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Indigenous research methodology – weaving a research interface

Courtney Ryder^{a,b}, Tamara Mackean^{a,b}, Julieann Coombs^{a,c}, Hayley Williams^d, Kate Hunter^a, Andrew J. A. Holland^e and Rebecca Q. Ivers^{a,b,f}

^aThe George Institute for Global Health, University of New South Wales, Sydney, Australia; ^bSouthgate Institute for Health, Society and Equity, Flinders University, Adelaide, Australia; ^cFaculty of Medicine, The University of Technology, Sydney, Australia; ^dFaculty of Medicine, University of Queensland, Brisbane, Australia; ^eDiscipline of Child & Adolescent Health, The Children's Hospital at Westmead Clinical School, University of Sydney, Sydney, Australia; ^fSchool of Public Health and Community Medicine, University of New South Wales, Sydney, Australia

ABSTRACT

Indigenous research Knowledges and methodologies have existed over millennia, however it is only recently that Indigenous scholars have been able to challenge institutional Western hegemony to reclaim sovereignty in the research space. Despite the high volume of quantitative research describing Aboriginal and Torres Strait Islander health, there has been limited evaluation of the value added through incorporation of Indigenous Knowledges and methodologies. 'Research at the interface' has been discussed as an Indigenous research methodology for researchers to contextualise and inform their research practices, between Indigenous and Western systems of knowledge. In this article we address the significance of 'research at the interface' for Aboriginal and Torres Strait Islander research, as an exciting opportunity for innovation to ensure strength, self-determination and resilience for Aboriginal and Torres Strait Islander communities engaged in research. We also introduce weaving a methodology for 'research at the interface' as a process for conceptualising Indigenous and quantitative research methodologies at the interface.

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Introduction

"They also don't understand the difference because they say, "We don't do it...it's not necessary." And you think, it's not altogether true because they don't understand the beginning, and this is because they've been told nonsense in the past and the nonsense they've been told is that one culture is better than the other. This is a lot of nonsense because all cultures are equal."

Uncle Dr Lewis Kauwanu Yorloburka O'Brien,

Kaurna Elder (O'Brien & Watson, 2014, p. 456)

Indigenous Knowledges, methodologies and research have always existed. Founded in the oldest continuing civilisations of the world, they are a central part in defining an individual's identity and connection within their community (Langton & Rhea, 2005). Fluid and dynamic in nature, this knowledge and these methodologies are 'living knowledge' passed on and through

generations forever evolving and growing, never static (Louis, 2007; Whap, 2001). Examples of this rich research and knowledge practice, connecting to health and science are well documented over Australia, and include:

- (1) Healing and medicine, Ngangkari, traditional healers of Central Australia (Anangu¹) (NPYWC, 2003, 2013)
- (2) Conservation and land management, Fire Stick Farming in Nunga² communities of SA (O'Brien & Watson, 2014)
- (3) Engineering, sustainability and aquaculture, Budj Bim for Gunditjmara People and Narungga Fish Traps, Ngarrindjeri Fish Traps, Torres Strait Fish Traps, Fish Traps in Aboriginal coastal regions of Queensland (Jordan, 2012; Roberts et al., 2016; Ross, 2009; Rowland & Ulm, 2011).
- (4) Aboriginal Astronomy, The Ngara Yura Program (Lumley, 2018).

Considering the depth and continued development of Indigenous Knowledges and methodologies over millennia, it is only relatively recently that Indigenous scholars have been able to challenge institutional Western hegemony to reclaim a position in contemporary research spaces.

Australia is a colonised country, stolen through 'terra nullius', denying the humanity and sovereignty³ of Aboriginal and Torres Strait Islander peoples, allowing physical and cultural genocide to ensue (Aboriginal sovereignty – never ceded, 1988). The impact and role of Western research in colonising Indigenous peoples and research has been well documented by Aboriginal and Torres Strait Islander academics and Indigenous academics from other colonised countries (Absolon (Minogizhigokwe), 2011; Bond (2007); Davis (2018); Doyle, Cleary, Blanchard, and Hungerford (2017); Dudgeon and Walker (2015); Durie (2004a, 2004b, 2005)); Henry et al. (2002); Humphery (2001); Kickett (2012); Langton and Rhea (2005); Martin (2006); Moreton-Robinson (2004); Nakata (2007, 2010)); Rigney (1999, 2001)); Saunders, West, and Usher (2010); Singh and Major (2017); Smith (1999); Toombs (2011); Tur, Blanch, and Wilson (2010); Walter and Andersen (2013); Whap (2001)). Australia remains different in that it exists in a neo-colonialism environment with ongoing colonisation of First Nation peoples (Moreton-Robinson, 2004; Ryder et al., 2017). Unlike countries such as India and Malaysia the colonisers never left Australia, and unlike New Zealand or Canada there have been no treaties with Australian Indigenous peoples, "sovereignty never ceded" (Aboriginal sovereignty – never ceded, 1988; Council, 2017, p. 1; Moreton-Robinson, 2004).

