

# Indigenous Education, Well-Being, and Resilience— A Systemic Approach

Janya McCalman and Roxanne Bainbridge

## Introduction

All children need opportunities to strengthen their resilience and enjoy supportive environments. But resilience is particularly important for promoting flourishing and educational and life outcomes for Indigenous students, who are more likely to experience high levels of cumulative and co-occurring risks that can lower their resilience, engagement, and participation in education and increase their risks of social exclusion. In turn, education can play a vital role in improving the overall socioeconomic and cultural prosperity and positioning of Indigenous nations in colonized countries.

Alongside individual asset development (Masten Cutuli, Herbers, & Reed, 2009), accounting for the interactions between the innate qualities of children and their environments that critically influence how they develop and learn is imperative to improving student outcomes. Schools and school systems strive to achieve better student learning outcomes—academic outcomes, better engagement, greater enjoyment of learning, and improved student health and well-being—as their core business (Masters, 2016). However, fundamental to learning outcomes and engagement is good health and well-being and resilience—the capacity of students to navigate to resources that sustain their well-being in the face of life challenges and the capacity of their environment to provide these resources in meaningful ways (Ungar, 2008). Understanding how Indigenous students’ sociocultural and historical environments and contexts interact to influence their learning, psychosocial development, and well-being is imperative as a change strategy if we are to meet benchmark educational standards.

While a focus on children's resilience and well-being is an intrinsic part of the early childhood education curriculum in Australia, it is often a neglected aspect of school improvement efforts once students move past the early years. Early childhood frameworks take an ecological pedagogical approach to learning and recognize the important role educators, parents, other children, and the physical environment play in a child's learning and development (Department of Education and Training, 2010). But in the later years of education, strengthening resilience and other targeted well-being activities are often ad hoc at best, and where resilience activities are implemented, they frequently emphasize individual student development. The absence of coordinated systemic and ecological approaches to achieving improved educational outcomes for Indigenous students limits their opportunities and quality of life.

In this chapter, we offer suggestions for how resilience thinking across systems could help to inform better education practices and policies, with a specific focus on our work with Indigenous Australian students. It is written by a non-Indigenous Australian researcher and Gungarri/Kunja Aboriginal researcher. We will (a) define resilience; (b) map Australia's education system and describe what has been done to date to improve resilience at different levels of the system, as it pertains to Indigenous students; (c) propose the use of systems thinking and continuous quality improvement (CQI) approaches to assess, measure, and study the resilience of the education system across levels; (d) describe a case study of an exploratory systems approach in our Resilience Research Program with remote Indigenous community primary schools and regional/urban secondary boarding schools; and (e) explore how emerging systemic resilience research can help us generate scalable solutions to the education and well-being of Indigenous students. Concluding remarks speculate on the type of resilience practices and research that are needed to improve Indigenous education in the future. The chapter is also relevant for considering how resilience thinking across systems could help to inform better education practices and policies for all children, including children from other populations that are structurally marginalized.

## What Is Resilience?

Definitions of resilience are important because they guide the operationalization of interventions and measurement of cumulative and co-occurring risks and protective factors (Luthar & Cicchetti, 2000). A vast international body of literature has resulted from 50 years and four waves of international resilience research factors (Masten et al., 2009). Schools and other educational institutions have been embraced as ideal sites for resilience research because they are places in which children and adolescents spend so much of their time (Condly, 2006). Hence, a Google search of the term *resilience and education* produced an enormous 86 million results (searched February 20, 2019), and an overwhelming variance in, and ambiguity of, definitions of resilience (Luthar, 2006). Despite this breadth of resilience research, however, Australian educational policy is still adhering to first-wave definitions of resilience as an individualized concept. Individualized definitions do not acknowledge the effects of

complex interactions between internal factors and external determinants in students' social and physical environments, including families, communities, schools, and other systems that shape their outcomes (Bottrell, 2009; Jongen, McCalman, & Bainbridge, in press; Wright, Masten, & Narayan, 2013). Australia's recent education policy, for example, defined resilience as "the ability to cope and bounce back after encountering negative events, and to return to almost the same level of emotional well-being" (Australian Catholic University & Erebus International, 2008, p. 29).

From a systems perspective, we define resilience as being concerned with the capacity of the education system to adapt through stronger feedback loops and continuous improvement to better meet the needs of Indigenous students (Sonnemann & Goss, 2018). As well, it involves the capacity and choice of Indigenous students, family, and community members; teachers; and other school personnel to navigate toward resources to meet the needs of Indigenous students in their personal, social, and physical ecologies and to negotiate to use those resources in ways that make sense to them (Domitrovich, Durlak, Staley, & Weissberg, 2017; Ungar, 2008). Thus, since resilience entails a broad-based exploration of the interactions between resources, characteristics, and processes that operate from the student right through to the structural levels, it can be applied at multiple levels to drive change (Barankin & Khanlou, 2007; Bottrell, 2009; Ungar, 2004; van Breda, 2017; Waller, 2001). Different contexts shape different meanings; hence, having choice is important with the most promising interventions reflecting Indigenous students' aspirations and values.

