The effects of Aboriginal tertiary students' perceived experiences of racism and of cultural resilience on educational engagement

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Racism pervasively impacts the lives of Aboriginal and Torres Strait Islander peoples and is a substantial barrier to accessing, engaging and succeeding within secondary education. Cultural resilience and support have been identified as critical to Aboriginal success within racist institutions. However, research examining experiences of racism and cultural resilience among Aboriginal tertiary students is limited. This study explored the relationship between racism, cultural resilience, and educational engagement and academic outcomes in a sample of these students (*N* = 63). We proposed that higher perceived racism would be associated with lower engagement and academic outcomes. The study also developed a new measure of Aboriginal tertiary students' experience of racism during their studies, which demonstrated good reliability and validity. Experiencing racism was associated with perceiving a less supportive learning environment, and with lower learning outcomes, developmental outcomes and overall student satisfaction.

Keywords: racism, Indigenous tertiary students, cultural resilience

Introduction

The United Nations has recognised the need for a "global fight against racism … and all [its] abhorrent and evolving forms and manifestations" (United Nations, 2009, p. 5). Racism can be defined as unfair and avoidable inequalities in power, access, resources and opportunities across racial and ethnic groups as a result of organised systems within society (Berman & Paradies, 2010). Phenomena in which racism can manifest include stereotypes, beliefs, prejudices and discrimination. These can occur across multiple individual and societal levels, including internalised racism (i.e., incorporation of racist attitudes, beliefs or ideologies into an individual's worldview); interpersonal racism (i.e., racism occurring in interactions between people); and systemic racism (i.e., the racist control of and access to labour, physical resources and symbolic resources within a society or institution) (Berman & Paradies, 2010). Racism can also be

direct, where unequal treatment produces unequal opportunity, or indirect, where equal treatment results in unequal opportunities (Berman & Paradies, 2010).

Recent literature indicates that racism is increasing in many institutional contexts within Australia, including education (Bodkin-Andrews & Carlson, 2016; Paradies et al., 2015). Aboriginal and Torres Strait Islander[1] university students' involvement in tertiary education is currently in a challenging period (Day et al., 2015; Pechenkina & Anderson, 2011). Education is pivotal in supporting a high quality of life, promoting wellbeing and righting the inequities that impact disadvantaged groups (Bodkin-Andrews & Carlson, 2016; Shkolnikov et al., 2006), but Aboriginal people experience significant inequities in accessing and engaging with education (Behrendt et al., 2012). Research in Aboriginal tertiary education has found that racism continues to be a substantial barrier to accessing, engaging with and succeeding in tertiary education (Day et al., 2015). Although Aboriginal students report similar levels of engagement, learning outcomes and satisfaction with tertiary study to their non-Aboriginal peers (Asmar et al., 2011), and their enrolments are increasing (Page et al., 2017), they remain under-represented (Department of Education, 2018) and have substantially higher attrition rates (Asmar et al., 2011). In 2011, first-year Aboriginal university students had a retention rate of 67.6% compared to 79.2% for all other domestic students and the overall completion rates for Aboriginal university students were 22% less than for non-Aboriginal students (Behrendt et al., 2012; Day et al., 2015). Page et al. (2017) argue that universities are focusing heavily on "access and participation" without sufficient consideration of success and parity with non-Aboriginal students and that they must actively support the development of measures to ensure Indigenous student completion and employment.

Although the factors that impact Aboriginal students' performance within tertiary education are many (e.g., financial support, academic skills and health issues), research (Day et al., 2015) suggests that low levels of participation and low aspirations for further study in Aboriginal students are also linked to "fears of cultural isolation and experiences of racism on campus" (James et al., 2008, p. 52). For example, the National Union of Students argued that "cultural disrespect, lateral violence and/or racial discrimination [are] … probably the biggest contributor to the high levels of attrition of [Aboriginal] law students within a university environment" (Rodgers-Falk, 2011, p. 2).

Research on the experiences of racism among Aboriginal tertiary students is limited. Sonn et al. (2000), in their qualitative study of 34 Aboriginal students, suggested that students who experienced racism often distinguished it either in terms of very overt or "blatant", or more subtle. These more subtle forms include "a lack of cultural awareness …, insensitivity" (pp. 131–132) and trivialisation of Aboriginal culture, customs and practices by students or teachers. These experiences were often distressing for the participants. Sonn et al. (2000) found that 44% experienced cultural insensitivity and racism that demeaned Aboriginal identity, knowledge and cultural practices, and, of those who experienced subtle racism, 14% also experienced overt racism. Despite this significant barrier, Aboriginal peoples have persevered against systemic racism in educational institutions, and their aspirations to pursue further education are increasing (Behrendt et al., 2012; Bodkin-Andrews & Carlson, 2016; Page et al., 2017; Peters, 2017). It is important to recognise not just the barriers that impact Aboriginal student engagement, but also the resilience and perseverance of Aboriginal peoples to engage and succeed despite these challenges (Moodie et al., 2018).

