To attend or not to attend, that is the question: Hours worked and student engagement as predictors of student attendance at synchronous classes.

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Statement of Originality

This report contains no material offered for the award of any other degree or diploma, or material previously published, except where due reference is made in the text.

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Acknowledgements

It has been a long journey to get to this point. I never thought I would ever get a university of degree, let alone an honours degree! I am the first person in my family to attend university and I am so very proud of myself. There has been ups and downs since starting my studies. Through it, my family and friends have been so supportive and curious about how I am progressing. I appreciate their support and genuine interest more than they will ever know. To my husband, John and my children Ivy and Hamish., you have all been incredibly supportive in making this epic journey work, Thank you!

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Abstract

Non-attendance at synchronous higher education classes is prevalent. Lower synchronous class attendance is associated with greater time spent in paid employment. Higher levels of synchronous class attendance are correlated with greater student engagement. However, differences between on-campus and online students are not clearly defined in the literature. Additionally, there is a dearth of literature that explores asynchronous (viewing recorded classes) class attendance. Therefore, this study reviewed the primary factors that influence non-attendance at synchronous classes for on-campus and online students. Participants (N = 327) were university students who completed an online survey that collected demographic, educational information, reasons for non-attendance, and evaluated student engagement. A Mann-Whitney U revealed that both on-campus and online students reported "I can access the recordings on StudyDesk" as the most influential reason for non-attendance. Pearson's correlations showed attendance was significantly and positively correlated with engagement for both on-campus and online students, significantly negatively correlated with hours worked and not correlated with viewing recorded classes for both groups. Multiple regression demonstrated that student engagement was an influential significant predictor of synchronous attendance for on-campus and online students, however, engagement was a significant predictor of viewing recorded classes for on-campus students only. Hours worked was a significant predictor of lower student attendance for on-campus and online students. However, hours worked was not a significant predictor for viewing recorded classes for on-campus or online students. Overall, students reported that accessing recordings on online as the most influential reason for non-attendance, whilst engagement and hours worked were significant predictors for synchronous class attendance for on-campus and online students.

Keywords: Attendance, non-attendance, online, on-campus, synchronous, asynchronous engagement, hours worked.

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Chapter 1: Introduction

Students can attend university in different modes that reflect their diverse circumstances and needs. The traditional model of learning in higher education is where students attend a synchronous in person class, on a tertiary campus. Classes are led by an academic and generally include a lecture or a collaborative class, which aims for students to engage and understand the material. Synchronous classes are either delivered on-campus or online (Australian Government Department of Education, 2022; Khan, 2022; Moores et al., 2019). There has been an increase to enrolments in online learning (Lodge et al., 2022), in which a course can be delivered synchronously or asynchronously. The latter is a self-led online learning mode which comprises viewing pre-recorded classes and communications through online forums. Students choosing to study exclusively online have increased from 12% in 2010 to 20% in 2020, partly influenced by the COVID-19 pandemic (Lodge et al., 2022). Benefits of online learning are the ability to access materials at a time and pace that suits the learner. Research into the effectiveness and impacts of the differences between on-campus and online learning modes are expanding, however, more investigation is needed.

Encouraging university students to attend synchronous classes is a contentious topic in higher education. Some researchers argue that students who attend synchronous classes attain higher academic achievement, have greater peer collaboration, acquire more practical skills and have higher student engagement (Credé et al, 2010, Khan, 2022; Massingham & Herrington, 2006; Moores et al., 2019). However, whilst students attend classes and are physically present, this may not mean they are an engaged student (Credé et al, 2010; Dixson, 2015; Nieuwoudt, 2020). On the other hand, other researchers suggest that synchronous classes do not provide a student with additional benefits. That is, a student studying asynchronously online and viewing recorded classes and accessing online materials, can have higher student engagement and achieve excellent academic results (Dixson 2015). Whilst

there are varied points of view, the literature overwhelmingly demonstrates that attendance at synchronous on-campus or online classes is associated with better academic performance, a greater sense of belonging, higher student engagement, more favourable student outcomes and better practical employability skills (Beovich et al., 2021, Credé et al., 2010, Massingham & Herrington, 2006; Moores et al., 2019). Despite the benefits, student attendance at synchronous classes has been decreasing over time. (Credé, et al, 2010; Massingham & Herrington, 2006).

Students have varied reasons why they do not attend synchronous classes. The reasons are broad and can include illness, work or family commitments, social plans, lack of interest, lecturer style or perceived boring topics (Beovich et al., 2021, Gysbers et al., 2011, Moores et al., 2019). Furthermore, the student population is becoming more diverse, with people from non-traditional backgrounds now attending university (Gulley, 2021). The changing student demographics and demand for online learning may impact synchronous class attendance, student engagement, teaching methods and academic achievement (Credé et al., 2010; Gulley, 2021; Moores et al., 2019).

Engaging higher educational students in their learning is an important factor in student attendance and outcomes. Student engagement can be defined as students actively participating in their studies (Dixson, 2015). On-campus and online students that are actively engaged with the learning material, their peers, and the academics that teach them are more likely to have higher levels of achievement and are more likely to attend synchronous classes (Credé et al., 2010; Dixson, 2010, 2015).

This study aims to better understand the reasons for non-attendance and the demographic and psychological factors, such as student engagement, that impact student attendance at synchronous classes. Therefore, for the purpose of this study, student attendance at a synchronous class is defined as a student who attends a live or real-time class,

either in-person or online. Further to this, the current study aims to examine the factors impacting students accessing asynchronous learning resources, such as viewing online recorded classes.

The literature review will commence by examining the literature around the changing student demographics and the implications for higher education institutions. Following this, student attendance in higher education will be examined with empirical research establishing the importance of attendance. Student and university factors that impact attendance and online modes of attendance will be reviewed. The literature review will then discuss student engagement including theories of engagement and how student engagement interplays with student demographics and attendance. Finally, an overview of the current research, the research questions and hypotheses for this current study will be outlined.

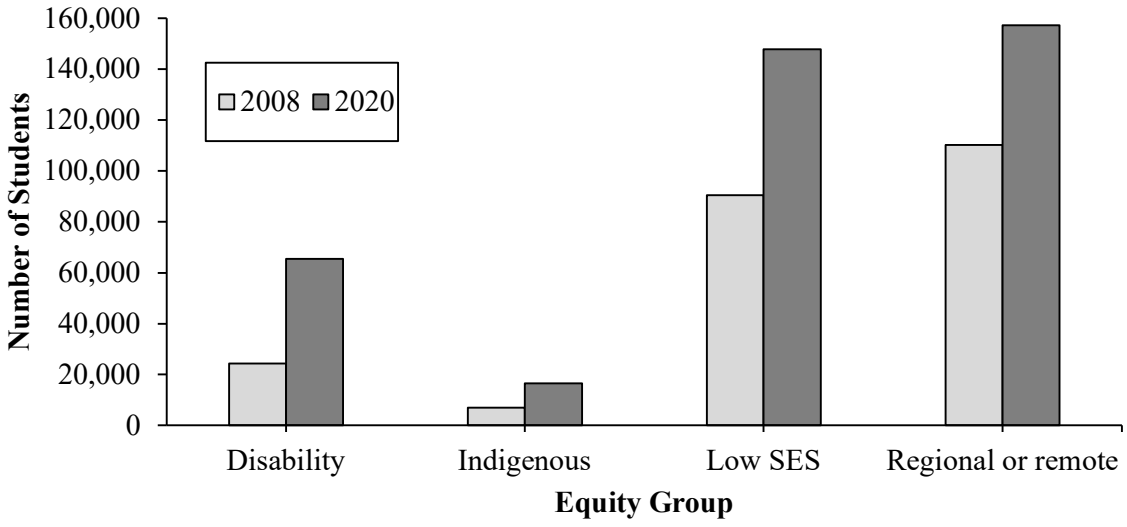
Student Demographics

Higher educational student cohorts are becoming more diverse (Department of Education, 2022; Universities Australia, 2022). Students represent wider society and include people with a disability, people from different socioeconomic groups, people from different cultures or communities, international students and First Nations peoples, mature age students and those people with caring responsibilities. The Australian Government, Department of Education (2022) gathers data annually from Australian universities. The data gathered indicates that the total number of students enrolled in higher education in Australia in 2022 was 1,555,411. According to the data, the students included 1.5% indigenous students, 2.5% of students were people with a disability, 16.1% were from low socioeconomic status (SES), 0.8% were from remote areas, and 60% of students identified as female, (Department of Education, 2022; Universities Australia, 2022). Figure 1 provides a graphical representation of changing demographics in Australian Universities. Enrolments for students between 2008 and 2020 have more than doubled for people with a disability, and

for students from an indigenous background, whilst students from low socioeconomic or regional backgrounds have markedly increased as well (Universities Australia, 2022).

Figure 1

Changes in Australian University Student Demographics by Equity Group



Note: Adapted from Universities Australia (2022). Data Snapshot.

The Australian Bureau of Statistics (ABS) census data describes the that whilst many higher educational students are school leavers, there is a broad range of age groups enrolled to study (ABS, 2023; Universities Australia, 2022). To illustrate, in the age group of Australian 40–44-year-olds, 7.3% were enrolled in some form of higher educational study, and in the 55-74 years age group 1.3% of the population were enrolled in higher education. Similarly, data from the United States shows that 37% of all undergraduate students are over the age of 24 (United States Department of Education, 2021), with the number projected to increase in the future (Gulley, 2021). A pertinent consideration is mature age groups are more likely to have multiple commitments outside of their study load, such as work and personal commitments. This may be reflected in the number of part-time enrolments. When last examined in 2020, approximately 64% of students were studying full-time, 46% part-time, and 54% of students were on campus (Universities Australia, 2022).

Student demographic data highlights that students are from a broad range of backgrounds, which has been rapidly evolving over the past two decades. Students may have different perspectives, experiences, and external commitments, which may influence their attendance at synchronous and asynchronous classes.

Student Attendance at Synchronous Classes

Student attendance at synchronous classes, either on campus or online, is a widely studied issue. Higher education has been traditionally designed around the model of synchronous on-campus attendance. However, the literature reports problems with declining student attendance for many years, dating back to the 1970's and 1980's (Friedman et al., 2001; Massingham & Herrington, 2006).

Student reasons for non-attendance are varied and can be related to student or university factors. Student factors for non-attendance are within a student's control, such as personal or family commitments, working or once-off engagements. The literature reviewed indicated that the main student factors reported for non-attendance were due to sickness and having to work (Beovich et al., 2021; Friedman et al., 2001; Massingham & Herrington, 2006; Moores et al., 2019; Schofield, 2024; Skead et al., 2020). University factors are reasons for non-attendance that can be influenced by the higher educational institution. For example, class length, timetabling, lecturer teaching style, and online resources. Students report they choose to not attend class if they can get the course information from another source, such as online learning materials or recordings, or if they perceived quality of teaching or the subject matter was poor (Beovich et al., 2021; Friedman et al., 2001; Khong et al., 2016; Massingham & Herrington, 2006; Moores et al., 2019; Oldfield et al., 2018; Skead et al., 2020).