## Why Resilience?

Achieving systemic shifts in the education system is complex and requires multifaceted structured and informal strategies at different levels that align with the needs and aspirations of Indigenous students and families. At the broadest level, improving resilience of the education system entails adaptation of the system to support improvements in Indigenous students' educational outcomes (e.g., student engagement and participation, academic achievement and school completion) and well-being (e.g., lower health risks and fewer mental health problems; Australian Catholic University & Erebus International, 2008; Jongen et al., in press). The process usefully encompasses acknowledgement of adversity, which for Indigenous students is well documented (e.g., Hopkins, Taylor, & Zubrick, 2018; McCalman et al., 2016), but works toward enhancement of well-being (Ungar, 2008; Ungar & Liebenberg, 2011). Munford and Sanders (2017), for example, argue that adopting integrated resilience approaches in educational practice with high-risk young people, including working at multiple levels, has transformative potential. When high-risk students were able to continue with their education at age-appropriate educational levels, they experienced higher levels of resilience and well-being (Munford & Sanders, 2017).

Resilience interventions targeting Indigenous students have proven outcomes. Our systematic review of resilience interventions targeting Indigenous students in Canada, Australia, New Zealand, and the United States (Jongen, Langham, Bainbridge, & McCalman,

2019) found group workshops, cultural engagement and participation, education, training, mentoring, and community capacity-building aimed at increasing student well-being and resilience produced outcomes at the levels of individual students, communities/culture, and schools. For example, families and community Elders and leaders contributed to Indigenous educational strategies for supporting students to navigate the differences in their community and school cultures and identity. Such strategies include engaging students in cultural events or cultural excursions in the community; culturally grounded, enhanced, or tailored curricula; leading a specific cultural program or class; teaching Indigenous languages; leading outdoor/nature-based activities; participating in program delivery or other school activities; linking with schools to provide community contact/support for adolescents; developing local language around mental health and well-being; and engaging students in art, music, film and media, and dance.

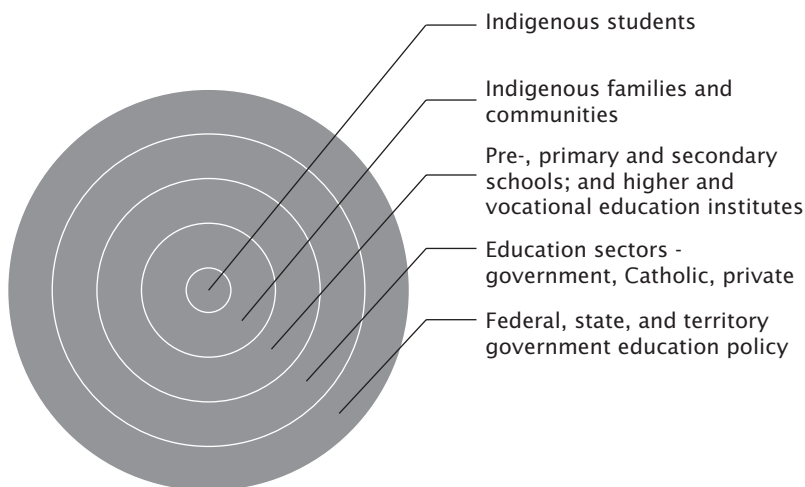
Consistent with outcomes that are now considered as universal promotive and protective factors, we found that individual Indigenous students gained peer support/social inclusion and/or social connection/involvement, coping skills and communication/conflict resolution skills, self-esteem and/or confidence, self-reliance and acceptance of seeking support, analytical and reflective skills, the ability to set goals, leadership capacity, personal power and autonomy, and sense of purpose (Domitrovich et al., 2017; Roffey & McCarthy, 2013). We also found improvements in social and psychiatric functioning, reduced risk of clinically significant mental health concerns, decreased depression symptoms; improvements in overall health; increased knowledge and awareness/understanding of alcohol, drugs, and suicide; reduced anxiety for students with elevated anxiety (Domitrovich et al., 2017; Fleming, Dixon, Frampton, & Merry, 2011; Morsillo & Prilleltensky, 2007; Roffey & McCarthy, 2013); and behavioral outcomes such as reduced substance use, suicidality, and self-harm. Outcomes at the level of communities/culture included a stronger sense of Indigenous identity (Blignault, Haswell, & Pulver, 2016; Dobia et al., 2014), development of local language, increased understandings of mental health and well-being, and the promotion of resources in the local Indigenous language. For schools, outcomes from resilience interventions included increased adolescent training and leadership opportunities (Cahill Beadle, Farrelly, Forster, & Smith, 2014; Domitrovich et al., 2017), increased student retention rates, an increase in academic proficiency, less teasing and bullying, anecdotal evidence of reduced violence, increased graduations, and a decrease in money spent on external mental health services (LaFromboise & Howard-Pitney, 1995; Spears, Sanchez, Bishop, Rogers, & DeJong, 2006).

Furthermore, systemic resilience enhancement approaches are consistent with calls by Indigenous Australian leaders for a strengths-based, human rights approach to Indigenous development rather than the current focus on the persistently lower educational achievements of Indigenous learners compared to their non-Indigenous counterparts. The United Nations' (2007) Declaration on the Rights of Indigenous Peoples Article 14 states: "Indigenous peoples have the right to establish and control their educational systems and institutions providing education in their own languages, in a manner appropriate to their cultural methods of teaching and learning" (p. 7). In his 2011 Social Justice Report, for example, former Aboriginal and Torres Strait Islander Australian Social Justice

Commissioner Mick Gooda (2011) advocated for a shift to a more emancipatory narrative, stating: “Unfortunately, governments continue to see Aboriginal and Torres Strait Islander disadvantage from a deficit-based approach—addressing the ‘Indigenous problem.’ Governments need to move to seeing us as capable and resilient” (p. 9). Despite such promising evidence and advocacy, the Australian federal government has been slow to consider the utility of resilience, with the concept not appearing explicitly in educational policy until 2018.

