Research Article

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Evaluation of the pilot phase of a Student Support Strategy to improve retention and completion rates of Aboriginal and Torres Strait Islander students

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Abstract

Increasing Aboriginal and Torres Strait Islander participation in higher education can play a critical role in transforming lives and is the trajectory to closing the gap and reducing disadvantage. Despite recent progress, Aboriginal and Torres Strait Islander peoples remain significantly under-represented in higher education. Poor retention and high attrition rates of these students come at significant financial cost for the individual, community, university and government. Wirltu Yarlu, the Indigenous Education Unit at the University of Adelaide has reviewed the role student support services play in improving retention and completion rates, with an aim to improve Aboriginal and Torres Strait Islander student retention and completion. The newly developed Student Success Strategy is an innovative approach to student support that aims to identify and respond to individual student needs in a more effective and efficient manner. The model encompasses a self-assessment tool designed to measure progress across several domains. Self-assessments are used to inform student specific support needs which in turn enable support staff to personalise future interventions for each student and respond accordingly in an attempt to reduce and prevent student attrition.

Introduction

Aboriginal and Torres Strait Islander peoples continue to be subjected to disadvantage relative to other Australians across a broad range of social, health and educational indicators (Cunningham and Paradies, 2012). While there has been increased recognition of Aboriginal and Torres Strait Islander disadvantage over the last 20 years, and some successive government attempts to address these inequities, Aboriginal and Torres Strait Islander peoples remain significantly disadvantaged compared to their non-Aboriginal counterparts (Vicary and Westerman, 2004). National data indicate differences between the two on a number of parameters. For example, Aboriginal and Torres Strait Islander peoples continue to suffer immense disadvantage across many socioeconomic indicators including greater poverty, higher rates of unemployment, lack of access to services and utilities and poor educational outcomes (Vicary and Westerman, 2004).

The role of education in improving health, economic and educational outcomes for Aboriginal and Torres Strait Islander peoples is well recognised. With an increasing number of studies specifically related to Aboriginal and Torres Strait Islander students in higher education (Oliver *et al.*, 2013), it is now well established that increasing Aboriginal and Torres Strait Islander participation in higher education has the potential to play a critical role in reducing disadvantage (Pechenkina *et al.*, 2011). Reducing the disadvantage between Aboriginal and Torres Strait Islander students and their non-Aboriginal counterparts is recognised as an overdue and urgent national priority (Nakata *et al.*, 2017). Despite this understanding, Aboriginal and Torres Strait Islander education remains in a parlous state, predominately characterised by stagnant or slow improvement (Gray and Beresford, 2008).

Overview of Aboriginal and Torres Strait Islander participation in higher education

In recent times, the Australian government has placed increased emphasis on enabling greater access to higher education for Aboriginal and Torres Strait Islander peoples. Recent research indicates that universities across Australia are achieving modest growth in Aboriginal and Torres Strait Islander student enrolments. These have more than doubled in the last 10 years, with approximately 70% more Aboriginal and Torres Strait Islander students enrolled in university now than in 2008 (Australian Government, Department of the Prime Minister and Cabinet, 2018). While the overall participation of Aboriginal and Torres Strait Islander students in higher education has substantially increased since the 1960s, Aboriginal and Torres Strait Islander students continue to be underrepresented (Barney, 2016). More

specifically, trends in participation in higher education indicate that Aboriginal and Torres Strait Islander students comprise just over 1% of the half a million university students enrolled across the 39 Table A Australian public higher education institutions (Oliver *et al.*, 2015).

University outcomes for Aboriginal and Torres Strait Islander students are also of concern. While more Aboriginal and Torres Strait Islander peoples are successfully accessing and enrolling in higher education than ever before, students are continuing to experience lower progression and completion rates in comparison to non-Aboriginal students (Sharrock and Lockyer, 2008). It is important to note that Aboriginal and Torres Strait Islander progression and completion rates vary dramatically across universities and jurisdictions. However, national data indicate that of the Aboriginal and Torres Strait Islander students who had commenced university in 2010, only 40.5% had successfully graduated by 2015. This compared to 66.4% of non-Aboriginal students (Australian Government, Department of Prime Minister and Cabinet, 2018). At the University of Adelaide, retention of Aboriginal and Torres Strait Islander students is also significantly lower than that of overall retention (57% compared with 85%) (The University of Adelaide, 2013). Furthermore, national data indicate that the dropout rate in the first year of university is doubled for Aboriginal and Torres Strait Islander students (Australian Government, Department of the Prime Minister and Cabinet, 2018). Recent reports also indicate that just under one in five Aboriginal and Torres Strait Islander students withdrew from their studies after the first year (Australian Broadcasting Corporation (ABC), 2018).