In their ethnographic study of Aboriginal tertiary student success, Pechenkina (2017; 2019) identified that many Aboriginal students felt success in the academic space was an act of defiance against dominant

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[1] While acknowledging the diversity of Aboriginal and Torres Strait Islander cultural groups in Australia, the term "Aboriginal" is used throughout this article.

Western paternalism. This defiance and resistance was enacted by many students due to experiences of being objectified, identified and racially prejudiced against. Specifically, resistance was a response to the institution not properly supporting students to exist within a safe space, where the Aboriginal students were required to become educators and push their teachers and peers to learn about Aboriginal culture. Students felt that academic achievement was a means of countering narratives of Indigenous failure, and that the very action of resistance bolstered their willingness and capacity to succeed but could also result in students distancing themselves from their studies or the institution, or withdrawing from the course entirely.

Aboriginal tertiary students' experiences of racism can be seen through the lens of educational engagement and its effect on academic achievement. Educational engagement is multifaceted, defined as "the investment of time, effort and other relevant resources by both students and their institutions intended to optimise the student experience and enhance the learning outcomes and development of students" (Trowler, 2010, p. 6). Noting that most research has focused on academic success and performance, Day and colleagues (2015) investigated how Aboriginal tertiary students experienced and persisted with their studies. They found that Aboriginal students' experiences of tertiary environments and their perceptions of racism and exclusion compounded the negative academic experiences associated with course demands. They concluded that academic support systems and improved access to tutoring and to financial and housing aid improved aspects of Aboriginal students' engagement. However, Western models of psychological and emotional support may not be effective for dealing with negative experiences of cultural insensitivity, racism and discrimination (Bodkin-Andrews, Denson, Finger, et al., 2013; Day et al., 2015). To further develop responses to disengagement and improve educational attainment among Aboriginal students, it is important to investigate how engagement is enhanced by appropriate cultural support.

The inclusion of culturally supportive services and policies has occurred across tertiary education, particularly with the growth of reconciliation movements within institutions (Gunstone, 2009). However, many Australian universities are currently not providing adequate support for Aboriginal tertiary students and a stronger evidence-base would help to inform policy and programming (Behrendt et al., 2012; Gunstone, 2008; Gunstone, 2009; Pechenkina & Anderson, 2011). Previous models of coping and resilience for Aboriginal tertiary students have attempted to adapt Western models (see Martin, 2006; Martin & Marsh, 2006). However, Bodkin-Andrews, Denson, Finger, et al. (2013) argued that Western models of coping with stress, which are primarily agency focused, are not effective, sufficient, nor representative of Aboriginal people's perceptions and experiences. These models do not encapsulate Aboriginal people's holistic understanding of wellbeing that also emphasises the importance of culture, identity, kinship, and community networks, all of which are likely to play a role in supporting the engagement of Aboriginal tertiary students (Bodkin-Andrews, Denson, Finger, et al., 2013).

This conceptualisation of support aligns with recent research exploring Aboriginal constructions of resilience (e.g., Kickett, 2011) and Aboriginal frameworks for social and emotional wellbeing (Gee et al., 2014). Resilience and wellbeing in these contexts have been described as including cultural strengths and resources that individuals draw upon to overcome adversity, such as pride in cultural identity, cultural attachment, and participation in cultural practices and traditional activities (Gee, 2016; Kirmayer et al., 2011; Merritt, 2007; Ungar, 2010). Models of cultural strength and resilience have highlighted the importance of experiencing a sense of belonging and maintaining connections to land, culture, family, and spirit, which help enable people to conquer social adversities such as discrimination and the effects of oppression (Kickett, 2011).

Gee (2016) developed a 60-item Aboriginal Resilience and Recovery Questionnaire (ARRQ) to explore resilience and recovery from trauma among Aboriginal help-seeking clients. Two sub-scales representing personal strengths and relational–cultural strengths were created based on principal components analysis, both of which were associated with lower post-traumatic stress and depression symptom severity among 81 clients. Interestingly, relational–cultural strengths (e.g., relationship and kinship support, connection and opportunities in one's local Aboriginal community, cultural strengths, and resources) had a moderating effect on the relationship between trauma exposure and trauma symptom severity. The findings suggested that such strengths were protective for clients who were exposed to higher levels of trauma (Gee, 2016). Relational–cultural strengths, as detailed in the ARRQ, may have similar protective effects against other types of adversity such as racism.