Colonisation has bestowed a dominant Western/eurocentric hegemony, through power, control, ownership, which has ensured that whiteness prevails in research environments (Absolon (Minogizhigokwe) (2011)); Rigney (2001); Smith (1999)). Whiteness is the 'invisible' privilege in which the 'dominant' culture is placed in an 'unnamed' but 'normative' position of power and privilege over minority cultures (Moreton-Robinson, 2004; Taylor, 2014; Wilson, Kelly, Magarey, Jones, & Mackean, 2016). Through this process prevailing underlying assumptions ensure, that Western models of research and knowledge are the only way to "make sense of the world, of reality, of social life and of human beings" (Smith, 1999, p. 56). This dominant hegemony has created control and ownership, over research conduct and findings, which informs government, key stakeholders, policy and models of care (Absolon (Minogizhigokwe) (2011)); McHoul and Grace (1993); Rigney (1999); Saunders et al. (2010); Smith (1999); Walter and Andersen (2013)). These Western research models have excluded Indigenous voice and knowledges, and importantly, also created circumstances where Aboriginal and Torres Strait Islander peoples are one of the most researched civilisations in the world, portrayed as peoples, that "need fixing" (Rigney, 1999; Smith, 1999).

As an Aboriginal researcher and the first author, I find myself researching in a contested space, one which empowers and privileges Western scientific knowledge, particularly in quantitative research. As an Aboriginal person, I have lived experience of the oppressive nature that colonisation continues to have on Indigenous Knowledges and methodologies. Learning to become

a researcher, was always going to be an intensely personal and challenging journey – a significantly important journey of sovereignty, resistance, and self-determination.

Research at the interface

Conceptualised by Māori academic Sir Mason Durie, ‘research at the interface’ is the coming together of Indigenous Knowledges and methodologies with Western research methodologies (Durie, 2004a, p. 8; 2004b, 2005, p. 306). At the interface these two knowledge systems entwine in equal partnerships, where one system is not superior over the other (Durie, 2005). The interface, is an area of innovation and excitement, as it is here that additional new knowledge and methods arise in research, to fundamentally improve understanding in both knowledge systems (Durie, 2004a, 2004b, 2005). The interface, as a concept for knowledge formation between two knowledge systems or world views, is significant globally, and has been captured in the literature in a range of forms.

For the Mi’kmaw First Nations people of Canada, the process of ‘working at the interface’ is explained through “Two-eyed seeing” (Bartlett, Marshall, & Marshall, 2012, p. 331). The process implies users are familiar with both knowledge systems, where one eye is focussed on Indigenous Knowledges and world views as connected to the land, and the other focussed on Western understandings of the world (Bartlett et al., 2012). Through using both eyes to see the world an amalgamation occurs, similar to ‘research at the interface’ (Antoine, 2017). In the amalgamation process, the researcher is to weave back and forth between their worldviews, as it may be that the knowledge that one worldview provides is more suitable to the current circumstance or situation (Bartlett et al., 2012, p. 334). ‘Research at the interface’, has been described, as third space, by other non-Indigenous but oppressed scholars. The space where two different knowledge systems engage each other (Bhabha, 2003; Willis, Dwyer, Kelly, & Mackean, 2015; Wilson et al., 2016). What arises from this engagement is the unique space of ‘thirdness’, which is the beginning of the narrative for change, encompassing justice, resilience and self-determination (Bhabha, 2003, 2011; Willis et al., 2015).

In Australia, Aboriginal and Torres Strait Islander scholars and communities have described learning, working and researching at the interface and its application in a range of ways. The ‘cultural interface’, between Indigenous and scientific knowledge, is the intersection of Western scientific methodology and our world view as Indigenous researchers, where we generate new stories, methodologies and approaches into Indigenous research methodology (Nakata, 2010). In these processes Western scientific methods of research are not refuted, but used to broaden our knowledge base, for we, as Indigenous researchers, can interrogate the results with a different lens to our non-Indigenous counterparts (Durie, 2005; Nakata, 2007, 2010).

