Indigenous Achievement in Higher Education and the Role of Self-Efficacy: Rippling Stories of Success

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May 2017

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Acknowledgements

This report may be cited as:

Frawley, J., Ober, R., Olcay, M., & Smith, J.A. (2017). *Indigenous Achievement in Higher Education and the Role of Self-Efficacy: Rippling Stories of Success.* National Centre for Student Equity in Higher Education (NCSEHE), Perth: Curtin University.

Executive Summary

This research originated from the 2015 National Forum on Indigenous pathways and transitions into higher education, hosted by Charles Darwin University (CDU) and funded through the Higher Education Participation and Partnership Program (HEPPP) by the Australian Government. In addition to presentations, the forum was an opportunity to launch a national project report *Can't Be What You Can't See: The transition of Aboriginal and Torres Strait Islander students into higher education* (Kinnane, Wilks, Wilson, Hughes & Thomas, 2014). In this report Kinnane et al. (2014) view success as a 'ripple of many small successes' and identified the vital roles that individual, family and community have for an Indigenous student's successful transition into higher education and for the development and provision of effective targeted pathway programs. Throughout Australia there have been many 'small successes' of Indigenous individuals who have completed higher education, but these stories are largely absent from the literature. There has, instead, been a strong focus on the barriers and challenges to Indigenous participation (for example see Andersen, Bunda & Walter 2008; Ellender, Drysdale, Chesters, Faulkner, Kelly & Turnbull 2008; Oliver, Grote, Rochecouste, & Dann 2015; Thomas, Ellis, Kirkham & Parry 2014).

The literature review for this project included current and recent literature on self-efficacy and academic success with a specific focus on Indigenous higher education students. Self-efficacy as a key element of Social Cognitive Theory (Bandura, 1977) proposes that learning occurs within a social context. The review compared and contrasted key findings on self-efficacy and academic success, especially literature related to Indigenous students' experiences, and singled out the most effective approaches in promoting a strong sense of self-efficacy in the higher education context.

The *Rippling Stories of Success* research team undertook an integrative literature review on self-efficacy and academic success with a particular focus on Indigenous higher education students; documented narrative accounts of Indigenous student success in higher education studies by accessing YouTube videos in which students presented their higher education experiences; developed a data analysis frame informed by the four sources of self-efficacy; and through an analysis of these stories, generated and documented an evidence-base about the most effective approaches for supporting Indigenous pathways and transitions into higher education and successful completions of studies.

The results from this research show that while the self-efficacy sources of vicarious experience and performance accomplishments in determining success are significant, these sources are less important in determining Indigenous student success in higher education than physiological states. The research also signals an emerging subset of the latter, one in which a student's emotional motivation to succeed is in order to give something back to family and the community, and is linked to cultural norms such as the spirit of giving, reciprocity, relationships and responsibility.

While support programs are important, it is recommended that within these there should be a stronger focus on providing emotional support to Indigenous students. This research project suggests the need for further work in this area within the context of Indigenous student transition, participation, retention and success in higher education.

The recommendations from this research are:

1. Academic support programs are important and would be significantly more effective if they were supplemented by emotional support provided by culturally capable counsellors.
2. The provision of culturally safe spaces for students can support wellbeing, a sense of belonging and identity. Where these don't exist within universities, they should be established and adequately funded.

3. Equity strategies and initiatives should be based on a foundation of community engagement with families and others who have a role in community-based initiatives.

4. Further research would assist in understanding how cultural norms such as the spirit of giving back, reciprocity, relationships and responsibility influence and modify self-efficacy theory.

5. Further research aimed at examining self-efficacy in the context of Indigenous student participation in higher education would be useful for advancing existing program investments and supports in this sector.

6. That self-efficacy should be a key consideration in programs that aim to support Indigenous students in higher education, such as the Indigenous Student Success Program (ISSP) currently administered by the Department of the Prime Minister and Cabinet. Research findings from this report could be used to provide greater flexibility in program delivery during any further revisions of the current guidelines and implementation process associated with ISSP.

1. Research Background

The role of self-efficacy, as defined by psychologist Albert Bandura (1977), on student achievement is widely accepted and validated by extensive research. Bandura developed a series of theoretical and practical works about self-efficacy in a broad psychological and societal setting, and proposed that self-efficacy was derived from four sources: (a) performance accomplishments; (b) vicarious experiences; (c) verbal persuasion; and, (d) physiological states. Considerable self-efficacy research focuses on higher education, but most of the work has been situated in Western contexts with very few studies on Indigenous student achievement.

Throughout Australia, there have been many 'small successes' of Indigenous individuals who have completed higher education, but these stories are largely absent from the research. Research has, instead, focused on the barriers and challenges to Indigenous participation and the high attrition rate. In a recent report (Kinnane et al., 2014) it was stated that success exists on a spectrum defined by individual and collective terms, as well as a range of measures utilised by universities and government departments. Success was viewed not so much as measured outcomes but more as a 'ripple effect of many small successes'. Research shows that to attain a sense of success requires a high level of self-efficacy (Bandura, 1977).

The higher education statistics for the first half of 2016 show that Indigenous students comprised of 1.6 per cent of all domestic on-shore commencing students, still below parity, but a 10.4 per cent increase from 2015. The transition to university, therefore, represents a period of disequilibrium for some students as they move from a familiar environment into an unfamiliar one, resulting in significant life changes. This was highlighted by several comments made by Indigenous students in this research project who spoke of the challenges they faced, for example:

> And you know, walking into the lecture theatre, I, you know, I was a minority. There was only two Indigenous people in the whole lecture theatre. And you know, I felt the pressure. I felt nervous (RS04)[1].

To cope with these life changes and to attain a sense of success requires a high level of self-efficacy. Social Cognitive Theory (Bandura, 1977) proposes that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behaviour. Self-efficacy is not created by easy success; it requires experience in overcoming obstacles and difficult situations through continued effort and persistence. Academic persistence can refer to a student continuing with their studies despite facing obstacles, setbacks, and challenges. Resilient learners are willing to give it a go and persist with their learning (Deakin-Crick et al., 2004). Students obtain information about their own capabilities by observing others, especially peers, who offer suitable possibilities for comparison. Students often receive information that affirms and persuades them that they are able to perform a task and this is most effective when people who provide this information are viewed by students as knowledgeable and reliable, and the information is realistic. West, Usher, Foster and Stewart (2014, p. 14) suggest, 'relationships, connections, and partnerships are critical elements of creating a welcoming and supportive environment.' Also, a positive outlook drawing on positive emotions strengthens students' self-efficacy. Research shows that confidence in one's relevant abilities can play a major role in an individual's successful negotiation of challenging situations, and that students who hold high expectations for themselves do so in part because "they trust in their capabilities and in part because they see the world, and their ability to respond to it, as less threatening" (Chemers, Hu, & Garcia, 2001, p. 62).

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[1] *A code used to identify the data – RS for Rippling Stories; 04 for the numbered interview.*

Policy concerns about addressing equity in higher education have been debated and refined for a number of decades. While increased supports for equity groups are both necessary and highly valued, it is becoming increasingly evident that targeted programs and activities, which are tailored to the needs of each separate equity group, are also required. Arguably the most disadvantaged equity group is that of Indigenous higher education students. Indigenous people face multiple disadvantages in education and employment where race, disability, gender, language, location and economic status all contribute. Higher education has a critical role to play in improving the socio-economic position of Indigenous people, their families and their communities. However, pathways into higher education are often complex to navigate, and the systemic and practical challenges and barriers faced by Indigenous students can ultimately hinder their participation or retention in higher education. They often involve concerns relating to equity and social inclusion. Inherent to pathways is the issue of student transition defined as the capacity to navigate and engage with change without having full control over and/or knowledge about what the change involves.

The aim of this research therefore is to address widening participation questions and issues by focusing on the self-efficacy literature and the narrative accounts of Indigenous students' successful transition into and completion of higher education studies. The literature review suggests a significant gap in understanding how cultural factors influence and modify self-efficacy theory, especially within the Indigenous higher education context. Through a self-efficacy analysis of Indigenous students' stories, an evidence-base about the most effective approaches for supporting Indigenous pathways and transitions into higher education and successful completions of studies is documented, and signals areas for further research.

