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SYSTEMATIC REVIEW OPEN ACCESS

Resilience-Focused Approaches for School-Age Australian First Nations Populations: A Systematic Review of Influential Factors

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ABSTRACT

Introduction: Building resilience has been identified as a key way to improve the wellbeing of children. However, there are currently no reviews of the evidence that explore factors influencing resilience in Australian First Nations School-age youth.

Objective: We aimed to review the literature on factors influencing resilience in school-age (5–19 years) Australian First Nations populations. We also explored how resilience is defined and operationalised, how factors identified mapped onto the Social and Emotional Wellbeing (SEWB) model and whether there were differences in factors depending on age and residential localities.

Design: We conducted a systematic review of published peer-reviewed articles that included the identification or review of factors influencing resilience in our target population. We searched key databases and performed a narrative synthesis.

Findings: Of the 1093 articles identified, 13 were found to meet inclusion criteria. Fifty-one different factors influencing resilience were identified across individual, interpersonal and community socio-ecological levels.

Discussion: The 51 factors mapped cohesively onto the SEWB domains. There was inconclusive data to determine if factors were dependent on the participants' age and location. Key limitations of the literature on this topic included the limited number of available studies and the lack of definitions and consistent operationalisation of resilience within the few existing studies.

Conclusion: Our findings show the wide variety of factors that influence resilience in this population and demonstrate the importance of incorporating SEWB domains into wellbeing and resilience-focused programmes in Australian schools for First Nations populations.

1 | Introduction

Australian First Nations people are individuals of Aboriginal or Torres Strait Islander descent who identify as Aboriginal and/or Torres Strait Islander and are accepted as such by their community [1]. This population typically has poorer health outcomes than non-Indigenous Australians, with historical mistreatment and contemporary social systems contributing to these disparities [2–6]. The colonisation of Australia has led to complex mental health issues among First Nations peoples, including intergenerational trauma and disruptions to families and kinship connections [7]. Given the challenges faced by this population, exploring resilience provides potential pathways to address disparities in health outcomes.

Resilience is a component of wellbeing linked to positive life outcomes such as subjective wellbeing [8], markers of good mental health [9], the reduction of mental health symptoms [10], suicide prevention [11, 12], life satisfaction [13], educational attainment, employment opportunities and success, good physical health

Summary

- What is already known on this subject?
  - Resilience is a subfactor of wellbeing that is linked to numerous positive life outcomes.
  - Resilience is influenced by sociocultural contexts and factors at various socio-ecological levels.
  - Social and Emotional Wellbeing (SEWB) is a multidimensional and holistic framework for the health of Australian First Nations peoples.
- What this paper adds?
  - A systematic summary and discussion of the factors that influence resilience for school-age Australian First Nations peoples with reference to different socio-ecological levels.
  - Highlights the importance of SEWB in consideration of the resilience of school-age Australian First Nations peoples
  - Emphasises the significant need for more culturally sensitive and comprehensive research in this domain.

and substance abuse prevention [11]. Research suggests that psychological, social, cultural and historical factors are likely to influence resilience [14]. Examples include self-esteem (psychological), having a role model/s (social) and ethnic identity (cultural). Such factors can be found at various socio-ecological levels, including individual, interpersonal and community levels [14, 15]. A study by Miller et al. [16] on Australian youth from forced-migration backgrounds revealed that determinants of resilience are influenced by intersecting social ecologies, such as family congruence, school support and ethnic identity. Determinants or factors influencing resilience operate across different socio-ecological levels and interact to foster it, highlighting the overlapping, changing and complex systems underpinning resilience [16].

A systematic review of the literature exploring the resilience and mental health of youth affected by armed conflict found resilience was influenced by time- and context-dependent variables and therefore there was variation in resilience across sociocultural settings [15]. For example, studies in Afghanistan identified 'tarbia' (strong sense of morality) and 'wahdad' (family unity and honour) as factors, whereas for children in Rwanda 'kwihangana' (perseverance) and 'kwigirira ikizere' (self-esteem) were highlighted, and for former children soldiers in Sierra Leone, cleansing ceremonies were crucial to wellbeing [15]. These studies highlight the importance of considering sociocultural contexts when analysing resilience in school-age children. Despite this, many resilience-related research and school programs in Australia fail to capture and cater to the sociocultural diversity of Australian children by utilising universal approaches [17].

Building resilience among Australian First Nations children and school-age youth has been associated with numerous positive outcomes, including enhanced mental health, educational success and overall wellbeing [18]. One key framework for understanding resilience within this population is the Social and Emotional Wellbeing (SEWB) framework, a culturally relevant perspective that underscores the significance of social determinants in the health and wellbeing of Australian First Nations peoples [18, 19]. SEWB is a holistic and multidimensional concept, recognising the importance of cultural diversity and the connections that shape individual and community health. SEWB is seen as foundational to both physical and mental health among Australian First Nations peoples, incorporating several critical domains: connection to body, connection to mind and emotions, connection to family and kinship, connection to community, connection to culture, connection to country and connection to spirituality and ancestors [11, 18]. These interconnected domains emphasise the value of cultural and social ties in fostering resilience and promoting overall wellbeing.