Why Student Attendance Matters

Student attendance at synchronous classes is perceived as crucial by academics but may not be seen as vital by students. Students may seek to gain information to enable them to pass an exam, whereas academics seek to impart knowledge and critical thinking skills (Khan, 2022; Massingham & Herrington, 2006). It is thought the latter is best facilitated in person, during a synchronous class, where there is an opportunity for students to actively participate and collaborate (Khan, 2022; Massingham & Herrington, 2006). Attendance at synchronous classes is also correlated with better academic performance. Students who attend more synchronous classes have higher academic achievement than those students who do not attend synchronous classes (Massingham & Herrington, 2006). Research indicates that attendance is a significant predictor of academic achievement, more so than personality, or a student's past academic results (Friedman et al., 2001; Nordmann et al., 2019; Woodfield et al., 2006). Massingham and Herrington (2006), examined the synchronous class attendance and academic achievement for a group of 172 on-campus commerce students over the course of a semester. They found that students who attended 10 or more classes had a greater depth of knowledge and higher final marks then their counterparts who attended less than ten classes. Also, Khan (2022) examined the effect of synchronous attendance on student achievement for 403 on-campus students studying calculus. After controlling for student cultural and demographic differences, Kahn (2022) found that students that attended more synchronous classes had higher academic achievement than their peers who did not attend synchronous classes. There was a total of 64 classes in the teaching period, and each class attended equated to an increase of 0.52% to the final exam mark. For students who attended every synchronous class, their final exam marks were 33% higher than students who did not attend every synchronous class (Khan, 2022). The students in the same study also indicated that the more synchronous classes they attended, the more likely they were to agree that

synchronous class attendance was important (Khan, 2022). These findings demonstrate that synchronous class attendance matters for all students.

Student Attendance at Synchronous Classes and Demographics

Student demographics are changing in higher educational institutions. Demographic factors, such as student and university factors, both influence attendance. Oldfield et al., (2018) surveyed 618 on-campus undergraduate students from a United Kingdom university to determine what demographic and psychological factors were associated with synchronous attendance. The most influential student factors reported by student for non-attendance at synchronous classes were illness, and external commitments such as appointments (Oldfield et al, 2018). The university factors that were influential were coursework deadlines, lack of enjoyment of the class and perceptions about teaching (Oldfield et al, 2018). Furthermore, hours worked each week were a significant negative predictor of attendance at synchronous classes, as such, as the number of hours of work per week increased, student attendance at synchronous classes decreased (Oldfield et al., 2018). The researchers stated that understanding predictors of student attendance was crucial as attendance at synchronous classes enabled students to benefit from a sense of collaboration with academics and peers, potentially increasing student engagement (Oldfield et al., 2018). However, this research was conducted over six years ago. Since that time, there has been an emergence of online students, advancements in technology and changes to higher education. Therefore, it is important to understand if any changes have occurred with the reasons for non-attendance at synchronous classes, especially for online students.

Looking at hours worked more closely, Skead et al. (2020), conducted a mixed methods study on a group of on-campus Australian undergraduate and postgraduate law students. The student's attendance was measured using a manual attendance headcount at lectures and tutorials which was correlated with self-reported attendance data, an anonymous

survey (n = 900) and a voluntary focus group (n = 17). The group sizes for each part of the study differed due to the nature of the measures. Hours worked was measured as part of an anonymous survey, namely "My paid work commitments influence my decision to attend class", which was measured on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Most students, being 64% of the survey sample, strongly agreed that paid work negatively influenced their decision to attend class, which was supported by additional qualitative analysis of student focus group responses. The results of this study show that work is a highly reported reason for non-attendance. Another study by Sloan and colleagues (2020), looked at a group of on-campus geography and finance undergraduate students attending a United Kingdom university (N = 373). Students completed an anonymous survey in the second semester of their academic year and reported their demographic information including hours of work per week and ranked the top six reasons for their non-attendance at class. Although data revealed 42% of students were working between 1 to 40 hours a week, the statistical analysis did not support that the hours worked reduced attendance at synchronous classes. This study is contrary to others, (Oldfield et al., 2018; Skead et al., 2020) and demonstrates that hours worked may not be as strongly linked to attendance as first thought.

Overall, the data reviewed indicates that hours worked per week, are a highly reported reason for non-attendance, and that as a student's hours worked per week increase, their attendance at synchronous classes may decrease. An important consideration is needing to work is a key factor in student attrition rates. Between 20-29% of students are considering leaving higher education entirely, because they needed to increase working hours each week (Department of Education, 2022; Universities Australia, 2022). However, there are several studies where hours worked per week were not correlated with attendance. Therefore, this warrants further investigation. Additionally, student cohorts reviewed have been on-campus

only. Online students are a growing sector in higher education. Therefore, it is imperative to understand how being an online student influences the reasons for non-attendance at synchronous classes, and hours worked per week impact online student attendance at synchronous classes.

Student Attendance at Synchronous Classes and Online Learning Modes

Students attending classes in an online mode have increased in recent years with growing advancements in technology and online systems. Distance education has often been an option in Australian universities, especially for rural or remote students (Lodge et al., 2022). However, distance education options are now completely online, and are continuing to grow to reach students who may not be rural or remote. Instead, students may have work or family commitments that prevent them from attending synchronous classes on-campus. In 2019, 16% of Australian higher education students were studying online, and 14% were studying using a blended mode, the latter being a blend of on-campus and online study (Lodge et al., 2022). Online learning increased markedly with the COVID-19 pandemic, with online students increasing to 20% and students studying in blended modes to 19%. (Lodge et al., 2022). Post-pandemic, some students reported a preference for on-campus study, and between 3-50% of students surveyed did not want to engage in online study again (Lodge et al., 2022). Moreover, of Australian students studying online, 75.2% indicated their educational experience was of good quality and 83.6% rated that online learning resources were also high quality (QILT, 2023).

There is a perception that online learning erodes the levels of attendance at synchronous classes. However, many studies have indicated that attendance rates at synchronous classes did not change post introduction of online learning (Gysbers et al., 2011; Khan, 2022; Massingham & Herrington, 2006; Yeung et al., 2016). Nonetheless, use of online recorded classes and materials is reported to be a primary reason for non-attendance at

synchronous classes (Skead et al., 2020). However, many students prefer to attend synchronous classes and use online resources as a tool to assist with their learning (Yeung et al., 2016).

Use of synchronous and asynchronous online recordings and learning material may improve academic performance. Nordmann and associates (2019) measured actual student attendance on-campus and the number of minutes that online recorded classes were viewed. Participants were 270 undergraduate on-campus university students. The results showed viewing online recorded classes was a good predictor of higher academic achievement for first year students, but was not significant for students in second, third or fourth year (Nordmann et al., 2019). Comparatively, a study involving 164 students at an Australian university demonstrated that both synchronous and asynchronous attendance can improve academic performance of online students (Nieuwoudt, 2020). All students in the study were online and in the first year of their studies. Students were allocated into four groups. The first group attended more than 50% of synchronous online classes and viewed online recorded classes less than 50% of the time (n = 11) , the second group attended less than 50% of synchronous online classes and viewed more than 50% of online recorded classes (n = 9), the third group attended synchronous online classes and viewed online recorded classes more than 50% (n = 30), and the fourth group attended synchronous online classes and viewed online recorded classes less than 50% (n = 64) (Nieuwoudt, 2020). Mann Whitney U analysis found that students in the second group had higher final grades compared to the other three groups (Nieuwoudt, 2020). Furthermore, regression analysis found that as viewing online recorded classes increased, academic achievement increased, and that viewing recorded classes was a more significant predictor than synchronous class attendance (Nieuwoudt, 2020). This demonstrates that online synchronous class attendance and viewing online recorded classes has a significant positive relationship with academic achievement.

Similarly, Luttenberger and colleagues (2018), examined 611 psychology students aged between 18 and 51. Students were divided into three groups. The first group used online recorded classes only, viewing most of the classes (n = 416). The second group (n = 120) engaged very little with synchronous classes or online recorded classes. The third group (n = 75) consisted of students who occasionally attended synchronous classes or viewed online recorded classes. The first group were organised in their approach to learning and had greater levels of satisfaction than their peers and higher academic achievement (Luttenberger et al., 2018). Students in groups two and three had poorer results with lower measured academic achievement (Luttenberger et al., 2018). The findings suggest that students who view recorded classes asynchronously can achieve greater academic results than peers who do not view recorded classes.

Overall, the data and findings examined suggest attendance at online synchronous classes enables students to achieve higher academic outcomes. In the absence of online synchronous class attendance, attending asynchronously can also be beneficial to student academic achievement and can supplement student learning. However, there is a lack of literature that examines the factors that influence and predict asynchronous viewing of online recorded classes. Therefore, it would be prudent to examine these constructs in more detail.

Student Engagement

Engagement is a well-known concept, although, the definition of engagement can be argued to mean different things. To be engaged is to show a level of interest or passion about a topic and wanting to be involved to understand it (Dixson, 2010; Lemke & Steiner, 2023; Lodge et al., 2022). Engagement has been identified as a construct that branches across several psychological domains including behavioural, emotional and cognitive (Boulton et al., 2019; Dixson, 2015; Lei et al., 2018; Lemke & Steiner, 2023; Lodge et al., 2022). Therefore, students may display engagement in varied ways, such as in the things they do,

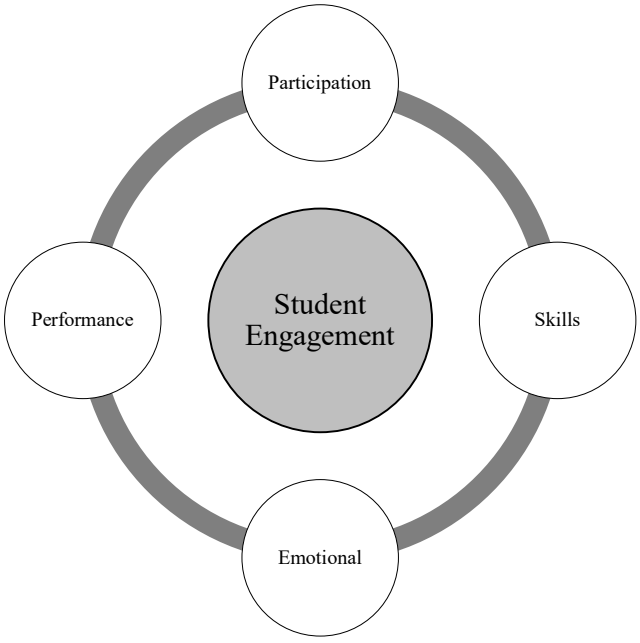
things they say, their thoughts, and their feelings (Dixson, 2015; Lemke & Steiner, 2023; Lodge et al., 2022).

Theories of Engagement

In their comprehensive reviews of student engagement, Dixson (2010, 2015) posited that student engagement is multi-factorial. Dixson (2010, 2015) suggests that student engagement comprises external behavioural factors including skills, participation, and performance. As such, Dixson (2015), theorises that engaged students show practical behaviours, for example, taking time and effort to learn the required material. Additionally, it is suggested that student engagement encompasses intrinsic emotional factors, such as, making personal effort, and desiring to learn course material. Refer to Figure 2 for a visual representation of the factors that encompass student engagement.

Figure 2

Factors Influencing Student Engagement



Note: Adapted from Dixson (2015).