2. Literature Review

2.1 Introduction

The research on self-efficacy since the seminal work of Bandura (1977) has been extensive and widely accepted, and it is agreed that students with higher levels of self-efficacy are more likely to be successful in scholastic endeavours (Chemers, Hu, & Garcia, 2001). This review specifically includes literature on academic self-efficacy. Academic self-efficacy is defined as personal judgments of one's capability to organise and execute courses of action to attain designated types of educational performance (Schunk, 1984; Zimmerman, 1995); it is about a person's beliefs concerning their confidence in performing various academic tasks (Bandura, 1997). Academic self-efficacy has also been found to be a successful predictor of academic achievement. There has been a recent increase in research on academic self-efficacy and ethnic and Indigenous students, predominantly in the USA and Canada (Gloria & Robinson Kurpius, 2001; Weenie, 2002; Golightly, 2006; Edman & Brazil, 2009; Lewis, 2011; Gokavi, 2011; Gota, 2012), with some of these focusing on the post-secondary context. Research on academic self-efficacy in the Australian/South Pacific context is scant (Goulton, 1997; Phan, 2007; Cumming-Ruwhiu, 2012). The literature review concludes with some future research recommendations and implications.

2.2 Literature Review Approach

The purpose of the review is to focus on the literature that deals with self-efficacy and academic success and to compare and contrast the key findings. A specific focus is the literature on the relationship between self-efficacy and Indigenous student participation and achievement. The review included grey literature, especially theses, reports and conference presentations, as well as research literature from books, book chapters and peer-reviewed journal articles. The review used several key terms to search electronic databases including self-efficacy; undergraduates (Australian Indigenous, Maori, Native American, First Nations); academic self-efficacy; academic success; academic persistence; academic performance; higher education; and ethnic minorities. The search used a combination of keywords, for example 'self-efficacy and undergraduate and Australia Indigenous'; 'self-efficacy and academic performance and ethnic minorities.' The electronic sources for journal articles, theses, book chapters and books included *Google Scholar*, *Digital Commons* (sociology; educational psychology; social psychology; higher education and teaching; educational assessment, evaluation and research), *JSTOR*, *Expanded Academic*, *AEI-ATSIS*, and *ProQuest Dissertations and Theses*. The articles that were focused on in this review were those that researched and addressed self-efficacy in higher education studies, including those relating to equity groups. The literature review found that very few studies dealt specifically with the Indigenous higher education experience.

2.3 Related Concepts

This paper briefly reviews related theory as well as broad efficacy concepts, before turning to address self-efficacy and academic self-efficacy.

Social Cognitive Theory

Social Cognitive Theory (Bandura, 1977) proposes that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behaviour. Bandura's Social Cognitive Theory suggests that the cognitive, behavioural, and environmental factors affect learning (Bandura, 1991). Bandura's proposition is that virtually all learning phenomena can occur by observing other people's behaviour and the consequence of that behaviour (Bandura, 1986). Self-efficacy (Bandura, 1977) is at the core of Social Cognitive Theory and refers to belief in one's capability. Self-efficacy is closely tied to other concepts and approaches such as resilience, which has

become widespread particularly in the education and early childhood sector (Gilligan, 2001; Healey, 2007); the adoption of strengths-based or assets-based approaches, which have become commonplace in social work, human services and positive psychology practice (Pollio, McDonald & North, 1997; Blundo, 2001; Brun & Rapp, 2001; Snyder & Lopez, 2007); and salutogenesis which has become frequently applied in health promotion and public health contexts (Lindstrom & Eriksson, 2005; Eriksson & Lindstrom, 2006). However, for the purposes of this review, we have limited search terms to 'self-efficacy.'

Self-Efficacy

Self-efficacy, as a key element of social cognitive theory, is a significant variable in student learning, because it affects students' motivation and learning. Bandura (1997, p. 7) defined self-efficacy as "the belief in one's capabilities to organize and execute the courses of action required to produce given attainments." Put simply it is the belief about one's own ability to be successful in the performance of a task. The four sources of self-efficacy are performance accomplishments, vicarious experience, verbal persuasion, and physiological states (Bandura, 1977).

Other Related Concepts

The coining of self-efficacy as a psychological construct gave rise to a range of related concepts, including self-regulatory efficacy, collective efficacy, cultural efficacy, bicultural efficacy and general self-efficacy.

Self-regulatory efficacy is people's beliefs and perceptions for relating their actions in accord with personal norms when facing pressure for engaging antisocial activities. In an academic setting, self-regulatory efficacy refers to one's belief in his/her capability of managing academic demands (Caprara, Barbaranelli, Pastorelli, & Cervone, 2004; Zimmerman, 1995).

Bandura (1977) defined collective efficacy as a group's shared belief in being able to organise together and execute required actions, and that it is concerned with the performance capability of a group as a whole. Donohoo (2016) provides an example of collective efficacy operating with the context of a school where teachers collectively organise and act on initiatives that result in a positive effect on students:

> Collective efficacy is high when teachers believe that the staff is capable of helping students master complex content, fostering students' creativity, and getting students to believe they can do well in school. When efficacy is high, educators show greater persistence and are more likely to try new teaching approaches. Educators with high efficacy encourage student autonomy, attend more closely to the needs of students who are not progressing well, and are able to modify students' perceptions of their academic abilities (Donohoo, 2016: para. 5).

Klassen (2004) believes that collective efficacy might supplant self-efficacy depending on cultural contexts where there is a collective identity, group solidarity, and duty. Laarhuis (2016, p.11) differentiates between collective efficacy and group efficacy where "group efficacy is the consensus of the group with regard to their own efficacy, while collective efficacy is the individuals' perception of efficacy." This has similarities with the Kaupapa Māori educational approach that draws on Māori traditions of self-determination to improve students' educational achievements (Bishop, 2003).

In their research on psychological models and interventions aiming to improve health outcomes for Māori, Houkama & Sibley (2010, p. 382) make reference to cultural efficacy. They define cultural efficacy as:

reflecting the extent to which the individual perceives they have the personal resources required (i.e., the personal efficacy) to engage appropriately with other Māori in Māori social and cultural contexts. These personal resources include the ability to speak and understand Te Reo Māori (the Māori language), knowledge of Tikanga Māori (Māori cultural practices and customs), marae etiquette (meeting house etiquette), and the ability to articulate heritage confidently (e.g., recite whakapapa or genealogy).

Nunez (2000), in discussing women's health education, prefers cultural efficacy over the term 'cultural competence.' The latter, according to Nunez (2000, p. 1072), implies 'a discrete knowledge set that focuses on the culture of the patient only as something 'other' and therefore aberrant from the norm.' Nunez (2000, p.1072) provides an example within a medical encounter where there is a tri-cultural interaction:

> the culture of the physician, the culture of the patient (which is rarely exactly the same as that of the physician), and the medical culture that surrounds them. In this model, it is important that students learn how to see their own cultures and the impacts of their behaviours on others whose cultures differ — and the impacts of the patients' behaviours on them, the students. With this view, they can gain a broad appreciation of interactions among cultures, rather than just memorising characteristics of certain broad groups.

LaFromboise, Coleman, and Gerton (1993, p. 404) propose the concept of 'bicultural efficacy'. They define bicultural efficacy as "the belief, or confidence, that one can live effectively, and in a satisfying manner, within two groups without compromising one's sense of cultural identity", and that one can also develop and maintain effective interpersonal relationships in two cultures. Ivory (2010, p. 143) believes that bicultural efficacy is "an individual's perceived expectation regarding his or her ability to handle the challenges of living within two cultures (without negative psychological outcomes) or having to compromise his or her personal and cultural identity." Bicultural efficacy is considered a crucial factor in acquiring and developing bicultural skills.

General self-efficacy is described as reflecting generalisations across various domains of functioning in which people judge how effective they are. General self-efficacy may explain a broader range of behaviours and coping strategies when the context is less specific, and if there is a focus on multiple behaviours simultaneously (Luszczynska, Gibbons, Piko & Tekozel, 2004).

The next section of the review focuses on the concept of self-efficacy and its sources: performance accomplishments, vicarious experience, verbal persuasion, and physiological state.

2.4 Self-Efficacy

Bandura (1977) first proposed self-efficacy as a theoretical explanation of behaviour change in therapy. Bandura (1977, p. 192) emphasised the importance of self-efficacy in that "efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences." He also predicted that individuals who are confident in their abilities are more likely to attempt difficult tasks, put forth greater effort toward mastery of those tasks, and persist in attempts despite difficulties. Pajares (1996) and Schunk (1991) affirmed that self-efficacy influences academic motivation, learning, and achievement.