The aim of this systematic review was to use SEWB as a framework to synthesise the available information on the factors influencing resilience for Australian First Nations populations to aid consideration of sociocultural diversity in research, policy and program development. Programs aimed at fostering resilience often emphasise culturally relevant approaches that focus on connection to culture, community and spirituality [17]. In addition, cultural and linguistic diversity within Australian First Nations cultures suggest the existence of different conceptualisations of resilience [18]. Research from Canada and America from both forced migration and Indigenous populations has identified cultural variance in the conceptualisation of resilience [20–22]. For example, a Canadian study outlined that Indigenous definitions of resilience include it being a 'healing journey' [20]. Research suggests that resilience should be conceptualised and assessed using culturally adapted tools that account for specific sociocultural contexts and focus on domains such as community ties and cultural identity [23]. Such culturally sensitive assessments provide valuable data on resilience levels, allowing for the evaluation of program effectiveness for youth and informing the development of interventions that are both culturally relevant and contextually appropriate [24]. However, literature on this topic in Australian First Nations populations is lacking and as such, prominent process, and outcome approaches to the conceptualisation of resilience have been adopted for this review. The process approach conceptualises resilience as a dynamic process of adaption, whereas the outcome approach sees resilience as a function or behavioural outcome [9]. For this review, we have defined resilience as 'successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioural flexibility and adjustment to external and internal demands' [23]. It is acknowledged that this definition originates from a Western understanding of resilience, and as such this review will include the definitions and conceptualisations of resilience in included articles to help promote other cultural understandings.

There are three key studies which provided insights into adult perceptions of factors influencing resilience in Aboriginal school-age children. Although these studies involved adults and did not meet the inclusion criteria for the systematic review, they offered valuable background information. The studies suggest that adults perceive having a strong sense of identity, connection to family and community and a supportive environment are important factors for developing resilience in Aboriginal school-age children. A qualitative study conducted in Sydney revealed that Aboriginal parents and workers believe a strong sense of

identity is important to developing resilience as a child and adolescent [24]. Similarly, data from 25 grandparents, parents, aunties and uncles of Aboriginal children suggest that having a strong sense of identity is important for children to have to counter impacts of racism [25]. Authors also found that having a strong spirit, connection to family and community and a supportive environment were identified by parents/carers as factors of resilience for Aboriginal children [25]. Practitioners and caseworkers working with Aboriginal children in out of home care reported child, carer and environmental characteristics as resilience factors [26]. Identified factors include the child's social skills and attachment, having a two-carer family and access to quality early childhood education [26]. These factors are acknowledged in the Social and Emotional Wellbeing (SEWB) framework and suggest findings of this systematic review will also be in line with the SEWB framework [18].

Understanding factors influencing resilience can support the development of individualised resilience intervention programs. Results from a systematic review by Tol et al. [15] suggested that resilience interventions need to be individualised to specific contexts. Further, Usher and colleagues [27] suggest that community-level and strength-based approaches are key to strengthening resilience in Australian First Nations peoples. Both these studies demonstrate the need to move away from universal interventions which generally target participants at an individual socio-ecological level.

A synthesis of available scientific literature on resilience for the Australian First Nations population is currently lacking. As are culturally appropriate and individualised resilience-focused programmes in school settings. Given the potential for improved mental health outcomes across the life course resulting from childhood interventions [11], our review focused on school-age children, defined as those aged 5–19 years. It included children who attended school and those who did not, as retention rates from 2021 for Australian First Nations students from year 7 to 12 were 59% [28]. We aimed to determine which factors positively and adversely influence resilience in this population. We also analysed the definitions and operationalisations of resilience used in articles, and whether identified factors influencing resilience can be mapped onto the SEWB domains. As individualised interventions are key, differences in factors influencing resilience in differing age groups and locality classifications were also explored. Overall, this systematic review provides valuable insights into the determinants and correlates of resilience for Australian First Nations school-age children. This information can facilitate evidence-based recommendations for policy, interventions and programmes aimed at enhancing resilience and wellbeing among school-age Australian First Nations peoples.

2 | Methods

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) 2020 guidelines [29]. A protocol was developed and registered with the National Institute for Health Research on Prospero (https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=369883; date registration accepted: 03 November 2022). EBSCOhost, Informit, Web of Science, PubMed and Scopus were searched for published and peer-reviewed articles written in English, conducted in Australia, and with full-text availability. No restrictions were placed on the year of publication or type of study design. See the search strategy in Appendix S1 for the search strategy used. Articles were stored using Zotero reference management software and duplicates were removed using the De-Duplication feature on IEBH Systematic Review Accelerator (https://sr-accelerator.com/#/). Articles were screened by the second author at a title-abstract level, then full-text level, using the Screenatron feature on IEBH Systematic Review Accelerator. Included articles were required to have school-age (5–19 years) Australian First Nations peoples as participants and cover the identification of factors influencing resilience either empirically or via literature review. See Table 1 for the decision tree used for screening articles.

