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Childhood Builders – Operationalising Resilience Frames and Tools Evidence Review Report (Draft 1.0)

Title:	**Childhood Builders – Operationalising Resilience Frames and Tools Evidence Review Report**
Prepared for:	Thriving Queensland Kids Partnership (TQKP)
Prepared by:	Institute for Social Science Research (ISSR)
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Author contributions & acknowledgements	Lisa McDaid (LMcD) conceptualised the study and was project lead. Shannon Edmed (SE) was Principal Analyst and led the meta-review, analysing and interpreting the data. Jennifer Maturi (JM) led the environmental scan, analysing and interpreting the data. Ning Xiang (NX) contributed to the meta-review and initiated the conceptual metaphor. LMcD led overall synthesis of the results and devised and drafted the Report, with significant contributions from SE. JM and NX reviewed and contributed to the Report. All authors approve the final version. The project team thank Fran Donoso Rivas and Louis de Waal for contributions to the evidence review process, and Gina Nuttall for design of the visualisations.
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The Institute for Social Science Research at the University of Queensland (UQ) acknowledges the Traditional Owners and their custodianship of the lands on which UQ operates. We pay our respects to their Ancestors and their descendants, who continue cultural and spiritual connections to Country.

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List of acronyms

Acronym	Definition
AFWI	Alberta Family Wellness Initiative
APAFT	Australian Public Affairs Full Text Database
ARACY	Australian Research Alliance for Children and Youth
BPSE	Bio-psycho-socioecological
ISSR	Institute for Social Science Research
NGO	Non-Government Organisation
TQKP	Thriving Queensland Kids Partnership
UQ	The University of Queensland

Executive summary

Background

Resilience (broadly defined as the capacity to adapt or recover from the impacts of adverse events) plays a critical role in supporting individuals to thrive and meet their true potential. It features multiple components at the individual, family and community levels, and the capacity of the system itself to adapt to adversity. As such, applying a complex adaptive systems model enables consideration of how resilience can be derived, not just from separate and multiple, dynamic interrelated factors, but also how these operate within a connected whole. There is a need to think differently about how to intervene within the system to promote change, rather than on propagating simple, isolated programs to effect behaviour change. Yet, much of the conceptual literature on multi-system models of resilience point to issues around the ambiguity of definitions, study heterogeneity, and problems of measurement.

The Institute for Social Science Research (ISSR) partnered with the Thriving Queensland Kids Partnership (TQKP) to undertake a rapid meta-review of the evidence and provide advice on how to operationalise and implement resilience science within a bio-psycho-socioecological (BPSE) framework to improve child, youth, family, and community wellbeing in Queensland. The project sets out the context and contemporary challenges of this field and provides understanding of the potential for the application of such an approach.

A series of complementary activities were undertaken to address the research questions, including a rapid review of academic systematic reviews, which was supplemented with targeted grey literature searches and an environmental scan to identify existing, publicly available BPSE resilience science frameworks in Australia and selected jurisdictions (New Zealand, the UK, and Canada). The meta-review included 31 studies: 14 systematic reviews and 17 conceptual reviews; and the environmental scan covered 21 resources. Applicability in the Queensland context was addressed through consultation with the Project's Expert Reference Group to inform recommendations on the future priorities and actions for operationalisation.

Findings

Three research questions were addressed, and key insights are highlighted below for each. A conceptual metaphor to support ongoing development of a BPSE resilience framework is presented, alongside issues of applicability in the Queensland context.

How has resilience science been applied as part of a BPSE framework in the context of improving child, youth, family and community wellbeing?

- There was no one overarching definition of resilience in the literature reviewed.
- There was convergence in the literature for a conceptualisation of resilience as a multifaceted construct that operates as a dynamic process, specific to a given context and time in place.
- When assessed across the six levels of the BPSE framework employed in the review (individual, family, peers, schools, community, and society), the breadth of evidence was skewed to the individual, and to a lesser extent, the family.
- There remained limited evidence for the application of resilience across the life course.

What examples are there of systems-wide or specific BPSE resilience science frameworks in jurisdictions within and similar to Australia?

- The meta-review literature proposed multi-system approaches, but there was little evidence provided for actual implementation.
- The environmental scan did uncover examples of systems-wide and specific resilience science frameworks, but none were without problems, which pointed to issues of translating theory into practice.