## The Education System in Australia

As an example of the need to think about educational systems from a multisystemic perspective, the Australian education system as it pertains to Indigenous students can be depicted as in Figure 11.1. At the center of this education system are its students; 207,852 Indigenous students (who comprise 5.5% of all Australian students) were enrolled full- or part-time in primary and secondary schools in 2016 (Australian Bureau of Statistics, 2014); 83.9% were enrolled in free government schools, 10.5% in Catholic and 5.6% in independent schools that usually charge attendance fees. Seven percent of Indigenous males and 12% of females aged 18 to 24 years went on to attend a university or other tertiary educational institution in 2016. Australia’s six state and two territory governments are responsible for ensuring the day-to-day regulation of the education system and delivery of public school education (Sonnemann & Goss, 2018); Catholic and independent schooling sectors are also accountable for students’ educational progress and expenditure of funding. The federal government exerts some control over the education system through conditions on commonwealth funding to state and territory governments.



**FIGURE 11.1** The multiple layers of the Australian education system as it pertains to Indigenous education.

## The Context of Education for Indigenous Students

We argue that a shift is necessary from the current approach that attempts to prepare Indigenous children to become more resilient at school, to one that also prepares schools, other educational institutions, and policy *for* Indigenous students (Krakouer, 2016a). While the education system is multilayered, efforts to improve Indigenous education to date have been highly siloed, uncoordinated, and most often focused only on the student, with each component of the system working independently. Shifting the paradigm to prepare *for* Indigenous students will require integrated strategies at multiple layers of the system. The contributions of each layer will be discussed in turn with our belief that educational systems improve results for other marginalized populations, too, if they approach student success and well-being with systemwide and multiscale transformation.

International evidence suggests that students themselves become more resilient if they have at least one secure attachment relationship with a supportive adult; access to competent, prosocial adults (role models) in the wider community; and positive school, religious organizations, and other community networks involving the broader cultural context (Glover, 2009; Khanlou & Wray, 2014; Luthar & Cicchetti, 2000; Wright et al., 2013). A study of Indigenous children and adolescents from Western Australia, for example, found that prosocial friendships and the likelihood of living near extended family members in areas with low-level socioeconomic status protected those from high-risk families from the effects of harsh parenting, low nurturing parenting, and exposure to family violence (Hopkins et al., 2018). A study from New South Wales suggested that low risk was associated with family encouragement to attend school, having someone to talk to if there was a problem, and regular strenuous exercise (Young, Craig, Clapham, Banks, & Williamson, 2019). However the context-specific findings of these and other studies (Jongen et al., in press; Langham et al., 2018) show that for Indigenous students, resilience may not be situated internally within students but between students, their peers, families, teachers, and other adult role models, demonstrating the importance of a relational systems approach.

Indigenous families and communities can strongly influence students' resilience, educational engagement, and postschooling aspirations (Rutherford, McCalman, & Bainbridge, 2019; Young et al., 2017). This manifests through a family's confidence that their resilient children have the knowledge and self-belief to make positive decisions, the family's encouragement of educational completion, and their modeling of behaviors that build confidence in unfamiliar social situations (Guenther, Disbray, Benveniste, & Osborne, 2017). Smith, Trinidad, and Larkin (2015) suggest that for Indigenous children "one of the most important factors driving intention to attend university are the expectations of parents and peers" (p. 18). However, Guenther et al. (2017) found that remote-dwelling Indigenous people perceived the primary purposes of education to be language, land, and culture, followed by identity, then being "strong in both worlds," and only as fourth priority, preparation for employment or economic participation.

Schools and educational institutions themselves can be experienced by structurally and socially marginalized students as either risky or protective environments. There is evidence, for example, that educational engagement is likely to be enhanced by a school environment that affirms

culture and identity and seeks to engage positively with students and their families (Bottrell, 2009; Munford & Sanders, 2017; Sanders, Munford, & Thimasarn-Anwar, 2015; Theron, Liebenberg, & Malindi, 2013; Ungar, 2004). To create support environments for Indigenous students, schools can serve to reduce discriminatory and exclusionary practices through high teacher expectations; understanding or valuing of Indigenous cultures, world views and perspectives, and issues; sensitivity to Aboriginal English; a culturally inclusive curriculum, pedagogy, and supportive teaching and learning strategies; and strategies to improve Indigenous student success and resilience (Doyle & Hill, 2008; Krakouer, 2016b; Ministerial Council for Education Early Childhood Development and Youth Affairs, 2014). But educational systems have been critiqued for often not adapting to the needs of Indigenous children (Krakouer, 2016b).