At each level of screening, 10% fidelity checks were completed by the first and third authors on randomly selected articles. Percent agreed and Cohen's kappa were calculated to determine the level of interrater reliability. Any discrepancies between authors were discussed until a mutual agreement was met. Data from the included articles was extracted by the second author on predetermined data categories and then checked independently by the first and third authors (see Table 2).

Data categories were study aim, design and outcome, number of participants, percentage of participants identified as Australian First Nations, participant age range, participant gender breakdown, languages spoken, definition and operationalisation of resilience, factors of resilience and the impact of factors on resilience. Zotero and Excel were utilised for data extraction and management. Articles that met inclusion were assessed for risk of bias using standard quality appraisal tools such as the Qualitative Checklist [30] and the Analytical Cross-Sectional Checklist [31], with tools chosen based on the design of the study. A narrative synthesis was conducted to summarise the findings of the articles and a risk of bias assessment was conducted on the systematic review itself using the ROBIS tool [32].

2.1 | Positionality Statement

It should be noted that none of the authors identifies as Aboriginal or Torres Strait Islander. The authors acknowledge that their social, cultural and historical backgrounds may differ significantly from the Australian First Nations participants in reviewed studies and that these differences can create limitations in the ability to fully understand and represent their experiences. To manage authors' biases, consultation was sought with appropriate members of [removed for anonymity] Universities' College of Indigenous Futures, Education and the Arts. Staff provided resources, including terminology guidelines. Further, on submission, our manuscript went through a process of First Nations screening before approval.

3 | Results

Database searches completed on 23 November 2022 returned 1076 articles, 170 of which were duplicates and removed. An additional

TABLE 1 | Screening decision tree.

Inclusion criteria	Exclusion criteria	
1. Is the study located in Australia?		
↓	→	→
Yes	No	Paper is excluded from the review.
Include studies that are conducted in Australia, or studies conducted in Australia and other countries with exclusive Australian data. For title-abstract screen only, include studies in which the location is unclear.	Exclude data. Studies conducted outside Australia, or with non-exclusive Australian	
2. Are the participants Australian First Nations peoples?		
↓	→	→
Yes	No	Paper is excluded from the review.
Include studies in which participants identify as Aboriginal and/or Torres Strait Islander Peoples, studies in which some participants identify as Aboriginal and/or Torres Strait Islander Peoples and this data is exclusively reported. For title-abstract screen only, include studies in which participants' identity is unclear.	Exclude studies that do not include Aboriginal and/or Torres Strait Islander People, or with non-exclusive data.	
3. Are the participants school-age?		
↓	→	→
Yes	No	Paper is excluded from the review.
Include studies that focus or have exclusive data on children and young people aged 5 to 19 years. For title-abstract screen only, include studies in which participants' ages are not clearly stated.	Exclude studies that only include children under 5 years or adults over 19 years of age, or do not provide exclusive data for participants aged 5 to 19 years.	
4. Does the study include identification or review of factors influencing resilience?		
↓	→	→
Yes	No	Paper is excluded from the review.
For the title-abstract screen, include studies that reference resilience, wellbeing, mental health, and identity/self-concept. For a full-text screen, include studies that identify or review factors influencing resilience as part of their research.	Exclude studies that do not include identification or review of factors influencing resilience or include factors of resilience in the introduction but do not confirm claims as part of their research.	
↓ Paper is included in the review.		

Note: Red: No (the study does not meet the criteria)/Paper excludedGreen: Yes (the study meets the criteria)/Paper included.

17 articles were found through alternative methods (e.g., reference mining). A total of 923 articles were screened at the title-abstract level, of which 119 were determined to be eligible for full-text review. Fidelity checks of 92 articles (10%) were completed, with 84.4% consistency between authors and a Cohen's kappa of 0.434 indicating moderate agreement. Reviewers employed a Screening Decision Tree to assess whether a study met the eligibility criteria for inclusion, ensuring consistency and transparency in the screening process (see Table 1). The Decision Tree facilitated the discussion and resolution of the 14 disputed articles, with seven ultimately included. Of the 119 articles reviewed in full-text, 13 articles met the inclusion criteria. The remaining articles were excluded due to not meeting participant requirements and a lack of identification or review of factors influencing resilience. Fidelity checks of 12 articles (10%) were completed with an 83.3% consistency between authors and a Cohen's kappa of 0.675 indicating substantial agreement. The two disputed articles were discussed and resolved (both excluded) (see Figure 1).

TABLE 2 | Extracted data.