Self-efficacy is not created by easy success as it requires continued effort and persistence in overcoming obstacles and difficult situations. Self-efficacy, as a key element of Social Cognitive Theory appears to be a significant variable in student learning because it affects students' motivation and learning (van Dither, 2011, p. 96). Compared with students who doubt their capabilities to learn or to perform well, those with high self-efficacy participate more readily, work harder, persist longer,

show greater interest in learning, and achieve at higher levels (Bandura, 1997). Bandura (1997) made it clear that self-efficacy is not the only influence on behaviour, and that no amount of self-efficacy will produce a competent performance when students lack the needed skills to succeed (Schunk & Pajares, 2009).

Bandura posited that individuals receive information about their ability to accomplish tasks through four principal sources:

1.   performance accomplishments
2.   vicarious experience
3.   verbal persuasion
4.   physiological states.

Performance Accomplishments

Performance accomplishments are best defined as the coalescing of past successful or unsuccessful experiences with a given behaviour. Successful experiences can boost a person's self-efficacy; whereas failure can lower self-efficacy. This source is also described in the research as mastery experience, enactive attainments, personal accomplishments or past successes. Regardless, this source is related to an individual's past performance where past successes can build a strong belief in one's efficacy, whereas failure can weaken it (Barouch-Gilbert, 2016). Golightly (2006) states that if an individual has some successful experiences in an area, then they are more likely to believe in subsequent successful experiences of the same or similar behaviours (Golightly, 2006). Likewise, Gokavi (2011, p. 42) states that "when an individual succeeds at a task or experiences a sense of personal accomplishment, the individual will likely believe they can succeed at the task again in the future and experience a corresponding increase in his or her self-efficacy." Bandura (1997, p. 195) explained the importance that successful experiences play in forming efficacy beliefs:

> Successes raise mastery expectations; repeated failures lower them, especially if the failures occur early in the course of events. After strong efficacy expectations are developed through repeated successes, the negative impact of failures is likely to be reduced. Occasional failures that are later overcome by determined effort can then strengthen persistence and efficacy expectations because of the perceived ability to better overcome obstacles to achieve a mastery level. The effects of failure (and success) on personal efficacy is, therefore, dependent not only on the pattern of experiences but the timing of experiences in which failures occur.

Self-efficacy requires real successes in dealing with a particular situation. This provides students with reliable evidence that they have the capability to succeed at the task. A large body of research has demonstrated the importance of past success and its effects on efficacy beliefs and many researchers have examined the relationship between self-efficacy beliefs and academic performance.

Vicarious Experience

Vicarious experience can be understood as observing others successfully perform certain tasks, often described in the research as 'modelling'. Golightly (2006, p. 3) describes this source "as an individual's experience with people similar to him/her that have successfully executed behaviour[s] in a given domain … [which] instils a sense of confidence that an individual can similarly accomplish the tasks in that domain." Bandura (1977, 1997) identifies three main factors that create good role models: age and expertness; the similarity between models and observers; and, the difficulty of tasks to be performed. Witnessing the success of peers, role models, or mentors can raise one's self-efficacy just as witnessing a peer's failure can lower self-efficacy. Bandura (1977, p. 197) gave the following explanation of vicarious experience:

Seeing others perform threatening activities without adverse consequences can generate expectations in observers that they too will improve if they intensify and persist in their efforts. Individuals persuade themselves that if others can do it, they should be able to achieve at least some improvement in performance.

Some studies have shown modelling to have a positive influence on academic achievement, promoting learning, and increasing academic self-efficacy (Schunk, 2003). Research shows that appropriate models can inform and motivate students who have previously been unsuccessful in their attempts to succeed in school and, that these models can provide information about actions that lead to success (Chin & Kameoka, 2002). Research also indicates that student improvement correlates with exposure to successful models (Schunk, 2003). Role models are of significant importance when individuals view them as similar to themselves (Lewis, 2011). Students obtain information about their capabilities by observing others, especially peers who offer suitable possibilities for comparison. Students often receive information that affirms and persuades them that they are able to perform a task, and this is most effective when people who provide this information are viewed by students as knowledgeable and reliable, and the information is realistic. West, Usher, Foster and Stewart (2014, p.14) suggest that "relationships, connections, and partnerships are critical elements of creating a welcoming and supportive environment." Vicarious experience is the second most studied source of efficacy information behind performance accomplishments, with most research being quantitative.

Verbal Persuasion

Verbal persuasion is understood as an individual's susceptibility to being persuaded of capability (or incapability) to perform certain behaviours; that is, it is easier to sustain efficacy if significant others convey belief in one's capability (Barouch-Gilbert, 2016). These 'significant others' may include parents, other close family members, and other individuals who have particular influence with an individual (Golightly, 2006). This source is sometimes also known as social persuasion. Verbal persuasion is a means of strengthening students' beliefs in their ability to succeed academically. Individuals who are persuaded by others of their ability to succeed at tasks are more likely to make and maintain effort over a period of time than individuals who are not persuaded (Bandura, 1997). There are many examples of how verbal persuasion can occur, one being motivational speeches by models or mentors which increase an individual's beliefs that they are capable of success. A study conducted by Turner and Lapan (2003) with Native American secondary students found that they perceive their parents as the most relevant source of verbal persuasion to instill a strong sense of academic efficacy beliefs. In an educational setting, verbal persuasion could have a variety of sources such as a teacher's verbal encouragement, praise, performance feedback and constructive critiques.

Physiological States

Physiological states could be defined as the amount of emotional arousal or anxiety a person feels about performing given tasks. When a person experiences negative thoughts and fears about their capabilities, such as making a presentation in front of a large group, these affective reactions can lower self-efficacy and trigger additional stress and agitation that help ensure the inadequate performance they fear. Bandura (1977) asserted that stress-provoking experiences and demanding situations can bring about emotional arousal which may affect a person's ability to complete a task. Nevertheless, Bandura (1986, p. 365) cautioned against giving too much weight to emotional arousal as a source of self-efficacy:

Perceived self-inefficacy leads people to approach intimidating situations anxiously, and experience of disruptive levels of arousal may further lower their sense that they will be able to perform well. However, people are much more likely to act on self-percepts of efficacy inferred

from mastery experiences (past successes) and social comparison of capabilities (modelling) than to rely heavily on the stirrings of the viscera.

One way to raise self-efficacy is to improve physical and emotional well-being and reduce negative emotional states. Individuals have the capability to alter their thoughts and feelings so that enhanced self-efficacy can influence their physiological states. A person who engages in a task free from anxiety and feeling of being in a threatening situation is claimed to be more self-efficacious (Goulton, 1997). Higher self-efficacy can be achieved when a person feels calm and composed, rather than nervous and worried when preparing for and performing a task (Bandura, 1986). A positive outlook that draws on positive emotions can strengthen a person's self-efficacy. Research in an academic setting shows that confidence in one's relevant abilities can play a major role in a student's successful negotiation of challenging situations, and that students who hold high expectations for themselves do so in part because 'they trust in their capabilities and in part because they see the world, and their ability to respond to it, as less threatening' (Chemers, Hu, & Garcia 2001, p. 62).

When self-efficacy is applied to the educational domain, it can also be referred to as academic self-efficacy (Barouch-Gilber, 2016). Academic self-efficacy forms the next section of the literature review.

2.5 Academic Self-Efficacy

Academic self-efficacy is informed by self-efficacy and social cognitive theories (Bandura, 1977). The term academic self-efficacy suggests that self-efficacy concerning academic behaviours may influence scholastic persistence and performance. Academic self-efficacy is defined as 'confidence in mastering academic subjects' (Chemers, Hu & Garcia, 2001, p. 56). Academic self-efficacy focuses on a person's belief about themselves regarding academic tasks. Research has established the validity of academic self-efficacy as a predictor of students' learning, motivation, persistence and achievement of all ages and levels of education and in various subjects (Bandura, 1977; Zimmerman, 2000). There are several studies about academic self-efficacy within the post-secondary education context (Becker & Gable, 2009; Chemers, Hu & Garcia, 2001; Edman & Brazil, 2009; Khan, 2013) but limited studies on academic self-efficacy relating to ethnic minorities and Indigenous people.