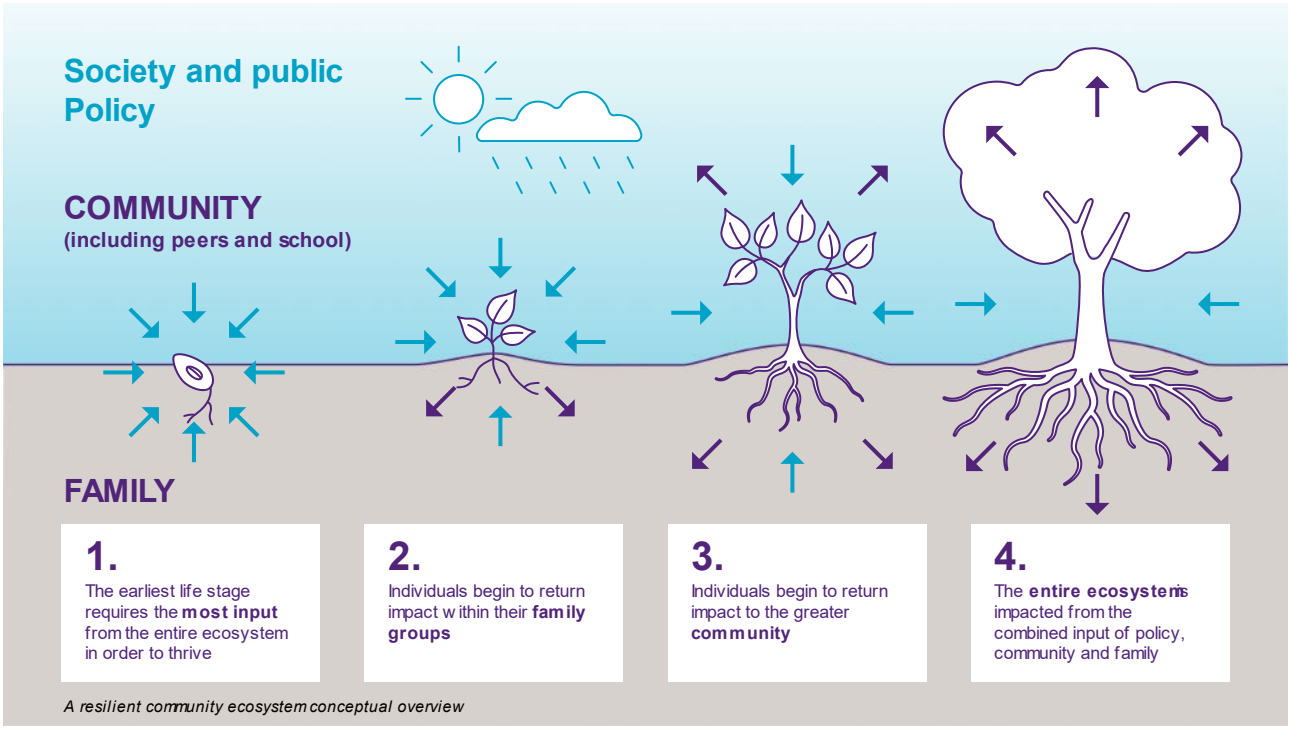
- The examples demonstrated the ‘messiness’ and complexities of the lives of individuals and communities and the dangers of ‘sameness’ in hegemonic models that aim to implement a ‘one size fits all model’.

How have BPSE resilience science frameworks been operationalised as system-level interventions?

- The meta-review identified issues related to the fidelity of implementation, contexts and culture, and outcomes and measurement, as well as how such frameworks can or should be deployed across and within systems.
- The evidence review revealed that while a broad definition of resilience can be employed, interventions within a systems-level framework will need to be adapted and tailored to specific groups.
- There was limited attention to systemic inequalities such as poverty or racism, or adapting resilience models to be culturally appropriate.
- The impacts of resilience have to be understood in the context of multiple systems that interact, in multiple ways, and often at the same time.

Operationalisation of a BPSE resilience framework for Queensland

A conceptual metaphor for the BPSE resilience framework is proposed to present the complex resilience ecosystem. It draws on a seed (the child) that sprouts and grows when it is situated within fertile soil (an analogy for the family) that is nourished from the sun, rain, and clear air (depicting the community and society). Metaphorically, this interacting process depicts the bidirectional interaction between the child and their environment, as well as depicting the intergenerational and life course transmission of resilience. It demonstrates the multiplicity of opportunities in the resilience ecosystem for programs to intervene and supports a shared vision for people, organisations and sectors to work together on creating an optimal and resilient ecosystem for children to thrive.