N	Citation	Study aim and design	Participants characteristics: number; First Nations %; age range; language	Participant gender; locality classification (city, rural, remote)	Definition and operationalisation of resilience
1	Bodkin-Andrews et al., 2010	Determine the causal impact of academic self-concept on school disengagement for Indigenous and non-Indigenous secondary students. [Quantitative]	1234; 17.5%; Grades 7–10 (M: 13.5 years); Not Included	113 Females (52.3%), 103 Males (47.7%) (First Nations data only); City Rural (New South Wales)	No definition included. Operationalised through inference between factors and outcomes.
2	Boon, 2008	Look at the issues related to students who are at risk of leaving school early. [Quantitative]	1050; 9.8%; 12–15 years (M: not state); Not Included	63 Females (61%), 40 Males (39%) (First Nations data only); City (North Queensland)	Socioeconomic and structural family factors predict academic success and failure by acceptable behavioural and motivational patterns. Operationalised through inference between factors and outcomes.
3	Gale & Bolzan, 2013	Explore the social foundations of resilience and for Indigenous Australian young people to direct the research and frame what social resilience comprises for them based on their perspectives. [Qualitative]	20; 100%; 13–19 years (M: not state); Not Included	20 Males (100%); Rural	Social resilience relies on the understanding of the social contribution to resilience, which is significant in Indigenous and non-Western cultures where the 'self' may be conceived more communally. Operationalised through theme development.
4	Gartland et al., 2021	Develop a socially inclusive measure of child resilience by codesigning methods to engage diverse families and identify resilience factors. [Qualitative]	106 (Plus 97 adults); 6.6%; 7–11 years (M: 8.4 years, SD: 1.7); Not Included	3 Females (43%), 4 Males (57%) (First Nations data only); City, Rural (South Australia)	Service providers working with Aboriginal families suggested words and phrases: survivor, being a little fighter, strength, fighting your way through, landing on your feet, and keeping our kids strong. Operationalised through theme development.
5	Hopkins et al., 2014	Determine what are protective factors for psychosocial development in Aboriginal youth. [Quantitative]	1021; 100%; 12–17 years (M: not stated); Not Included	Females (50%), Males (50%); Not Included (Western Australia)	Measured by calculating a Resilient Psychosocial Status (= SDQ + exposure to family risks).
6	Langham et al., 2018	Validate an adapted Child and Youth Resilience Measure (CYRM-28) among Indigenous Australian boarding school students. [Quantitative]	233; 100%; 11–17 years (M: 13.42 years, SD: 1.7); Not Included	122 Females (52.4%), 111 Males (47.6%); Remote (North Queensland)	Socio-ecological model of resilience. Operationalised through scale items.

(Continues)

TABLE 2 | (Continued)

N	Citation	Study aim and design	Participants characteristics: number; First Nations %; age range; language	Participant gender; locality classification (city, rural, remote)	Definition and operationalisation of resilience
7	Macedo et al., 2019	Determine the role of ethnic-racial identity (ERI) on racism and the SEWB of Aboriginal children. [Quantitative]	408; 100%; 9–12 years (M: 8.5 years, SD: 0.5); 89.5% English only, 4.6% First Nations Language/s, 5.8% Both	Females (51%), Males (49%); City Rural Remote	No definition for resilience is included. Operationalised through changes in SDQ results.
8	Oliver & Exell, 2019	Explore factors of positive self-identity and how they relate to education and the transition to employment. [Qualitative]	5; 100%; Commencement: 16–17 years, Conclusion: 18 years (M: Not Stated); Mostly Aboriginal English.	5 Males (100%); Rural (Western Australia)	No definition for resilience is included. Operationalised through theme development.
9	Prehn, Peacock & Guerzoni, 2021	Look at academic self-concept through information collected in the Longitudinal Study of Indigenous Children Wave's 7 K Cohort. [Quantitative]	508; 100%; 9.5–11 years (M: Not Stated); Not Included	Not Included; Not Included	No definition for resilience is included. Operationalised through inference between factors and outcomes.
10	Redman-MacLaren et al., 2017	Conduct a pilot phase of a 5-year study on a mentoring approach to increase the resilience and wellbeing of boarding students. [Quantitative]	94; 100%; 11–18 years (M: Not Stated); Not Included	58 Females (61.7%), 36 Males (38.3%); Remote (Cape York & Palm Island)	The capacity to navigate a way to the psychological, sociocultural, and physical resources that sustain wellbeing, individual and collective capacity to negotiate for resources to be provided in culturally meaningful ways. Operationalised through response items.
11	Robinson et al., 2022	Test two adapted brief measures of resilience for Aboriginal middle school students living in remote communities. [Quantitative]	520; 100%; 10–19 years (M: 13.46, SD: 1.24); Not Included	Females (50%), Males (50%); Remote (Northern Territory)	Socio-ecological model of resilience. Operationalised and measured psychological resilience and socio-cultural resilience through scale items.
12	Thomas et al., 2010	Develop and validate an appropriate SEWB tool for Indigenous adolescents. [Quantitative]	Pilot: 67-Main Study: 361; Pilot: 100%- Main Study: 100%; Pilot: 13–19 years (M: Not Stated), Main Study: 16–20.5 (M: 18.3, SD: 1.1); Not specified	Pilot and Main Study: 192 Females (53%), 169 Males (47%); Rural Remote (Northern Territory)	Not included. Operationalised through scale items.
13	Young et al., 2019	Determine protective factors and the prevalence of resilience in urban Aboriginal youth. [Quantitative]	119; 100%; 12–17 years (M: not stated); Not Included	62 Females (52%), 57 Males (48%); City Rural (New South Wales)	Normative social and emotional wellbeing. Operationalised low SDQ total scores and low-risk prosocial scores.