Academic Self-Efficacy, Ethnic Minorities and Indigenous People

There are relatively few studies which examine academic self-efficacy within ethnic minority or Indigenous contexts, although Bandura (1977) stressed the importance of testing how well self-efficacy applied to diverse populations. The limited research findings suggest that self-efficacy can explain deficits in academic achievement in ethnic minorities (Golightly, 2006). This calls for further research concerning the development of efficacy beliefs in culturally diverse populations (Bandura & Locke, 2003; Schunk, 2003). This information could be invaluable for the development of interventions aimed at strengthening self-efficacy (Lewis, 2011).

Research conducted by Bryan (2003) suggested that efforts to improve academic self-efficacy could positively impact on academic performance of Navajo students. Research by Golightly (2006, p. 19) suggests that Navajo students' low levels of academic self-efficacy are "one of the factors possibly contributing to lower than expected rates of academic achievement and low post-secondary education retention rates." The study by Gloria & Robinson Kurpuis (2001) provided a broad perspective of non-cognitive factors influencing the academic non-persistence decisions of American Indian undergraduates. They found that self-efficacy is essential for navigating potentially negative and discriminatory environments (Gloria & Robinson-Kurpius, 2001).

Research by Weenie (2002) intended to contribute to an understanding of the resilience processes that enable First Nations students to persevere and succeed in higher education studies in spite of

great adversity. Using a narrative inquiry method, Weenie (2002) interviewed six graduates, from the Saskatchewan Indian Federated College, Indian Education Program, and analysed the data from a self-efficacy perspective. Weenie (2002, p. 99) states that for one of the participants - Gloria - the theme of self-efficacy was evident as she related her experiences in residential school:

> She began to believe in herself, primarily, through her interactions with the nun and the nurse. They had 'moved [her] in a positive direction' by focusing on her talents and abilities rather than allowing her to continue to live with the negativity. Gloria also developed self-efficacy through her academic achievements. Building on these successes, she was able to develop more self-confidence and self-esteem in other areas of her life. Gloria's philosophy of life is to take on the challenges as they come and she understands the need to walk through them 'to feel successful in [her] heart.' For Gloria, self-efficacy developed from 'the victory of being able to start verbalising and then being able to look for solutions to [her] own feelings' and experiencing success in this area has helped her to overcome 'those times that [she] wants to hang back.

Research by Cumming-Ruwhiu (2012, p. 45) investigated the determining factors that influence Māori to succeed in higher education. The participants in her research provided insights into their lives that impacted on their decisions that lead to success. Some of these narratives address self-efficacy, for example, one of the participants - Awhina - reflects on the vicarious experience of observing her mother:

> The moment I decided to go to uni was the moment that I stood up and did a haka for my mum at her Māori graduation. I was like 13, 14 maybe ... So seeing my mum graduate when she was a solo mum of two children ... I watched everything that she did, all her hard work into her studies for four years and then she graduated. That was kind of like the moment, 'no yeah, I'm going to go and follow in her footsteps, cause if she can do it solo then I can do it just being me

As noted earlier, research on academic self-efficacy in the Australian/South Pacific context is minimal, and the reviewers were hard-pressed to identify any research that focused particularly on self-efficacy in the Australian Indigenous higher education context. While there has been a strong focus on the barriers and challenges to Indigenous participation (for example, Andersen, Bunda & Walter, 2008; Ellender, Drysdale, Chesters, Faulkner, Kelly & Turnbull, 2008; Oliver, Grote, Rochecouste, & Dann, 2015; Thomas, Ellis, Kirkham & Parry, 2014), the self-efficacy literature may provide indicators to better support the access, participation, retention and graduation of Indigenous higher education students.

2.6 Implications

This literature review supports the view that considerable research has been devoted to the study of self-efficacy beliefs in education, but most of the work has been situated in Western contexts. Several studies conducted in the higher education sector have found that academic self-efficacy had a significant and positive effect on academic achievement (Gota, 2012). Findings show that students who have high levels of academic self-efficacy beliefs are positive, motivated, persistent, capable, and are not challenged or unnerved by difficult academic tasks (Bandura, 1977, 1994; Pajares, 2002; Schunk, 1991, 1995).

Self-efficacy can be enhanced (Bandura & Schunk, 1981), in a number of ways. Gokavi (2011) suggests that among other measures, students could be assigned to mentors. Becker and Gable (2009, p. 17) suggest that it:

> would be highly useful to measure student self-efficacy before and after teachers have learned techniques they could use to help their students develop their self-efficacy. This is the great promise of self-efficacy research. If increasing self-efficacy leads to greater academic performance, then learning how to enable students to develop it has profound implications for those currently constrained by environmental forces and underserved by the educational system.

Pajares (2006, p. 153) concurs that teachers have a significant and important role in "the self-beliefs of their pupils, for it is clear that these self-beliefs can have beneficial or destructive influences." Sarra (2014) encourages teachers and principals to have high expectations of their students, and students to have high expectations of themselves. Research shows that it is possible to influence students' self-efficacy within higher educational programmes, as stated by van Dither, 2010, p. 104-105):

> intervention programmes that were based on Social Cognitive Theory were more effective in influencing students' self-efficacy than interventional treatments with underlying theories other than social cognitive theory; enactive mastery experiences are stated as the most powerful source of creating a strong sense of efficacy … Higher educational institutions put effort into helping their students develop the required knowledge, skills and competencies. Although competent behaviour largely depends on acquiring knowledge and skills, it is obvious that students' self-efficacy plays a predicting and mediating role about students' achievements, motivation and learning. Therefore, it seems crucial that institutions of higher education pay attention to students' developing self-efficacy. Knowing the factors that affect the development of students' self-efficacy can help higher educational institutions in developing and planning educational programmes that enhance students' self-efficacy.

Research conducted with Native American students could have some parallels for the Australian Indigenous case. Gloria and Robinson-Kurpius (2001, p. 99) concluded that "the most powerful non-cognitive factor was social support" and that the "central dimension of social support was faculty/staff mentorship." This, they state, suggests:

> academic and university personnel working in academic settings need to develop programs that foster mentoring relationships and other social support networks … students need opportunities and encouragement to connect with potential mentors … encouraging culture-specific student group[s] can create supportive networks to enhance student retention … having a support group of peers who are coping successfully with university challenges can model persistence behaviours … and academic personnel need to work actively to foster a university environment in which American Indian students feel welcomed and in which their values and culture-specific behaviours are respected and accepted.

Regarding further research recommendations, Klassen (2004, p. 206) asserts that "though self-efficacy has been shown to be a strong predictor of performance with Western populations, less is known about how self-efficacy beliefs operate with non-Western individuals and cultural groups." Klassen (2004) suggests that considerable further research would assist in understanding how cultural factors influence and modify self-efficacy theory. As noted earlier in the review, this is required to fill the significant gap within the Indigenous education context, both nationally and internationally.

3. Research Design

(a) Key Research Topics and Questions to be Addressed

The key research topics focus on Indigenous students' experiences in higher education and how they talk about their successes in relation to their transition into higher education and completion of studies.

The central questions of this research were:

1. What role does a strong sense of self-efficacy play in determining successful transition and success in studies for Indigenous higher education students?
2. How could higher education institutions better support the development of a strong sense of self-efficacy in Indigenous students?

The research was guided by the following questions:

a. What constitutes success for Indigenous students?
b. What motivates students to be successful?
c. What does success look like in higher education?
d. What are some of the challenges students face in their higher education journey?
e. What measures provided by family, friends and community assist students in their successful higher education journey?
f. What measures provided by the university assist students to succeed?
g. How important is a positive higher education experience for students' goals, needs or desires?
h. How does the higher education experience affect self-esteem or self-confidence?
i. What advice do students have for universities to facilitate success?
j. What advice do they have for potential students?

This project involved three stages:

Stage One
- Activity: Undertake an integrative literature review on self-efficacy and academic success with a specific focus on Indigenous higher education students.
- Objectives:
  a. to conduct a focused review of literature on self-efficacy and academic success
  b. to compare and contrast key findings on self-efficacy and academic success, especially literature related to Indigenous students' experiences
  c. to identify the most effective approaches in promoting a strong sense of self-efficacy for Indigenous higher education students.

Stage Two
- Activity: Data collection through a YouTube search to identify and collate YouTube videos in which national and international Indigenous students present positive higher education experiences. In the first instance when searching for data sources it became evident that there was limited literature that focused on stories of success, however, during a Google search the 'video' tab returned several YouTube references. On reviewing the list, it was noted that many, if not most, were YouTube videos uploaded from several Australian universities where Indigenous students were speaking of their experiences and successes.
- Objectives:
  a. to identify the positive higher education experiences of national and international Indigenous students
  b. to consider what constitutes success in these contexts.