A resilient community ecosystem conceptual overview

Consideration of the applicability of a BPSE resilience framework in the Queensland context drew on drew on expert knowledge of the Queensland eco-system, framed in the context of the six systems levers employed by TQKP.

- **Concerted leadership**: highlighted the need for a new approach to leadership and building up leadership capacity within communities. There was a collective sense that things need to be done differently – to try new things, be creative, agile, and innovative.
- **Smarter investment**: identified a need for a cohesive vision for investment, a reimagining of funding models and financial support for cross-sector and cross-agency collaboration, with appropriate investment in resourcing the related relational aspects of the framework required.
- **Engaged public and communities**: emphasised that the starting point was the need for the inclusion of First Nations perspectives; approaches should be authentic and ongoing, and responsive to the actual needs of communities, with all marginalised groups engaged in co-design to draw on lived experience.
- **Stronger workforces**: recognised that a strong workforce was integral to delivering on a BPSE resilience framework, but that sectors and systems are already overworked. Resilience of workforces needs to be reinforced and putting theory into practice is not just about doing a one-off training course.
- **Integrated delivery**: reflected the wide use of the term resilience across sectors in Queensland and the potential for definitions to become confused or lose resonance. A need for a 're-valuing' of practice was proposed to draw out existing skills and approaches and increase relevance to the professionals tasked with action.
- **Putting data, evidence and learning to work**: stressed all of the work to implement a BPSE resilience framework needs to be embedded in the application of sound data, evidence and learning. The data collected are required to be relevant and useful and shared ethically, through systems developed that are designed to capture the complexity of projects in implementation. Sovereignty over First Nations data must be considered.

One of the key findings of the review was that the outcomes were disparate, difficult to measure, and poorly defined. Greater conceptual clarity around how outcomes are defined and measured in the context of resilience is required and the Nest is well situated as an established wellbeing framework to align efforts to define, measure, monitor and evaluate program and policy efforts to support resilience. There may also be benefit in linking with the Harvard University Center on the Developing Child's Resilience Scale. Further development requires consideration of the theoretical underpinnings of resilience initiatives and strategies and codesign of measures that are appropriate to these.

Recommendations

A BPSE resilience framework comes with great potential for the TKQP. It presents an opportunity to act as a unifying thread bringing together existing initiatives already framed within the context of resilience. It is not a straightforward task, and the operationalisation and implementation of the resilience framework requires further work to account for the complexity of the system in which it will be bound. Six overarching priority areas for future action are proposed to inform future operationalisation and implementation of a BPSE resilience framework in Queensland.

Priority 1: Ground the BPSE resilience framework in, and privilege, First Nations knowledge and perspectives

This should be considered a pre-requisite for any further operationalisation of the conceptual framework by TQKP. Going forward, there should be ongoing engagement with First Nations groups and communities and efforts to ensure that specific activities under the Framework that affect First Nations peoples and communities are Indigenous-led where possible.

Priority 2: Capture complexity and context within an ecological and evidence-informed life course approach

The evidence review has demonstrated the complexity of the issues at hand. The very development of a BPSE resilience framework requires engagement with complexity and recognition that systems are dynamic. It cannot be assumed that what works in one setting or context will translate so effectively to another and further work is required to understand how to employ a life course perspective.

Priority 3: Focus on integration and relationships across all levels and levers in the system

The drivers of wellbeing and factors promoting resilience are interlinked and operate across levels of aggregation, including individuals, families/households, institutions, and within communities, while impacted by state and national policies and the global geopolitical climate. While individual characteristics, behaviours, and attitudes play important roles in shaping experiences and outcomes, it is the larger contexts and systems that people are embedded within that truly shape outcomes. Yet currently evidence for solutions is skewed and greatest in volume at the individual and family levels. There is a clear need to consider how to reach beyond the individual in implementation and evaluation of a BPSE resilience framework.

Priority 4: Leverage existing and emerging policy and practice in Queensland and beyond

The current policy and practice environment in Queensland is primed for implementation of a BPSE resilience framework and there is potential for such an approach to support other initiatives across government and sectors. It would be beneficial to leverage from existing and emerging policy and practice rather than always seek to create anew. Attention should also be paid to the capacity and capability of existing services and providers to implement a BPSE resilience framework.