Factors impacting Aboriginal and Torres Strait Islander participation

Poor retention and high student attrition come at significant cost for the individual, community, university and government (Hearn *et al.*, 2019). A further implication of high attrition includes the loss of opportunity resulting from a failure to provide successful pathways for capable Aboriginal and Torres Strait Islander students (Hearn *et al.*, 2019). To gain greater insight into reasons for the gap between Aboriginal and Torres Strait Islander student success in university and subsequently rectify it, it is essential to examine the contributing or impeding factors to success. Lower participation and success rates of Aboriginal and Torres Strait Islander students can occur for a variety of complex and multifaceted reasons. This includes but is not limited to financial constraints, uncertain living arrangements and/or relatively poor living conditions, living away from home; disconnectedness from community, culture and land; ongoing responsibilities and obligations to family and/or community; being first in family to undertake higher education and English not often being first language (Dang *et al.*, 2016; Rochecouste *et al.*, 2017). Furthermore, Aboriginal and Torres Strait Islander students are more likely to commence university with lower levels of academic readiness (Nakata *et al.*, 2018). All of these contributing factors are coupled with and exacerbated by the high academic demands and stress of study. The plethora of issues exacerbates the complexity of Aboriginal and Torres Strait Islander educational attainment (Hogarth, 2015).

Increasing access via alternative entry pathways

In addition to the aforementioned factors, the ability to access university can be a significant barrier, particularly for students who don't possess requisite qualifications and/or experience and therefore are unable to enter via traditional pathways. The number of Aboriginal and Torres Strait Islander students who enter university with an Australian Tertiary Admission Rank (ATAR) or equivalent has been and continues to be very small for a variety of reasons (Nakata *et al.*, 2017). Barriers to access can be ameliorated in part through proactive institutional interventions, such as alternative entry pathways (Nakata *et al.*, 2017). The aim of alternative entry pathways is to increase access for certain groups within the university population who may not otherwise gain entry to degree level programmes (Hall, 2015). A number of different programmes are offered across Australian higher education institutions, and some of these are specifically designed to assist Aboriginal and Torres Strait Islander students gain access to university (Andersen *et al.*, 2016). National data indicate that in 2010, only 47.3% of Aboriginal and Torres Strait Islander students were accepted into university without entering via an alternative entry pathway, compared to 83% of non-Indigenous students (Behrendt *et al.*, 2012). Thus, alternative entry pathways provide an opportunity to increase the number of Aboriginal and Torres Strait Islander students accessing and entering university.

While it is clearly advantageous that more students are able to access university, there is a concomitant need to ensure preparedness and predict the likelihood of success. Being 'underprepared' for the academic demands and expectations of higher education can produce many personal challenges for students, and this can be coupled with the aforementioned external factors. The challenges experienced by Aboriginal and Torres Strait students once enrolled are well documented and appear to have remained consistent over time (Nakata *et al.*, 2017). These factors have subsequently resulted in low progression and high attrition rates, corroborating the notion that 'access without support is not opportunity' (Engstrom and Tinto, 2008, p. 50). Thus, it has become increasingly evident that strategies designed to keep enrolled students in university are just as, if not more, important. The retention and success of Aboriginal and Torres Strait Islander students in higher education can be positively influenced by the provision of adequate support and a quality student experience (Hearn *et al.*, 2019). Thus, reiterating that while it is important to increase accessibility to university for Aboriginal and Torres Strait Islander students, it is critical that they are provided with appropriate support strategies to enhance their chance of success (Hearn *et al.*, 2019).

Enabling support to Aboriginal and Torres Strait Islander students

It is unquestionable that there are systemic impediments to access and equity for Aboriginal and Torres Strait Islander students within educational institutes. However, numerous strategies have been implemented to address these difficulties, and a range of differing support mechanisms and/or strategies aimed at improving participation and engagement of Aboriginal and Torres Strait Islander people in higher education have been documented (Dang *et al.*, 2016). Previous research shows that Aboriginal and Torres Strait Islander educational disadvantage begins before the students enter university (Dang *et al.*, 2016). Many students commence university via alternative entry pathways; thus some researchers postulate that there is an academic deficit impacting Aboriginal and Torres Strait Islander students as soon as they arrive to study at the tertiary level (Page and Asmar, 2008;

Chirgwin, 2015). Moreover, studies report that a lack of readiness includes the unpreparedness for the sudden dissociation between Aboriginal and Torres Strait Islander students and the cultural, social and emotional support that they usually receive (Chirgwin, 2015). Once enrolled, the challenges of higher education experienced by Aboriginal and Torres Strait Islander students persist and are well documented and appear to have remained consistent over time (Nakata *et al.*, 2017).