To enable the measurement of the behavioural and emotional aspects of student engagement, Dixson (2015) examined the validity of a student engagement scale, specifically designed for students who study online. The online student engagement scale (OSE) was devised using historical scales used to measure student engagement, refined to suit an online student sample (Dixson, 2015). Questions in the OSE are aligned with the behavioural and emotional components that influence student engagement and are centred around four key factors that have been found to represent student engagement: participation, skills, performance, and emotional (Dixson, 2015). The OSE measures the four factors of student engagement using a 5-point Likert scale. Refer to Appendix A for a modified version of the 19 question OSE (Dixson, 2015). Dixson (2015) tested the reliability and validity of the OSE by examining associations between survey results and student active and passive behaviours on an online learning system. Participants were 186 online students that were enrolled in 38 different courses in a large university in the United States. The broad number of courses ensured the results were valid across online students studying in different faculties. The results indicated that the OSE was positively and significantly correlated ($r = .48$; $p < .01$) with active student behaviours on the universities online learning system and the OSE had a Cronbach's α of .86 (Dixson, 2015). Passive student behaviours were not corelated with the OSE

The research by Dixson (2010, 2015) has shown that student engagement comprises several important factors and student engagement is correlated with active student behaviours. Therefore, on-campus and online learning that includes behavioural and emotional components is likely to facilitate greater engagement for students (Dixson, 2010, 2015). Furthermore, student engagement can be measured reliably using the OSE (Dixson, 2015). Taken together, the OSE can be used as a reliable measure for online students. As online student enrolments increase (Lodge et al., 2022), it is crucial to understand student

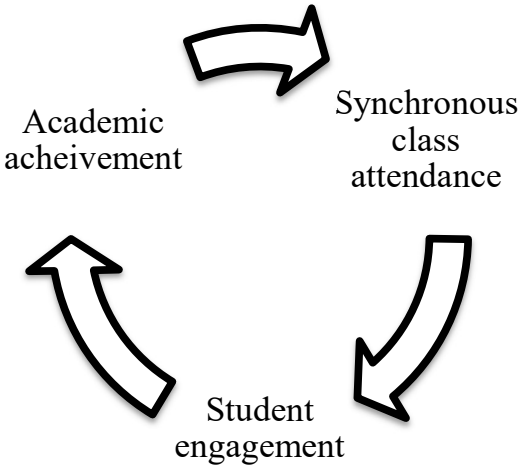
engagement. Furthermore, it will be valuable to understand the differences in student engagement between on-campus and online students.

Student Engagement and Attendance at Synchronous Classes

The literature often explains that attendance and engagement are closely intertwined. Student attendance generally reflects the student's level of engagement. It is theorised that synchronous attendance, student engagement, and higher academic achievement are a perpetual feedback loop, as represented in Figure 3 (Dixson, 2015; Lei et al., 2018; Lemke & Steiner, 2023; Moores et al., 2019; Nevid et al., 2022; Shah & Barkas, 2018). Nevertheless, a student attending an on-campus synchronous class may not be engaged and may be passively learning, or could be distracted (Massingham & Herrington, 2006, Nevid et al., 2022; Yeung et al., 2016). The research on student engagement for on-campus students indicates that students preferred classes where the lecturer was interesting, helpful, and taught the course material in a way that enabled the student to apply the learning practically (Moores et al., 2019).

Figure 3

The Relationship Between Synchronous Class Attendance, Student Engagement and Academic Achievement.



Boulton and colleagues (2019) surveyed 175 on-campus students about their levels of engagement over a 19-week period. Each student responded to the survey six times. Engagement was measured using a 5-point Likert scale (Boulton et al., 2019). The longitudinal nature of the survey enabled good insight into the student engagement across a time-period. Results indicated that engagement was positively and significantly correlated with participation in various learning activities such as seeing a lecturer, attending synchronous classes, peer interaction using the library and using online resources including viewing recorded classes (Boulton et al., 2019). The study supports the idea that student engagement is correlated with all aspects of learning, encompassing behavioural and emotional factors (Dixson, 2015). This includes synchronous class attendance, use of on-campus facilities, and use of asynchronous online recorded classes.

Student Engagement and Online Learning Modes

Student engagement is measured in Australian students by The Quality Institute of Learning and Teaching (QILT), student experience survey (QILT, 2023). In the latest findings, 60% of on-campus and blended students were engaged with their studies, in comparison, 28% of online students were engaged with their studies (QILT, 2023). On the surface, the engagement of online students appears concerning. Looking closer at the data, 35% of online students surveyed reported low levels of interacting socially with outside study requirements. However, 60% of students had worked collaboratively with other online students as part of their study, and 64% had participated in online discussions (QILT, 2023). This research suggests that whilst online students do not have the social benefits of on-campus study, they do experience shared learning with peers, which is an important aspect of student engagement (Dixson, 2015).

Examining student engagement further, Dixson (2010) studied what online students reported to be engaging. The sample was made up of 186 online students from universities in

the United States. Dixson (2010) measured engagement using a first iteration of the OSE (Dixson, 2015). The results of the study indicated that online students found active learning was associated with higher levels of engagement. This means involvement in synchronous online classes, use of online resources such as discussion forums or connecting with peers using group assignments (Dixson, 2010). Opposingly, passive learning, including attendance at asynchronous classes were found to have lower reported levels of student engagement (Dixson, 2010). Therefore, the primary finding of the research was online student engagement was related to behavioural and emotional aspects of learning, including wanting to learn course material, and collaborate with peers online (Dixson, 2010, 2015).

In another study, Shah and Barkas (2018) examined online learning behaviours of 82 students from a risk management course and 88 students from an engineering course. All students were on-campus. Student engagement was measured according to their frequency of use of the universities online learning system (Shah & Barkas, 2018). Results indicated the higher student engagement was positively and significantly correlated with greater use of active online learner activities, attendance at synchronous classes and higher academic achievement (Shah & Barkas, 2018) The results suggest that online learning should involve synchronous participation to ensure students are engaged in their studies (Shah & Barkas, 2018).

In summary, the research reviewed in the current study regarding student engagement and online learning modes (Dixson, 2010; QILT, 2023; Shah & Barkas, 2018) implies that higher levels of student engagement will be associated with higher attendance at synchronous classes and greater use of online resources, such as viewing online recorded classes. It is important to note that the technology used for online learning has significantly improved over time and continues to do so. This advancing technology may influence student engagement, especially for online students.

The Current Study

The literature reviewed indicates that student attendance at synchronous classes has reduced over time. Students who attend synchronous classes, either on-campus or online, have better academic performance than those who do not (Khan, 2022; Massingham & Herrington, 2006; Nordmann et al., 2019; Woodfield et al., 2006). Despite this, many students do not attend synchronous classes and engage in their courses asynchronously.

The student profile is rapidly changing, and more students come from diverse backgrounds with differences in ages, race, ethnicity and commitments. There is a dearth of recent literature that identifies the factors impacting synchronous class attendance for both on-campus and online students. An important demographic factor identified in the literature is that students reported they do not attend synchronous classes due to work commitments. Similarly, research has identified that work commitments predict non-attendance at synchronous classes, however, it has not defined how the number of hours worked predicts attendance at synchronous and asynchronous classes.

Engagement is shown in the literature to be a strong predictor of student achievement and is correlated with student attendance at synchronous classes. Engaged students are more likely to stay enrolled and complete their studies. Whilst there is much evidence around on-campus student engagement and synchronous attendance, there is a dearth of evidence examining online student engagement and synchronous or asynchronous attendance.

The current study aims to add to the present breadth of research into student attendance at synchronous classes. More specifically, this study aims to examine a) the reasons for non-attendance at synchronous classes for on-campus and online students, b) the demographic and psychological factors that impact attendance at synchronous classes for on-campus and online students, and c) the demographic and psychological factors that impact access of asynchronous classes for on-campus and online students. An online survey of

undergraduate university students will be utilised to measure reasons for non-attendance, attendance at synchronous classes, student engagement, demographic variables such as hours worked per week and viewing recorded classes (for asynchronous attendance) and mode of study.

The first section of this study will explore the reasons for non-attendance for on-campus and online students and if there are differences between the two modes of study.

Research Question*:* What are the most influential reasons for non-attendance at synchronous classes reported by on-campus and online students?

As outlined, the literature showed that student engagement is a key predictor of student attendance at synchronous classes. However, the research has focussed on on-campus student cohorts and whether the findings generalise to online students is unclear. Therefore, understanding the differences in synchronous attendance between the two groups is essential to understanding student behaviours. Therefore, the second part of the study will consider student engagement as a predictor of synchronous class attendance, for both on-campus and online students. The OSE (Dixson, 2015) will be utilised to understand levels of student engagement. Finally, students work commitments, measured as hours worked per week are posited to be an important predictor of student behaviours, including synchronous class attendance. Again, the differences between on-campus and online students will be investigated. As such, the following hypotheses were derived from past research.

Hypothesis 1: Student engagement and number of hours worked per week will predict attendance at synchronous classes for on-campus students.

Hypothesis 1a: Higher levels of student engagement will predict greater synchronous class attendance, whereas higher number of hours worked will predict lower synchronous class attendance for on-campus students.

Hypothesis 2: Student engagement and number of hours worked will predict synchronous class attendance for online students.

Hypothesis 2a*:* Higher levels of student engagement will predict greater synchronous class attendance, whereas high number of hours worked will predict lower synchronous class attendance.

Finally, student engagement and work commitments measured as hours worked per week are posited to be an important predictor of student behaviours, including viewing online classes. Again, the differences between on-campus and online students will be investigated. As such, the following hypotheses were derived from past research.

Hypothesis 3*:* Student engagement and number of hours worked per week will predict greater viewing of recorded classes for on-campus students.

Hypothesis 3a*:* Higher levels of student engagement will predict greater viewing of recorded classes, whereas higher number of hours worked will predict lower viewing of recorded classes for on-campus students.

Hypothesis 4*:* Student engagement and number of hours worked per week will predict greater viewing of recorded classes for online students.

Hypothesis 4a*:* Higher levels of student engagement will predict greater viewing of recorded classes, whereas higher number of hours worked will predict lower viewing of recorded classes for online students.

Chapter 2: Method

Participants

Participants were 392 undergraduate university students enrolled in a psychology course at the University of Southern Queensland (UniSQ). Sixty-five participants were removed from the data. Reasons for removal included enrolment in a pre-university program (n = 7), Honours year student completing their thesis only (n = 1), and the remaining were removed due to incomplete survey responses or missing data (n = 57). The final number of participants was 327. The sample comprised of females (n = 241, 73.7%), males (n = 80, 24.5%), non-binary (n = 5, 1.5%) and gender not specified (n = 1, 0.3%). Participants were aged between 17 and 72 years (M = 27.91, SD = 11.16). Refer to Table 1 for a summary of demographic factors.

Of the eligible sample, 26.6% of students classified themselves as school leavers (n = 87), and 73.4% as non-school leavers (n = 240). Most of the cohort was first-year students at 70.9% (n = 232), followed by second year at 15.3% (n = 50), third year 8.3% (n = 27), fourth year 4.6% (n = 15) and 0.9% unspecified (n = 3). Participants were enrolled in different programs of study at UniSQ. The cohort was primarily students enrolled in psychology programs, with 35.8% enrolled in a Bachelor of Psychology (Honours) (n = 117), 19.6% (n = 64) in a Bachelor of Science (Psychology Major). Remaining students totalling 44.6% (n = 146) were enrolled in other programs at UniSQ. For the purpose of the current study, students that attended in a blended mode were categorised as on-campus (n = 78). Therefore, the total on-campus students were 48.9% (n = 160), and participants studying online were 51.1% (n = 167). Refer to Table 2 for a summary of the demographic factors related to enrolment.

Table 1

Participant Demographic Information

	All participants				On-Campus				Online			
	n	%	*M*	Range	*n*	%	*M*	Range	*n*	%	*M*	Range
Age			27.91	17-72			23.24	17-71			32.38	17-72
Gender												
Male	80	24.5			43	26.9			37	22.2		
Female	241	73.7			113	71.1			128	76.6		
Non-binary	5	1.5			3	1.9			2	1.2		
Not specified	1	0.3			1	0.6						
Ethnicity												
Caucasian	256	78.3			118	73.8			138	82.6		
Indigenous	9	2.8			4	2.5			5	3		
Other	58	17.7			36	22.5			22	13.2		
Not Specified	4	1.2			2	1.3			2	1.2		
Relationship Status												
Single/Dating	173	52.9			107	66.9			66	39.5		
Long-term relationship	77	23.8			32	20			45	26.9		
Married	65	19.9			17	10.6			48	28.7		
Separated/Divorced	8	2.4			3	1.9			5	3		
Not specified	4	1.2			1	0.6			3	1.8		
Children												
Yes	104	31.8			26	16.3			78	46.7		
No	223	68.2			134	83.8			89	53.3		
Employed												
Full Time	64	19.6			19	11.9			45	26.9		
Part Time	67	20.5			30	18.8			37	22.2		
Casual	119	36.4			73	45.6			46	27.5		
Other	52	15.9			38	23.8			36	20.6		
Hours worked per week			19.15	0-80			16.11	0-45			22.05	0-80

Note: On-campus students n = 160, online students n = 167. Employed students n= 318; Students that reported hours worked per week n = 249.