Ganma is a Yolŋo concept from Arnhem Land in the Northern Territory, similar to Nakata and Durie, in the coming together of two knowledge systems at a knowledge interface, Ganma is a two-way sharing process between two different knowledge systems, where all knowledge is relational (Laycock, Walker, Harrison, & Brands, 2011; Willis et al., 2015).

“A river of water from the sea (Western knowledge), and a river of water from the land (Aboriginal knowledge) mutually engulf each other upon flowing into a common lagoon and becoming one.

In coming together, the streams of water mix across the interface of the two currents and foam is created. This foam represents a new kind of knowledge. The forces of the stream combine and lead to deeper understanding and truth. Essentially, Ganma is a place where knowledge is (re)created.”

(Yunggirringa & Garnggulkpuy 2007; Kelly 2008, as cited in Laycock et al., 2011, p. 50)

The creation of Ganma, takes more than two knowledge systems coming together. Just as Durie discusses in ‘research at the interface’, the Ganma process encompasses “mutual respect, shared benefits, human dignity and discovery” (Durie, 2004a, p. 10; Laycock et al., 2011; O’Donnell &

Kelly, 2011, p. 141). Similarly, Kurna Elder Dr Lewis Kauwanu Yorloburka O'Brien, has spoken widely of "the meeting of salt and fresh water", as a metaphor for the Kurna people of the Adelaide Plains in South Australia (Worby, Rigney, & Tur, 2010, p. 205). Like Ganma, it highlights the coming together of Aboriginal cultural knowledge as an essential system of knowledge in connection to Western knowledge systems (Worby et al., 2010).

The interface as a concept for knowledge (re)generation is apparent in central in-land Aboriginal communities as well. Murri⁴ academic Wayne Williams has discussed similar concepts to the Ganma metaphor. For Murri communities, two knowledge systems, sand and red dirt come together (Williams, 2018). In their coming together the two systems intertwine to create a new interface of knowledge (Williams, 2018). Similarly, Murri academic Davis, has conceptualised Durithunga, a model for creating 'research at the interface'. Durithunga is an education model focussed on Indigenous leadership for embedding and integrating Indigenous Knowledges and research processes, from an Indigenous community perspective (Davis, 2018). It interweaves Indigenous identity and strength and Migloo (non-Indigenous) educational spaces (Davis, 2018). Durithunga focusses on Murri world views, central to Davis's identity, which encapsulate resilience, sovereignty, self-determination and empowerment of Indigenous identity (Davis, 2018).

Research concepts influence 'research at the interface'. Standpoint theory, focusses on the social location and situated knowledge of the researcher (Wylie, 2013). This information informs the researcher's standpoint and is used to design the theoretical framework, the lens, through which the research is approached (Walter & Andersen, 2013). Contemporary versions of Indigenous standpoint theory have been discussed by Nakata, Moreton-Robinson, Tur, Blanche, Wilson and Walter (Moreton-Robinson, 2013; Tur et al., 2010; Walter & Andersen, 2013). Specifically, Walter and Anderson pose it as an approach whereby researchers create their own research standpoint, which includes their social position, epistemology, ontology and axiology in Indigenous quantitative research (Walter & Andersen, 2013). In Indigenous quantitative research, these new approaches ensure the overall process for 'research at the interface' interrogates research outcomes in a different way, and seeks to undo an oppressive deficient model of discourse which clouds Indigenous quantitative research (Walter & Andersen, 2013).

In working at the interface, Indigenist research is a concept which must be embraced. Developed by Aboriginal academic Irabinna Rigney, ground breaking in its development 20 years ago, this scholarship remains significantly relevant and important to the research environment. The concept of Indigenist research, can be used to unmask the racial nature of Western research processes and act to counterbalance this powerful dynamic of oppression, through decolonising Western research processes (Rigney, 1999). Indigenist research is informed by three fundamental and interconnected principles, "Resistance as the emancipatory imperative in Indigenist research", "Political Integrity in Indigenous research" and "Privileging Indigenous voices in Indigenist research" (Rigney, 1999). These core principles acknowledge and engage with the knowledge of ongoing colonisation, oppression, transgenerational trauma and grief for Aboriginal and Torres Strait Islander communities (Rigney, 1999). In this research, the act of decolonising occurs creating self-determination and resilience, through empowering the research voice of Aboriginal and Torres Strait Islander peoples (Rigney, 1999, 2001).