It is well established that the first year of university is fraught with change and challenges for students. Research also indicates that on entering university, students not only experience academic growth but concurrently experience social development (Brooker *et al.*, 2017). Given this, it is important that researchers investigating first-year student experience investigate the social circumstances surrounding students, rather than taking a purely academic focus. Identifying and understanding these experiences has positive connotations for assisting students to engage with their challenges (Brooker *et al.*, 2017).

Some research has also found that students find it challenging to seek help. Students can be overwhelmed in the lead up to and initial weeks of university, and what happens in these weeks is critical to student success (Nakata *et al.*, 2017).

Resilience is widely considered as an individual's capacity to overcome adversity and to adapt successfully to their environment (Wagnild and Young, 1993). University students are a population who experience increased levels of academic stress and psychological distress, resulting in many students leaving university without completing their chosen studies (McGillivray and Pidgeon, 2015). With growing research interest in positive psychology, resilience has gained momentum and recognition as a framework to examine the differences between students who flourish within the university environment and those who struggle with university completion (McGillivray and Pidgeon, 2015). Within the university environment, resilience has been viewed as a protective factor associated with successful adjustment to university life (McGillivray and Pidgeon, 2015).

Research indicates that transitioning to and commencing university can induce stress and poor wellbeing (Turner *et al.*, 2017). Moreover, students may experience significant levels of ongoing stress throughout their university experience which can impact on their wellbeing (Turner *et al.*, 2017). Thus, positive wellbeing is another parameter perceived as vital to success in university. Previous research shows that the ability to manage stress and maintain positive wellbeing are critical for students as stress and low wellbeing are associated with poorer coping and motivation, and lower course grades (Turner *et al.*, 2017). External factors, such as those outlined previously, may be antecedents in the process of adaption to university and consequently impede or promote wellbeing and performance (Häfner *et al.*, 2014).

University has the potential to be a stressful experience, often requiring students to make significant adjustments to their personal, social and academic lives. Across the literature social and family support has been identified as key success factors for Aboriginal and Torres Strait Islander students (Barney, 2016). Furthermore, it has emerged as one of the most prominent contributing factors in aiding students' transition and adjustment to university (Urquhart and Pooley, 2007). Strong social support has been positively correlated with mental and physical health, positive coping and optimism. It has also been shown to have buffering effects on the relationship between psychological distress and resilience among university students (McGillivray and Pidgeon, 2015). In addition to aiding adjustment, social support has also emerged as a salient factor in encouraging academic persistence in students (Urquhart and Pooley, 2007).

In an attempt to navigate and understand these challenges, it may be important to beware of and address students' resilience, wellbeing, their social support and their abilities related to self-initiated learning and time management (Brooker *et al.*, 2017). While these concerns may not always directly relate to academia, the impact on student learning experiences should not be underestimated. Universities can assist with student retention and success by proactively initiating contact with students to help them to identify, manage and overcome any impediments to their studies (Brooker *et al.*, 2017).

The current project

In light of the previous literature, the University of Adelaide endeavoured to evaluate and re-develop its current Aboriginal and Torres Strait Islander Student Support Strategy in attempt to improve retention and completion rates. Wirltu Yarlu is the Indigenous Education Unit at the University of Adelaide. At present, it is the lead agent for recruiting Aboriginal and Torres Strait Islander students to the University's foundation and degree programmes. As part of this, Wirltu Yarlu also facilitates the University of Adelaide's alternative entry scheme for Aboriginal and Torres Strait Islander students. While the university aspires to provide access to as many students as possible, there is a sharpened focus on retaining students in their studies and helping them to succeed. This requires a more specific focus on students as individuals, so that timely and appropriate support interventions can be utilised. This concept of prevention rather than reaction and intervention is what led to the development of the university's Student Success Strategy. The Student Success Strategy is an approach to student support that aims to identify and respond to individual student needs in a more effective and efficient manner.

Taking into consideration the aforementioned issues, the University of Adelaide's Student Support Strategy has incorporated the implementation of an online self-assessment questionnaire that all first-year Aboriginal and Torres Strait Islander students are required to complete prior to entering via the alternative entry scheme. Based on previous literature, the self-assessment tool is designed to obtain baseline data across several domains using a number of pre-established validated measures, including a Resilience Scale (Smith *et al.*, 2008), Social Support Scale (Zimet *et al.*, 1988), Well-being Scale (Seligman, 2011), Time Management and Cultural Scale. In an attempt to establish sound evidence-based practice, the self-assessment tool is designed to measure student progress and change over time. This approach generates requisite data that then informs effective practices and interventions for service delivery, level of engagement and coordination to Aboriginal and Torres Strait Islander students.