Table 2

Participant Enrolment Information

	All participants				On-Campus				Online			
	n	%	*M*	*SD*	*n*	%	*M*	*SD*	*n*	%	*M*	*SD*
Program of Study												
Bachelor of Science (Psychology)	117	35.8			19	11.9			45	26.9		
Bachelor of Psychology	64	19.6			47	29.4			70	41.9		
Other	146	44.6			94	58.8			52	31.1		
Year of Study												
First	232	70.9			123	76.9			109	65.3		
Second	50	15.3			17	10.6			33	19.8		
Third	27	8.3			7	4.4			20	12		
Fourth	15	4.6			10	6.3			5	3		
Not specified	2	0.9			2	1.9			-			
School Leaver												
Yes	87	26.6			65	40.6			22	13.2		
No	240	73.4			95	59.4			145	86.8		
First generation student												
Yes	125	38.2			58	36.3			67	40.1		
No	202	61.8			102	63.7			100	59.9		
International Student												
Yes	6	1.8			6	3.8			167	100		
No	321	98.2			154	96.3			-			
Number of classes attended			6.17	4.04			8.04	3.00			4.37	4.10

Note: On-campus students n = 160, online students n = 167

Study Design

This research was a quantitative design which encompassed part of a larger project undertaken by the School of Psychology and Wellbeing at UniSQ. An online survey was used to collect cross-sectional quantitative data including demographic data and attendance information, encompassing thoughts and behaviours towards synchronous classes. Additionally, psychological constructs were measured which included engagement, belongingness, role identity and motivation. Refer to Appendix A for a copy of the survey in full. The current study utilised the demographic, attendance and engagement data to examine the proposed research question and hypotheses.

Materials

The UniSQ survey tool was used to design and distribute an online survey to students. This tool meets privacy and security requirements as outlined by UniSQ and the state of Queensland Government legislative requirements. The survey took approximately 30 minutes to complete and included measurements of key variables of interest including demographics, reasons for non-attendance, synchronous class attendance, viewing online recorded classes, and student engagement.

Demographics

The survey included seventeen questions to gather relevant demographic information. The data gathered included age, gender, ethnicity, employment, relationship status, primary language spoken, and student study demographics. For example, hours worked was measured using a single question in the survey. The question asked, “If currently employed, how many hours (on average) per week do you spend in paid employment”. Participants could then enter a freeform response.

Reasons for Non-Attendance

Participants rated a list of thirty-two reasons for non-attendance, which was measured on a 5-point Likert scale with responses ranging from 1 (*not at all influential*) to 5 (*extremely influential*). Responses scored 2 or above were regarded as influential. The reasons for non-attendance for the current study was adapted from similar studies by Massingham and Herrington (2006) and Oldfield and colleagues (2018). Slight variations were made to wording around online learning systems, that is eduStream was replaced with StudyDesk, the latter being the online system used by UniSQ. This ensured relevancy to the current group of participants. The reasons for non-attendance examined both student factors and university factors. Examples of personal student factors include "I was genuinely sick" and "I had to work". Examples of university factors include "the lecturer is not an effective communicator" and "I do not like the teaching style of the lecturer".

Attendance

Synchronous class attendance was measured by participant self-report. Participants were asked to think about one course they were enrolled in over the current academic year and to provide an estimate of their attendance rate to classes in this course as a percentage. Participants could answer using a free form response. This approach is similar to methodology used by Sloan and colleagues (2020). The rationale for collecting data in the form of a percentage is to reduce the potential issue of different courses offering a different number of classes in the teaching period and the time in which the participant completed the survey (e.g., earlier or later in the teaching period). For the purposes of the current study, the percentage was then transformed into a continuous scale by multiplying the percentage by 11, the typical number of synchronous classes in a teaching period.

Viewing Online Recorded Classes

Viewing online recorded classes was measured using a single question in the survey. The question asked "if you do not attend a class, how likely are you to watch the recordings in your own time". The response is measured using a 5-point Likert scale, ranging from 1 (*very unlikely*) to 5 (*very likely*).

Student Engagement

Student engagement was measured using the OSE (Dixson, 2015). The OSE was validated using cohorts of online students with survey answers correlated to actions on an online learning system (Dixson, 2015). The OSE has a Cronbach's α .86, showing good internal reliability (Dixson, 2015). For the current study, the OSE was adapted to enable measurement of engagement in online and on-campus cohorts. For the current sample, the Cronbach's α was .88. The participants answered a nineteen-question survey, measured on a five-point Likert scale. Responses ranged from 1 (*not at all characteristic of me*) to 5 (*very characteristic of me*). Higher scores indicate higher student engagement. The questions asked centre on the behavioural elements of engagement, for example, "making sure to study on a regular basis", and "really desiring to learn the material" (Dixson, 2015). Each question was optional.

Procedure

Participants were undergraduate students enrolled in a psychology course in the School of Psychology and Wellbeing at UniSQ. The survey data was collected between April 2023 and July 2024. Ethics approval was granted by the UniSQ Human Research and Ethics Committee (Human Research Ethics Approval: H21REA194). Participants were recruited using advertisements on news and announcement forum posts on StudyDesk, and in the undergraduate research participation portal. The advertisement included a brief overview of the research including the participation incentives and the hyperlink to access the survey.

The first page of the online survey provided researchers names and contact details and the description of the purpose of the study as well as expected benefits of the research. Additionally, it outlined that the survey completion is optional and explained that there are low-level risks perceived with the completion of the survey and provided contact points for any perceived concerns. Privacy and confidentiality was explained, and contacts for concerns or complaints was available. Finally, informed consent was obtained from the participants, and participants had to select "I agree" to provide their consent and be a part of the research. If "I agree" was selected, the survey proceeded to the next stage.

Participants then provided demographic information including age, gender identity, nationality, ethnicity, and primary language spoken. Furthermore, demographic data was collected about their education including program of study, mode of enrolment, year of study, if a school leaver, international student, first in family to attend university and level of education completed. Next, data regarding employment, relationship status and number of children was collected. Thirty-two survey questions were then asked regarding student attendance, and nineteen questions regarding student engagement. Answers to all questions were optional.

At the completion of the survey, participants were then directed to a new page and asked to provide contact information in order to either receive course credit or entry to the cash prize draw. To ensure anonymity, this information was collected separately from the survey. Data collection and storage complied with the University's Research Data and Primary Materials Management Procedure. Data will be retained and disposed of in compliance with the Australian Code for the Responsible Conduct of Research.

Analytic Strategy

Data will be initially reviewed, screened and cleaned using Microsoft Excell prior to analysis, alongside assumption testing. The research question and hypotheses will be explored using SPSS version 29. An alpha level of .05 will be set for all probability testing.

To answer the research question regarding the reasons for non-attendance at synchronous classes, a two-tailed independent samples t-test was to be completed to determine the most influential reasons for non-attendance for both online and on-campus students. However, the data violated assumptions of normality. As a result, an independent samples Mann Whitney *U* non-parametric test, will be completed.

A preliminary analysis will explore correlations between the variables of interest and a Pearson's product moment correlation was to be completed with results grouped by mode of study. In order to facilitate this, participant responses for the nineteen question OSE (Dixson, 2015) was to be computed into a single variable for which the mean engagement score would be computed across respondents.

To test hypotheses 1 and 2, two multiple regression analyses will be conducted to determine the unique variance of each predictor variable. For hypotheses one and two, the dependant variable was student attendance, and the proposed predictive variables were student engagement and number of hours worked per week. This analysis was run for on-campus students (hypothesis 1) and online students (hypothesis 2). To test hypotheses 3 and 4, two multiple regression analyses will be conducted to determine the unique variance of each predictor variable. For hypotheses three and four, the dependant variable was viewing recorded classes, and the proposed predictive variables were student engagement and number of hours worked per week. This analysis was run for on-campus students (hypothesis 3) and online students (hypothesis 4).

Power Analysis

To ascertain the required sample size needed for this study, a priori analyses were conducted using G*Power software 3.1.9.6 (Faul et al., 2007). For the research question, for which independent means testing was completed, the G*Power analysis indicated a sample size of 128 would capture a medium effect size (d = .5, α = .05, power = .80). Therefore, the sample size is sufficient to enable the research question to be answered adequately. For the linear multiple regression analysis (MRA), G*Power analysis indicated a sample size of 68 was required to detect a medium effect size (f^2 = .15, α = .05, power = .80). The overall sample size is 327, and the samples for comparison for regression are on-campus (n = 160) and online (n = 167). Therefore, the sample size is appropriate to enable regression analysis for each hypothesis.

Chapter 3: Results

Data Screening

Data was collected over a 15-month period, April 2023 to July 2024. The data was downloaded from the Survey Tool into Microsoft Excel for screening of duplicates, withdrawals and ineligible participants. These cases were removed from the data set (n = 65, 16.5%). The data (N = 327) was then transferred into IBM SPSS version 29, for coding and analysis.

Missing value analysis for the thirty-two reasons for non-attendance was completed. Missing data greater than 5% was shown for twenty of the thirty-two reasons. However, due to the high proportion of reasons with missing data, the missing value analysis was examined in closer detail. It was identified that a group of missing data centred around educational reasons for non-attendance, specifically those relating to attending on campus. For example, questions about traveling to campus, lack of campus facilities, lack of campus activities and the number of students attending or not attending classes were not answered by 18 students. It was noted that these participants were online students and are unlikely to have attended campus. Therefore, they may have deemed these questions irrelevant and left them unanswered. Another consideration was that five participants did not answer any non-attendance reasons. Furthermore, six participants answered between 1 to 7 of the 32 questions relating to non-attendance. Investigating further, the five participants that answered none of the reasons for non-attendance had stated they attend all their classes. The six participants that answered minimal reasons for non-attendance had very high rates of attendance. Therefore, these responses can be considered as genuine. It is important to note that each reason for non-attendance can be considered and measured individually across participants and that the percentage of missing data for any reason did not exceed 10%. Therefore, analysis continued as planned.

Missing data for the measurement scale, OSE (Dixson, 2015) was inspected through a missing value analysis. The percentage of missing data ranged from 0 to 2.1%. Little's MCAR test was significant, with a value of .545, which indicates the missing data values were missing completely at random. As a result, expectation maximisation was used to impute the missing data.

Assumption Testing

To test for univariate normality, visual inspection of histograms was conducted, and skewness and kurtosis scores were calculated for attendance, hours worked, viewing recorded classes, student engagement scale scores, and for the 32 reasons for non-attendance. Histograms for attendance, hours worked, viewing recorded classes and student engagement scale scores were considered approximately normal as histograms displayed a normal distribution. A review of skewness and kurtosis scores indicated that all were within the acceptable range of +/-2. Therefore, the assumption of normality for attendance, hours worked, viewing recorded classes and student engagement scale scores was met. For the 32 reasons for non-attendance, the visual inspection of frequency histograms showed multiple reasons for non-attendance with leptokurtic distributions and two with a positive skewness. Additionally, the skewness and kurtosis scores for the same reasons for non-attendance were outside the acceptable range of +/-2. Examples of reasons for non-attendance that were not normally distributed were "too few students attending class", "too many students attending class", "lack of facilities on campus", and "my friends don't attend class". Therefore, that data were not normally distributed. Refer to Appendix B for a full list of skewness and kurtosis scores.