Weaving a methodology

'There is a whole ritual to weaving, and for me, it's a meditation'

Auntie Ellen Trevorrow,
Cultural Education and Awareness Centre
Camp Coorong (Bell, 1998)

For the first author, as an Aboriginal researcher, research being conducted at the knowledge interface, is an area where I must negotiate and prioritise the knowledge and values of two

different worldviews. In the coming together, and intertwining, of these worldviews, there is an exciting opportunity for innovation in research, which creates a new approach, encompassing Aboriginal ways of knowing, being, and doing, along with Western quantitative research approaches (Durie, 2004a; Martin, 2003). Such an approach will enhance strength, self-determination and resilience to the research process ensuring outcomes are transparent, specifically for Aboriginal and Torres Strait Islander communities. Working at the interface needs careful thought, deliberation and reflection, as highlighted by the work of Rigney, Nakata, Durey, Smith, Davis and Doyle (Davis, 2018; Doyle et al., 2017; Durie, 2004a, 2004b, 2005; Nakata, 2007, 2010; Rigney, 1999, 2001; Smith, 1999). For the first author, the concept of researching at the interface, creating my own interface and research standpoint, took me on a deep journey, connecting me back to my first memories of learning to basket weave (Supplementary Table 1).

Weaving

Weaving has long been a tradition of Aboriginal and Torres Strait Islander communities, and is an important skill in communities. Traditionally, fresh water rushes or reeds were collected and dried, not only to create baskets but clothing, dilly bags⁵, fishing nets, coolamons⁶ and gathering tools (Carmichael, 2017). There are various techniques to weaving, with the coiled stitch most familiar to the first author, which is used to create a coiled basket (Garwood-Houng, 2015). Coiled baskets are created through a process in which a single plant base fibre (the coiled stitch) is wrapped around a foundational base of plant fibres, to provide strength, shape and durability of the structure (Garwood-Houng, 2015). This is the technique considered by the first author when weaving their methodology at the knowledge interface.

A visual representation of weaving a research methodology at the interface (Figure 1) depicts two different communities of knowledge, represented as two different species of water rushes or reeds – one Native species from the land, the other an introduced species to the land (Table 1). In this figure, the yellow circular structure depicts Western scientific knowledge systems and methodology, as an ‘introduced species’ (Table 1). Specifically, for the first author’s research work this is quantitative research. The red circular structure depicts Indigenous Knowledges systems and methodology, these are systems which have been here from time immemorial, they are not ‘stagnant’, ‘isolated’ or even ‘exotic’, they continue to evolve and develop as time goes on (Council, 2017). Examples, in Table 2, of Aboriginal research methods include decolonisation and Yuri Ingarninhi.

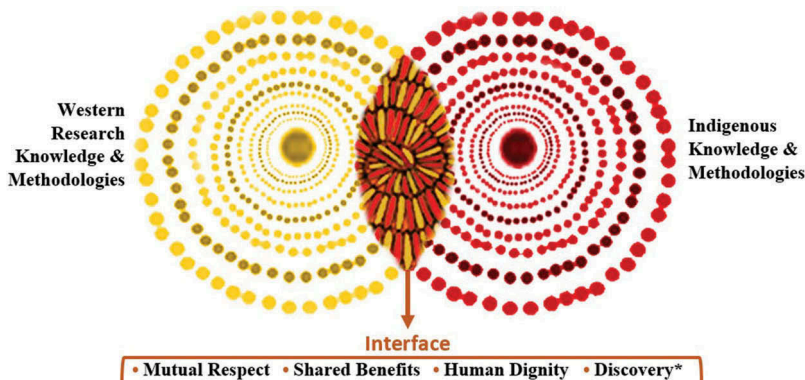


Figure 1. Visual representation of weaving a methodology for ‘research at the interface’ for the first author. * The interface for science and Indigenous knowledges from Durie 2004 (Durie, 2004a).

Table 1. Concepts in the process of weaving a methodology.

Weaving a Methodology		
Knowledge System		
Western (Yellow)	Indigenous (Red)	Weaving (Interface)
Epistemology	Knowing	Selection of strands in weaving process
Axiology	Being	Stitching process in creating intersectional points
Ontology	Doing	Shape and structure through a process of intricate layering

Table 2. Examples of Indigenous research methods used as coiled stitch textiles for weaving a methodology for ‘Research at the Interface’.