While it is indisputable that first-year engagement in higher education is a crucial component to the success and retention of all students, the University of Adelaide data indicate that Aboriginal and Torres Strait Islander students are also leaving university in their subsequent years. Previous research has found that attrition in later years can occur for multiple reasons including health issues, burn-out, lack of motivation and self-doubt (Barney, 2016). Attention to the incremental progress of students over time was a major consideration in the design of this study and in the University of Adelaide's Student Support Strategy. Thus, students re-complete the self-assessment at the end of each year. This allows support staff to keep abreast of each student's

situation and discuss any successes and/or challenges encountered throughout the year. Moreover, it provides an opportunity to develop workable and appropriate strategies and respond timely and accordingly in an attempt to prevent student attrition. The evaluation of support strategies against student outcomes would appear to be an important measure for both effectiveness and accountability of support services in universities. Thus, this strategy was specifically designed as a longitudinal strategy so that we are able to capture a more holistic view of our student's experiences and hopefully successful progression at university.

The implementation of this Student Success Strategy provided an opportunity to examine the appropriateness and adaptability of the self-assessment as a tool for connecting with Aboriginal and Torres Strait Islander students. The Student Success Strategy has recently surpassed its second year, and thus provides the opportunity to review its current implementation and progress. Small pilot studies can make important methodological contributions and provide information about the best research processes and likely outcomes (Van Teijlingen and Hundley, 2001). The aim of this pilot study was to therefore examine any changes to students' resilience, social support, wellbeing, time management and culture scores on the self-assessment tool throughout the initial and second year.

Method

Eligibility criteria included being aged 18 years or more, being currently enrolled as either full or part-time students at the University of Adelaide and identify as either Aboriginal or Torres Strait Islander. Ethical approval was granted by the Human Research Ethics Committee at the University of Adelaide (Ethics Approval Number: H-2017-107).

Measures

Based on the previous literature, the online self-assessment questionnaire was constructed comprising six sections (demographics; resilience scale; social support scale; wellbeing scale; time management scale and culture scale). The Resilience Scale, Social Support Scale and Wellbeing Scale are pre-established, validated measures while the Time Management and Culture Scales were designed for the purpose of the self-assessment tool. A pilot questionnaire was initially administered to three students who fitted eligibility criteria. Feedback from the pilot questionnaires prompted minor grammatical changes and additional instructions were included.

The Brief Resilience Scale

The Brief Resilience Scale was developed to measure resilience (Smith *et al.*, 2008). The Brief Resilience Scale consists of six items; three negatively worded items (items 2, 4 and 6) and three positively worded items (items 1, 3 and 5). Each item (e.g. 'I usually come through difficult times with little trouble') is scored on a 5-point Likert-type scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). The scores of each item are summed, with greater sum scores indicating higher resilience.

The Multidimensional Scale of Perceived Social Support Scale

The Multidimensional Scale of Perceived Social Support (MSPSS) was developed to measure an individual's perception of how much they receive social support (Zimet *et al.*, 1988). Across 12 items, this measure captures multiple aspects of perceived social

support, across three major sources of support: 'family', 'friends', and 'significant other'. Each item (e.g. 'I get the emotional help and support I need from my family') is scored on a 7-point Likert-type scale, and subscale scores indexing the three domains are computed as the average of the four corresponding items. Greater overall sum scores indicate higher levels of social support (Zimet *et al.*, 1988).

The PERMA Scale

The PERMA Scale was designed by Martin Seligman (2011) and captures five core elements of psychological wellbeing including positive emotions, engagement, relationships, meaning and accomplishment. The PERMA Scale consists of 16 items, with three items representing each of the five PERMA components and one item representing 'overall wellbeing'. Participants indicate the extent to which their situation corresponds with each question (e.g. 'In general, how often do you feel positive?' on either a 10-point Likert scale, ranging from 0 (never) to 10 (always) or from 0 (not at all) to 10 (completely).

Time Management and Culture Scale

The Time Management and Culture Scales of the self-assessment each comprised of five questions. Each item (e.g. 'I set myself long and short-term goals') is scored on a 5-point Likert-type scale, ranging from 1 (never true) to 5 (always true). These questions were collaboratively created by a number of different Aboriginal and Torres Strait Islander staff within Wirltu Yarlu. These questions were designed and created specifically for the self-assessment tool.