To test the assumption of homogeneity of variance, a Levene's test for equality of variances was completed. The Levene's test was non-significant for attendance, hours worked, viewing recorded classes and student engagement scale scores. Therefore, the

assumption of homogeneity of variance was met for these variables. However, the Levene's test was significant for several reasons for non-attendance and as a result, the assumption of homogeneity of variance was not met.

Univariate outliers were then examined for attendance, hours worked, viewing recorded classes and student engagement scale scores. Visual examination of boxplots revealed a single outlier for student engagement scale scores, and multiple outliers for viewing recorded classes. Review of the computed z-scores demonstrated that all were within the range of +/-3.29, therefore identified outliers were not considered extreme and could remain in the data set (Tabachnick & Fidell, 2013). For the 32 reasons for non-attendance, 43 z-scores across 8 reasons for non-attendance were identified as exceeding +/-3.29. However, the reasons for non-attendance were measured on a Likert scale from 1 to 5 so it would be expected all responses to be genuine participant responses (Fein et al., 2021). Therefore, these can be retained as part of the data set.

Multivariate assumption testing for all hypotheses included review of normality, outliers, linearity, and homoscedasticity. For hypotheses one, the model included attendance as the dependant variable and student engagement scale scores and hours worked as independent variables. For hypotheses three and four, viewing recorded classes was the dependant variable, and student engagement scale scores and hours worked were independent variables. Visual inspection of the residual scatterplot for all regression models indicated a normal distribution. Independence of residuals was demonstrated by the Durbin-Watson statistic (d), which exceeded the upper limit of $d_u = 1.665$ for all regression models (Savin & White, 1977). Multicollinearity was tested using variance inflation factor values, which were all below the limit of 10 (Pallant, 2013), indicating no multicollinearity. The maximum Mahalanobis distances for each model with $df = 2$, $\alpha = .001$ were below the critical χ^2 of 13.816, indicating no multivariate outliers.

Reasons for Non-Attendance

Assumption testing revealed the reasons for non-attendance items violated the assumption of normality and the homogeneity of variance. Therefore, a Mann-Whitney *U* non-parametric means analysis was performed to explore the differences between on-campus and online students top five most influential reasons for non-attendance. Table 3 outlines descriptive statistics for reasons for non-attendance. Appendix C provides a full list of Mann-Whitney *U* results.

The top five most influential reasons for non-attendance to synchronous classes were similar for on-campus and online students and are reported in Table 4. Of the five most influential reasons for non-attendance, on-campus and online students shared four of the five reasons, albeit rated differently. "I can access the recordings on StudyDesk" was the most influential reason for non-attendance for on-campus ($M = 3.39$, $SD = 1.35$) and online students ($M = 3.95$, $SD = 1.28$), and it was rated significantly higher for online students, although, with a small to medium effect size ($U = 9461$, $z = -4.11$, $p = <.001$, $r = -0.23$). Online students rated "I can get all learning resources on StudyDesk" ($U = 10670.50$, $z = -2.45$, $p = .014$, $r = -0.14$), "I was too busy" ($U = 8020.50$, $z = -5.18$, $p = <.001$, $r = -0.29$), and "I had to work" ($U = 8752.50$, $z = -3.99$, $p = <.001$, $r = -0.22$) significantly higher than on-campus students, with "I was too busy" having the largest effect size. For on-campus students, "I was genuinely sick" was a significant reason for non-attendance with a medium effect size ($U = 6767.50$, $z = -6.418$, $p = <.001$, $r = 0.29$). Finally, for online students, "scheduling conflict with personal commitments" was a significantly rated reason for non-attendance ($U = 9770$, $z = -3.18$, $p = <.001$, $r = -0.18$).

Table 3

Reasons for Non-Attendance for On-Campus and Online Students

Reasons for Non-Attendance	On-Campus		Online	
	M	*SD*	*M*	*SD*
Student Factors				
I was genuinely sick	3.18***	1.54	2.05***	1.37
I had to work	2.99***	1.62	3.61***	1.70
I was too busy to attend class	2.90***	1.44	3.73***	1.36
Scheduling conflict with personal commitments	2.86**	1.52	3.39**	1.59
Family commitments	2.65*	1.43	3.13*	1.52
Prioritising other activities	2.56*	1.24	3.02*	1.45
Once off engagements	2.39*	1.43	1.99*	1.29
Travel issues	2.22*	1.43	1.86*	1.46
Too tired	2.20***	1.34	1.66***	1.04
Technology issues	1.48	.85	1.66	1.04
Poor time management	1.93	1.18	1.81	1.19
Mental health issues	2.16	1.37	1.99	1.38
University Factors				
I can access the recordings on StudyDesk	3.39***	1.35	3.95***	1.28
I can get all learning resources on StudyDesk	3.13*	1.39	3.49*	1.44
I learn more from independent study	2.39*	1.35	2.75*	1.57
I did not enjoy the class	2.14***	1.35	1.43***	.77
The quality of teaching environment	2.07*	1.22	1.88*	1.31
I do not like the teaching style of the lecturer	1.96*	1.31	1.52*	.94
The lecturer is not an effective communicator	1.93*	1.36	1.48*	.92
I was not interested in class material	1.90***	1.11	1.31***	.65
The class did not relate to assessment	1.85***	1.19	1.41***	.82
I do not like the course	1.61***	.93	1.26***	.67
The lack of activities whilst on on-campus	1.63***	1.08	1.22***	.68
The course content is difficult	1.60***	.91	1.31***	.69
The lack of facilities/services on-campus	1.55*	.98	1.26*	.64
My friends do not attend class	1.49***	.95	1.10***	.37
I can get through the course without going to class	2.52	1.41	2.65	1.50
The number of classes in one day	2.23	1.45	1.78	1.24
The length of the class	2.22	1.31	1.97	1.23
Scheduling conflict with another class	1.77	1.23	1.73	1.21
Too many students attending the class	1.42	.97	1.27	.74
Too few students attending the class	1.46	.97	1.29	.72

Note: $N = 327$, *Asymptotic significance as part of the Mann Whitney U test,* $*p < .05$, $**p < .01$; $***p < .001$

Table 4

The Five Most Influential Reasons for Non-Attendance, by Mode of Study

On Campus	Online
1. I can access the recordings on StudyDesk***	1. I can access the recordings on StudyDesk ***
2. I was genuinely sick***	2. I was too busy***
3. All the learning resources on StudyDesk ***	3. I had to work***
4. I had to work***	4. All the learning resources on StudyDesk***
5. I was too busy***	5. Personal commitments***

*Note: **** p <.001. Personal commitments" refers to "scheduling conflict with personal commitments". "All the learnings on StudyDesk" refers to "I can access all the learning resources on StudyDesk".*

Preliminary Analyses

Preliminary analyses were conducted on variables of interest including synchronous class attendance, hours worked per week, viewing recorded classes and student engagement. A Pearson's bivariate correlation was used to examine the relationship between the variables for both modes of study.

On-Campus Students

Attendance and hours worked demonstrated a significant negative relationship with a small to medium effect, $r(158) = -.25$, $p = .002$. Attendance showed a positive non-significant relationship with viewing recorded classes, $r(158) = .03$, $p > .05$. A significant and small to medium positive correlation was found between attendance and student engagement, $r(158) = .28$, $p < .001$. The associations between hours worked and viewing recorded classes were non-significant and negative, $r(158) = -.06$, $p > .05$, and hours worked and engagement was non-significant and negative, $r(158) = -.10$, $p > .05$. Viewing recorded classes and engagement had a significant small to moderate positive correlation, $r(158) = .28$, $p < .001$. Data is displayed and summarised in Table 5.

Table 5

Descriptive Statistics and Bivariate Correlation Coefficients for On-Campus Students

Variable	*M*	*SD*	1	2	3	4
1. Attendance	8.05	3.00	-	-	-	-
2. Hours worked	16.11	12.38	-.25**	-	-	-
3. Viewing recorded classes	3.84	1.08	.03	-.06	-	-
4. Engagement	3.50	.51	.28***	-.10	.28***	-

*Note: N = 160, *p < .05, **p < .01, ***p <.001, two-tailed.*

Online Students

A significant small to medium negative correlation was demonstrated between attendance and hours worked, $r(165) = -.24$, $p < .001$. The relationship between attendance and viewing recorded classes was positive and non-significant, $r(165) = -.09$, $p > .05$. A medium and significant positive correlation was found between attendance and engagement, $r(165) = .31$, $p < .001$. Hours worked and viewing recorded classes were associated with a significant negative effect, $r(165) = -.16$, $p = .036$. A significant negative small correlation was found between hours worked and student engagement, $r(165) = -.20$, $p = .01$. Viewing of recorded classes and student engagement had a significant and small positive correlation, $r(165) = .18$, $p = .024$. Data is displayed and summarised in Table 6.

Table 6

Descriptive Statistics and Bivariate Correlation Coefficients for Online Students

Variable	*M*	*SD*	1	2	3	4
1. Attendance	4.38	4.10	-	-	-	-
2. Hours worked	22.05	16.37	-.24***	-	-	-
3. Viewing recorded classes	4.33	1.10	-.09	-.16*	-	-
4. Engagement	3.52	0.64	.31***	-.20**	.18*	-

*Note: N = 167, *p < .05, **p < .01, ***p <.001, two-tailed.*

Multiple Regression Analyses for Attendance

Standard multiple regression analysis was completed and grouped by mode of study to align with the four hypotheses. For hypothesis one for on-campus students, and hypothesis two for online students, attendance was the dependent variable with hours worked and engagement the independent variables. For hypothesis three for on-campus students, and hypothesis four for online students, viewing recorded classes was the dependent variable with hours worked and engagement the independent variables.

On-Campus Students

The first hypothesis assessed if student engagement and number of hours worked would predict attendance at synchronous classes for on-campus students. Table 7 includes the pertinent statistics for the regression model. Overall, the results indicated that the model was significant, with the predictors explaining 12.5% of the variability in attendance, $R^2 = .13$, adjusted $R^2 = .11$, $F(2, 157) = 11.26$, $p = <.001$. According to Cohen (1988) the combined effect size of the model is small to medium ($f^2 = .14$). The analysis indicates that engagement was a significant and stronger predictor of attendance, indicating that as engagement increases, so does attendance. Hours worked was also a significant predictor of attendance, such that as hours worked increased, attendance decreased.

Table 7

Standard Multiple Regression for Attendance for On-Campus Students

Predictor	*B*	*SE B*	95% CI for B		β	*t*	*p*
			LL	*UL*			
Constant	3.67	1.60	.51	6.84		2.29	<.001
Engagement	1.50	.44	.64	2.37	.26	3.42	<.001
Hours Worked	-.05	.18	-.09	-.02	-.22	-2.94	.004

Note. N = 160. CI = confidence interval; LL = lower limit; UL = upper limit.

Online Students

The second hypothesis examined if student engagement and number of hours worked would predict attendance at synchronous classes for online students. Table 8 includes the statistics for the regression model. Overall, the results indicated that the model was significant, with the predictors explaining 13% of the variability in attendance, $R^2 = .13$, adjusted $R^2 = .12$, $F(2, 164) = 12.25$, $p = <.001$. According to Cohen (1988) the combined effect size of the model is medium ($f^2 = .15$). The results indicated engagement was a significant predictor of attendance, meaning that as engagement increases, so does attendance. Also, hours worked was a significant predictor of attendance, meaning that as hours worked increased, attendance decreased. Student engagement was a stronger predictor of attendance compared to hours worked.