Finally, government structures, policies, and practices require a focus on Indigenous education as something that can be achieved not simply through the persistence and robustness of student, family, and school/educational institution staff, but through the engagement and resourcing of integrated cross-sectoral approaches to learning (Bottrell, 2009). At a policy level, the current approach by all Australian governments is driven by the national policy paper, *Closing the Gap*, which targets reductions in the disparities between Indigenous and other Australians' life expectancy, health, education, training, and employment. Three of these targets address educational disadvantage: to ensure access to and participation in early childhood education; halve the gap in reading, writing, and numeracy achievement; and halve the gap in Indigenous school completion rates (Department of Education and Training, 2018). The targets were developed in response to the situation noted by Fogarty and Schwab (2012) who argued that for a range of complex reasons, "it is fair to say that the constants in Indigenous education over the last 50 years have been poor attendance, low retention rates, and literacy and numeracy outcomes well below those of other groups within Australian society" (p. 7). A series of funding agreements and action plans outline governments' strategies and initiatives, but there are continued gaps in each of these indicators, with targets for school attendance, reading, writing, and numeracy not being on track (Department of the Prime Minister and Cabinet, 2019). On the one hand, there is value in the *Closing the Gap* narratives that attempt to raise the persistently lower educational achievements of Indigenous learners compared to their non-Indigenous counterparts (Department of Education and Training, 2018). On the other hand, adopting a strengths and resilience approach needs to be founded on Indigenous aspirations and values and a realistic analysis of social inequality and the fundamental causes of those disparities (Bottrell, 2009). In contexts of limited educational and employment opportunity such as in remote communities, *Closing the Gap* targets are often not met (Munford & Sanders, 2017). As such, the targets risk further alienating and disengaging those students who cannot see how education relates to their world outside of school (Altman & Fogarty, 2010; Guenther et al., 2017).

## Methods and Measures

There is a lack of clarity about which measurement instruments most adequately capture and assess the (often culturally specific) complex, dynamic, adaptive, and unpredictable risk and protective factors that are part of resilience processes (Langham et al., 2018; Ungar, Ghazinour, & Richter, 2013) for diverse Indigenous Australians (Jongen et al., 2019). Our

systematic review of measures of resilience constructs used with Indigenous adolescents in Canada, Australian, New Zealand, and the United States identified 20 mainstream and Indigenous-specific instruments. These measured both individual assets and environmental resources ( $n = 7$ ), only environmental resources ( $n = 6$ ), only individual assets ( $n = 3$ ), or constructs of cultural resilience ( $n = 5$ ; Jongen et al., 2019). However, there was no consistency regarding the critical factors that constituted resilience for Indigenous students and no consensus on appropriate instruments. While national surveys in Australia collect well-being indicators for happiness, stressful life events, connection to traditional homelands or country and cultural events, and psychological distress, it is not clear whether these are indicators that are most meaningful to children or adolescents (Australian Institute of Health and Welfare, 2018), how the different combinations of factors shape the ways in which both risk and resilience manifest in specific contexts, or any correlations between them (Masten, 2014; Panter-Brick et al., 2018; Ungar, 2008; Ungar et al., 2007; Ungar & Liebenberg, 2011). International researchers have even critiqued the construct of resilience itself because limited correlation among the domains of resilience suggests that aggregated domains are likely to be weakly correlated with outcomes (Luthar & Cicchetti, 2000; Tusaie & Dyer, 2004). Furthermore, there is very limited evidence about how the pathways from adversity to resilience are navigated by Indigenous Australian students or what constitutes best practice educational interventions for Indigenous students. In the absence of basic understandings, governments, schools and tertiary education institutions, families, and communities struggle to determine where or how to most appropriately invest their energies to engage, promote resilience, or avert risk for Indigenous students (Jongen et al., 2019; Munford & Sanders, 2017; Ralph & Ryan, 2017; Sanders, Munford, & Liebenberg, 2016; Toland & Carrigan, 2011). Given the multitude of challenges and complexity of situational factors, contexts, and levels of resilience in Indigenous education, we need to augment past methods, theories, and models that have often been linear and reductionist in nature (Rutter et al., 2017) and develop new systems approaches to account for complexity (Masten et al, 2009; Masten & Coatsworth, 1998).

To address these shortcomings, quantitative and qualitative methods that assess systems are needed to understand and improve resilience by pulling together data and knowledge, models, and theories for as many relevant protective and risk factors and their interrelationships as practically possible. The goal is to form an overall picture to improve our understanding of how changes at one level impact the system at other levels (van Beek & McCalman, 2018). By doing this, systems thinking develops understanding that is both broad, including many factors and their interactions, and deep, moving between the levels within a system (van Beek & McCalman, 2018). For example, Hopkins, Zubrick, and Taylor (2014), in the study previously mentioned, unexpectedly found that cultural indicators were not significantly associated with psychosocial function, and that only Indigenous students in low-risk family settings self-reported that exposure to racism reduced their psychosocial functioning. For generic student populations, Aldridge et al. (2016) found that a school's efforts to affirm diversity across the school had a negative influence on students' resilience (the authors hypothesized that this may have resulted from a lack of knowledge, skills, and attitudes in the school community to meaningfully harmonize student diversity—thereby creating an additional stressor for marginalized students). These unexpected findings are



consistent with conceptualizations of resilience as a dynamic process that differs across contexts and cultures, but suggest a need to explore systems at multiple levels.