Participants and procedure

In 2018 all students commencing university via the alternative entry scheme at the University of Adelaide were contacted by a Student Support Officer (SSO) at Wirltu Yarlu and provided with a link to the online self-assessment tool, available via Survey Monkey. These students were then re-administered the same self-assessment tool at the completion of each academic year. This process was also completed by the commencing 2019 cohort. The questionnaire takes approximately 10 min to complete.

This study therefore comprises two cohorts. In 2018, a total of eight of a possible 23 first-year Aboriginal and Torres Strait Islander students completed the online self-assessment tool (participation rate: 34.78%) and in 2019 a total of 12 of a possible 32 first-year Aboriginal and Torres Strait Islander students completed the online self-assessment (participation rate: 37.5%). Across both cohorts, the remaining 35 students either opted to not participate, have taken a leave of absence from their studies or have withdrawn from university. The 20 participants with completed responses were aged between 18 and 47 years ($M = 22.1$ years; $SD = 7.97$). Two participants self-identified as being from either a rural or remote background. Table 1 provides a further summary of participant characteristics.

Results

Descriptive analysis

The aim of this pilot study was to examine any changes throughout the initial and second year of university to Aboriginal and Torres

Table 1. Summary of participant characteristics (N = 20)

	2018 Cohort		2019 Cohort	
	N	%	N	%
Gender				
Male	3	37.5	5	41.4
Female	5	25	7	58.3
Rurality				
Urban	6	75	12	100
Rural	2	25	0	0
Remote	0	0	0	0
Living arrangements				
Living with partner	1	12.5	1	8.3
Living alone	1	12.5	0	0
Living with family members	4	50	7	58.3
Other	2	25	4	33.3
Caring responsibilities				
Children	0	0	1	8.3
Parents	0	0	0	0
Extended family	2	25	4	33.3
All of the above	6	75	7	58.3
Other	0	0	0	0
Highest educational achievement				
Did not attend school	0	0	1	8.3
Year 10	2	25	1	8.3
Year 12	4	50	10	83.3
TAFE	0	0	0	0
Bachelor Degree	0	0	0	0
Other	2	25	0	0
Commencement of University				
Following year 12	5	62.5	9	75
1–3 years off	2	25	2	16.6
3+ years off	1	12.5	1	8.3

Strait Islander students' resilience, social support, wellbeing, time management and culture scores on the self-assessment questionnaire. The data obtained for the purposes of this study were gathered annually over a period of 2 years from the beginning of 2018 to the end of 2019. This period covers the first 2 years of the newly implemented Student Success Strategy at the University of Adelaide.

A key component of the self-assessment tool was to measure resilience. Figure 1 illustrates that resilience scores of students' from both the 2018 and 2019 cohorts have decreased slightly since students commenced university.

Figure 2 provides a direct trajectory of students' social support scores for both the 2018 and 2019 cohorts. The data indicate that across both cohorts' students experienced a decrease in their social support during their initial year of university. Interestingly, however, during the second year of university, the 2018 cohort social support score increased slightly.

Figure 3 outlines the wellbeing scores of both the 2018 and 2019 cohort. Data indicate that during the first year of university, both cohorts experienced a decline in their wellbeing scores. However, the present data show that in their second year of university, the 2018 cohort experienced an increase in their wellbeing.

Figure 4 depicts that both the 2018 and 2019 cohort have experienced a downward trend in time management during their first year of university. Furthermore, data indicate that time management scores for the 2018 cohort continued to decrease during students second year of university.

Finally, Figure 5 indicates that across both cohorts' students experienced a decrease in their score on the culture domain during their initial year of university. However, data from the 2018 cohort indicate that during the second year of university, students' scores pertaining to culture increased.

Discussion

This paper presents the findings from a pilot study examining the implementation of a newly revised Student Success Strategy at the University of Adelaide. More specifically, this paper has reviewed and examined the pre-established literature pertaining to strategies related to improving retention and completion rates for Aboriginal and Torres Strait Islander students. Furthermore, this paper has outlined how Wirltu Yarlu has endeavoured to strategically operationalise, implement and evaluate one approach to supporting Aboriginal and Torres Strait Islander student success.

The study piloted quantitative measures from the self-assessment questionnaire. The data indicated that students' resilience scores had decreased slightly since students commenced university. This finding is somewhat unsurprising given the plethora of well-established literature describing the difficulties experienced by students following commencement of university (Brooker et al., 2017). Resilience in university students is an important attribute and previous research has reported that university students with lower levels of resilience often experience higher attrition rates (McGillivray and Pidgeon, 2015). Improving resilience within our student cohort is therefore deemed imperative. The findings from the current study provide a strong baseline of information about the participating students and simultaneously suggest that they may benefit from resilience training in an attempt to build and foster resilience (McGillivray and Pidgeon, 2015).