Moodie et al. (2018) noted that the literature regarding Aboriginal graduate students was primarily deficit focused. The prominent discourse within the literature has tended to focus upon individual-level barriers and enablers that Aboriginal tertiary students face. However, focusing on these factors risks perpetuating discourses that present individual problems or lack of capacity as reasons for lack of success, overlooking the role of institutions and systemic factors. Conversely, an exclusive focus on systemic and structural enablers and barriers may inadvertently neglect the important role of Aboriginal student agency, personal strengths, resources and capacity. The strategies required to promote Aboriginal student success may require a more complex lens that considers potential interactions between enablers, such as individual student strengths and systemic support systems, and barriers, such as systemic racism and poor coping skills. Additionally, work by Pechenkina (2017; 2019) further demonstrates how students' engagement in their studies is informed by their experience of safe spaces, and the need to resist the discriminatory and oppressive experiences within the tertiary environment. As such, there is a critical need for institutions to focus on systemic level changes that support cultural safety, promote individual strengths, and provide access to supportive resources (Moodie et al., 2018; Pechenkina, 2017; 2019).

Currently, there is minimal research on Aboriginal tertiary students' experiences of racism and how they manage it. No studies have investigated the relationship between experiences of racism and engagement or attrition in the tertiary context. Nor have any studies examined the implications of cultural resilience as a means of supporting Aboriginal tertiary students, although such knowledge could have major implications for institutions' policies and practices. Two questions are significant. First, how are experiences of racism associated with educational and academic engagement among Aboriginal tertiary students? Second, are experiences of racism and educational engagement outcomes associated with cultural resilience?

The study

The current study examined whether perceived racism was associated with the educational engagement of Aboriginal tertiary students. First, we hypothesised that students who report more perceived racism would report lower educational engagement and educational outcomes. Second, we hypothesised that students who report more racism would have an increased likelihood of disengaging from their studies. Third, we hypothesised that higher perceived racism would be associated with lower resilience scores in multiple assessed domains, including cultural strengths and resources, relationship strengths and resources, and personal strengths and resources. Finally, we hypothesised that higher resilience would be associated with higher educational engagement and outcomes.

Method

Ethics

The study was designed and implemented according to culturally appropriate research practices as outlined in the Guidelines for Ethical Research in Australian Indigenous Studies (GERAIS) Revised Second Edition (AIATSIS, 2012). For example, all design, development and implementation prioritised community consultation, negotiation, and free, prior and informed consent processes. The study was Aboriginal led in consultation with respected Aboriginal community members and Aboriginal academics. Consultations were conducted in one-on-one yarns over a number of rounds and included a combination of Aboriginal staff, students and academics ($N = 20$) at participating universities ($N = 4$). Ethical approval was provided by the Human Ethics Sub-Committee at The University of Melbourne. Informed consent was obtained from each participant and care was taken throughout the study to maintain cultural safety and participant wellbeing.

Participants

Recruitment

To maintain cultural safety, all participants were recruited through participating university Indigenous student support centres (ISSC) from July to September 2019. ISSCs were contacted via email detailing the purpose of the study and inviting participation as recruitment facilitators. ISSCs distributed email invitations to their student-base and were invited to advertise in their digital newsletters and/or display posters. Participants accessed the survey via a digital link to the online survey platform Qualtrics or via a printed copy from their facilitating ISSC and were offered a $15 digital gift card for completion of the survey.

Sample

Eighty-four respondents were recruited from four universities. Twenty-one respondents (25%) did not meet one or more of the inclusion criteria: 1) to identify as being of Aboriginal and/or Torres Strait Islander descent, 2) to be currently undertaking tertiary study, and 3) to provide a valid response of greater than 50% of survey items. Demographic characteristics of the final sample of 63 participants are presented in Table 1.

Table 1. Demographic characteristics of the final sample

Variable	N	%
Gender		
Male	18	28.6
Female	43	68.3
Non-binary	2	3.2
Age		
18-25	40	63.5
26-35	13	20.6
36-45	5	7.9
46-55	5	7.9
Cultural identification		
Aboriginal	58	92.1
Both Aboriginal and Torres Strait Islander	5	7.9

Table 1. Demographic characteristics of the final sample

Identification with a mob, clan, tribal or language group		
Yes	52	82.5
No	11	17.5
Current highest attained qualification		
<Year 12	4	6.3
Completed high school	33	52.4
Certificate level	7	11.1
Diploma/Graduate diploma	3	4.8
Undergraduate/Bachelor degree	11	17.5
Postgraduate degree	5	7.9
Current university		
The University of Melbourne	35	55.6
Swinburne University of Technology	12	19.0
Victoria University	8	12.7
Other	1	1.6
Not specified	7	11.1
Current level of study		
Certificate	5	7.9
Diploma/Graduate diploma	1	1.6
Undergraduate/Bachelor degree	44	69.8
Postgraduate	12	19.0
Doctoral	1	1.6
Year of study		
First	31	49.2
Second	13	20.6
Third	10	15.9
Fourth	3	4.8
Fifth or greater	4	6.3
Not specified	2	3.2
Enrolment status		
Full-time	52	82.5
Part-time	11	17.5
Location of study		
On one or more campuses	49	77.8
Mix of external/distance and on-campus	3	4.8
External/distance	11	17.5

Measures

Two of the study measures—the racism (Paradies & Cunningham, 2008) and resilience measures (Gee, 2016)—were designed, developed and validated by Aboriginal researchers in accordance with culturally appropriate research practices (AIATSIS, 2012). The average completion time was 25 to 35 minutes.