Table 8

Standard Multiple Regression for Attendance for Online Students

Predictor	*B*	*SE B*	95% CI for B		β	*t*	*p*
			LL	*UL*			
Constant	-.82	1.84	-4.45	2.81		-.445	.657
Engagement	1.77	.479	.82	2.71	.27	3.69	<.001
Hours Worked	-.05	.02	-.08	-.01	-.19	-2.5	.013

Note. N = 167. CI = confidence interval; LL = lower limit; UL = upper limit.

Multiple Regression Analyses for Viewing Recorded Classes

On-Campus Students

The third hypothesis explored if student engagement and number of hours worked would predict viewing recorded classes for on-campus students. In combination, the model was significant, with the predictors explaining 7.8% of the variability in viewing recorded classes, $R^2 = .08$, adjusted $R^2 = .07$, $F(2, 157) = 6.67$, $p = .002$. According to Cohen (1988) the combined effect size of the model is small ($f^2 = .08$). The results showed engagement was a significant predictor of viewing recorded classes, indicating that as engagement increases, so does attendance. Hours worked was not a significant predictor of viewing recorded classes.

Table 9

Standard Multiple Regression for Viewing Recorded Classes for On-Campus Students

Predictor	*B*	*SE B*	95% CI for B		β	*t*	*p*
			LL	*UL*			
Constant	1.86	.59	.69	3.04		3.14	.002
Engagement	.58	.16	.26	.90	.27	3.56	<.001
Hours Worked	0	0	-.02	.10	-.04	-.47	.637

Note. N = 167. CI = confidence interval; LL = lower limit; UL = upper limit.

Online Students

The fourth hypothesis considered that student engagement and number of hours worked would predict viewing of recorded classes for online students. Hours worked and engagement accounted for a significant 4.8% of the variability in viewing recorded classes, $R^2 = .05$, adjusted $R^2 = 0.4$, $F(2, 164) = 4.09$, $p = .018$. According to Cohen (1988) the combined effect size of the model is small ($f^2 = .05$). Engagement and hours worked were not significant predictors of viewing recorded classes.

Table 10

Standard Multiple Regression for Viewing Recorded Classes for Online Students

Predictor	*B*	*SE B*	95% CI for B		β	*t*	*p*
			LL	*UL*			
Constant	3.61	.52	2.56	4.64		6.99	<.001
Engagement	.26	.14	-.01	.53	.15	1.91	.091
Hours Worked	-.01	.01	-.02	0	-.13	-1.70	.058

Note. N = 167. CI = confidence interval; LL = lower limit; UL = upper limit.

Chapter 4: Discussion

The number of students studying on-campus is declining, whilst the number of students studying online is growing. On-campus and online students are studying both synchronously and asynchronously. However, research indicates that students who attend synchronous classes are more engaged, have higher levels of engagement and achieve higher academic results. Therefore, understanding the reasons for non-attendance at synchronous classes and the demographic and psychological factors that influence attendance for on-campus and online students is an important area of research. The purpose of the current study was to understand the factors that impact on-campus and online students non-attendance at synchronous classes, and to determine if there were any differences between on-campus and online students. Furthermore, the study aimed to understand how student engagement and hours worked impacted student attendance and viewing of recorded classes for both on-campus and online students.

The results of the current study indicate that on-campus and online students reported comparable reasons for non-attendance at synchronous classes. Hypothesis one and two were supported, with student engagement and hours worked predicting attendance for both on-campus and online students. As student engagement increased, attendance also increased. On the other hand, as hours worked increased, attendance decreased. For both hypotheses, student engagement was found to be a stronger predictor of attendance than hours worked. Hypothesis three and four were confirmed, with student engagement and hours worked predicting viewing of recorded classes for both on-campus and online students. Student engagement was found to be a significant predictor of viewing recorded classes for on-campus and online students. However, hours worked was not a significant predictor of viewing recorded classes for both groups. Contrary to hypotheses, student engagement and hours worked were not significant predictors of viewing recorded classes for online students.

Reasons for Non-Attendance

The research question aimed to understand the most influential reasons for non-attendance at synchronous classes. Past research has found students report they choose not to attend synchronous classes for a wide variety of reasons that encompass personal and educational factors (Beovich et al., 2021; Friedman et al., 2001; Gysbers et al., 2011; Khan, 2022; Massingham & Herrington, 2006; Moores et al., 2019; Oldfield et al., 2018).

The analysis showed that on-campus and online students both scored two university factors in their top five reasons for non-attendance. “I can access the recordings on StudyDesk” and “I can get all the learning resources on StudyDesk” were the most influential university related factors for non-attendance for both groups. These findings correlate with research by Skead and colleagues (2020), where a study of Australian students ($N = 900$) found 54.4% of the participants stated access to online recordings as the primary reason for non-attendance. The researchers concluded that access to online recordings was a significant factor in a student choosing to attend class, or not (Skead et al., 2020). However, students in prior research reported use of online resources much lower in their reasons for non-attendance (Massingham & Herrington, 2006; Oldfield et al., 2018). The use of higher educational online resources has been accelerated over the years. There are higher numbers of student studying in blended or online only modes (Lodge et al.,2022). Students may be more accustomed to use of online resources post the COVID-19 pandemic (Lodge et al., 2022), and as technology has improved. In prior research, students reported other university factors as more influential, such as “I did not enjoy the class” and “the quality of teaching environment” (Massingham & Herrington, 2006; Oldfield et al., 2018). However, as student attendance on-campus and demographics change, the influence of these factors has reduced and been replaced by use of technology.

Student factors for non-attendance are also a key influencer for both on-campus and online students. Of the top five influential reasons for non-attendance, on-campus students reported three student factors as influencing their attendance. In sequential order, on-campus students rated "I was genuinely sick", "I had to work", and "I was too busy to attend class" as highly influential reasons for non-attendance . In comparison, online students also reported three student factors in their top five most influential reasons. In sequential order these were "I was too busy to attend class", "I had to work" and "scheduling conflict with personal commitments". The results for online students are in line with the demographic data collected, whereby 46% of online students have children, compared to 16% of on-campus students. Additionally, 26% of online students work full-time, compared to 11% of on-campus students. All the student factors identified as influential in the current study have been recognised in prior research to influence a student's decision to attend or not to attend synchronous classes (Massingham & Herrington, 2006; Oldfield et al., 2018).

In summary, the research examined the most influential reasons for non-attendance at synchronous classes for on-campus and online students. For on-campus students, the most influential reasons for non-attendance, in order of importance were "I can access the recordings on StudyDesk", "I was genuinely sick", "I can access all the learning resources on StudyDesk", "I had to work" and "I was too busy to attend class". For online students, the most influential reasons for non-attendance, in order of influence, were "I can access the recordings on StudyDesk", "I was too busy to attend class", "I had to work", "I can access all the learning resources on StudyDesk", and "scheduling conflict with personal commitments". As evidenced by the results, on-campus and online students have similar reasons for non-attendance at synchronous classes.

Student Engagement and Hours Worked as Predictors of Attendance and Viewing Recorded Classes

Key findings emerged from the preliminary analysis of the variables of interest. The significant and positive correlations between engagement with attendance and viewing of recorded classes for both on-campus and online students are comparable to results by Boulton and colleagues (2019), who found positive and significant associations between engagement and learning activities such as viewing lectures recordings, attending classes and reviewing online materials. The outcomes of that study suggested that engaged students are involved in all aspects of their learning (Boulton et al., 2019). This also aligns with the literature that engagement is a major influencer on attendance. Students who enjoy the topic and the class itself are more likely to attend than those who do not. The significant negative relationship for hours worked and attendance for both on-campus and online students is also important. In the literature reviewed, hours worked at was frequently cited reason for non-attendance (Oldfield et al., 2018; Skead et al., 2020).

Hours worked were a significant predictor of attendance for both on-campus and online students, and the results indicate that hours work increase, attendance decreases. Prior research indicates that paid work influences synchronous class attendance and leads to higher attrition rates (Lodge et al., 2022; Oldfield et al., 2018; Schofield, 2024; Skead et al., 2020). In fact, students are facing increased costs of living, therefore, they may need to increase their hours of work to keep up with general living expenses and the cost of their education (Schofield, 2024). This may reduce their ability to balance study and work commitments (Schofield, 2024). However, hours worked was not a significant predictor of viewing recorded classes for on-campus or online students. Prior research found that many on-campus student attend lectures, but also make use of online resources, using them to review crucial or difficult aspects of their course (Gysbers et al., 2011; Khong et al., 2016; Luttenberger et al.,

2018). On the other hand, for an online student, their primary method of attendance may be to view recorded classes asynchronously. In the current sample, 26% of online students reported working full-time and 22% part-time. The mean number of hours worked per week was 22. Therefore, we could posit that online students factored their hours worked into their study time. Hence, hours worked per week would not influence viewing recorded classes. Taken together, both on-campus and online students utilise online recorded classes. The use of online recorded classes appears not to be influenced by hours worked by a student. However, the use of recorded classes is an evolving aspect of student learning, which will continue to change the educational landscape as technology improves. In summary, hours worked appears to be an important consideration for student attendance, but less so for viewing recorded classes.

Engagement was found to be a significant predictor of synchronous class attendance, and subsequently when engagement increased, so did student attendance for both modes of study. In fact, engagement predicted more variability in attendance than hours worked, for both on-campus and online students. Active learning behaviours, and peer and academic interactions are key for student engagement (Dixson, 2015; Nevid et al., 2022; Shah and Barkas, 2018). The results show higher student engagement was related to greater attendance at synchronous classes. In turn this can further influence engagement, and future rates of attendance (Boulton et al., 2019; Dixson, 2015; Lei et al., 2018; Moores et al., 2019; Nevid et al., 2022; Shah & Barkas, 2018). In consideration of the results and research, engaged students, regardless of their mode of attendance, look to actively participate in their learning, which includes attending synchronous classes. Engagement was also a significant predictor of viewing recorded classes for on-campus students. For on-campus students, recorded classes may be used as a tool to allow review or catch-up of important concepts, or to allow flexibility when a class must be missed for other reasons (Skead et al., 2020; Yeung et al.,

2016). However, engagement did not predict viewing of recorded classes for online students. Recorded classes are a vital part of online student experience and afford flexibility in learning. A possibility is that online students are already utilising all online resources, which is expected for their mode of study. If this is the case, perhaps this is the reason that viewing recorded classes was not significant for online students. Generally, results of the current study demonstrated that student engagement is an influential predictor of synchronous attendance for on-campus and online students, however, it is a significant predictor of viewing recorded classes for on-campus students only.

Theoretical and Practical Implications

This study aimed to examine on-campus and online student reported reasons for non-attendance at synchronous classes, as well as the impact of hours worked and engagement on student attendance and viewing of recorded classes. Use of online materials, including recordings and study materials, contribute to the student's decision not to attend class. This seems to align with the growing use of online resources for both higher education, and as a part of daily life. Students in both groups reported analogous reasons for non-attendance. Student factors play a large part in why students do not attend class, and primarily relate to sickness, work, being busy and personal commitments. As these factors are of a personal nature, they are outside higher educational institutions control. However, higher educational institutions may wish to consider how these student factors impact their enrolments and attrition rates, and how they can facilitate improvement in student time-management skills thereby influencing attendance. Similarly, higher educational institutions may wish to consider highly rated educational factors that influence non-attendance as areas for potential improvement in the courses they offer.

The study has added important insights for online students. Many studies continue to focus on students who are on-campus, whereas this study provided insights on two modes of

study. Many students who study online are in full or part time employment and/or have children. These students likely watch recorded classes to facilitate their learning. However, the results for online students did not show hours worked as a predictor for viewing recorded classes. Therefore, further analysis of how and when online students utilise all online resources would be prudent as this can enable online study offerings to be tailored so they are impactful and engaging.