Stage Three
•   Activity: Data analysis and reporting
•   Objectives:
    a. to identify themes emerging from the YouTube videos of Indigenous students talking about their successful higher education experiences
    b. to consider these themes in the context of self-efficacy literature
    c. to report on allocated cases of Indigenous students talking about their successful higher education experiences
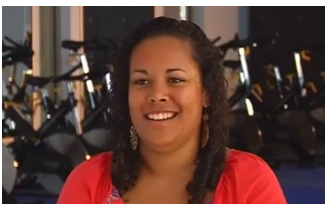   d. to finalise arrangements for reporting and dissemination.

(b) Methodology

Data Source

The data source was YouTube videos of national and international Indigenous higher education students speaking about their successful experiences. Various national and international websites were located. These included: Indigenous students stories (James Cook University); First degree (Southern Cross University); Telling the stories of teachers (Flinders University); Australian Council of Deans of Education; Our mob make great teachers (More Aboriginal and Torres Strait Islander Teachers Initiative): American Indian Graduate Centre (USA); Native Education College (Canada), and, Auckland University of Technology. The 16 videos selected from these sources were:

Hylda's story (RS01):
https://www.youtube.com/watch?v=wfEyu9n0x3c&index=1&list=PL0F7A1C5EDFB1E33B

Majerle's story (RS02):
https://www.youtube.com/watch?v=ptzqoATAGAo

Laila's story (RS03):
https://www.youtube.com/watch?v=b0x3vgUfo20

Alyce's story (RS04):
https://www.youtube.com/watch?v=b5qfKMIvEOA&list=PL0F7A1C5EDFB1E33B&index=11

Gari's story (RS05):
https://www.youtube.com/watch?v=_is9Ina4yDA

Jordan's story(RS06):
https://www.youtube.com/watch?v=XlpEpRo8ixU
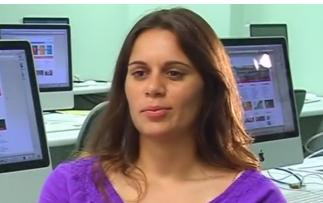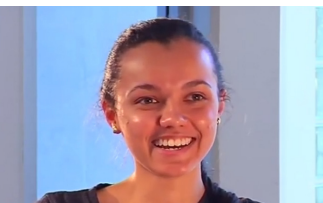
Kim's story (RS07):
https://www.youtube.com/watch?v=b0-e6DY2yO4

Marjad's story (RS08):
https://www.youtube.com/watch?v=KIrNHj-97XY

Melissa's story (RS09):
https://www.youtube.com/watch?v=8T7Mkiu04Do

Peta's story (RS10):
https://www.youtube.com/watch?v=OORiykCksHU

Thalia's story (RS11):
https://www.youtube.com/watch?v=x8OEGiVsYic

Tristan's story (RS12):
https://www.youtube.com/watch?v=nD0CK99PHL4

Victoria's story (RS13):
https://www.youtube.com/watch?v=Jjp-Q9Q54RU

Vinnita's story (RS14):
https://www.youtube.com/watch?v=sTRpXCRJUhA

Rick's story (RS15):
https://www.youtube.com/watch?v=H1WWM3UQDzo

Luana's story (RS16):
https://www.youtube.com/watch?v=cfi-QP398xw&list=PL0F7A1C5EDFB1E
33B&index=20

Additional videos selected by the research team included:

Dr Curtis and Dr Veasey's story (RS17):
https://www.youtube.com/watch?v=1mIL4KpoXkY

Jonathon's story (RS18):
http://futurestudents.curtin.edu.au/undergraduate/university/teaching-areas/aboriginal-studies/

TEDx Brisbane Chris Sarra - All you need is....to dream (RS19):
https://www.youtube.com/watch?v=rPOFPgIpGdY

Procedure

To facilitate data collection, two research team workshops were held. At Workshop One the research team were each allocated a set of YouTube videos from the above list to analyse, and were requested to include any additional sources. At Workshop Two, researchers presented their analysis. Researchers approached the analysis in one of two ways: YouTube videos were uploaded for transcribing using a publicly available transcription service, or took notes as they watched the YouTube video noting important phrases.

Data Collected

In addition to the 16 identified YouTube videos, three further videos were added by the researchers. Researcher one, two and three analysed five videos each, and Researcher four analysed four. The videos ranged from five to 15 minutes in duration.

Data Limitations

This research project was limited by a small sample size of 19 YouTube videos which were mainly promotional videos primarily from two Australian universities. The informants were generally undergraduate students who were most likely asked a similar set of questions. The YouTube videos may have been edited to fit a similar format and structure. To address some of the limitations, the research team sourced other YouTube videos that included Indigenous students from other national and international universities, Indigenous postgraduate students and recent graduates, and mid-career Indigenous professionals from different fields.

Data Analysis: Themes and Codes

Team members identified themes emerging from the YouTube videos of Indigenous students talking about their successful higher education experiences. These themes were analysed in the context of the self-efficacy literature. Each team member was allocated several YouTube videos for analysis. Using self-efficacy theory, data was coded with the predetermined codes of:

- personal accomplishment
- vicarious experience
- verbal persuasion
- physiological states.

The findings from a directed content analysis offered supporting evidence for self-efficacy theory applied to the data and guided the discussion of findings. Content analysis using a directed approach is guided by a more structured process. Using existing self-efficacy theory researchers assigned the key self-efficacy concepts as initial coding categories and began coding immediately with these predetermined codes. Data that could be coded were identified and analysed later to determine if they represented a new category or a subcategory of an existing code.

4. Results

The approach taken by the researchers involved highlighting phrases, words, sentences or paragraphs from the transcripts of the YouTube videos that reflected the four codes of performance accomplishments and academic self-efficacy; vicarious experience; verbal persuasion; and physiological states. Any other emerging themes were attributed a new code; resulting in the identification of one emerging subset named here as 'cultural norms'. A simple count of these coded comments taken from 19 data sets resulted in the following:

- performance accomplishments: n=23 (plus Academic Self-efficacy subset n=6)
- vicarious experience: n=31
- verbal persuasion: n=46
- physiological states: n=104 (plus cultural norms subset n=27).

From the 19 data sets there were 247 comments collated into the four self-efficacy sources as follows:

- performance accomplishments: 15.7 per cent
- vicarious experience: 12.6 per cent
- verbal persuasion: 18.6 per cent
- physiological states: 53.1 per cent.

Examples of quotes related to performance accomplishments from the data include:

A lot of our families I know the conversations now are leaning towards education which is really surprising, it's really good now they want the children to go - previously used to be to finish grade 10, then it was to finish grade 12, now university is an option so it's part of the dialogue (RS15).

I was inspired to do education because I was a teacher aide in school and I thoroughly enjoyed it (RS07).

In analysing the data, the research team decided to include academic self-efficacy as a subset of performance accomplishments. Academic self-efficacy is about having confidence in mastering academic subjects with a focus on a person's belief about themselves regarding academic tasks. When telling their stories, several students spoke of the academic challenge, for example:

The tutorials, assignment writing, you're just learning skills and tools that you usually won't do every day (RS15).

You're learning to speak academically, you're learning to write academically, you have to give the lecturers what they want and it's another world for you (RS14).

You also have the tutorial assistance that helps, you actually go into a smaller class and you talk about the different things you are learning in that week (RS07).

It's all about managing your time (RS04).

Vicarious experiences are about observing others successfully performing certain behaviours. These significant others include parents, relatives, teachers, colleagues or others who have made a notable impression. Example quotes include:

The person who inspired me to come to uni was my uncle, my mum's cousin … He was able to speak to me as a child about going to university and he took the time [to] answer my questions about university and he gave me those options. Otherwise, I wouldn't have known that these opportunities existed outside our doorsteps (RS14).

My father is an Aboriginal health worker and I grew up with him being very involved in our community. He was on the board that started our Aboriginal medical service back home. And so I think I grew up watching him do a lot and give a lot of himself for our community, and I originally wanted to go into the same line of work, or Aboriginal health work (RS18).

When a student is verbally persuaded by others of their ability to succeed at tasks they are more likely to make and maintain effort over a period of time, therefore it is easier for them to sustain efficacy if others convey belief in their capability. For example:

My parents always sort of told me during school that I could be whatever I wanted to be. They didn't push. They didn't force me to do anything. They always allowed me to make up my own mind. It was nice that the option never felt in my mind, it never felt closed, it was always there (RS10).