Demographics

Demographic variables included both multi-response questions and short-response questions which identified key characteristics related to personal identity (e.g., age, gender identification, cultural identification) and educational status (e.g., highest level of educational attainment, current level of study, enrolment status).

Measure of Indigenous Racism Experiences (MIRE)

The MIRE is a self-reported experiences of racism measure designed and developed for use with Australian Aboriginal populations (Paradies & Cunningham, 2008). It consists of 31 items (forming six scales) assessing exposure to interpersonal racism, responses and reactions to racism, internalised racism, recognition of systemic racism, race-consciousness, and salience of Indigeneity within the respondent's social group and among strangers. Ratings relate to experiences of racism across the life-course and across multiple potential settings, not those specific to tertiary education. High scores on interpersonal and systemic racism scales indicate more frequent experiences of racism. Low scores on the internalised racism scale indicate greater internalisation of racism. High scores on all other scales indicate greater race-consciousness and saliency of Indigeneity.

Measure of Indigenous Student Experiences of Racism (MISER)

Due to a lack of Aboriginal-designed, -developed and -directed racism experiences measures specific to the tertiary education system, the first author developed the MISER. The MISER is designed to assess experiences of racism and discrimination for Australian Aboriginal tertiary students during their studies and to identify the context and source of those experiences. The design and development of the MISER was conducted in a manner that reflects the need for Aboriginal people to be included in all aspects of the research process.

MISER development

An initial review of existing measures of self-reported racism was conducted (with a focus on those that were Australian, Aboriginal-specific and student-related), followed by informal individual and small group consultations with Aboriginal students (N = 7). Nineteen preliminary items were generated and reviewed by Aboriginal academics and psychologists (both Aboriginal and non-Aboriginal) to establish clarity and cultural appropriateness, after which eight additional items were developed. A second round of consultations with Aboriginal student support centre staff and students (N = 9) sought feedback on content of the measure, followed by a final review by the academics and psychologists.

The final MISER instrument consists of 27 items, 22 assessing multiple forms of racism experience. Sixteen items contain a series of sub-items that allow respondents to identify the frequency of racism experiences across multiple contexts (e.g., in class by students, out of class by teaching staff). These sub-items are averaged to provide a single score for the item, but also allow the MISER to identify the contexts and perpetrators of racism. The MISER response scales refer to frequencies of behaviours or events that are subjective (e.g., "often") rather than objective (e.g., "daily"). This follows the approach taken by the MIRE and reflects the difficulty in determining "role occupancy" for objective reporting; that is, frequency of racist experiences as a function of exposure (Paradies & Cunningham, 2008). The time frame for these judgments was "during your studies".

The MISER was designed to capture two distinct forms of interpersonal racism—direct and indirect—as well as internalised and systemic racism, in four sub-scales. During consultation, students reported experiencing interpersonal racism in distinct forms that impacted them differently and required different skills to manage and cope with. These differing experiences were comparable to the findings of Sonn et al. (2000). Direct interpersonal racism was hypothesised to reflect the experience of more observable overt racism experiences, characterised by clearly observable targeted manifestations (e.g., How often has someone said something offensive to you because you are Indigenous such as, name calling, jokes, stereotypes?). Indirect interpersonal racism was hypothesised to reflect more subtle racism experiences that are challenging to the student and can be perceived as inequitable and detrimental (e.g., How often

have people shown that they have lower expectations of you, because you are Indigenous?). Items assessing internalised racism captured the individual's internalising of racial prejudices against them, and behaviour that requires them to enact, or interact, with those prejudices (e.g., How often have you felt that you can't openly identify as Indigenous out of shame, fear, distress or discomfort?). Items assessing systemic racism captured experiences of racism that occur at the operational level of the university or in broader systemic structures (e.g., How often have you felt silenced, uncomfortable or alienated because of course structure or content related to your Indigenous identity?). A total score summing the four sub-scales is also calculated. For the purpose of this study, only this combined total racism score was used for hypothesis testing.