The predictive value of engagement on attendance was comparable between on-campus and online students. These current findings suggest that students who are more engaged are more likely to attend synchronous classes, regardless of the mode of attendance. Therefore, engagement of online students warrants further investigation, given that historically this group are less engaged and have higher attrition rates. Higher educational institutions could consider exploration of engagement interventions targeted to online students to determine if this increases synchronous class attendance and reduces attrition rates.

This study contributes to the theoretical discussion about attendance behaviours and student engagement for online and on-campus students. Student engagement for online students was more predictive of viewing recorded classes for online students than for on-campus students. As online student enrolments increase, this contribution to the theoretical understanding of online student engagement is notably important.

Strengths and Limitations

Strengths of the current study are twofold. The large sample size provided adequate power to enable confidence in the analysis, ensuring results are not related to chance. This was aided using an online platform which allowed the survey to reach and recruit a large group of students. The second strength was the use of anonymous responses and self-reported attendance rates. Although self-report data is prone to bias, the use of anonymous survey

would have limited the likelihood of this phenomenon. Taken together, the sample size and use of anonymous data collection were key strengths of the current study.

There are several limitations of the current study. Firstly, engagement was measured at a single point in time. Student engagement can wax and wane, so this may not be representative of student's actual engagement over the course of their studies (Boulton et al., 2019). Secondly, students studying in a blended mode (n = 78) were included as part of the on-campus group of students. Students who study in blended mode may have done so by choice, or by university mandate, such as in the COVID-19 pandemic or when a campus does not offer on-campus study options. As a result, these students may identify more with on-campus or online students, both, or neither group. For the current study, not utilising blended students as a separate mode of study may have influenced the on-campus students results by over-inflating some data, for example, use of recordings or deflating others, such as attendance.

Future Research Directions

The use of online learning is an evolving phenomena. The current study evidenced that on-campus and online students report access to online material as a key reason for non-attendance. As the world becomes more focussed on using online resources and automated technologies, exploring the link between online learning and student achievement would be warranted. Furthermore, exploration of the demographic factors of online students and how these interact with online synchronous class attendance could provide great insights into the growing cohort of online students. Similarly, the current study indicated that hours worked was not a significant predictor of online student asynchronous attendance. However, there is no understanding of what does predict online student asynchronous attendance. Investigation of what may impact the asynchronous attendance for online students could increase higher educational institutions in attracting and retaining students in this growing sector.

Student engagement has been found to be a significant predictor of synchronous class attendance in the current study. However, the current study measured participants at a single point in time, and participants were also from a single institution. Therefore, use of a longitudinal sample with input from more than one higher educational institution may enable more generalisability of findings. Furthermore, consideration of what factors could be more influential predictors of student attendance at synchronous classes, such as motivation, belonging and self-concept. These constructs were measured as part of the wider data collection but were not examined as part of the current study. In future, researchers should consider examining more than one psychological factor to enable a greater understanding of the psychological factors that may predict attendance.

Finally, whilst academic achievement was not measured as part of the current study, consideration should be given to understanding the relationships between student attendance, achievement and engagement. For students who may be lower achieving, measuring attendance and engagement and how this is associated with improved academic performance may be especially impactful.

Conclusion

There is a current lack of research into online students in higher education. Online study in higher education is expanding, and this study has provided further insights into factors that influence online student attendance and online student engagement. There are broad range of factors that influence attendance at synchronous classes, with access to online materials being a highly influential for both online and on-campus students. In prior research, hours worked was reported as a factor that influenced student non-attendance, and this was also ranked as influential by both on-campus and online students in the current study. Furthermore, for on-campus and online students, hours worked per week were a significant predictor of attendance, however, hours worked per week were not a significant predictor of

viewing recorded classes. Engagement emerged as an important predictor of student attendance and viewing recorded classes for both on-campus and online students. Yet, the results indicate that the predictive power of this construct is limited. As a result, other factors that were not reviewed as part of this study may be more predictive of student attendance at synchronous classes in higher education.

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Appendix A

Project Title

Demographic and psychological factors predicting university undergraduate student attendance at online and on-campus classes.

Description

The purpose of this project is to investigate the demographic and psychological factors impacting university undergraduate student attendance at online and on-campus classes. Non-attendance from university classes is a growing trend and remains a major concern to universities. Poor attendance has a significant and detrimental impact, not only on students but their peers and teaching staff. However, there is a lack of research examining demographic and psychological predictors of non-attendance and attendance at both online and on-campus classes, particularly since the COVID-19 pandemic. The current research seeks to address this 'gap' and from the perspective of a regional university.

This project is being undertaken as part of an Honours (Bachelor of Science (Honours Psychology) and Bachelor of Psychology (Honours) project through the University of Southern Queensland.

Participation

Your participation will involve completion of an online survey that will take approximately 30 minutes of your time. Questions will include questions about you (e.g., age, employment status), attendance at classes, and your thoughts and feelings about being a student.

Your participation in this project is entirely voluntary. If you do not wish to take part, you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project. If you do wish to withdraw from this project, simply close the online survey. You will be unable to withdraw data collected about yourself after the survey has been submitted.

Your decision whether you take part, do not take part, or take part and then withdraw, will in no way impact your current or future relationship with the University of Southern Queensland.

Expected Benefits

It is expected that this project may potentially directly benefit you. By taking part in this survey, you provide a voice in identifying the factors impacting student class attendance. This will help inform future learning and teaching practices within the School of Psychology and Wellbeing. Therefore, both current and future students enrolled in courses within the School will potentially benefit from this project.

Participants will be able to enter the Psychology Cash Prize Draw to win a prepaid cash card valued at $50-$100. If you do not wish to enter the Cash Prize Draw, you are not obliged to

do so. Entry into the Cash Prize Draw will be awarded even if you decide to withdraw from the project at any stage. The Cash Prize Draw is drawn twice-yearly (at the end of Semester 1 in June/July and at the end of Semester 3 in February/March) and winners will be notified via email. Further, if you are a UniSQ student enrolled in PSY1010, you will have the opportunity to choose between receiving a course credit point (as per the information/instructions provided by your Course Examiners), or an entry into the Cash Prize Draw. If you do not wish to participate in the survey in exchange for course credit, you are not obliged to do so. At the end of the survey, you will be provided the option of entry to the Prize Draw, course credit for PSY1010, or opting out and any information provided in relation to the Prize Draw and course credit is collected independently from your survey responses.

Risks

In participating in the survey, there are no anticipated risks beyond normal day-to-day living. Sometimes thinking about the sorts of issues raised in the questionnaire can create some uncomfortable or distressing feelings. If you need to talk to someone about this immediately, please contact Lifeline on 13 11 14. You may also wish to consider consulting your General Practitioner (GP) for additional support.

Privacy and confidentiality

All comments and responses are confidential unless required by law. The names of individual persons are not required in any of the responses.

Any data collected as a part of this project will be stored securely, as per University of Southern Queensland's Research Data and Primary Materials Management Procedure. Data collected will have restricted access to the research team, as listed on this application, to only be used in future research projects involving the members of this research team.

Consent to participate

Clicking on the 'Submit' button at the conclusion of the survey is accepted as an indication of your consent to participate in this project.

Questions

Please refer to the Research team contact details at the top of the form to have any questions answered or to request further information about this project.

Concerns or complaints

If you have any concerns or complaints about the ethical conduct of the project, you may contact the University of Southern Queensland, Manager of Research Integrity and Ethics on +61 7 4631 1839 or email researchintegrity@usq.edu.au. The Manager of Research Integrity and Ethics is not connected with the research project and can address your concern in an unbiased manner.

Thank you for taking the time to help with this research project. Please keep this document for your information.

Informed Consent

Please provide consent to participate in this survey before moving on to the survey questions.
By clicking 'I agree', you are indicating that you:

- **Have read and understood the participant information regarding this project.**
- **Have had any questions answered to your satisfaction.**
- **Understand that if you have any additional questions, you can contact the research team.**
- **Agree to participate in the project.**
- I agree
- I do not agree *(if chosen, skips to end of survey)*

Participant Demographics

Please answer the following demographic questions about yourself.

What is your current age (in years)?

To which gender identity do you most identify?

Are you an Australian? Yes/ No
If not, what is your nationality?

What is your ethnicity (e.g., Caucasian, Chinese)?

Is English your primary language? Yes/ No
If no, please indicate your primary language

Which program of study are you currently enrolled?
Bachelor of Psychology (Honours)/ Bachelor of Science (Psychology or Psychology Extended)/ Other (please specify)

What is your main mode of enrolment? Online/ Toowoomba on-campus/ Ipswich on-campus/ multi-modal (A mixed enrolment attendance of on campus and online for courses in the program (semester based)
If on-campus, what it the distance (in km) from the campus?

Why did you select this mode of enrolment? [open-ended]

What is your current year of study or part-time equivalent? Year 1 (part-time equivalent)/ Year 2 (part-time equivalent)/ Year 3 (part-time equivalent)/ Year 4 (part-time equivalent)/ Year 5 and above

How many courses are you currently enrolled in for Semester 1? [open-ended]

Are you a school-leaver (i.e., under the age of 19 years at the start of the academic year)? Yes/ No

Are you an international student (i.e., not an Australian or New Zealand Resident or Permanent Resident)? Yes/ No

Are you the first person in your immediate family to attend University? Yes/ No

Please select the highest level of education you have <u>completed</u>:
Primary school/ Secondary school/ TAFE/diploma / Trade qualification/ Undergraduate university/ Postgraduate university/ Other (please describe)

What is your current employment status?
Choose one of the following answers
Full time/ Part time/ Casual/ Other (specify)/ N/A

What are the number of hours (on average) per week you spend in paid employment?

What is your current relationship status?
Single/ Dating/ Long term relationship/ Married/ Separated

Do you have children?
Yes/ No
If yes, please indicate their ages

Psychological Factors/Attendance

In the following questions, "class" refers to both synchronous online tutorials and on-campus class contact time/ lectures and tutorials.

Attendance
Think about one course you have enrolled in over the current academic year. Please estimate the proportion of classes you have attended over the current academic year for this course (e.g.,).
Is this proportion of attendance typical for all courses you are enrolled in? Why or why not?

Reasons for non-attendance
To what extent have the following reasons for non-attendance influenced your attendance at class?
1 = strongly disagree to 5 = strongly agree/ 1 – not at all, 5 – very much, N/A option for travel specific questions.

I was genuinely sick.
I was too busy to attend class.
Family commitments.
The classes were boring/ I did not enjoy the class.
The topic was boring/ I was not interested in the class material.
I don't like the course
The lecturer is not an effective communicator
I do not like the teaching style of the lecturer
The class did not relate to the assessment

The course content is difficult.
I can get all the learning resources from *StudyDesk*
I can access the recordings on StudyDesk.
I can get through the course without going to class.
I learn more from independent study than classes/ Classes are a waste of time.
The quality of the teaching environment (technology, temperature, comfort etc). Please specify.
The lack of facilities/ services on-campus.
The lack of activities to do whilst on-campus.
Scheduling conflict with another class.
Scheduling conflict with personal commitments (e.g., picking up children from school). Please specify.
I had to work.
Prioritising other activities (e.g., social, family). Please specify.
The length of the class (e.g., more likely to attend 2-hour class than 1-hour class). Please specify.
The number of classes in one day (e.g., more likely to attend if several classes scheduled on one day). Please specify.
Travel issues (e.g., length of commute, access to transport). Please specify.
Technology issues (e.g., unreliable internet, poor quality microphone). Please specify.
Too many students attending class.
Too few students attending the class.
My friends do not attend the class.
Too tired.
Poor time management.
Mental health issues.
Once off other engagements e.g., wedding, funeral, appointment
Other: please specify

If you do not attend a class, how likely are you to watch the recordings in your own time?
1 – not at all, 5 – very likely

What do you feel might improve your attendance? [open-ended]

On average, how often do you access the course StudyDesk page?
What resources do you access on the StudyDesk page (select all that apply)?
Assessment resources
News/ Announcements forums
Other forums
Lecture/ topic recordings
Tutorial recordings
Formative quizzes
Other activities
Readings
Other (please specify)

Role identity (adapted from Godin et al., 1996)
To what extent do you think that attending classes is a significant part of your role as a student?