Priority 5: Cultivate child- and community-led approaches and prioritise the voices of people and places to meet needs

The success of a BPSE resilience framework will be determined by the people and places it seeks to support. This is best achieved by engaging with children, young people and their families and communities from the outset and throughout. Robust co-design can enhance understanding of context dependencies and improve implementation and, while approaches will depend on the programs being developed alongside practical constraints on time and resources, it can ultimately lead to better outcomes.

Priority 6: Experiment in application, implementation, and evaluation to support innovation and impact towards a shared vision of resilience

The TQKP is encouraged to experiment. Transformative systems change is a process requiring multiple actions from multiple stakeholders over time and across scale. It requires trialling and testing new initiatives, while being willing to fail. The evidence review demonstrates that there is no definitive approach to follow, but there is plenty to start to build upon.

1. Background

The Institute for Social Science Research (ISSR) partnered with the Thriving Queensland Kids Partnership (TQKP) to undertake an evidence review and provide advice on how to deploy resilience science within a bio-psycho-socioecological (BPSE) framework. The project entailed a rigorous and pragmatic approach to review existing evidence of conceptual frameworks that use resilience science in the context of child, youth, family, and community wellbeing to inform how TQKP can develop and implement a conceptual model of resilience in the Queensland and Australian context.

Given the timescale available to complete the work, the project centred on a rapid meta-review of systematic reviews, supplemented by an environmental scan and targeted grey literature review to provide a valid, reliable, and robust evidence synthesis in a timely manner. The ISSR Project Team worked with TQKP and their networks to consider the available evidence and inform recommendations for the onward development and implementation of a BPSE resilience framework by TQKP.

1.1 Thriving Queensland Kids Partnership

The Thriving Queensland Kids Partnership (TQKP) is working to 'catalyse systems to change the odds for Queensland children and young people to thrive'. Its purpose is to bring people, organisations, and sectors together around this shared vision to facilitate collaborative action, innovation, and development to challenge the unequal experiences and impact of adversity and vulnerability on children and young people in Queensland. This vision requires systems reform, better co-investment, connection, and integration of services, as well as work in place and with community to enact child, youth, and family wellbeing initiatives.

The systems approach employed by TQKP and used in this evidence review recognises the levers requires to shift systems as:

- Concerted leadership
- Smarter investment
- Engaged public and communities
- Stronger workforces
- Integrated delivery
- Putting data, evidence and learning to work

Currently, there is a focus on 10 key initiatives that are led or supported by TQKP. This evidence review forms part of the Childhood Builders Initiative, which is designed to further links between ARACY's The Nest framework (ARACY, 2014; Goodhue et al., 2021) and resilience and systems leadership frames and tools. TQKP is already well engaged with the concept of resilience, and it is core to their mission. This commitment is evident in the programs and frameworks that ARACY and TQKP have established and are developing and supporting, and in the partnerships that they have initiated with experts in the field, such as the Alberta Family Wellness Initiative (AFWI) and the Center on the Developing Child at Harvard University.

Initial consideration of these models informed the development of the evidence review scope. The potential alignment of a TQKP BPSE resilience framework with existing models employed by TQKP is also considered in Section 4.2.2.

1.2 Why resilience?

Resilience is broadly defined as the capacity to recover quickly from difficulties and entails people's capacity to adapt to, anticipate and absorb the impacts of adverse events. In understanding the concept of resilience, it is important to note that some evidence, but not all, is specific to the experiences of children and youth and wellbeing, but much draws from the context of disaster preparedness, management and recovery, which is

beyond the scope of this review. The concept is further complicated by varying definitions, with it employed as an individual characteristic, as a process, and as an outcome (National Scientific Council on the Developing Child, 2015).

Early childhood is a time of significant and essential brain development, but the experience of adversity and disadvantage can impact on this negatively, with long ranging impacts across the life course (Center on the Developing Child at Harvard University, 2016). While broad, multifaceted approaches are required to address the complexity of these experiences (see Section 1.3), it is acknowledged that resilience plays a critical role in the support of individuals to thrive and meet their true potential. In this sense, resilience is understood to feature multiple components, including individual capacity to adapt to, and recover from, stress, trauma and threats thereof; the means by which resources to resist adversity are harnessed by children, their families and communities; and the capacity of the system itself to adapt to adversity (National Scientific Council on the Developing Child, 2015).