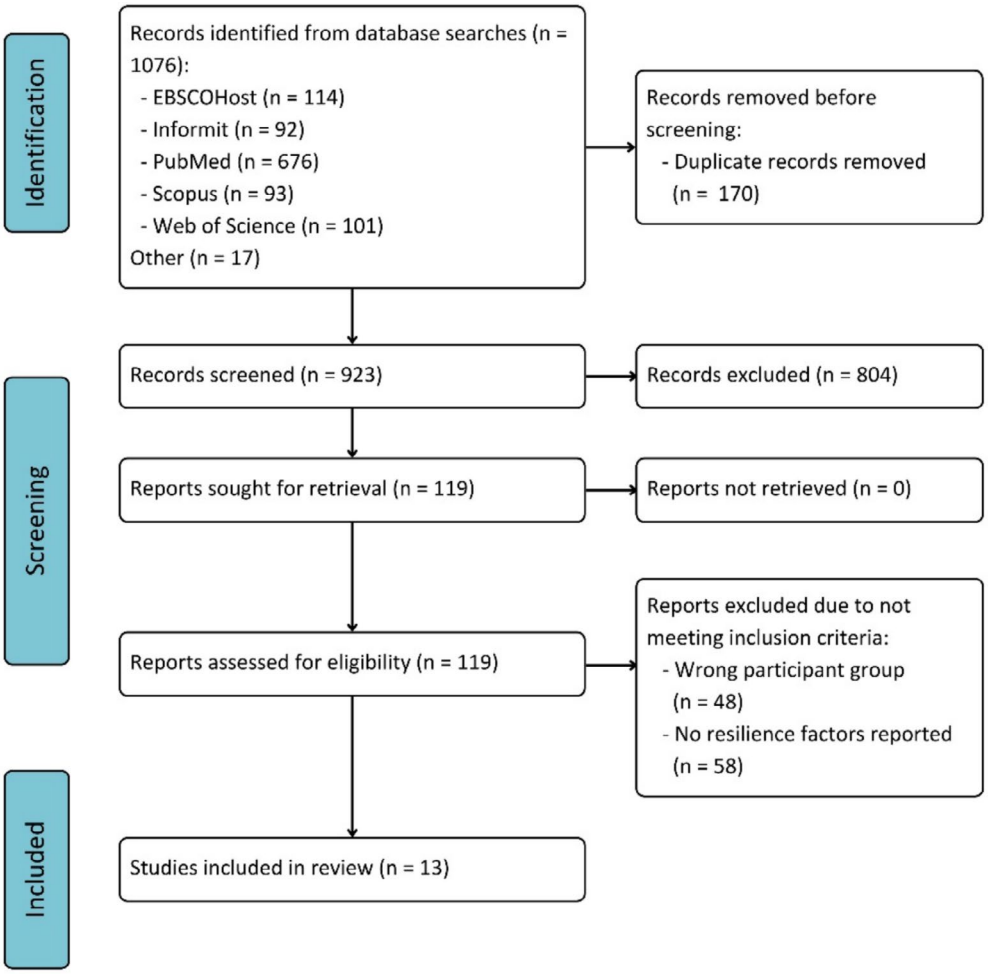

FIGURE 1 | PRISMA flowchart.

3.1 | Included Articles

The 13 included articles comprised of three qualitative and 10 quantitative studies, published between 2008 and 2022. The articles included 3682 school-age First Nations participants who ranged from 7 to 19 years of age and lived in a variety of localities across New South Wales, Queensland, South Australia, Western Australia and Northern Territory. Only two articles included language/s spoken by participants, and eight included a definition of resilience. Table 2 outlines the study characteristics extracted from the included articles.

3.2 | Risk of Bias

Checklists accessed from JBI (see https://jbi.global/) and Aboriginal and Torres Strait Islander quality appraisal tool were utilised to conduct quality assessments of the included articles. See Tables S1–S4 for completed quality assessments. We used the Qualitative Checklist [30] to assess study quality in the three qualitative articles in our sample, finding articles achieved a mean score of 7.7 (out of 10) with a standard deviation of 0.58. All articles appear to show congruence between philosophical perspective and the research methods used; congruity between the methods and the objectives, data collection method, analytical strategy, interpretation of results; represent the voice of participants adequately; and appropriate interpretations of the data reported. One of the articles did not report obtaining ethical approval for the study. All articles failed to locate the researcher culturally and/or theoretically and address the influence of the investigator(s) on the research.