Scores on the Social Support Scale were lower for both the 2018 and 2019 cohorts following completion of their first year at university. However, following completion of the second year of university, the 2018 cohort social support score increased slightly. The reduced social support scores for first-year students were somewhat surprising. These findings call for further investigation with the students involved in the present study to ascertain perceptions of their social support and possible mechanisms for ameliorating this. This is particularly important given that previous research has found self-reported support and care from their friends, as well as support from Indigenous Education Units is pivotal to the retention and success of Aboriginal and Torres Strait Islander students at university (Day and Nolde, 2009). There is also a link between perceived social support and enhanced self-esteem, which in turn often promotes wellbeing (Eggens et al., 2008). Despite numerous initiatives already implemented through Wirltu Yarlu, the findings of the present study call for consideration of further and/or alternative strategies to
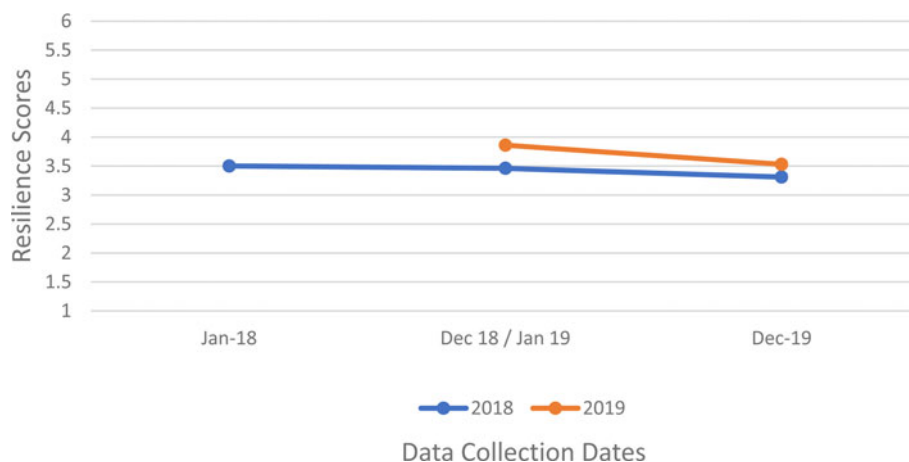
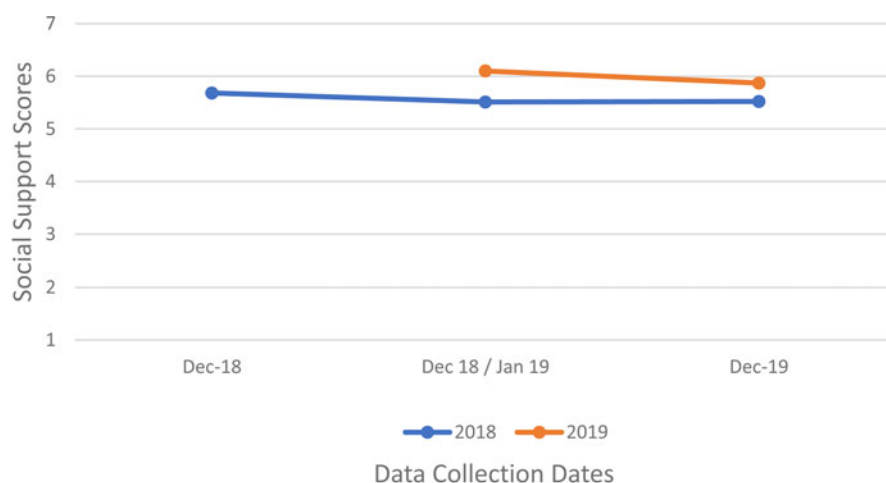**Fig. 1.** Resilience Mean Scores for 2018 & 2019 Cohorts

Fig. 2. Social Support Mean Scores for 2018 & 2019 Cohorts

improve students perceived social support networks, such as greater opportunity for social activities and/or group work. This is particularly important for students who may be emotionally exhausted and/or have lower grades (Li *et al.*, 2018).

Data from the present study indicated that at the completion of the first year of university, both cohorts experienced a decline in their wellbeing scores. The previous literature shows that the most commonly cited reason for first-year students to consider dropping out is due to emotional distress (Baik *et al.*, 2015). There has been growing concern about the mental health of university students and the impact unrecognised and untreated mental illness can have on individual students, the institution and even other students (Stallman, 2010). Poor mental health has a direct impact on the academic performance of university students. More specifically, poor mental health has been associated with lower academic self-efficacy, poor engagement and study progress and often subsequent withdrawal (Grøtan *et al.*, 2019). While it is promising that during their second year of university, the 2018 cohort experienced an increase in their wellbeing, the findings of the present study points to the growing need for initiatives to support the mental and emotional wellbeing of Aboriginal and Torres Strait Islander students in higher education (Baik *et al.*, 2015).