Indigenous Research Methods		
Methodology	References	Definition
Decolonisation	(Doyle et al., 2017; Green & Bennett, 2018; Smith, 1999)	Decolonisation requires researchers to recognise how colonisation has and continues to create research inequities in quantitative research, through often invisible and ingrained processes of whiteness.
Yuri Ingarninthii <i>‘Enquiry with the ears, deep listening’</i>	(O'brien & Watson, 2014)	Yuri Ingarninthii requires researchers to genuinely engage with the story (numbers) at hand (<i>‘not only look’</i>), in a way, which respects and pays homage and resilience to Aboriginal and Torres Strait Islander Communities (<i>‘record and understand’</i>).
Nayri Kati – Good Numbers	(Walter & Andersen, 2013)	Nayri Kati, a Palawa Tasmanian Aboriginal quantitative methodology, has two principles. 1. Indigenous lens to statistical data, 2. Decolonisation of the current western scientific hegemony over Indigenous statistics.
Indigenist Research	(Rigney, 1999, 2001)	Indigenist research uses past knowledge, to decolonise, create empowerment and resilience in the research space. It focusses on three principles. 1. Resistance as the emancipatory imperative in Indigenist research, 2. Political Integrity in Indigenous research, 3. Privileging Indigenous: voices in Indigenist research.

When weaving a methodology for ‘research at the interface’, the two diverse knowledge systems and worldviews, Indigenous and Western, do not just sit over the top of each other and overlap, they intertwine, are weaved together, to ensure structural integrity (Figure 1, Table 1). The coiled stitch technique, used to build the interface, draws from each knowledge system, Indigenous in red and Western in yellow. Each stitch contains significant knowledge from each diverse system, on ways of knowing and doing, including important research methods and approaches (Jones, 2014). A process which allows the researcher to decide which knowledge system or methodology is needed to be weaved into creating rigour at the interface (Walter & Andersen, 2013). This process concerns Knowing (epistemology) for the interface, “...processes that allow expansion and contraction according to the social, political, historical and spatial dimensions...no one...Entity knows all, but each has sets of knowledge to fulfil particular roles” (Martin, 2003).

In the weaving technique, the coiled stitch, is wrapped and looped around a base structure of reeds, creating intersectional points. These intersectional points are representative of shared and respected knowledge, new discovery, and ways of understanding between Indigenous and Western knowledge systems (Jones, 2014). These points reflect Being (axiology), the intrinsic and extrinsic values of knowledge systems, but in a framework of mutual understanding and respect, adapting where required to context change (Martin, 2003; Walter & Andersen, 2013). These intersectional points of Being (axiology) are informed by our strands of Knowing (epistemology)(Martin, 2003). The base structure (orange) represents new knowledge generation and creation between both knowledge systems. This base structure evolves through the dynamic and intricate layering of Indigenous and Western knowledge systems (Jones, 2014). This process provides strength and structure for ‘research at the interface’, giving shared respect and responsibility to the research process, back to Aboriginal and Torres Strait Islander communities who are part of this research.

It is also a process of Doing (ontology), in how the woven interface will approach and make sense of the research space and study, and as an Aboriginal researcher in quantitative research the process of decolonisation is significant here (Walter & Andersen, 2013). In this process our Doing (ontology) is created from our Being (axiology)(Martin, 2003).

There is a meaningful sharing aspect to the weaving process, weaving is often undertaken in larger family gatherings where knowledge and cultural teachings (i.e. language) are shared through yarnning (Bell, 1998; Gale, McHughes, Williams, & Koolmatrie, 2012). This same process holds true for weaving a methodology for 'research at the interface', it is a time for learning, knowledge sharing, personal reflection and consideration. This is significantly important for this weaving process, this reflective nature is critical to the development of Knowing (epistemology), Being (axiology) and Doing (ontology) in the methodology for 'research at the interface'. This process occurs by drawing on key Aboriginal and Torres Strait Islander scholars in the area of Indigenous Knowledges and research, and engaging with their 'teachings' through reflexivity (Wilson, 2014). Through this process, a 'rich' and 'powerful' methodology is created for 'research at the interface', visually vibrant and distinct from the two knowledge systems and worldviews. This strong and unique interface protects research outcomes, holding them safely and securely, in a way which provides the reciprocity and respect that Aboriginal and Torres Strait Islander communities deserve. This holds true to the core principles for 'research at the interface', "mutual respect, shared benefit, human dignity and discovery" (Durie, 2004a, 2004b).

Weaving for research at the interface

As an Aboriginal researcher, weaving a methodology for 'research at the interface' in a predominantly quantitative research environment, is a challenge. After all this area has predominantly focussed on presenting deficit health statistics for Aboriginal and Torres Strait Islander children. In this section I will provide an example of how I have used weaving to design a methodology for 'research at the interface' and also examine a past deficit approach.