## Case Study: Supporting the Resilience of Indigenous Students at Boarding Schools

Our five-year resilience research project has explored the concept of resilience in relation to Indigenous students from remote Cape York communities who are compelled to attend boarding schools for secondary education because there is no, or limited, secondary schooling available in their home communities (McCalman et al., 2016). Nationally, 22,391 Indigenous secondary school students in Australia make such transitions annually at age 11 (Australian Bureau of Statistics, 2011). This study was developed in response to a concern about increased suicide risk held by the Queensland Department of Education's Transition Support Service (TSS), which supports students academically and in the practicalities of accessing and attending boarding schools across Queensland (McCalman et al., 2016). Our findings suggest a theoretical framework for conceptualizing systemic resilience research in Indigenous education.

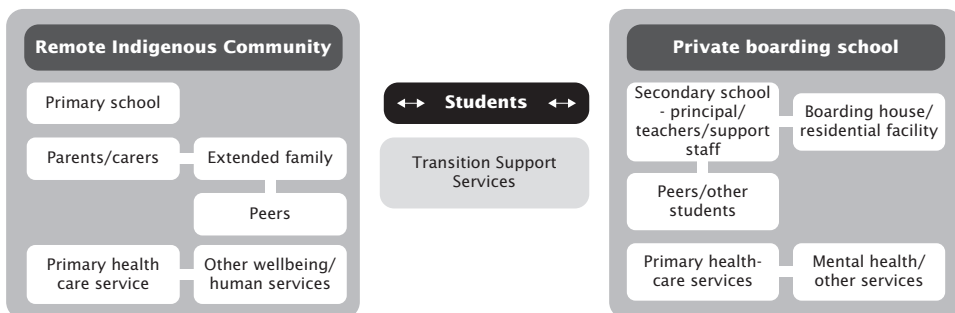
The study aimed to build individual student resilience by strengthening our understanding and practice of TSS, schools and boarding houses, family/community, health services, and policymakers in relation to student resilience. An immediate challenge, however, related to the logistics (including cost) of working across the discrete and geographically and culturally disparate "systems" that are navigated by the students. As depicted in Figure 11.2, students come from 11 remote north Queensland home communities (red dots on map). They transition to 18 boarding schools that can be up to 2000 kilometers away (black squares), with most being generalist private schools and a few being Indigenous-specific or state schools (Pearson, 2011).

For students, transitions involve negotiating not only the logistics of shifting from one location to another, but also changes in cultures, including language, autonomy, educational standards, roles, responsibilities and expectations, parental influence, personal freedom, relationships, and, at times, confrontation with institutional discrimination and racism (Mellor & Corrigan, 2004). As an exploratory study, we outline the research we conducted with the students, families/communities, school, education sectors, policymakers, and health services engaged in the transitions of students from their remote Indigenous home communities to boarding schools (Figure 11.3). We attempted to create stronger linkages between levels of the system to better support student resilience and well-being.

Using a tailored survey instrument developed collaboratively with TSS (McCalman et al., 2017), we found, as expected, that most of the remote community Indigenous primary school students reported high levels of resilience, but somewhat unexpectedly, two-thirds reported moderate-high levels of psychological distress. Upon transition to boarding schools, secondary students reported lower scores on resilience and higher psychological distress; those excluded from boarding schools reported even poorer scores (Redman-MacLaren et al., 2017).



**FIGURE 11.2** Map of students' home communities and destination boarding schools. From M. Redman-MacLaren, T. Benveniste, J. McCalman, K. Rutherford, A. Britton, E. Langham, . . . R. Bainbridge, 2019, Through the eyes of students: The satisfaction of remote Indigenous boarding students' with a transition support service in Queensland, Australia. *The Australian Journal of Indigenous Education*, 1–12. doi:10.1017/jie.2019. Reproduced with permission.



**FIGURE 11.3** Students' transitions from community to boarding schools systems.

Figure 11.4 depicts a multilevel theoretical model for enhancing the resilience of Indigenous boarding school students. At the center, the sources and expressions of students' resilience were identified through our confirmatory factor analysis of the internationally validated subscales of the Child and Youth Resilience Measure (Liebenberg, Ungar, & de Vijver, 2011). The key sources of students' resilience were relational: caring and supportive friendships, role models, connection with family, connection with culture, and safe home with plenty of good food to eat. The key expressions of their resilience were staying on task, helping out others, robust interpersonal social skills, knowing how to behave in different situations, and celebrating culture. The process of resilience for students was captured through qualitative research. The core process was one of carrying through: being held by an integrated ecology of support. Carrying through was the process of successfully making it through each term, and each year, due to the web of supports provided by the different processes and stakeholders across home and school environments. The subprocesses for strengthening students' capacity to navigate tensions as student's educational and home lives changed encompassed both their innate capabilities and relationships at school and at home. Factors included (a) friends keeping you strong—feeling supported, belonging; (b) being with mob (peer)—being understood, belonging; (c) understanding, caring, and helping—trusting, feeling respected, and cared for; (d) having a say, being listened to—feeling heard, being proud, and creating a safe and supportive environment.