The current study also uncovered that both cohorts experienced a decline in their time management scores during the first year of

university and continued to decline in the second year for the 2018 cohort. These findings are consistent with a previous study which found that time management was one of the most prevalent and challenging issues experienced by first-year students (Brooker *et al.*, 2017). The consensus across the literature is that acknowledging, understanding and addressing time management and workload is crucial. Van Der Meer *et al.* (2010) described time management as a serious issue for many students and concluded: 'universities could and should play a more active role in helping first-year students to make a sense of time management' (p. 777) (Häfner *et al.*, 2014). Furthermore, strong time management is expected to lead to more perceived control of time and should lead to less perceived stress (Häfner *et al.*, 2014).

Finally, findings from the current study indicate that across both cohorts, students culture scores declined over the first year. However, following completion of the second year, the 2018 cohorts culture score increased slightly. These findings are somewhat unsurprising given that cultural isolation and unfamiliarity with higher education, peers and study more generally are identified as challenges for Aboriginal and Torres Strait Islander students commencing university (Lydster and Murray, 2018). Culture and 'sense of belonging' are pivotal to successful and positive experiences of Aboriginal and Torres Strait Islander students (Barney, 2016; Naylor *et al.*, 2018). Moreover, research postulates that Aboriginal and Torres Strait Islander students are
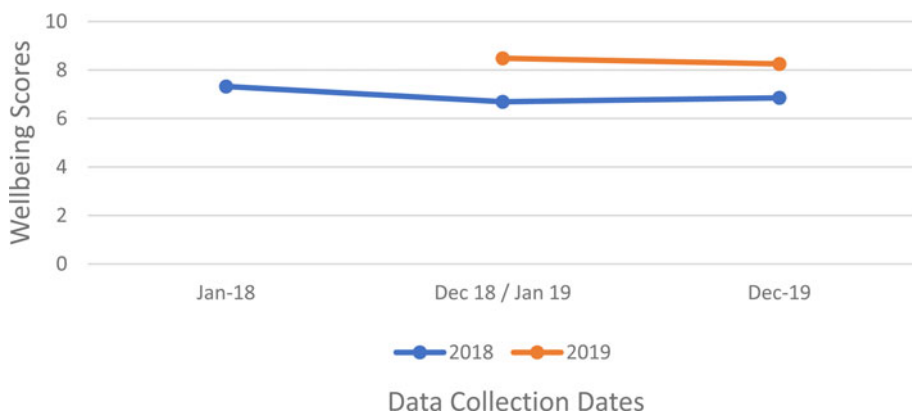
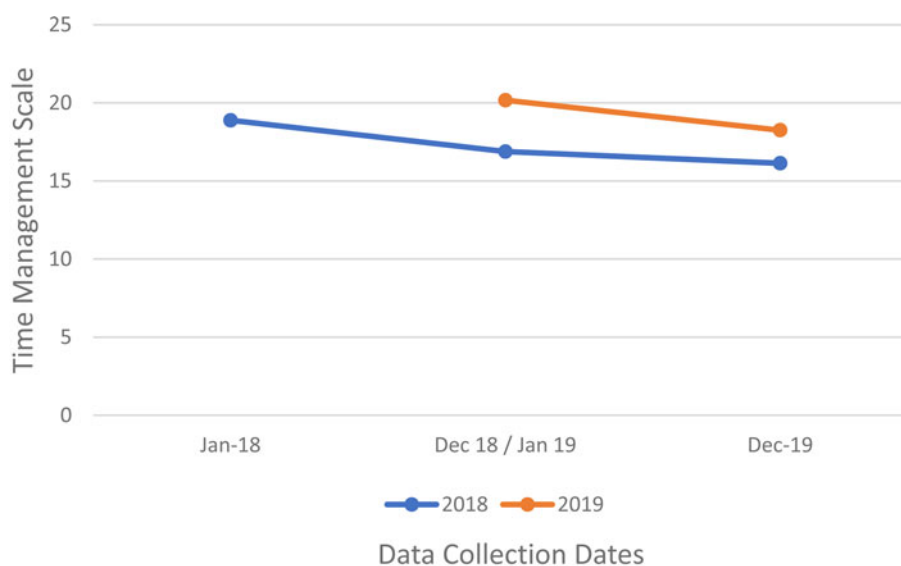**Fig. 3.** Wellbeing Mean Scores for 2018 & 2019 Cohorts