Aboriginal Resilience and Recovery Questionnaire: Short-form version

An adapted short-form version of the ARRQ (Gee, 2016) was used for this study. The short version of the ARRQ consists of 25 items that ask respondents to describe themselves, and the way they are with their family, community, and culture, using a 5-point Likert scale ranging from 1 = not at all, to 5 = a lot. The short-form measure includes a 12-item cultural strengths and resources sub-scale (coefficient omega [McDonald, 1985] = 0.90), a 6-item relationship strengths and resources sub-scale (0.93), a 6-item personal strengths and resource sub-scale (0.91), and a combined 24-item total strengths and resources scale (0.94). The 25th item asking participants about their knowledge of Indigenous languages was not included in analysis. The cultural strengths and resources sub-scale includes items such as "I am able to maintain my Aboriginal or Torres Strait Islander identity, values and beliefs". The relationship strengths and resources sub-scale includes items such as "I feel supported by my friends/mob". The personal strengths and resources sub-scale includes items such as "I am able to deal with most problems that occur in my life".

Student Engagement Questionnaire (SEQ)

The SEQ assesses six aspects of educational engagement relevant to tertiary students. Its 19 items form six sub-scales. For the purpose of this study only the supportive learning environment (SLE) sub-scale was used. SLE assesses the quality of institutional support students experience and their relationships with staff and peers. The SEQ also assesses outcome variables distinct from educational engagement, five of which were used in this study, including general learning outcomes (GLO), general development outcomes (GDO), departure intention (DI), and overall satisfaction with one's education (OS). SEQ sub-scales contain items with an assortment of response types, including Likert scales. Departure intention is a single dichotomous item: "In this academic year, have you seriously considered leaving your current institution?". The SEQ was not designed for Aboriginal people but has been used in a large study (N = 526) of Australian Aboriginal students (ACER, 2012). High scores on each scale indicate greater positive perceived experience of each domain of engagement except that higher scores on DI indicate greater likelihood of leaving the institution.

Results

Descriptive statistics

Table 2 displays mean scores, standard deviations, and range of scores on all measures and scales. On the MIRE, 85.8% of the respondents reported experiencing some interpersonal racism, 52.4% reported internalised racism, and all reported experiencing systemic racism in their lives. Respondents reported relatively high scores on the ARRQ across all three strengths and resources scales, and on positive engagement for the SEQ. In total, 41.1% of the sample indicated they had seriously considered leaving

their current institution, although 72.9% indicated that if they could start over again, they would return to their current institution.

Table 2. Descriptive statistics of MIRE, MISER, ARRQ and SEQ scales

Scale	M	SD	Min.	Max.
MIRE				
MIRE interpersonal racism	2.41	.98	1.00	5.00
MIRE internalised racism	4.39	.55	3.00	5.00
MIRE systemic racism	3.92	.84	2.00	5.00
MISER				
MISER racism score	48.53	15.51	22.98	85.63
ARRQ				
ARRQ 24 (total resilience score)	97.59	15.22	61.00	120.00
ARRQ A (cultural strengths)	48.10	7.06	32.00	60.00
ARRQ B (relationship strengths)	24.39	4.58	13.00	30.00
ARRQ C (personal strengths)	23.73	5.00	11.00	30.00
SEQ				
SEQ SLE	25.56	6.72	14.00	40.00
SEQ GLO	26.93	5.50	18.00	36.00
SEQ GDO	17.63	5.84	8.00	28.00
SEQ DI	1.33	.47	1.00	2.00
SEQ OS	8.66	2.42	3.00	12.00

MISER scale validation

As this study is the first to utilise the MISER, a preliminary examination of its psychometric properties was undertaken.

Internal consistency

For MISER items containing context-specific sub-items, ratings across the sub-items were averaged prior to reliability analysis. All sub-scales demonstrated very good to excellent internal consistency: the direct interpersonal racism scale (7 items, $\alpha = .91$), the indirect interpersonal racism scale (8 items, $\alpha = .94$), the internalised racism scale (2 items, $\alpha = .79$), and the systemic racism scale (2 items, $\alpha = .75$).

Relationships with MIRE scales

Correlations between MISER and MIRE scales were generated to assess the convergent and divergent validity of the MISER, with respect to a measure of racism experiences that is not specific to the tertiary education context. As shown in Table 3, moderate to strong correlations were found among the MISER's four scales (median $r = .66$). The MISER's direct interpersonal racism, indirect interpersonal racism and systemic racism scales were all significantly correlated with the MIRE's interpersonal scale, providing evidence of convergent validity. However, no MISER scales were associated with the MIRE's internalised and systemic racism scales. Notably, there was no significant convergence between the two measures' internalised and systemic racism scales.

In view of the strong associations among the four MISER scales, they were combined, along with an additional cyber-racism item, into a single 20-item measure of racism experiences for further analysis. This combined MISER racism scale demonstrated excellent internal consistency (α = .95).