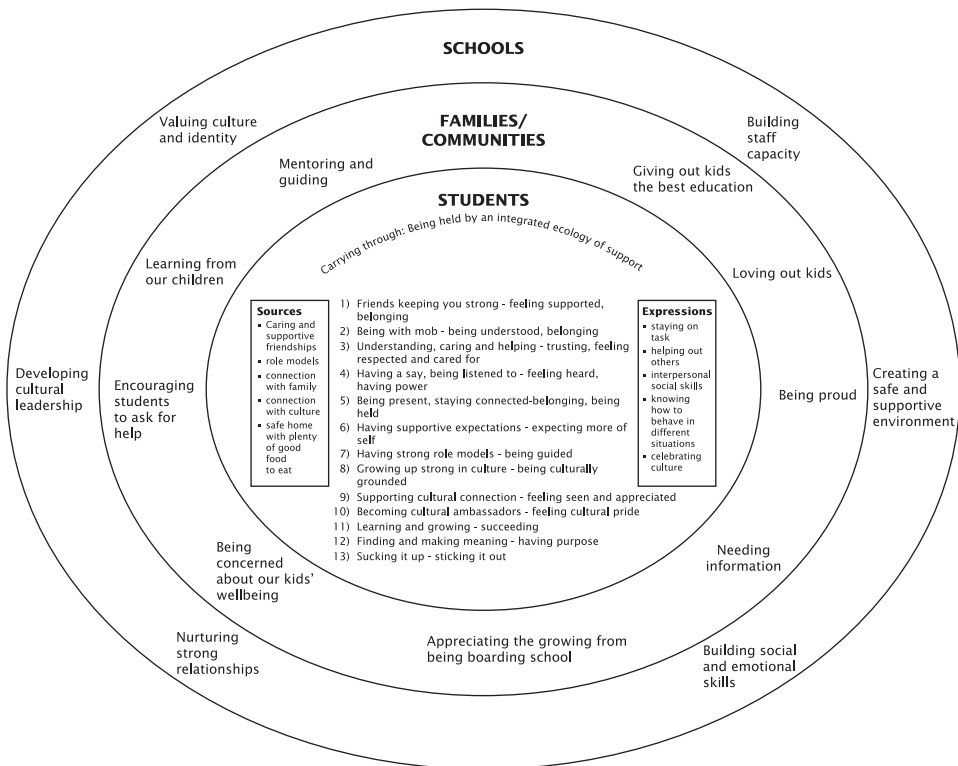


FIGURE 11.4 A theoretical model of resilience enhancement for Indigenous boarding students.

having power; (e) being present, staying connected—belonging, being held; (f) having supportive expectations—expecting more of self; (g) having strong role models—being guided; (h) growing up strong in culture—being culturally grounded; (i) supporting cultural connection—feeling seen and appreciated; (j) becoming cultural ambassadors—feeling cultural pride; (k) learning and growing—succeeding; (l) finding and making meaning—having purpose; and (m) sucking it up—sticking it out.

Contributions were also made by caregivers and parents who expressed a number of preferred strategies to support Indigenous students during this period of transition. These included loving our kids, mentoring and guiding, encouraging students to ask for help, learning from our children, being proud, being concerned about our kids' well-being, appreciating their growing from being at boarding school, and needing information and resources about how to best support our children at boarding schools. As found in previous resilience research (Evans & Pinnock, 2007), there is a need for further research that engages the whole family as a fundamental part of students' environments and with a central role in supporting resilience (Burnette & Figley, 2016).

Participating boarding schools were also engaged in co-developing a CQI STEP UP intervention to strengthen the resilience of their Indigenous students. The intervention encompassed four key strategies: (a) a site-based STEP UP action plan in each school; (b) school staff capacity development through a community of practice and the provision of professional development; (c) linking with parents/community representatives, students, TSS staff, and other services at an annual Schools and Community Conference; and (d) the Resilience Research Toolkit. Based on findings from the students and the international evidence, six resilience-building domains were identified: valuing culture and identity, developing cultural leadership, nurturing strong relationships, building social and emotional skills, creating a safe and supportive environment, and building staff capacity. An interim evaluation of the STEP UP intervention (after one year) found implementation was feasible and embraced by boarding schools, but that it was too early to detect changes in student resilience (Condly, 2006).

Education sectors and state and national policymakers were also engaged through the Schools and Community Conference, as well as through knowledge translation to build sectoral capacity to enhance schools' resilience. We also used CQI to co-develop a one-year capacity-building program with our core partner TSS; the training encompassed mental health first aid, an Indigenous family well-being program, and resilience training (Heyeres et al., 2018).

Finally, given that remote-dwelling Indigenous adolescents experience the poorest health outcomes of any adolescent population group in Australia (McCalman et al., 2016), we also tested students' perceptions of their use of and satisfaction with their healthcare services and their health status (McCalman et al., in press). We found high levels of service use and satisfaction, but feedback from community and school participants at our Schools and Communities Conference (2018) identified concerns that (a) there may be overservicing of some and underservicing of other students; (b) healthcare continuity was complex and not optimally achieved; (c) stress in the student cohort was normalized and hence not

acknowledged; and (d) schools adopted diverse models of healthcare, with no clear “best practice” model available (McCalman et al., in press).

The study thus modeled students’ resilience and psychological distress, theorized their pathways to resilience, and attempted to enhance the awareness and supportiveness of family/community, boarding school, TSS, policymakers, and health services. Yet it is challenging to capture the effects of such multisystemic interventions on students’ levels of risk and resilience or the effects of incremental boarding school and TSS quality improvement decisions on the system as a whole. Despite this shortcoming, we see evidence that enhancing resilience has the potential to improve the educational and well-being outcomes of these students, enabling them not only to withstand the considerable challenges they encounter but also to grow stronger and flourish.