Burns remain a leading cause of mortality and disability in Australian children: national statistics demonstrate that Aboriginal and Torres Strait Islander children have higher rates of burns injury (AIHW, 2011; Dyson, Cameron, Gabbe, & Thomas, 2015–2016; Möller et al., 2017; Riedlinger et al., 2015). The focus of my study is to provide a detailed analysis of burns injury in Australian children, to draw attention to burns inequities, helping to understand the contextual and clinical factors contributing to this. This included examining associations in patient hospital length of stay, as burns literature has reported an increased length of stay for Aboriginal and Torres Strait Islander children (Möller et al., 2017). Presently, the majority of burns research focussed on Aboriginal and Torres Strait Islander patients, has been founded in Western quantitative research approaches. It is difficult to determine how this research adheres to basic recommendations of the National Health and Medical Research Council in Australia, for example core recommendations for the involvement of Aboriginal and Torres Strait Islander peoples in research governance projects (NHMRC, 2018a, 2018b). The risk of such approaches and lack of adherence to recommendations, is the reinforcement of deficit models of health and well-being for Aboriginal and Torres Strait Islander communities. This can result in enquiries, such as:

- (1) To compare burns burden between Indigenous and Australian children
- (2) Determine risk factors that increase the length of hospital stay in Indigenous children.

While burns research in Australian children has demonstrated there is higher incidence in Aboriginal and Torres Strait Islander children, 'burden' emphasis on Indigenous children places a 'problematic focus' on Indigenous children as the 'deficit Indigenous,' and does not try to understand the inequities present in the overall story. Problematic focusses are hard to shift once formed, they reinforce an individual's implicit bias and stereotyped attitudes towards Aboriginal

and Torres Strait Islander peoples, as “the cause of their poor status” (Ryder et al., 2017; Sherwood, 2013, p. 29). Indigenous children are separated from ‘Australian children,’ which is a common form of whiteness, placing non-Indigenous Australians in a position of power and as the ‘unacknowledged norm’ (Walter & Andersen, 2013). For the second question, past research has demonstrated hospital length of stay is greater for Aboriginal and Torres Strait Islander children (Möller et al., 2017). However, this line of enquiry, places emphasis on being Indigenous, where ‘Indigeneity’ is focussed as a risk factor for increasing hospital length of stay. This is a deficit model of enquiry, it does not appreciate or comprehend how colonisation has created the circumstances which Aboriginal and Torres Strait Islander peoples continue to endure. There is no recognition for health inequities which Aboriginal and Torres Strait Islander people face. Inequities and circumstances which are continually reinforced by the ongoing process of colonisation in Australia. Colonisation, racism and whiteness have trained researchers to consider ‘Indigeneity’ as a risk factor, these ongoing processes (colonisation, racism and whiteness) have blinded researchers to the real truth. That truth being, that ‘colonisation’ is in actual fact the risk factor. In both questions, Indigenous Knowledges and voice are missing, clearly constructed from a colonial normative framework, underpinned by colonisation and further influenced by whiteness.

In my study, I centred strength based ideas in the narrative from the outset. A significant feature of this study over past research, was the prioritisation of Indigenous Knowledge from study formation through to data interpretation. For this, a retrospective study of data from the Burns Registry of Australian and New Zealand (BRANZ) was analysed from the October 2009 to June 2018. This registry is an epidemiological repository, monitoring burns incidence, causation and treatment in Australia. Established from non-Indigenous value systems, where the data set is focussed on recording Western clinical measures of burns injury. This is important when considering Being (axiology) for ‘research at the interface’, specifically in terms of which knowledge system holds knowledge power and how this can influence the research process.

Weaving the methodology for ‘research at this interface’, focussed on Indigenous research methods (outlined in Table 2) and quantitative research methods; these methods were used as the strands to weave the methodology for this interface. The quantitative research exploration used in this study of demographics, statistical significance and relatedness, were never used to define the methodology at the interface, only inform it, an important decolonisation process for weaving this knowledge interface.

Decolonisation (Table 2) is a process which needs to occur at the outset of research enquiry, where the unacknowledged privilege and power held by Western knowledge systems, as related to colonisation, racism and whiteness, and depicted through ‘power’ and ‘privilege’ from one knowledge system (Western) over the other (Indigenous), must be acknowledged and shifted (Antoine, 2017; Doyle et al., 2017; Langton & Rhea, 2005; Rigney, 1999; Sherwood, 2013; Sherwood & Edwards, 2006; Smith, 1999; Tur et al., 2010). Decolonisation allows all researchers to recognise and reflect, from the beginning on how colonisation continues to shape research agendas, which in-turn reinforce inequities (Green & Bennett, 2018; Ryder et al., 2017; Sherwood & Edwards, 2006). For example in Aboriginal and Torres Strait Islander quantitative health research, colonisation has impacted on research enquiry, where often research questions are constructed through a colonial normative framework of deficit and whiteness, rather than strength and sovereignty, as outlined in the example above.

