During this focus group, I will be asked to share my insights as an equity student at University of Sydney/Curtin University on my experience at university, challenges/barriers to success, and services and interventions in place to support me.
- I understand that participation involves being recorded via audio and video.
- I understand that if I provide consent my information may be used in future research.
- I understand that participation in this study is completely voluntary.
- I am assured that my decision to participate will not have any impact on my relationship with the research team or the University of Sydney/Curtin University or my organisation.
- I understand that I am free to withdraw from this study at any time and that I can choose to withdraw any information I have already provided (unless the data has already been de-identified or published.)
- I have been informed that the confidentiality of the information I provide will be protected and will only be used for purposes that I have agreed to. I understand that information identifying me will only be told to others with my permission, except as required by law.
- I understand that the results of this program of research work may be published, and

that publications will not contain my name or any identifiable information about me.

I confirm the following:

- | | |
|--|--|
| I consent to recordings (audio) | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| I consent to being contacted for future studies | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| I consent to my data being used in future research | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| I would like feedback on the overall results of this research | Yes <input type="checkbox"/> No <input type="checkbox"/> |

If you answered **yes** to receiving feedback or being contacted in future, please provide your preferred contact details (email/telephone/postal address):

- I understand that after I sign and return this consent form it will be retained by the researcher, and that I may request a copy at any time.

Participant name: _____

Signature: _____

Date: _____

7.7 Appendix 7—Quantitative protocol: Drop out email template

Amplified equity: Digitally-enabled personalised nudge interventions to support equity students

Lecturer Hannah Kunst

University of Sydney Business School; Work and Organisational Studies

Phone +61 4 3444 9969 | Email: hannah.kunst@sydney.edu.au

Subject: Confirmation of Study Withdrawal & Support Resources

Dear [Participant's Name],

We have received your request to withdraw from the study by texting "STOP." Your participation up until this point has been greatly appreciated, and we respect your decision to discontinue involvement. No further action is required on your part, and you will not receive any additional study-related messages.

If you have any questions or concerns regarding your withdrawal, please feel free to reach out to our research team at Hannah.kunst.@sydney.edu.au.

Support and wellbeing resources

We understand that participating in research can sometimes bring up unexpected emotions or concerns. If you feel distressed or need support, we encourage you to reach out to the following confidential and free support services:

- Lifeline Crisis Support: call 13 11 14
- Beyond Blue: call 1300 22 4636

University support services

Your university also offers support services:

University of Sydney Wellbeing and Counselling Services:

- [+61 2 8627 8433](tel:+61286278433)
- [+61 2 7255 1562](tel:+61272551562)
- student.wellbeing@sydney.edu.au

Curtin University Student Wellbeing and Advisory Services

- [1800 244 043](tel:1800244043)
- studentwellbeing@curtin.edu.au

Please do not hesitate to seek support if needed.

Best regards,

[Your Name]

[Your Position]

[Institution Name]

[Research Team Contact Email]