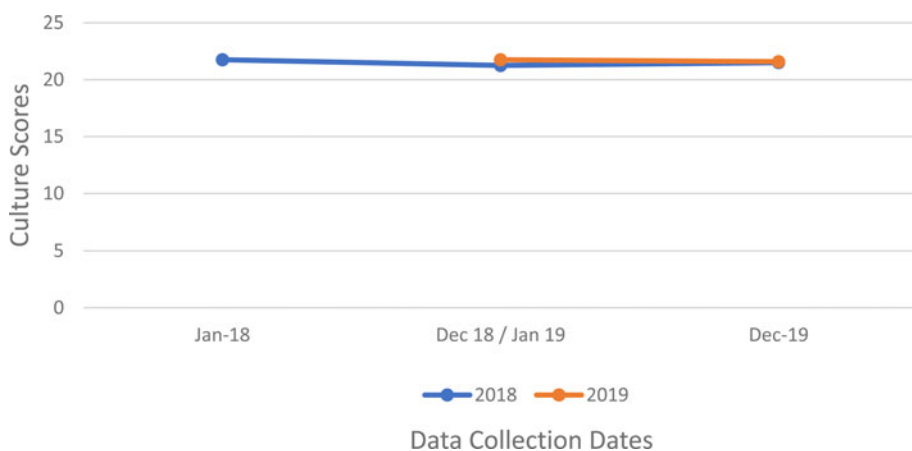**Fig. 4.** Time Management Mean Scores for 2018 & 2019 Cohorts

Fig. 5. Culture Mean Scores for 2018 & 2019 Cohorts

more likely to remain and thrive at universities that consistently and successfully demonstrate cultural safety (Australian Indigenous Doctors' Association, 2013). With the implementation of a newly developed Reconciliation Action Plan, and other cultural initiatives, it is imperative that the University of Adelaide endeavours to promote, empower and enhance Aboriginal and Torres Strait Islander peoples across the university.

Limitations and future directions

Several considerations need to be taken into account when reflecting on the work done here and translating it to a broader context. For example, the demographic characteristics of Aboriginal and Torres Strait Islander students accessing and attending the university outlined in this study may differ from universities based in other (e.g. rural and/or remote) settings. In addition, more students from urban than rural regions participated in this study. This is consistent with the previous literature which shows that rural Australians are less likely to undertake and/or commence higher education compared to their urban counterparts (Fleming and Grace, 2017). Thus, generalisability of the aforementioned literature and concepts need to be taken into consideration. It is important to note that it may be difficult to extrapolate results more broadly given that the study utilised a relatively small target sample size. Furthermore, at present the Student Support Strategy has only been trialled and implemented with students who accessed university via an alternative entry scheme; similarly leading to potential limitations in the generalisability of concepts. Future research will look to mitigate this limitation by trialling the Student Support Strategy with a control group. A final limitation of the current study and Student Support Strategy more generally is the absence of qualitative data exploring students' opinions and perceptions of the efficacy and effectiveness of the Student Success Strategy. Inclusion of qualitative data via focus groups or one-on-one interviews with students will be considered going forward. Moreover, future research may consider exploring the opinions and perceptions of staff members. Triangulation of students and staff members would strengthen the credibility of findings and simultaneously provide further insight into implementation practice.

Conclusion

The initiatives implemented across Australian universities in recent years have resulted in an increase in the number of Aboriginal and Torres Strait Islander students accessing university. However, Aboriginal and Torres Strait Islander peoples continue to remain significantly under-represented in higher education. There is general consensus across the literature that support for Aboriginal and Torres Strait Islander students is vital for their success and completion at university, and that support is provided both initially and throughout the duration of the students' university study. The current paper is based on the growing body of Aboriginal and Torres Strait Islander specific literature, which subsequently helped to form the foundation for evaluating and re-developing the Student Success Strategy implemented through Wirltu Yarlu at the University of Adelaide. This paper presents and evaluates the pilot baseline data of Aboriginal and Torres Strait Islander students' resilience, social support, wellbeing, time management and culture scores on the self-assessment tool. The pilot findings from this study provide informative information on students following completion of their first and second year at university. The learnings from this pilot study also provide us with future directions and interventions to facilitate Aboriginal and Torres Strait Islander student retention and completion at the University of Adelaide. Moreover, we hope this study offers insight to other researchers interested in understanding, implementing and providing support to Aboriginal and Torres Strait Islander students in higher education. As we continue to monitor and evaluate this Student Support Strategy, we are hopeful that our students are afforded the opportunity to feel safe, have their voices heard and reach their educational goals at the same rate as non-Aboriginal students.

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