Table 3. Correlations between MISER and MIRE scales

	1	2	3	4	5	6	7
1) MISER direct interpersonal racism scale	1	–	–	–	–	–	–
2) MISER indirect interpersonal racism scale	.81**	1	–	–	–	–	–
3) MISER internalised racism scale	.57**	.54**	1	–	–	–	–
4) MISER systemic racism scale	.75**	.82**	.52**	1	–	–	–
5) MIRE interpersonal racism scale	.64**	.60**	.19	.58**	1	–	–
6) MIRE internalised racism scale	.10	.21	-.01	.20	.26*	1	–
7) MIRE systemic racism scale	.05	.14	-.12	-.04	.23	.20	1

Note: ** Correlation is significant at the 0.01 level (2-tailed)
       * Correlation is significant at the 0.05 level (2-tailed)

MISER results

In total, 27% of respondents reported having never felt they lacked cultural support and 14.2% reported having often or very often lacked cultural support at their university. Furthermore, 90.5% of students reported having a space at their university specific to Aboriginal students where they felt safe and could feel a sense of community. Almost half the respondents (47.5%) reported that feeling a sense of community with other Aboriginal people was very important, with only 1.7% of respondents reporting it being not at all important. Just over half the participants (54%) reported being aware of their university having a process for reporting racism, with 12.7% having ever reported racism during their studies. Of the 12.7% who had reported racism, 50% reported being either dissatisfied or very dissatisfied with the outcome of their report and only 12.5% reported being satisfied or very satisfied.

A one-way ANOVA was conducted to determine if participants' sense of cultural support was associated with their experiences of racism (assessed by the MISER total racism score), and there was a significant effect (F(4,56) = 6.013, p < .001, η^2 = 0.30). Tukey's HSD post hoc test of mean differences (*MD*) showed that mean racism scores were significantly lower for students who felt they never (*MD* = -30.08, p = .001), not very often (*MD* = -22.59, p = .014) and sometimes (*MD* = -23.26, p = .015) lacked cultural support compared to those who very often lacked support. The mean racism scores were also significantly lower for students who felt they never lacked cultural support (*MD* = -24.51.08, p = .001) compared to those who often lacked cultural support.

Averaging context-specific sub-items allowed a comparison of contexts in which participants experienced the most racism. On a scale from 1 to 5, they reported the highest levels from course content and curricula (2.87), students in class (2.87) and outside of class (2.87), teachers inside (2.48) and outside

of class (2.12), administrative staff (2.07) and general support staff (2.07), and from Indigenous-specific support staff (1.48).

Associations among racism, educational engagement and outcome factors

A series of correlations were conducted to examine whether racism experiences during tertiary education (MISER total racism score) were associated with students' sense of a supportive learning environment (SLE) and educational outcomes. Greater frequency of experiences of racism was negatively associated with SLE, and with three of four educational outcome variables: general learning outcomes (GLO), general developmental outcomes (GDO), and overall satisfaction (OS) (see Table 4).

Table 4. Correlations between the MISER total racism score and SEQ scales

	1	2	3	4	5
1) MISER total racism score	1	–	–	–	–
2) SEQ supportive learning environment	-.45**	1	–	–	–
3) SEQ general learning outcomes	-.34*	.50**	1	–	–
4) SEQ general developmental outcomes	-.29*	.53**	.71**	1	–
5) SEQ overall satisfaction	-.37**	.65**	.49**	-.37**	1

An independent samples T-test found no difference in experiences of racism (MISER total racism score) between students who indicated an intention to depart from their current studies and those with no intention, $t(54)$ = -1.693, p = .096.

Associations between racism and resilience

MISER total racism score was correlated with scores on the ARRQ resilience scales (see Table 5). Greater frequency of experiences of racism was negatively associated with personal strengths and resources and total resilience, but not with cultural or relationship strengths and resources.

Table 5. Correlations between the MISER total racism score and ARRQ scales

	1	2	3	4	5
1) MISER total racism score	1	–	–	–	–
2) ARRQ total resilience	-.29*	1	–	–	–
3) ARRQ cultural strengths and resources	-.19	.93**	1	–	–
4) ARRQ relationship strengths and resources	-.23	.89**	.76**	1	–
5) ARRQ personal strengths and resources	-.42**	.87**	.71**	.73**	1

Note: ** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Associations between resilience, educational engagement and outcome factors

Correlations between ARRQ resilience items and SEQ educational items demonstrated that higher scores on all resilience scales were positively associated with SLE, with correlation coefficients ranging from $r = .34$ (ARRQ B) to $r = .42$ (total resilience), both $p < .01$, and with two of the four educational outcome variables: GLO with correlation coefficients ranging from $r = .26$, $p < .05$ (ARRQ C) to $r = .36$, $p < .01$ (ARRQ B & total resilience), and OS, with correlation coefficients ranging from $r = .27$, $p < .05$ (ARRQ C) to $r = .42$, $p < .01$ (ARRQ A).