For the BRANZ study, Indigenous research methodologies and methods of decolonisation, *nayri kari* and Indigenist research (Table 2) facilitated formulation of the research questions:

- (1) Are burn injuries different for Aboriginal and Torres Strait Islander children?
- (2) Do inequities present in this epidemiological profile?
- (3) Do differences exist in hospital length of stay?
- (4) Is the hospital length of stay associated with health inequities, burn cause, severity and treatment?

Framing research questions in this way ensured the study was focussed on understanding burns inequities through a strength based process of enquiry and examination. The use of the selected Indigenous research methods, aims to resist the influence of colonisation, by not privileging Western knowledge and constructs, such as, prior assumptions surrounding burns in Aboriginal and Torres Strait Islander peoples and communities, such as assuming other Australian children were the unacknowledged norm, through to understanding that the data set is a Western constructed data repository (Doyle et al., 2017; Green & Bennett, 2018; Rigney, 1999; Sherwood, 2013; Smith, 1999; Walter & Andersen, 2013).

In this study, quantitative measures for data analyses, for instance descriptive statistics (means, standard deviations, and 95% confidence intervals), were used to provide an overview of paediatric burns injuries in Australia, covering patient demographics, burns and treatment characteristics. This included a stratified comparison across Aboriginal and Torres Strait Islander and Other Australian children. Statistical significance, through Pearson's Chi-Square, explored variable correlations for those variables included in the burns overview profiles (McHugh, 2013). A staged cox regression model explored the relatedness of variables to increased hospital length of stay (MacDonald & Gray, 2016). In building this staged model, particularly variable selection, Indigenous Knowledges surrounding ways of knowing, being and doing, was an important focus over dominant Western constructs (Martin, 2003; Walter & Andersen, 2013). For example, great caution was taken when selecting variables from the literature, in understanding that the knowledge surrounding these variables was constructed from a Western centric approach, focussed on privileging deficit constructs, where there was limited consideration of inequities.

Indigenous research methods were used to unpack and understand the outcomes from this statistical analyses. The method of Yuri Ingarninthei, a process of deep listening surrounding 'recording and understanding', was critical when examining results produced from the statistical analyses (O'Brien & Watson, 2014). Particularly, Yuri Ingarninthei, is significant in understanding the narrative and context behind the numbers (O'Brien & Watson, 2014). This process was enriched by Indigenist research and *nayri kati*, as firstly the research being conducted is by an Aboriginal researcher, supported by an Aboriginal supervisor and Aboriginal mentors. This process also utilised Aboriginal and Torres Strait Islander perspectives of health and well-being, and making sure they are central to interpreting research outcomes, and recognised the impact of comparing aggregated Aboriginal and Torres Strait Islander data to national burns data or Other Australian children, as the assumed 'normal' level (Walter & Andersen, 2013).

I used 'Collaborative Yarning' with other Aboriginal researchers, and my supervisors in this space, to unpack the narrative behind the study results (Bessarab & Ng'andu, 2010; Dudgeon & Walker, 2015). For example, I used collaboratively yarning to narratively enquire on inequity outcomes present in the results, in line with PROGRESS-Plus⁷. All of these research methods were important in weaving a strong and robust methodology for 'research at the interface', to hold the results from this study, culturally safe and secure, and presenting them in a way which does not cause further harm or oppression to Aboriginal and Torres Strait Islander children.

Conclusion

Weaving a methodology for 'research at the interface' is a transformative process, powerful and reflexive, allowing researchers to conceptualise their research methodology in a different way, which privileges Aboriginal and Torres Strait Islander voices and knowledges. Through the weaving of a methodology, drawing from two diverse worldviews, innovation occurs, the creation of a methodology, akin to a coiled basket. The weaving process requires a central focus on mutual respect, benefit and cultural integrity for Aboriginal and Torres Strait Islander communities. So a respectful and culturally safe methodology for 'research at the interface' is structured, which enshrines honesty, ethical conduct for research processes, and protects the research outcomes, holding them safe and secure, in a way to benefit Aboriginal and Torres Strait Islander communities.