We used the Analytical Cross-Sectional Checklist [31] for the quantitative articles. The mean quality assessment score across all 10 quantitative articles was 7 (out of 8), with a standard deviation of 1.05. All articles included inclusion criteria for their sample, described participants and study settings, and appeared to use valid and reliable measurements and statistical approaches. Only 5 (50%) of the articles identified and accounted for confounding factors in their analyses.

3.3 | Data Synthesis

Fifty-one factors influencing resilience for school-age Australian First Nations children were identified in the 13 articles (See Table 3). Identified factors were predominantly positively influencing resilience, with only two factors (exposure to racism and number of school suspensions) adversely influencing resilience [33, 34]. Factors could be mapped across different

TABLE 3 | Extracted data.

Domain	Factors	Article/s
Connection to Body	1. Access to food	Gartland et al., 2021; Langham et al., 2018; Redman-MacLaren et al., 2017.
	2. Physical exercise	Gartland et al., 2021; Young et al., 2019.
Connection to Mind & Emotions	3. Academic self-concept	Bodkin-&rews et al., 2010; Prehn et al., 2021.
	4. Being a fun/good person	Langham et al., 2018; Thomas et al., 2010.
	5. Confidence	Oliver & Exell, 2019.
	6. Coping with changes	Thomas et al., 2010.
	7. Feeling safe	Gale & Bolzan, 2013; Langham et al., 2018; Redman-MacLaren et al., 2017.
	8. Hopefulness	Gale & Bolzan, 2013.
	9. Identify affirmation	Macedo et al., 2019.
	10. Individual agency	Gale & Bolzan, 2013.
	11. Individuality	Gale & Bolzan, 2013.
	12. Inner strength	Gartland et al., 2021.
	13. Learning & skill development	Gartland et al., 2021; Langham et al., 2018; Robinson et al., 2022.
	14. Self-esteem	Hopkins et al., 2014.
	15. Self-regulation	Hopkins et al., 2014.
	16. Talking about feelings or problems	Langham et al., 2018; Thomas et al., 2010; Young et al., 2019.
	17. Valuing education	Gartland et al., 2021; Redman-MacLaren et al., 2017; Robinson et al., 2022.
Connection to Family & Kinship	18. Being a good son/daughter	Thomas et al., 2010.
	19. Feeling safe with family	Redman-MacLaren et al., 2017.
	20. Having a caring, supportive, helpful &/or strong caregiver/s &/or family	Langham et al., 2018; Redman-MacLaren et al., 2017; Robinson et al., 2022; Thomas et al., 2010.
	21. Importance of family	Gartland et al., 2021; Oliver & Exell, 2019.
	22. Intact family	Boon, 2008.

(Continues)

TABLE 3 | (Continued)

Domain	Factors	Article/s
Connection to Community	23. Being respected & treated fairly	Gale & Bolzan, 2013; Gartland et al., 2021; Langham et al., 2018; Oliver & Exell, 2019; Robinson et al., 2022.
	24. Community connection & engagement	Gale & Bolzan, 2013; Gartland et al., 2021.
	25. Having role model/s	Langham et al., 2018; Robinson et al., 2022; Thomas et al., 2010.
	26. Having someone looking out for you/to talk to/that can help	Robinson et al., 2022; Thomas et al., 2010; Young et al., 2019.
	27. Knowing whitefella ways	Thomas et al., 2010.
	28. Numerous &/or caring/supportive friends	Gartland et al., 2021; Hopkins et al., 2014; Langham et al., 2018; Robinson et al., 2022; Thomas et al., 2010.
	29. Relationship building opportunities	Oliver & Exell, 2019.
	30. School belonging	Robinson et al., 2022.
	31. Socialisation	Gartland et al., 2021.
Connection to Culture	32. Connection & belonging to culture	Gartland et al., 2021; Oliver & Exell, 2019; Redman-MacLaren et al., 2017.
	33. Cultural knowledge	Oliver & Exell, 2019; Redman-MacLaren et al., 2017.
	34. Cultural pride	Langham et al., 2018; Oliver & Exell, 2019; Redman-MacLaren et al., 2017.
	35. Engaging in cultural practices	Oliver & Exell, 2019; Redman-MacLaren et al., 2017.
	36. Enjoying celebrations	Langham et al., 2018; Redman-MacLaren et al., 2017.
	37. Having a strong Aboriginal identity	Oliver & Exell, 2019.
	38. Language	Oliver & Exell, 2019.
	39. Valuing culture	Robinson et al., 2022.
Connection to Country	40. Connection to country	Oliver & Exell, 2019.
	41. Knowledge of country	Redman-MacLaren et al., 2017.
Connection to Spirituality & Ancestors	42. Pride in heritage	Redman-MacLaren et al., 2017.
	43. Religion	Gartland et al., 2021.
	44. Spirituality	Langham et al., 2018.
Social Determinants	45. Basic needs	Gartland et al., 2021.
	46. Exposure to racism	Hopkins et al., 2014.
	47. Father's education status	Boon, 2008.
	48. Housing	Gartland et al., 2021.
	49. Living in a low SES neighbourhood	Hopkins et al., 2014.
	50. School suspension	Boon, 2008.
	51. Transport	Gartland et al., 2021.