1 (very unimportant), 7 (very important)
Generally speaking, I think it is appropriate for me as a student to attend every class this semester.
Thinking of myself as a student, it is not important for me to attend every class this semester.
For me, attending every class this semester will not assist in fulfilling my role a student.
As a student, I think it is important for me to attend every class this semester.
1 (strongly disagree), 7 (strongly agree)

Belonging with School of Psychology and Wellbeing and UniSQ
The following questions only relate to students enrolled in a psychology program. Are you enrolled in a psychology program? Yes (moves to the PSSM), No (skips to the College Belongingness Scale).
The following questions relate to your thoughts and feelings towards the School of Psychology and Wellbeing (referred to as the SoPW).
The Psychological Sense of School Membership (PSSM) Scale
I. I feel like a real part of the SoPW.
2. People here notice when I'm good at something.
3. It is hard for people like me to be accepted here. (reversed)
4. Other students in the SoPW take my opinions seriously.
5. Most lecturers at (the SoPW) are interested in me.
6. Sometimes I feel as if I don't belong here. (reversed)
7. There's at least one lecturer in the SoPW I can talk to if I have a problem.
8. People at this school are friendly to me.
9. Lecturers here are not interested in people like me. (reversed)
10. I am included in lots of activities at the SoPW.
11. I am treated with as much respect as other students.
12. I feel very different from most other students here. (reversed)
13. I can really be myself at this school.
14. The lecturers here respect me.
15. People here know I can do good work.
16. I wish I were in a different school. (reversed)
17. I feel proud of belonging to the SoPW.
18. Other students here like me the way I am.

College Belongingness (Arslan, 2020)
1= "strongly disagree" and 7 = "strongly agree."
The following questions relate to your thoughts and feelings towards the University of Southern Queensland.
I feel like I belong to this university.
I feel like myself as a real part of this university.
I can really be myself at this university.
Overall, I feel happy to be at this university.
I think that people at this university care about me.
My friends generally ignore me at this university.
My friends at this university do not involve me in their plans.
I don't have close bonds with members of this university.
I feel isolated from the rest of the world at this university.
I feel myself excluded at this university.

Engagement Scale

Online Student Engagement Scale (Dixson, 2015) – minor adaptation required

How well do the following behaviours, thoughts, and feelings describe you? Please answer using the following scale:

1. Not at all characteristic of me
2. Not really characteristic of me
3. Moderately characteristic of me
4. Characteristic of me
5. Very characteristic of me

1. Making sure to study on a regular basis
2. Putting forth effort
3. Staying up on the readings
4. Looking over class notes between getting online to make sure I understand the material
5. Being organised
6. Taking good notes over readings, PowerPoints, or video lectures
7. Listening/ reading carefully
8. Finding ways to make the course material relevant to my life
9. Applying course material to my life
10. Finding ways to make the course interesting to me
11. Really desiring to learn the material
12. Having fun in online chats, discussions or via email with the instructor or other students
13. Participating actively in small-group discussion forums
14. Helping fellow students
15. Getting a good grade
16. Doing well on the tests/ quizzes
17. Engaging in conversations online (chat, discussions, emails)
18. Posting in the discussion forum regularly
19. Getting to know other students in the class

The Student Learning Outcome Scale (SLOS) (Zhoc et al., 2018)

Measures students' self-perception on the achievement of different educational outcomes, which in turn could be categorised into the cognitive, social, and self-growth outcomes

1. Dealing with unfamiliar problems.
2. Thinking creatively.
3. Thinking analytically and critically.
4. Viewing things from a global perspective.
5. Developing in-depth knowledge in my areas of study.
6. Communicating effectively with others.
7. Greater understanding of others.
8. Getting along with people of different cultural and ethnic backgrounds.
9. Working collaboratively with others.
10. Leadership skills.
11. Managing time more effectively.
12. Learning a new skill or knowledge by yourself.
13. Ability to have critical self-reflection.
14. Life-long learning.
15. Upholding personal and professional ethics.

Student Psychological Needs Scale (SPNS) (Goldman et al., 2017)
1 (strongly disagree) to 5 (strongly agree)
Please indicate the extent to which you agree/ disagree with the following statements.
Autonomy
1. In this class, I have the freedom to learn in my own way
2. I complete assignments in this class in the way I want to do them.
3. The way this class is structured allows me to learn in my own unique way.
4. I have the freedom to complete course assignments in my own way.
5. I dictate how I will complete the assignments in this course.
6. I have the opportunity to decide for myself how I will learn in this class.
7. I have the freedom to succeed however I want to in this class.
8. I am free to complete classroom assignments the way I want to do them.
Competence
9. I am competent in this class.
10. When it comes to class assignments, I do not know what I am doing.
11. I can accomplish the most difficult assignments given in this class.
12. I am not confident in my abilities to perform well in this class.
13. I can accomplish anything that is assigned to me in this class.
14. I do not feel competent when I am working on coursework for this class.
15. I do well in this class compared to other students.
16. I do not know what I'm doing in this class.
Relatedness with Classmates
17. I am close to several of my classmates.
18. I can relate to several of my classmates in this class.
19. I share several common interests with my fellow classmates.
20. I have a lot in common with several of my peers in this class.
Relatedness with Instructor
21. I cannot relate to my instructor.
22. My instructor does not care about me as a student.
23. I feel distant from my instructor in this class.
24. I can relate to my instructor as a person.

Intrinsic motivation to learn (Goldman et al., 2017)
1 (strongly disagree) to 5 (strongly agree)
Please indicate the extent to which you agree/ disagree with the following statements.
1. Learning new concepts in this class is fulfilling to me.
2. Developing my understanding of the content is rewarding to me.
3. Learning new things in this class makes me feel better about myself.
4. I find learning new things in this class to be unfulfilling.
5. Understanding new concepts in this class is enjoyable to me.
6. It is personally satisfying for me to learn new concepts in this class.
7. I get a sense of fulfillment when I learn new things in this class.
8. I do not enjoy trying to comprehend new ideas in this class.
9. Learning new things in this class makes me feel like I am growing as a person.
10. I desire to learn new things in this class because it gives me a sense of fulfillment

Appendix B

Skewness and Kurtosis for Reasons for Non-Attendance

Reasons	*N*	Skewness	*SE* Skewness	Kurtosis	*SE* Kurtosis
Personal Student Factors					
I was genuinely sick	303	0.329	0.14	-1.464	0.279
I had to work	306	-0.355	0.139	-1.579	0.278
I was too busy	310	-0.410	0.138	-1.189	0.276
Scheduling conflict with personal commitments	313	-0.237	0.138	-1.485	0.275
Family commitments	310	0.013	0.138	-1.436	0.276
Prioritising other activities	316	0.146	0.137	-1.187	0.273
Once off engagements	310	0.835	0.138	-0.596	0.276
Travel issues	303	1.010	.0140	-0.532	0.279
Too tired	313	1.145	0.138	0.194	0.275
Technology issues	310	1.750	0.138	2.502	0.276
Poor time management	312	1.296	0.138	0.687	0.275
Mental health issues	312	0.958	0.138	-0.492	0.275
University Factors					
I can access the recording on StudyDesk	319	-0.749	0.137	-0.638	0.272
I can get all learning resources on StudyDesk	318	-0.369	0.137	-1.185	0.273
Learn more studying independently	319	0.360	0.137	-1.310	0.272
I did not enjoy the class	306	1.325	0.139	0.601	0.278
The quality of teaching environment	309	1.047	0.139	0.135	0.276
I do not like the teaching style of the lecturer	306	1.456	0.139	1.073	0.278
The lecturer is not an effective communicator	308	1.529	0.139	1.151	0.277
I am not interested in class material	308	1.514	0.139	1.415	0.277
The class did not relate to assessment	308	1.685	0.139	1.932	0.277
I do not like the course	309	2.021	0.139	3.573	0.276
There is a lack of on-campus activities	298	2.279	0.141	4.454	0.281
The course content is difficult	308	1.861	0.139	2.645	0.277
There is a lack of facilities/services on-campus	299	2.349	0.141	5.285	0.281

My friends do not attend class	311	2.896	0.138	8.451	0.276
I can get through the course without going to class	316	0.319	0.137	-1.308	0.273
Number of classes in one day	310	0.990	0.138	-0.494	0.276
The length of class	312	0.816	0.138	-0.595	0.275
Scheduling conflict with another class	308	1.457	0.139	0.827	0.277
Too many students attending	308	2.788	0.139	7.270	0.277
Too few students attending	308	2.610	0.139	6.556	0.277

Appendix C

Mann Whitney U Results for Reasons for Non-Attendance

		Mean Rank				
	N	On-Campus	Online	*U*	*z*	*p*
Personal Student Factors						
Sick	303	183.18	121.02	16184.50	-6.42	<.001
I had to work	306	133.74	172.25	8752.50	-3.99	<.001
Too busy	310	129.27	180.74	8020.50	-5.19	<.001
Scheduling conflict with personal commitments	313	140.86	172.44	9770.00	-3.18	.001
Family commitments	310	141.01	169.38	9815.00	-2.85	.004
Prioritising other activities	316	143.57	172.69	10174.50	-2.90	.004
Once off engagements	310	168.42	143.39	10062.00	-2.61	.009
Travel issues	303	164.53	138.70	9511.50	-2.89	.004
Too tired	313	174.73	139.61	9497.50	-3.75	<.001
Technology issues	310	148.49	162.24	10942.50	-1.61	.107
Poor time management	312	162.03	151.11	11314.50	-1.18	.239
Mental Health issues	312	163.27	149.98	11127.50	-1.41	.158
University Factors						
Access recording on StudyDesk	319	139.15	179.96	9461.00	-4.11	<.001
Can get all learning on StudyDesk	318	146.84	171.54	10670.50	-2.45	.014
Learn more studying independently	319	149.92	169.64	11142.00	-1.97	.049
Did not enjoy the class	306	174.66	132.89	8507.50	-4.69	<.001
Quality of teaching environment	309	164.66	145.52	10455.50	-2.06	.039
Do not like the teaching style	306	167.20	140.15	9633.50	-3.12	.002
The lecturer is not an effective communicator	308	167.23	141.93	9909.50	-3.01	.003
Not interested in class material	308	177.44	132.43	8389.00	-5.23	<.001
Class did not relate to assessment	308	170.12	139.47	9494.50	-3.60	<.001
I do not like the course	309	171.55	139.19	9430.50	-4.11	<.001
Lack of on-campus activities	298	164.60	133.78	8801.00	-4.25	<.001
Course content is difficult	308	168.44	141.26	9758.50	-3.35	<.001

Lack of facilities/services on-campus	299	160.54	138.95	9556.00	-2.86	.004
Friends not attending class	311	171.97	140.13	9615.00	-4.77	<.001
Get through course without going to class	316	154.73	162.13	11892.50	-0.74	.457
Number of classes in one day	310	169.03	142.15	9929.00	-2.96	.003
Length of class	312	165.05	148.06	10842.00	-1.78	.075
Scheduling conflict with another class	308	156.55	152.45	11542.00	-0.48	.631
Too many students attending	308	158.75	150.25	11204.00	-1.25	.213
Too few students attending	308	159.89	149.11	11027.50	-1.48	.138