Notes

1. Anangu is a term used to Aboriginal communities and people from Central Australia.
2. Nunga is a term used to Aboriginal communities and people from Southern South Australia.
3. Sovereignty is complex and encompassing for Aboriginal and Torres Strait Islander peoples. With core principles founded on our rights and responsibilities, it is connected to identity and our independence to determine our own destiny (Clayton-Dixon, 2015).
4. Murri, is the term used to Aboriginal communities and people from Queensland and Northern NSW.
5. Dilly bags, common to Aboriginal and Torres Strait Islander communities across Australia, used to hold, store or carry belongings (Doyle et al., 2017).
6. Coolamon, common to Aboriginal and Torres Strait Islander communities across Australia, they are a curved bowl/dish used as a gathering/carrying tool, or to rock babies to sleep.
7. PROGRESS-Plus: Place (residence), Race (ethnicity), Occupation, Gender, Religion, Education, Social-capital, Socioeconomic position, Age, Disability, Sexual Orientation, Other Vulnerable Groups (Ryder et al., 2019).

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Notes on contributors

Courtney Ryder is a Nunga woman and PhD candidate in the Injury Division at The George Institute for Global Health in the Faculty of Medicine UNSW Sydney. Ryder's research focusses on exploring health inequities impacting on Aboriginal and Torres Strait Islander families whose child has had a burn injury, for which she holds a National Health and Medical Research Council Scholarship. Prior to commencing her studies, Ryder worked academically, where she has over a decade's experience in Aboriginal health education. She holds a lecturer position at Southgate Institute for Health, Society and Equity in the College of Medicine and Public Health at Flinders University of South Australia.

Tamara Mackean is a Waljen woman, Public Health Medicine Physician and Fellow of the Australasian Faculty of Public Health Medicine. Associate Professor Mackean holds a conjoint appointment in research at the George Institute for Global Health and the Southgate Institute for Health, Society and Equity at Flinders University of South Australia, where she leads a body of research focussed in Aboriginal and Torres Strait Islander health. Associate Professor Mackean's research interests span health equity, social and mental health, health systems and Indigenous health.

Julieann Coombs is a Kamilaroi woman, and PhD Candidate at University of Technology Sydney. Coombes's studies are focussed on cultural safe burns aftercare for Aboriginal and Torres Strait Islander Children, for which she holds a Jumbanna scholarship. She is a highly skilled career professional with over 27 years as a Practice Nurse experienced in Aboriginal Health. Coombes is also a research officer at The George Institute for Global Health, where she is involved in a range of injury projects in Aboriginal and Torres Strait Islander health.

Hayley Williams is an Anaiwan woman, and PhD Candidate at the University of Queensland, Brisbane. Williams's research is focussed on exploring the psycho-social impact of burn injuries on Aboriginal and Torres Strait Islander children and their families; and ways to foster their resilience, for which she holds a National Health and Medical Research Council and Children's Hospital Foundation Scholarship. Prior to this, Williams worked in Aboriginal and Torres Strait Islander health research, specifically continuous quality improvement, epidemiology, and preventive health.

Kate Hunter holds a doctorate and is a Senior Research Fellow in the Injury Division at The George Institute and conjoint Senior Lecturer in the Faculty of Medicine UNSW Sydney. Dr Hunter leads a body of work primarily in Aboriginal and Torres Strait Islander child and family health and the social determinants of health. Her research expertise includes the conduct and evaluation of community based programs, translational research, and assessing equitable access to health services for Aboriginal and Torres Strait Islander people.

Andrew J. A. Holland is a general paediatric surgeon at The Children's Hospital at Westmead and Royal North Shore Hospital, and Professor of Paediatric Surgery at The University of Sydney. Professor Holland's research interests include burn injury, paediatric trauma, models of paediatric surgical care and long term outcomes following surgery. Currently, Professor Holland has over 250 publications in the peer reviewed scientific literature and has been awarded collaborative international research grants and scholarships. He is on the Editorial Board of several journals including the Journal of Paediatrics and Child Health, Paediatric Surgery International and The Australasian Journal of Plastic Surgery and Surgical Practice.

Rebecca Q. Ivers is a Professor and Head of the School of Public Health and Community Medicine UNSW Sydney. Professor Ivers is an honorary Professorial Fellow at the George Institute for Global Health, and a National Health and Medical Research Council Senior Research Fellow. Professor Ivers leads a global research program focusing on the prevention and management of injury. This program of research has a particular focus on inequalities in injury in low income settings, and the prevention of injury in Aboriginal and Torres Strait Islander people.

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