But my parents sort of just let me make the decision myself. And then when I made the decision they were really supportive of what I wanted to do there (RS11).

I woke up one day and thought, I need to do this, I need to go to university. I had this idea because I was lucky I had people in my family who had this idea (RS07).

One way to raise self-efficacy is to improve physical and emotional well being and reduce negative emotional states. Comments related to this source of self-efficacy include:

If you believe in yourself and you have a dream and you think you can be a nurse or a doctor or whatever you want to be, there's only one special ingredient you need to do that and that is to believe in yourself, and it all starts in your thinking. If you change the way you think, think positively, solve your problems positively, work on it, get over it, move on and yeah, take the next step. Follow your dreams. So get out there and do it, just do it (RS01).

The friendships that I made along the way has been very special and assisted with my study (RS07).

You've got to believe in yourself, believe in our potential as Indigenous people. Once were scientists, not once were warriors. Once were scientists. This is our dream, it's our life, this is who we are. You can do it (RS17).

In the analysis of the data a further subset emerged that focuses on a person's emotional motivation to succeed in order to give something back to the community, and was linked to cultural norms such as the spirit of giving, reciprocity, relationships and responsibility. Quotes associated with this emerging subset include:

It's created opportunities for my family. It's their achievement as much as it is mine and it means that I have a responsibility to give back (RS18).

And social work's also helped me look at myself and see where I can develop into a better person, into a more knowledgeable person so that way I can assist my people (RS14).

Sometimes you have to leave and grow to be able to come back and help (RS08).

And bringing all the experiences back up into the Islands and then implementing it...yeah, my skills into, yeah, giving it back to my people, and hopefully making some positive changes for the next generation to come (RS01).

In the project team's discussion, and at a presentation at the 2016 Australian Association for Research in Education (AARE) conference held in Melbourne, some suggestions were made in regard to locating this emerging source, what we have coined as 'cultural norms', within the self-efficacy framework. As noted above, Bandura posited that individuals receive information about their ability to accomplish tasks through the four principal sources of performance accomplishments (which includes the subset of academic self-efficacy); vicarious experience; verbal persuasion; and, physiological states.

One suggestion made was that the 'cultural norm' subset, fits with the related self-efficacy theory of cultural efficacy. Houkama & Sibley (2010) view cultural efficacy as having the personal resources to be able to engage appropriately with others from the same cultural groups in social and cultural contexts. Houkama & Sibley (2010) believe that these personal resources include language, and knowledge of cultural practices, customs and protocols. A further suggestion was that this emerging subset could be explained as collective efficacy. Bandura's definition of collective efficacy (1977) emphasises a group working together to organise and perform an action. Donohoo's example (2016) of collective efficacy is that of teachers working collectively together to organise and act on initiatives to improve results for students. Both of these concepts don't appear to adequately describe this emerging source.

We argue that the 'cultural norm' subset is best suited within the physiological states of the self-efficacy framework, and not within the related concepts of cultural efficacy or collective efficacy. We argue that within the Indigenous contexts the spirit of giving, reciprocity, relationships and responsibility is underpinned by a person's emotional motivation to succeed in order to give something back to the community. While these values are inherent in cultural practices, the act of giving back is a personal choice. The act of giving back contributes to the building of an individual's emotional well-being, for example, the following students who speak positively and emotionally about their successful experience and rationale for learning:

And bringing all the experiences back up into the Islands and then implementing it...yeah, my skills into, yeah, giving it back to my people, and hopefully making some positive changes for the next generation to come (RS01).

I really want to help my people in any way, shape or form and fortunately medicine was the area I took a liking to (RS08).

Sometimes you have to leave and grow to be able to come back and help (RS08).

Bandura (1986) cautioned against giving too much weight to physiological states as a source of self-efficacy, however, this research shows that it is an important source which, in Indigenous contexts, is defined by the values of giving, reciprocity, relationships and responsibility, and contributes to the building of an individual's emotional well-being.

5. Discussion, Conclusion and Recommendations

The research set out to answer two central questions guided by several sub-questions. The research shows that self-efficacy does have a pivotal role in determining successful transition and success for Indigenous higher education students. What constitutes success varies from student to student as does what motivates students to be successful, but what seems to be vital are positive experiences linked to the self-efficacy sources of personal accomplishments, vicarious experiences, verbal persuasion, and physiological states. The research suggests that services that better support the development of a strong sense of self-efficacy in Indigenous students have the potential to contribute to influencing success, because positive higher education experiences do impact on students' goals, needs and desires.

Students spoke of experiencing positive accomplishments with these providing a foundation to pursue higher education studies.

> I found it intriguing. I didn't know what the lady did but I was like, accounting, maybe I might do that. I took it as a subject in grade 10, 11 and 12. In grade 11 I got accounting dux, then also in grade 12. So after having that success, I was like this is something I want to do (RS11).

> When you're at high school you think 'oh no, I'm not going do another four years of uni, that's silly'. And I can remember thinking about that. That's probably why I didn't want to go to uni. I'm not going do another four years after doing school. But sitting here in this chair, thinking that I'm going to graduate with a social work degree next year. That's a really good feeling (RS09).

Family, friends, community members and other significant others all play an important role in assisting students in transitions and pathways to success. Some students spoke of the importance of having good role models who provide sound advice, or who by their own experience reflect a positive and determined outlook.

> I'm not explicitly sure about what made her [mum] so staunchly proud and fierce but I remember as a kid watching her. She would stand up for herself and fight for the rights of others who she saw getting trampled on (RS19).

> The person who inspired me to come to uni was my uncle, my mum's cousin. He was 60 when he went and did his anthropology through Queensland University and he took about six, seven years to complete that. As you know from before, our parents were only able to go to a certain level at school and he finished his education in year seven, but he pursued his study in his older age and it was sad because he never lived long enough after he graduated to really enjoy the benefits. He was able to speak to me as a child about going to university and he took the time and this was, I'm talking about in the 80's where he'd answer my questions about university and he gave me those options. Otherwise, I wouldn't have known that these opportunities existed outside our doorsteps (RS14).

Other students spoke of experiencing verbal persuasion as a means of strengthening their beliefs in their ability to succeed academically.

> My parents always sort of told me during school that I could be whatever I wanted to be. They didn't push. They didn't force me to do anything. They always allowed me to make up my own mind. It was nice that the option never felt in my mind, it never felt closed, it was always there (RS10).

I understand now that I'm a lot older why my mother like, really, really kind of stencilled in our heads that education was important and regardless of whichever path we took and still to this day she's in support no matter what (RS13).

A number of students suggested that improving physical and emotional wellbeing and reducing negative emotional states is significant in contributing to success. This included being confident and resilient, but also taking time for physical activities.

You've got to be confident, you have to be determined, you have to believe that you can do it and if you apply yourself in and just really slog it out, anything is possible (RS13).

So it's a matter of you just getting yourself through the door and then trust yourself and have confidence that you're going to meet people that will help you and then be prepared to take the journey and see it through to the end (RS15).

I live by the beach, and because that was like home to me, I can go for a walk down the beach or go swimming and that sort of helped me to clear my mind and then to go back in to study again (RS01).

Support services provided by universities assists students with building academic self-efficacy especially in services that focus on a student's belief about themselves regarding mastering academic tasks.

I had a tutor that I had, she was a tutor for an actual tutorial and that was English effective writing and we became very – she was just really supportive. I struggled through other subjects and stuff and she offered to become my tutor through science and I thought that was the best because she's got that English – she's like an English major or something and so that, what is it, the structure in which you have to apply for an essay writing or whatever. It's not just I'm just going to write whatever, you have to have a body and a conclusion and I had no idea, and I suppose punctuation and grammar and, you know, it was all new to me, all new to me (RS13).

You also have the tutorial assistance that helps, you actually go into a smaller class and you talk about the different things you are learning in that week (RS07).

You're learning to speak academically, you're learning to write academically (RS14).

The lecturer actually helped me how to, you know, not paraphrase but how to reference things, how to go about searching for things (RS16).

The data also revealed that students who had made successful transitions into higher education, and had achieved a measure of success in their studies were able to provide advice for potential students.