## Discussion

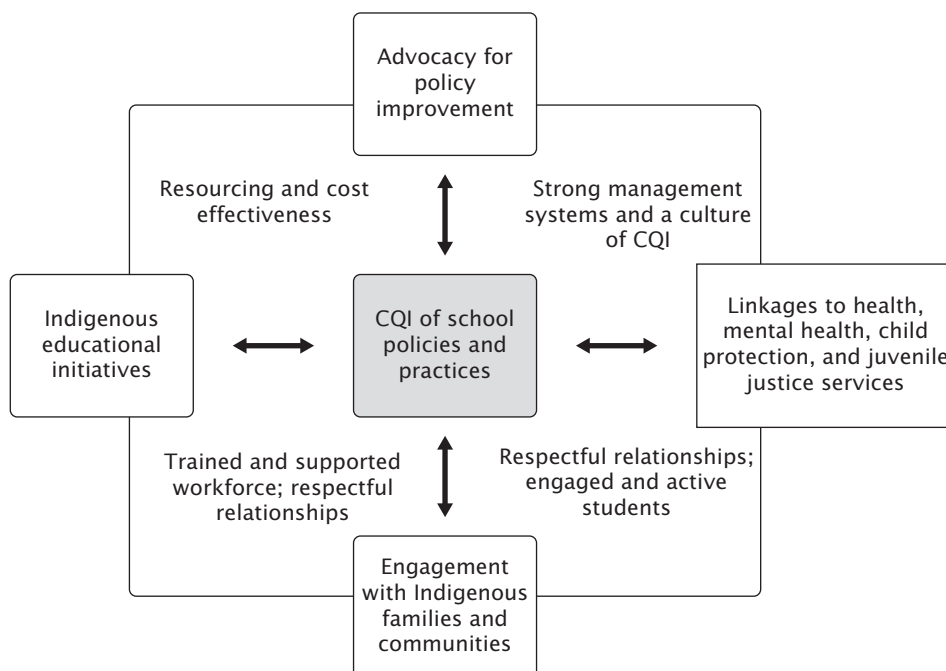
Systemic resilience research in education is just emerging but offers potential for generating solutions at different systemic levels to improve the education and well-being of Indigenous Australian students and other structurally and socially marginalized children globally. Given variation in understanding resilience factors across different cultures and risk contexts and the diverse ways that they are negotiated (Fleming & Ledogar, 2008; Ungar et al., 2007; Ungar & Liebenberg, 2011), flexible systemic approaches are needed that respond to and account for the specific meanings of resilience with specific populations. CQI approaches can be used at each level of the system, using evidence of what works in other Indigenous contexts and available local data to plan and implement reforms, study their effects, and incrementally improve interventions. Not all of the contributing factors to resilience hold the same importance, however, and it is challenging to know where and how to intervene to impact the different combinations of factors by which both risk and resilience manifest in different cultures and contexts at different times (Masten, 2014; Panter-Brick et al., 2018; Ungar, 2008; Ungar et al., 2007; Ungar & Liebenberg, 2011). Thus, systems thinking is useful for determining, for each setting or population group, the relationship between risk and protective factors and for identifying individual and environmental aspects of resilience (Pessoa, Coimbra, Murgo, van Breda, & Baker, 2018). These may include not only the complex, intersecting influences that cause personal adversities, the trauma experienced by students, and their coping strategies, but also the social and structural inequalities that initiate and perpetuate a child’s experience of stress (Bottrell, 2009; Sanders, 2013).

Schools are at the hub of interventions that engage Indigenous students in resilience-enhancement interventions. As a body of international evidence shows, schools have the capacity to link vertically with students’ families and communities and with education sector and government policymakers. They also have the capacity for horizontal integration with best practice Indigenous education guidelines and intersectorally with health, mental health, child protection, juvenile justice, and other services that are also engaged in mitigating Indigenous students’ risk and strengthening their resilience. Interventions that are more likely to promote resilience in educational settings are those that not only prepare

Indigenous children to become more resilient at school, but also those that prepare schools and educators *for* Indigenous students (Krakouer, 2016a). Implementing CQI processes and reflective practice can attend to cultural bias and provide a means of using data to review current school practices and outcomes, set goals for improvement, design and implement school improvement strategies based on evaluated evidence, monitor changes in student outcomes, and review and reflect on the effectiveness of the schools' improvement efforts (Masters, 2016).

Figure 11.5 proposes a comprehensive framework for understanding and conceptualizing quality in education systems and facilitating development of reform strategies for achieving it. Using CQI processes, there is a role for participation of leaders at each level of the education system: the students, families and communities, schools and education sectors, and policymakers. Such interventions require innovation and flexibility; sustained investment; strong collaboration and work across levels; ground-up resourcing, drive, and effort; school leadership; and a broad and deep approach to problem solving (Acil Allen Consulting, 2014; van Beek & McCalman, 2018).