socio-ecological levels. At an individual level, confidence [35], self-esteem and self-regulation [34] were noted. At an interpersonal level, 10 factors were related to having supportive, helpful and/or caring caregiver/s or friends [34, 36–40]; and seven factors were related to having role model/s or someone there for them [37, 39–41]. Access to basic needs, housing and food are examples of factors found at a community level [36–38]. Education-related (e.g., values education) and culture-related factors (e.g., cultural pride and cultural knowledge) were also prominent across the socio-ecological levels [42]. See Table 2 for the full list of influencing factors across the studies.

3.3.1 | Definitions and Operationalisation

Resilience was defined and operationalised in various ways in the included articles. Outcome approaches of resilience were most frequently used by authors, with four articles defining resilience as an outcome [33, 34, 36, 41]. Within these, resilience was described as what keeps children 'big and strong' [36], successful despite disadvantages [33] and normative psychosocial functioning despite the risk [34, 41]. Conversely, only one article took a process approach to resilience, focusing on the capacity of individuals when exposed to significant adversity [38].

In two articles, resilience was defined using a socio-ecological model of resilience which emphasised the different levels of factors [37, 39]. Socio-ecological models of resilience appraise the way individual, interpersonal, community and societal factors influence resilience. Similarly, Gale and Bolzan [43] focused on social resilience, stating that it acknowledges the role of social factors on resilience, which is important in Australian First Nations cultures that tend to be more collectivistic. Five articles did not include definitions for resilience [35, 40, 44–46].

The operationalisation of resilience varied. The Strengths and Difficulties Questionnaire (SDQ) was the most common tool used to measure resiliency. Two studies inferred levels of resilience in participants based on SDQ results [41, 45] and one combined SDQ with the level of exposure to family risks to create a 'Resilient Psychosocial Status' [34]. Three articles inferred resilience based on the recorded relationship between factor/s and outcome/s [33, 44, 46]. For example, it was found that academic self-concept was related to lower levels of absenteeism, from which, authors inferred that academic self-concept could be a factor of resiliency in students [44]. The three qualitative articles operationalised resilience through the development of themes [35, 36, 43]. While four articles operationalised resilience through participant responses to items [37–40]. For example, Langham and colleagues [37] inferred that items in the Child and Youth Resilience Measure (CYRM-28) which had appropriate loadings were factors of resilience.

Of note, the way resilience was conceptualised in some articles may be biased towards a western perspective. For example, Oliver and Excell [35] attributed resilience to success in graduating from school and getting employment. Likewise, the use of the SDQ to measure resilience into studies presumes it can be equated to a lack of social and emotional difficulties or normative wellbeing [41, 45].

FIGURE 2 | SEWB factor mapping. Adapted from Gee et al. [18].

3.3.2 | SEWB Mapping

Mapping onto the SEWB domains was an effective way to analyse the influential factors. There were limited factors which mapped onto connection to body, connection to country and connection to spirituality and ancestors. Most factors mapped onto the domains relating to mind and emotions, family and kinship, community and culture. There were factors which did not map onto a specific domain but could be classified as social determinants, which encapsulate the domains according to the SEWB model [18]. Overall, all factors could be mapped onto the seven SEWB domains and social determinants (see Figure 2). It should be noted that some factors could be mapped across multiple domains, which is consistent with the holistic nature of the SEWB model. As such, the placement of factors in domains should be treated as a guide.

3.3.3 | Differences in Age Groups

We were unable to determine whether influential factors consistently vary between different age groups due to limited data for some age groups and a lack of comparisons between groups. Common factors were found across primary school-age participants and teenage participants, including academic self-concept, friends and family [33, 34, 36, 44, 46]. Both age groups also had factors at different socio-ecological levels and SEWB domains, except for factors relating to connection to country for primary school-age participants. However, as 10 of the 13 articles focused on teenage participants, most of the factors were associated with this age group. Langham and colleagues [37] did note age differences in their study on 11- to 17-year-olds, stating that younger participants had higher loadings on items regarding being treated fairly and talking about how they felt, while older participants had higher loadings on items regarding friends and spirituality. No other study made comparisons across age groups.

3.3.4 | Differences in Locality Classifications

Participants lived across city, rural and remote locations. Rural settings were most featured, with 52 factors identified in the seven articles among participants living in rural Australia. Five articles each included remote and city settings; however, articles that included remote locations had 1683 participants, as opposed to 853 participants living in cities. Forty-four factors were identified for remote participants and 23 for city-based participants. Across all localities, factors were identified at all socio-ecological levels (i.e., individual, interpersonal and community). All localities also had factors mapping onto all SEWB domains, except for the connection to the country domain for city participants. Similar to age, there was insufficient data to determine whether differences exist in factors contributing to resilience based on locality. However, our synthesis of findings indicated that connection to the country may be more prominent for rural and remote participants.