As noted earlier, TQKP is already well versed in the approach of the AFWI and their work undertaken with the Center on the Developing Child at Harvard University. The latter's research on mobilising neuroscience – *The Brain Story* – and the 'science of resilience' and 'science of hope', to shift system, organisational and service level frameworks and outcomes is informative. Briefly, it uses science to drive new ways of working, striving to make it actionable and accessible. For example, the Center on the Developing Child has developed a range of tools and guides and a knowledge translation process that focuses on providing practical and clear advice to drive and implement science-based innovation in real-world settings.

Alberta Family Wellness Initiative

The Alberta Family Wellness Initiative (AFWI) was created by the Palix Foundation (the Foundation), a private foundation in Alberta, Canada to facilitate knowledge mobilisation of developmental neuroscience, behavioural neuroscience, genetics, and epigenetics as it relates to child development, addiction and mental health. Over the past decade, the Palix Foundation has invested approximately $85 million Canadian dollars to disseminate this knowledge to a broad range of policymakers, practitioners, and the public in Alberta, as well as in other jurisdictions, most notably across Canada, in the United States (U.S.), the United Kingdom (U.K.) and Australia.

The Foundation drew on the work of the National Scientific Council on the Developing Child, the Center on the Developing Child at Harvard University, and the FrameWorks Institute, who set up an interdisciplinary group of scientific experts to synthesise and translate brain science research into a narrative story form using metaphors. These metaphors, known as the "Brain Story", make brain science concepts accessible to a wide range of audiences. Through AFWI, the Foundation invested in developing and supporting processes and initiatives to catalyse positive change in policy and practice based on this knowledge.

Drawing on the Brain Story knowledge as the fundamental key ingredients in the AFWI model, AFWI engages and collaborates with a wide variety and number of change agents and leaders from across health, education, justice, human services, business, academia, and different levels of government. AFWI endeavours to shift individual and collective beliefs, attitudes, and behaviours across sectors.

To this end, AFWI developed a range of strategies and activities (see Gagnon, 2022 and Tilghman et al., 2020 for the detailed theory of action). For example, AFWI developed a Brain Story Certification Course; supported a change agent network; facilitated translation of knowledge to practice through the Change in Mind initiative; and undecase study development and dissemination initiatives.

To contribute to the evidence base, AFWI has documented their key practices and initiatives, and completed program evaluations, including a developmental evaluation (Tilghman et al., 2020), which is drawn on in the environmental scan below.

1.3 Bio-psycho-socioecological frameworks

There is a growing body of literature on frameworks that seek to frame resilience as a multi-dimensional concept with reach across intersectional eco-systems. Much of this draws on Bronfenbrenner's ecological systems theory, first proposed in 1979 for the understanding of human development (Ungar et al., 2013). The theory has evolved over time, and in use, but is broadly employed to demonstrate the influence on the individual from (and to) the microsystem, mesosystem, exosystem and macrosystem (grouped together here as a BPSE framing). The review's approach recognises that there are characteristics of, and protective factors for, resilience at the intra-individual level (physiological and biological characteristics), the interpersonal level (psychological features that can be learned and developed over time and are influenced by family, friends and our encounters), and the socioecological (capturing both the influence of environment and the context of people's lives) (Liu et al, 2017).

This review has drawn upon the work of Michael Ungar, who has published extensively on the topic (see e.g., Ungar et al, 2013). It has also been informed by the integrative systematic review from Llistosella and colleagues (Llistosella et al, 2021). In addition to being included in the meta-review, the latter's visualisation of a conceptualisation of resilience within a BPSE framework is drawn on in the presentation of this Report's findings. The work by Ungar et al, included as a conceptual study, presents a compelling narrative of the challenges and opportunities in the study of resilience within a systems framing. In particular, it points to evidence that while resilience conceptualisations have grown to recognise that there is no one single or independent driver of resilience, much of the literature still centres on the individual. However, when considering how to promote positive development, they note that the individual is not necessarily the most important locus for change within a system and instead there is "a need to think about multiple systems at multiple levels at the same time" (Ungar et al., 2013, page 352).