In the evaluation of Australia's *Aboriginal and Torres Strait Islander Education Action Plan 2010–2014*, school leaders identified that productive strategies are likely to respond to local contextual needs, share learnings of practices that have been proven elsewhere, be multifaceted and build capacity (Acil Allen Consulting, 2014). CQI strategies, as illustrated in Figure 11.5, provide an effective process for planning and implementing these priority strategies. At the bottom of Figure 11.5, family engagement activities are vital, such as through



**FIGURE 11.5** Vertical and horizontal integration by schools to strengthen Indigenous students' resilience.

holding Indigenous events at schools and school staff engaging in community events. On the left of Figure 11.5, Indigenous educational initiatives include the promotion of language, culture, high expectations, Indigenizing the curriculum, continuing to push for improved literacy and numeracy programs for students, promotion of postschool options, a continued emphasis on attendance, and promotion of role models and tutoring (Acil Allen Consulting, 2014). At the top of Figure 11.5, school leaders advocated that rather than responding to an ongoing plethora of new policy initiatives that have led them to a sense of “drowning in a sea of fads and disjointed innovations” (Driese & Thomson, 2014, p. 3), there is a need for closer alignment between policy, schools, and Indigenous communities in ways that align with the values and aspirations of Indigenous communities (Gooda, 2011). On the right of Figure 11.5, linking with health and other sectors is also shown to be critical for improving well-being, which plays a vital role in educational participation and outcomes (McCalman et al., in press). The conditions that support such CQI innovations are workforce development, including for Indigenous teachers and support staff; developing strong and respectful relationships between teachers, other school staff, and students to extend the coping capacities of students and foster teachers’ positive relationships with students and key stakeholders and allow professionals to learn about what young people are capable of doing to scaffold opportunities for personal problem-solving and development of life skills (Bottrell, 2009); resourcing and cost effectiveness; strong management systems and a culture of CQI in the school; and engaged and active students.

The responsibility for educational reform, however, does not lie solely with schools. For students themselves, the evidence suggests the importance of adopting at least one secure attachment relationship with a supportive adult, prosocial peers, and adults (role models), and positive school and other community networks (Glover, 2009; Khanlou & Wray, 2014; Luthar & Cicchetti, 2000; Wright et al., 2013). Along the education pathway, these protective factors can mitigate against risk factors such as family adversities, higher psychological distress, and perceptions of a lack of further education or employment in their local areas that contribute to their early discontinuation from education (Australian Bureau of Statistics, 2011; Mission Australia, 2014). They can prevent students from experiencing inadequate support at school and subsequent exclusion and the self-blame that can accompany feelings of not making the most of opportunities or making the wrong decisions (Sanders et al., 2017). Students’ access to valuable family and community networks and resources also means that school professionals can more effectively harness many resources at multiple systemic levels to support the positive engagement and development of Indigenous students, even when they are being educated beyond their home communities (Sanders et al., 2017).

## Conclusion

For policymakers, shifting the education system to focus on preparing schools and educators *for* Indigenous students through interventions that support resilience and well-being protective and promotive factors would offer an alternative to the focus on developmental deficits that has saturated Indigenous policy and practice in the past and failed to produce social

change (Bainbridge, 2011; Bainbridge et al., 2015; Salmon et al., 2018; Walter & Andersen, 2013). Achieving such a systemic shift of the education system requires acknowledgement of the values and aspirations of Indigenous communities (Gooda, 2011), moving beyond reductionist thinking about individual resilience factors to exploring how the interdependent elements of the system affect each other and how changes potentially reverberate throughout the system (Rutter et al., 2017). Researchers such as Bottrell (2009) also suggest that an analysis of inequalities and power relations (historic and present) must be taken into account.

Globally, Indigenous nations have long viewed the world as complex ecological adaptive systems that change across the life course (Bainbridge, McCalman, Redman-MacLaren & Whiteside, 2019). Reductionist paradigms of Western knowledge systems have never accounted for these holistic interrelated dynamic understandings of the world. However, contemporaneous movement in the Western sciences is beginning to recognize that simplistic ways of viewing the world are no longer valid in attempts to understand the experiences of humanity and implement effective change in the 21st century. Systems approaches in resilience research and practice have the potential to strengthen the simplistic interventions that have saturated Indigenous education research in the past and failed to produce impact (Bainbridge et al., 2015). They can contribute by engaging those in the situation in context- and population-adapted strategies, using the available evidence in cycles of planning, doing, studying, and acting for improvements at different levels of the education system, within different contexts, and across different time scales (Sollecito & Johnson, 2013). These strategies can involve families and communities, schools and tertiary educational institutions, educational sectors, and linkages with health, mental health, and other services in developing local, culturally appropriate knowledge and resources targeted to better enable educators to enhance Indigenous student resilience (Osborne, 2013). In times of limited resources, system approaches enable services to make smarter decisions about providing support for Indigenous resilience in meaningful ways and investing where need is greatest.

## Key Messages

1. A shift is needed from the current Australian education policy approach that largely ignores student health and well-being to one that embeds pedagogical processes that support Indigenous children to become more resilient at school and prepares school cultures and environments and educators *for* Indigenous students.
2. Interventions work best when they focus on the protective factors that are most meaningful to Indigenous students and focus at multiple levels: the students, their families and communities, schools and education sectors, and the policy level.
3. A relational approach that considers resilience across the life course and attends to risks, promotes assets, and is process-focused for students is imperative.
4. Reflective CQI approaches provide a methodology for attending to cultural bias and provides a means for using data to review current school practices and outcomes, set goals for improvement, design and implement school improvement strategies based on evaluated evidence, monitor changes in student outcomes, and review and reflect on the effectiveness of improvement efforts.



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