My message to you is if you are thinking about coming to uni, going to uni, take the opportunity. Sometimes it's going to be hard. You'll have to do a lot of assignments and that, but you just do them. Just think it's one step towards your career, or one step towards your degree. Um, and you just do it. (RS09)

More Indigenous students should definitely go to uni. Because we need tertiary education. We need role models out in the community. A lot of kids will identify, oh yeah, maybe I want to do this, but they won't actually go out and do it. So, I think you know, the more they see other people the same age, you know, similar interest, they're Indigenous, and they're doing things and achieving stuff, they're just going to be like, I can do it as well. (RS11)

This research has identified several areas for further work especially in regards to policy, practice and research. Providing physical and emotional wellbeing support is largely absent from government policy and initiatives and this needs to be addressed as a matter of priority. This project indicates that improving physical and emotional wellbeing and reducing negative emotional states is a significant factor in supporting Indigenous students to succeed and complete their higher education studies. The Commonwealth Government could increase support through Indigenous Support Program (ISP) funding as a contribution towards improved educational outcomes for Indigenous higher education students as set out in the goals of the National Aboriginal and Torres Strait Islander Education Policy. Academic success goes beyond individual achievements, but rather contributing towards making a positive change in Indigenous peoples' lives, for the individuals as well as their families and communities. Targeted programs could include expanded Indigenous student support services provided by universities as well as community outreach programs funded through the Higher Education Participation and Partnerships Programme (HEPPP) initiative. These expanded programs could focus on strengthening self-efficacy.

Some Indigenous students are emotionally motivated or driven to succeed in their higher education studies, in order to benefit their families, their communities and their culture. Students who are determined to accomplish their dreams and goals seek and implement specific strategies, resources and support to achieve the academic tasks required of them. The goal and dream is greater than the discipline and sacrifice required of students throughout the course of study. For some students knowing that they can rely on the support from significant others (peers, lecturers, counsellors, family members) contributes to their success, and it is important to have good role models in the family, community and university, who believe in them and the journey they are undertaking. The findings from this research suggest that culture matters in education and cultural safety is important. In part this is supported through mentoring programs, counselling support services, support from staff, and scholarships, but it is also through peer-to-peer relationships.

> You've got your head people out of there [your faculty] and you've got your mentors which you see during the week, and you just go to them if you have any problems, or you can't attend something or to get help with an assignment or something. We also have our room, the Black Room, the Indigenous Computer Room, which is where, that's just for health students, yeah it's kind of where we all congregate, we will have group studies in there, or you can access the internet. It's 24-hour access which is heaps of fun. I guess we all just hang in there and socialise and support each other, which is good for the support there, as well as having your mentors and that which come and check up on you and that to make sure you're doing alright (RS02).

> One of the great things about going to uni and studying at JCU is the small teacher to student ratio. It's wonderful that after about four weeks most of the lecturers know your name. You're not necessarily going to get that at the larger unis. The lecturers are willing to help you, they're very approachable, you can talk to them, you're not just a number to them. It's great. Also because the classes are smaller, you also get to know the people you're studying with (RS10).

> You also have the tutorial assistance that helps, you actually go into a smaller class and you talk about the different things you are learning in that week (RS09).

> Something that helped me through the first year of studies was associating with the Indigenous School of Australian studies, seeing familiar faces, other Murri that are at the school and doing similar things (RS07).

Interestingly, where self-efficacy research shows the primacy of vicarious experience and performance accomplishments (including one's own academic accomplishments) in determining success, this

research project suggests these categories are less significant in determining Indigenous student success in higher education than physiological states.

In conclusion, this research project makes the following recommendations that should be of interest to a range of parties including federal and state/territory governments, and universities. The recommendations are:

1. Academic support programs are important and would be significantly more effective if they were supplemented by emotional support provided by culturally capable counsellors.
2. The provision of culturally safe spaces for students can support wellbeing, a sense of belonging and identity. Where these don't exist within universities, they should be established and adequately funded.
3. Equity strategies and initiatives should be based on a foundation of community engagement with families and others having a role in community-based initiatives.
4. Further research would assist in understanding how cultural norms such as the spirit of giving, reciprocity, relationships and responsibility influence and modify self-efficacy theory.
5. Further research aimed at examining the self-efficacy in the context of Indigenous student participation in higher education would be useful for advancing existing program investments and supports in this sector.
6. That self-efficacy should be a key consideration in programs that aim to support Indigenous students in higher education, such as the Indigenous Student Success Program (ISSP) currently administered by the Department of the Prime Minister and Cabinet. Research findings from this report could be used to provide greater flexibility in program delivery during any further revisions of the current guidelines and implementation process associated with ISSP.

6. References

Andersen, C., Bunda, T. & Walter, M. 2008. Indigenous higher education: The role of universities in releasing the potential. *The Australian Journal of Indigenous Education. 37 (1):* 1-8.

Bandura, A. 1997. *Self-efficacy: The exercise of control.* New York: Freeman.

Bandura, A. 1994. Self-efficacy. In Ramachaudran, V. S. (ed.), *Encyclopaedia of human behaviour.* New York: Academic Press: 71-81.

Bandura, A. 1986. *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. 1983. Self-efficacy determinants of anticipated fears and calamities. *Journal of Personality and Social Psychology (45):* 464-469.

Bandura, A. 1982. Self-efficacy mechanism in human agency. *American Psychologist (37):* 122-147.

Bandura, A. 1978. Reflections on self-efficacy. *Advances in Behavioral Research and Therapy (1):* 237-269.

Bandura, A. 1977. Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review (842):* 191–215.

Bandura, A., & Locke, E. 2003. Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology (864):* 605-620.

Bandura, A., & Schunk, D. 1981. Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology (413):* 586-598.

Barouch-Gilbert, A. 2016. Academic probation: Student experiences and academic probation: student experiences and self-efficacy enhancement. *Journal of Ethnographic & Qualitative Research (103):* 153-164.

Becker, S. P. and Gable, R. K. 2009. The relationship of self-efficacy with GPA, attendance, and college student retention. Higher Education. Paper 2. http://scholarsarchive.jwu.edu/highered/2 (accessed 1 June 2016)

Bishop, R. 2003. Changing Power Relations in Education: Kaupapa Maori messages for mainstream education in Aotearoa/New Zealand. *Comparative Education (392):* 221-238.

Blundo, R. 2001. Learning strengths-based practice: Challenging our personal and professional frames. Families in Society: *The Journal of Contemporary Human Services 82 (3):* 296-304.

Brun, C. & Rapp, R. 2001. Strengths-based case management: individual perspectives on strengths and the case manager relationship. *Social Work 46 (3):* 278-288.

Bryan, M. 2004. An examination of Navajo Cultural Identity and its Relationship to Academic Achievement. Doctoral dissertation, Brigham Young University, Provo, UT, 2004.

Caprara, G. V., Barbaranelli, C., Pastorelli, C., & Cervone, D. 2004. The contribution of self-efficacy beliefs to psychosocial outcomes in adolescence: predicting beyond global dispositional tendencies. *Personality and Individual Differences, 37:* 751-763.

Chaffey, G. 2004. Gifted and talented education: Professional development package for teachers. Retrieved from www.gifted.tki.org.nz

Chen, Y. 2014. The influence of self-efficacy on degree aspiration among domestic and international community college students. Doctoral Dissertation, Iowa State University. www.lib.dr.iastate.edu (accessed 1 June 2016)

Chemers, M. M., Hu, L. T., & Garcia, B. F. 2001. Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational psychology (931):* 55.

Cumming-Ruwhiu, A. S. M. 2012. Te ara manukura: the factors motivating young Māori to enter university. Doctoral Dissertation, Te Kunenga ki Pūrehuroa, Massey University, Palmerston North, New Zealand, 2012. www.mro.massey.ac.nz (accessed 1 June 2016).

Deakin-Crick, R., Broadfoot, P. and Claxton, G. 2004. Developing an effective lifelong learning inventory: the ELLI project. *Assessment in Education: Principles, Policy & Practice, Vol. 11* No. 3: 247-272.

Donohoo, J. 2016 Collective efficacy: Together we can make a difference. http://corwin-connect. com/2016/04/collective-efficacy-together-we-can-make-a-difference/ (accessed 1 June 2016)

Edman, J. L., & Brazil, B. 2009. Perceptions of campus climate, academic efficacy and academic success among community college students: An ethnic comparison. *Social Psychology of Education (123):* 371-383.