Linear regression of racism and resilience on educational engagement and outcomes

A multiple linear regression was conducted to predict student scores on SLE, GLO and OS from MISER total racism scores and ARRQ total resilience scores. Student racism experience and resilience significantly predicted all engagement and outcome variables: SLE, $F(2, 53) = 11.371$, $p < .01$, $R^2 = .30$; GLO, $F(2, 53) = 6.381$, $p < .01$, $R^2 = .19$; and, OS, $F(2, 53) = 7.99$, $p < .01$, $R^2 = .23$. In all models both variables added significantly to the prediction. Total resilience scores significantly positively predicted SLE, $t = 2.73$, $p < .01$; GLO, $t = 2.27$, $p < .05$; and, OS, $t = 2.61$, $p = .01$. Total racism scores significantly negatively predicted SLE, $t = -3.04$, $p < .01$; GLO, $B = -.90$, $t = -2.03$, $p < .05$; and, OS, $t = -2.22$, $p < .05$.

Discussion

Although the literature on Aboriginal tertiary education argues that racism is a significant barrier to accessing, engaging and succeeding within education, there has been minimal research examining the impacts of perceived racism on educational engagement and outcomes. The current study aimed to examine the relationship between racism, institutional level support, individual strengths and resources, and educational engagement of Aboriginal tertiary students.

Psychometric properties of the MISER

This study developed the first measure of perceived racism specifically designed to assess the experiences of Aboriginal students in the tertiary education context. Preliminary psychometric testing showed good internal reliability of the MISER's scales and good convergent and divergent validity with the MIRE, the only other validated Aboriginal-specific racism measure. The MISER may be capable of accurately measuring the interpersonal experiences of racism. Despite being designed to observe interpersonal, systemic and internalised racism, no items from the MISER were correlated with the MIRE's systemic and internalised racism scales. This indicates that experiencing these forms of racism in the tertiary education context may be meaningfully distinct from experiencing them in society at large. The findings also highlight the difficulty of measuring the diverse manifestations of these forms of racism (David et al., 2019; Castle, 2019; Krieger, 2020). Furthermore, the items that originally made up the systemic and internalised racism scales showed better convergence with interpersonal items, and with the interpersonal scale on the MIRE. The MISER may therefore be best suited to measuring interpersonal experiences of racism. In sum, the MISER appears be a reliable and valid measure of the racism experiences of Aboriginal people within tertiary education settings, although further analysis of its factor structure is required. The scale is the only current Aboriginal-designed and -developed racism measure specifically for the tertiary education context, and the present study indicates it may be a valuable measurement tool in that context.

We hypothesised that Aboriginal tertiary students who reported more racism would score lower on educational engagement factors and outcomes. We found that experiences of racism, measured by the MISER, were associated with perceptions of a less supportive learning environment, including when resilience (ARRQ) was statistically controlled. SLE has been shown to impact students' overall positive engagement (ACER, 2012) and is associated with universities' ability to help students to cope with non-academic responsibilities, succeed academically and engage in positive social interactions (Coates, 2011). SLE is also indicative of the quality of students' relationships with administrative staff, teaching staff and other students (Coates, 2011). Our finding is consistent with that of Bodkin-Andrews, Denson and Bansel (2013), who identified the significant impact of poor relationships with teaching and administrative staff on Aboriginal student engagement. This suggests that experiences of racism adversely affect students' engagement by undermining their perceptions or experiences of support by their institutions.

Perceived racism was also negatively associated with general learning outcomes, general developmental outcomes and overall satisfaction with tertiary study, as predicted, including (except for general developmental outcomes) when resilience was controlled. This is consistent with the understanding that racism can impact the student experience and quality of student outcomes. It reinforces the need for tertiary institutions to consider carefully how policy and institutional structures shape the educational environment and contribute to student experiences of racism, and to consider what kind of institutional responses to students' experiences of racism would mitigate their educational and wellbeing impacts (Behrendt et al., 2012; Moodie et al., 2018; Page et al., 2017; Pechenkina, 2017; 2019).

Students considering leaving their current institution was not associated with experiencing greater racism. Of the 23 respondents who reported considering leaving their institution, 65% reported multiple reasons for their consideration on the SEQ. The most common reasons cited were difficulties with study/life balance ($N = 9$), with workload ($N = 8$) and other ($N = 8$). These findings are consistent with Day et al. (2015), who note the complex factors that inform the retention and engagement of Aboriginal students.