4 | Discussion

4.1 | Key Findings and Implications

The aim of this systematic literature review was to identify the factors that positively or adversely influence resilience in school-age Australian First Nations children. Factors were predominantly positively influencing resilience and were found at various socio-ecological levels. Being at different socio-ecological levels emphasises the importance of considering the broader contextual factors when developing resilience-focused programs for Australian schools. Programs will be doing youth a disservice by continuing to solely focus on individual factors, such as boosting self-esteem. This sentiment is shared by Miller and colleagues who stated that a 'focus on the contextual environment within which resilience is developed is crucial... and it is by developing the ecologies of resilience that wellbeing can be supported' [16]. Our review also identified that all factors could be mapped onto at least one SEWB domain or could be classified as a social determinant. This highlights the importance of Australian schools considering the SEWB domains when conceptualising student wellbeing and developing and/or implementing resilience-focused programs. Finally, various definitions and operationalisations of resilience were utilised in the articles that included them, and there was insufficient data to determine if there are differences in factors depending on the age and location of participants. The implications of these findings are discussed in the Section 4.3 below.

4.2 | Limitations

The lack of available peer-reviewed literature was a major limitation in conducting this systematic review. To overcome this, we did not limit studies by design so that we could have an appropriate number of articles make it past screening. However, this meant that a meta-analysis could not be performed on the synthesised data as it was a combination of qualitative and quantitative, and from a variety of measures. The Western-biased, and at times completely lacking, conceptualisations of resilience were also problematic. Five articles did not include definitions for resilience, yet made claims on the relationship between factors and resilience [35, 40, 44–46]. It is therefore unknown the framework these authors were applying when conceptualising resilience. Furthermore, all qualitative studies failed to locate the researcher and address their influence on the research, and therefore these articles lacked an acknowledgement that in the case of differing cultural backgrounds, authors may not appropriately conceptualise resilience and the experience of included participants.

Another limitation is that factors influencing resilience were inferred by authors of some of the included articles and authors of this systematic literature review. Resilience was inferred based on the relationships between factor/s and outcome/s by the authors of the three included articles. By including these studies, this systematic literature review accepts the claims that resilience was demonstrated due to relationships between academic self-concept and school outcomes [44]; academic self-concept and various outcomes [46]; suspensions, intact family and father's education, and being at academic risk [33]. Similarly, this systematic literature review has accepted Oliver and Excell's [35] assumption that participants have resilience and therefore that observed factors are factors of resilience. By including factors influencing resilience from these articles, this systematic literature review has incorporated factors not directly and clearly measured, and therefore conclusions should be interpreted with caution.

Authors of this systematic review also inferred factors influencing resilience from responses to items in four articles. For example, items that positively correlated and loaded to the resilience factor in the Strong Souls tool were included as factors [40]. The second author renamed items to become factors, for example, 'you know lots about white fella ways' became 'knows whitefella ways' and 'you are a good son/daughter' became 'good son/daughter'. As stated in the methods, the authors do not identify as Aboriginal and/or Torres Strait Islander and therefore nuances may have been overlooked. Similarly, the authors completed the mapping of factors to SEWB domains and social determinants, and therefore this systematic literature review acknowledges that there are limitations due to the inability to fully understand participant experiences.

4.3 | Future Research

The limited number of articles on factors influencing resilience for school-age Australian First Nations populations and the limitations of the included studies highlight the need for further research in this area. Specifically, research into primary school-age children is required to enable a better understanding of potential age differences in building resilience. It is important that further research is also conducted into the definitions of resilience from Australian First Nations peoples to guide the development of culturally appropriate measures. It would also be beneficial to research how to best develop programmes that support the development of resilience through influencing factors at various socio-ecological levels and SEWB domains. Expanding on current research into this area would also provide an opportunity for a meta-analysis of influencing factors to be conducted.

5 | Conclusion

Despite limitations, this systematic literature review underscores the imperative for further research on resilience among school-age Australian First Nations populations, emphasising the value of utilising a SEWB framework. The factors identified in the 13 included articles demonstrate the variety of influencing factors, spanning individual, interpersonal and community levels, encompassing various domains within the SEWB framework. Overall, this highlights the necessity for wellbeing and resilience-focused programmes in Australian schools to address broader contextual factors and tailor interventions to accommodate the cultural background of their students.

Author Contributions

Sara Parsafar: conceptualisation, Writing, Reviwing, Editing, Supervision. **Lydia Brodie:** conceptualisation, Writing – original draft, Editing. **Robert Heirene:** conceptualisation, Writing, Reviwing, Editing, Supervision.

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Disclosure

The Open Science Framework (https://osf.io/4jwk3/; date registered: 25 October 2022) before data extraction began.

Ethics Statement

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.