Ellender, I., Drysdale, M., Chesters, J., Faulkner, S., Kelly, H., & Turnbull, L. 2008. When a dream becomes a nightmare: why do Indigenous Australian medical students withdraw from their courses? *The Australian Journal of Indigenous Education 37 (1):* 40-47.

Eriksson, M. & Lindstrom, B. 2006. Antonovsky's sense of coherence scale and the relation with health: a systematic review. *Journal of Epidemiology & Community Health 60 (5):* 376-381.

Gilligan, R. 2001. *Promoting resilience: A resource guide on working with children in the care system.* London: British Agencies for Adoption and Fostering.

Gloria, A. M., & Robinson Kurpius, S. E. 2001. Influences of self-beliefs, social support, and comfort in the university environment on the academic non-persistence decisions of American Indian undergraduates. *Cultural Diversity and Ethnic Minority Psychology 71:* 88.

Gokavi, T. 2011. The transition to post-secondary education for Canadian Aboriginal and non-Aboriginal students: A focus on adjustment, fit and anticipated persistence. Doctoral Dissertation, University of Saskatchewan. http://library.usask.ca/indigenous/scholarly/theses.php (accessed 1 June 2016).

Golightly, R. 2006. Defining the Components of Academic Self-Efficacy in Navajo American Indian High School Students. Doctoral Dissertation, Bringham University. hpp://scholarsarchive.byu.edu/etd (accessed 1 June 2016).

Gota, A. A. 2012. Effects of parenting styles, academic self-efficacy, and achievement motivation on the academic achievement of university students in Ethiopia. Doctoral Dissertation, Edith Cowan University. http://ro.ecu.edu.au (accessed 1 June 2016).

Goulton, F. 1997. He huarahi ako: Pathways to learning: The academic and cultural self-efficacy of Maori student teachers. Master of Philosophy thesis, Massey University, Palmerston North. http://mro.massey.ac.nz/handle/ 10179/5629 (accessed 1 June 2016).

Healy, J. 2007. *Resilience and coping skills: Issues in society. Volume 260.* Thirroul: The Spinney Press.

Houkamau, C. A., & Sibley, C. G. 2011. Māori cultural efficacy and subjective wellbeing: A psychological model and research agenda. *Social indicators research, 103 (3):* 379-398.

iSALT Team 2014. Social Cognitive Theory. iSALT Resources: Theories, Concepts, and Measures, Paper 4. www. h3p://cornerstone.lib.mnsu.edu/isalt_resources/4 (accessed 1 June 2016).

Ivory, L.I. 2010. Bicultural efficacy. In Clauss-Ehlers, C. S. (ed.). *Encyclopedia of Cross- Cultural School Psychology.* New York, NY: Springer, 141-143.

Khan, Mehjabeen 2013. Academic Self-Efficacy, coping, and academic performance in College. *International Journal of Undergraduate Research and Creative Activities Vol. 5* Article 4: 1-11.

Kinnane, S., Wilks, J., Wilson, K., Hughes, T. & Thomas, S. (2014). *Can't be what you can't see: the transition of Aboriginal and Torres Strait Islander students into higher education: Final report 2014.* Sydney: Office for Learning and Teaching.

Klassen, R. M. 2004. Optimism and realism: a review of self‐efficacy from a cross-cultural perspective. *International Journal of Psychology 39 (3):* 205-230.

Laarhuis, E. 2016. The effects of efficacy beliefs on training outcomes: looking beyond self-efficacy. Master of Conflict, Risk and Safety Psychology thesis, University of Twente. http://essay.utwente.nl (accessed 1 June 2016).

LaFromboise, T., Coleman, H. L., & Gerton, J. 1993. Psychological impact of biculturalism: evidence and theory. *Psychological bulletin 114 (3):* 395-412.

Lewis, J. 2011. Self-efficacy and retention among ethnically diverse nursing students. Doctoral Dissertation, University of Colorado, 2011. http://gradworks.umi.com/34/77/3477380.html (accessed 1 June 2016).

Lindstrom, B. & Eriksson, M. 2006. Contextualizing salutogenesis and Antonovsky in public health development. *Health Promotion International 21 (3):* 238-244.

Luszczynska, A., Scholz, U., & Schwarzer, R. 2005. The general self-efficacy scale: multicultural validation studies. *The Journal of Psychology 139 (5):* 439-457.

Nunez A. E. 2000. Transforming cultural competence into cross-cultural efficacy in women's health education. *Academic Medicine 75 (11):* 1071-1080.

Oliver, R., Grote, E., Rochecouste, J., & Dann, T. 2015. Indigenous Student Perspectives on Support and Impediments at University. *The Australian Journal of Indigenous Education:* 1-13.

Pajares, F. 2003. Self-efficacy beliefs, motivation, and achievement in writing: A review of the literature. *Reading &Writing Quarterly 19 (2):* 139-158.

Pajares, F. 2002. Self-efficacy beliefs in academic contexts: An outline. http://www.emory.edu/ EDUCATION/mfp/ efftalk (accessed 1 June 2016).

Pajares, F. 1996. Self-efficacy beliefs in academic settings. *Review of Educational Research 66 (4):* 543-578.

Phan, H. P. 2007. An Examination of Reflective Thinking, Learning Approaches, and Self-Efficacy Beliefs at the University of the South Pacific: A path analysis approach. *Educational Psychology 27 (6):* 789-806.

Pollio, D, McDonald, S. & North, C. 1997. Combing a strengths-based approach and feminist theory in group work with persons on the street. *Social Work with Groups 19 (3/4):* 5-20.

Sarra, C. 2014. *Strong and smart–Towards a pedagogy for emancipation: Education for First Peoples.* Oxford, UK: Routledge.

Schunk, D. H. 2003. Self-efficacy for reading and writing: Influence of modeling, goal- setting and self-evaluation. *Reading and Writing Quarterly 19:* 159-172.

Schunk, D. H. 1995. Self-efficacy and education and instruction. In J. E. Maddux, J. E. (ed.). *Self-efficacy, adaptation, and adjustment: Theory, research, and application.* New York: Plenum Press, 281-303.

Schunk, D. H. 1991. Self-efficacy and academic motivation. *Educational Psychology 26:* 207-231.

Schunk, D. H. 1984. Self-efficacy perspective on achievement behaviour. *Educational Psychologist 19:* 48-58.

Schunk, D. H., & Pajares, F. 2009. Self-efficacy theory. In Wentzel, K., Wigfield, A. & Miele, D. (eds.). *Handbook of motivation at school.* New York: Routledge, 35-53.

Schwarzer, R., & Jerusalem, M. 1995. Generalized Self-Efficacy scale. In Weinman, J., Wright, S. & Johnston, M. (eds.). *Measures in health psychology: A user's portfolio.* Causal and control beliefs. Windsor, England: NFER-NELSON, 35- 37.

Sherer, M. & Maddux, J.E. 1982. The self-efficacy scale: Construction and validation. *Psychological Reports 51:* 663-671.

Smith, S. A., Hill, C. L., & Jackson, A. P. 2003. Academic persistence among Native American college students. *Journal of College Student Development 44 (4):* 548-565.

Snyder, C. & Lopez, S. 2007. *Positive psychology: The scientific and practical explorations of human strengths.* Thousand Oaks: Sage Publications.

Thomas, K., Ellis, K. Kirkham, R. & Parry, L. 2014. Remote Indigenous students: Raising their aspirations and awareness of tertiary pathways. A*ustralian and International Journal of Rural Education 24 (2):* 23-35.

Turner, S. L., & Lapan, R. T. 2003. Native American adolescent career development. *Journal of Career Development 30:* 159–172.

van Dinther, M., Dochy, F., & Segers, M. 2011. Factors affecting students' self-efficacy in higher education. *Educational Research Review 6 (2):* 95-108.

Weenie, A. 2002. A study of resilience in First Nations post-secondary education students. Master of Education thesis, University of Saskatchewan. https://ecommons.usask.ca/handle/10388/etd-07222008-124235 (accessed 1 June 2016).

West, R., Usher, K., Foster, K., & Stewart, L. 2014. Academic staff perceptions of factors underlying program completion by Australian Indigenous nursing students. *The Qualitative Report 19 (12):* 1-19.

Zimmerman, B. 2000. Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology 25:* 82-91.

Zimmerman, B.J. 1995. Self-efficacy and educational development. In Bandura, A. (ed.). *Self-efficacy in changing societies.* New York, NY: Cambridge University Press, 203-231.