The findings indicated that perceived racism occurred most often in course content and among fellow students. Traditional institutional environments may contest Aboriginal conceptualisations, knowledge, history and identities by including culturally insensitive content (Day et al., 2015; Gunstone, 2008; Gunstone, 2009; Page et al., 2017). Omission of Aboriginal knowledge and perspectives may contribute to poor engagement and learning outcomes for Aboriginal students, and future research should explore the potentially nuanced effects of these contextual impacts and the challenges of broader transformation (Stein, 2020).

Findings pertaining to Aboriginal constructions of resilience assessed by the short-version ARRQ are interesting on several fronts. While total resilience and personal strengths showed significant negative associations with racism, no significant associations were found for cultural and relationship strengths. Some aspects of resilience may be more important in coping with and managing experiences of racism than others. Additionally, all resilience items correlated modestly to moderately with students' perception of support, learning outcomes and overall satisfaction. SLE was most strongly associated with and predicted by total resilience, perhaps indicating the need for students to access multiple strengths and resources to best experience support. Similarly, total resilience was equally highly correlated with GLO, as was the relationships sub-scale. Cultural resilience was the resilience sub-scale most highly correlated with overall satisfaction, highlighting the central importance of Aboriginal students' cultural needs. Further, total resilience was positively associated with GLO in a model with total racism. Overall, these findings may demonstrate the complex facets of resilience and the way unique strengths and

resources are needed to best inform individual engagement factors and outcomes for Aboriginal students. This is consistent with the broader emerging Aboriginal resilience and wellbeing literature that argues for the importance of holistic conceptualisations of resilience within cultural models of resilience. In Victoria, different dimensions of cultural resilience and cultural strengths have been found to be associated with better health outcomes in both quantitative and qualitative studies (e.g., Frankland et al., 2010; Gee, 2016; Higgins et al., 2013; Reilly et al., 2008). As such, personal resilience may be more impactful to coping with experiences of racism compared to other facets of resilience.

The potential impact of cultural support on perceived racism experiences is further supported by this study, as students lacking cultural support reported more experiences of racism than those who felt they received more cultural support. This association may be indicative of perceived cultural support reducing students' experiences of racism, or that experiencing high levels of racism reduces students' perceptions of cultural support and resources. As such, culturally specific support may be an influential factor in understanding how racism informs the experience of cultural support or vice versa. The potential for the positive impacts of cultural support systems was highlighted by Day et al. (2015), who argued that Western models of support may not be effective for adequately dealing with negative experiences of perceived cultural insensitivity, racism and discrimination for Aboriginal students. How those support services and systems can act to best support Aboriginal students and racism requires additional research that also accounts for more in depth and intersectional models of resilience, support services and adversity within tertiary institutions.

Limitations

The study has several limitations. First, it did not examine interactions among the many potentially interrelated and impactful factors related to both resilience and engagement. The work of Day et al. (2015) suggests that the factors that impact Aboriginal performance within tertiary education are extensive (e.g., financial support, academic skills and health issues). As such, future research must test more complex models of the interactions between resilience, racism and other factors related to engagement. To reliably assess these complex relationships, future studies require larger sample sizes (McClelland & Judd, 1993). Similarly, future research should implement longitudinal designs to enable stronger tests of the potential causal impacts of racism experiences on student outcomes.

The potential interactions and compounding effects of multiple barriers to engaging and succeeding in education is a place where there is a need for substantial future research using the MISER. Findings from this study suggest that the introduction of the MISER may be a valuable tool for research in this area, particularly given that previous measures of engagement, such as the SEQ and other Australasian Survey of Student Engagement (AUSSE) (Asmar et al., 2011) scales, have identified that the nuance of Aboriginal tertiary student experience may be better explained by the inclusion of factors outside of the scope of the AUSSE.

The scope of this small study is such that the regional and cultural group differences between Aboriginal students could not be accounted for. The preliminary findings of this study need to be interpreted cautiously and with this in mind. Future research should explore the nuance of Aboriginal tertiary students' experiences through the use of more detailed quantitative explorations of interactions, and qualitative research could potentially explore the diversity of Aboriginal cultural groups.

Conclusion

Based on findings from this study, it may be inferred that experiences of racism are negatively associated with key aspects of the tertiary student experience, particularly students' sense of support and their learning outcomes. Further, resilience is associated with several positive outcomes and students' sense of a supportive learning environment. Future research should clarify the relationship between experiences of racism and perceptions of cultural support. Furthermore, future research should explore how universities can better include Aboriginal knowledge in course content and engage in decolonisation practices to mitigate Aboriginal students' experiences of racism. Finally, while this study explored individual experiences of racism, engagement and resilience, it also identified that numerous factors informing that experience occur at an institutional level. As such, more research should explore the potential for institutional strategies that can support Aboriginal tertiary students and facilitate improvement. Although this study indicates that racism is highly prevalent among the Aboriginal cohort in tertiary education in Victoria, there is significant need to better understand its nuances and impacts both at the state and national level.

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