Applying a complex adaptive systems model enables consideration of how resilience can be derived, not just from separate and multiple, dynamic interrelated factors, but also how these operate within a connected whole (Rutter et al., 2017). It accounts for individual characteristics and experiences, the influence of people's immediate and proximal environments through families, friends and schools, and also the broader social context within which people live, but also accounts for the interconnections between these and the components within a system that bind and weave them together. It points to the need to think differently about how to intervene and about how to change components of the system to promote change within it, rather than on propagating simple, isolated programs to effect behaviour change.

Much of the conceptual literature on multi-system models of resilience point to issues around the ambiguity of definitions, heterogeneity in the study of resilience, and problems of measurement. This presents complexities for organisations that are seeking to operationalise and implement resilience across systems. Hence, the need for this evidence review to specifically inform how resilience could be applied as part of a BPSE framework to improve child, youth, family and community wellbeing in Queensland and Australia.

1.4 Review questions

The complexity of the resilience concept and the breadth of evidence to be drawn from informed the development of a rapid review to address the following review questions:

1. How has resilience science been applied as part of a BPSE framework in the context of improving child, youth, family and community wellbeing?
2. What examples are there of systems-wide or specific BPSE resilience science frameworks in jurisdictions within and similar to Australia?
3. How have BPSE resilience science frameworks been operationalised as system-level interventions?

1.5 About this report

This Report describes the review undertaken to address the above research questions. It describes the overarching methods employed across the meta-review, environmental scan and in preparing recommendations for the operationalisation of a BPSE resilience framework by TQKP. It sets out the parameters and scope of the project, the evidence sources included, and the methods employed to analyse and synthesise the results. It presents the results of the evidence review through the key learnings in terms of the application of resilience science and their application in systems-wide, BPSE frameworks. The Report concludes with a note of review limitations and sets out the actionable recommendations for future operationalisation and implementation of a BPSE resilience framework in Queensland.

2. Methods

Two complementary streams of enquiry were employed to ensure a comprehensive yet pragmatic review of relevant evidence. Table 1 outlines the in-scope parameters, which framed the activities of the project.

Table 1. Parameters and scope of the project

Parameter	In scope	Out of scope
Rapid evidence review	Resilience science as conceptualised, applied or operationalised within a BPSE framing to improve child, youth, family and community wellbeing	Comparison of resilience science frameworks with alternative conceptual models (e.g. studies examining just one component of the BPSE model will be excluded)
	Academic systematic reviews and limited, relevant grey literature	Capabilities literature
	Outcome/focus must include child and youth wellbeing*	Studies of adverse experiences and events without a resilience conceptualisation
		Studies of non-wellbeing outcomes
Stakeholder engagement	Establishment of Expert Advisory Group for (i) identification of relevant evidence sources for consideration, (ii) participation in operationalisation workshop	Survey of stakeholders
	Invitation from TKQP to submit evidence of examples of the application of BPSE resilience science frameworks in organisations' policy and practice for consideration for inclusion	Review of undocumented evidence of examples from stakeholders

*Recognising that TQKP is primarily focused on the health, development, safety, and wellbeing of all Queensland children and young people, but is also interested in the context of family and community wellbeing within the review; both family and community sit as levels within the BPSE model. BPSE = Bio-psycho-socioecological.

2.1 Rapid meta-review

A rapid systematic search of the literature was undertaken to identify systematic review studies examining resilience science in the context of children and young people's wellbeing, as contextualised within a BPSE framework that had been published since 2008.

2.1.1 Inclusion/exclusion criteria

To be eligible, a review article had to meet the pre-defined inclusion criteria described in Table 2. All literature searches were limited to publications in the English language from 2008.

Table 2: A priori inclusion/exclusion criteria for the meta-review

Parameter	Inclusion	Exclusion
Population	Children and young people (aged 0-21 years)* Families and communities (where children and young people are the primary beneficiaries) Australia and similar jurisdictions: Canada, New Zealand, United Kingdom	Studies restricted to adult populations All other countries (unless included in systematic review studies)
Exposures	BPSE resilience science frameworks	Individual-level resilience frameworks
Context	Adverse or traumatic events: poverty, interpersonal violence, adverse childhood experiences, family problems, natural disasters (including climate change), war, pandemics, economic crises	Pathological condition, e.g. chronic illness, serious disease
Outcomes	Child, youth, family and community wellbeing	All other outcomes
Study type	Peer-reviewed Systematic reviews (academic literature) Peer-reviewed theoretical/conceptual and methodological studies	Narrative reviews Original research reports Opinion pieces Case reports Books/book chapters Theses Evaluation reports

Note. BPSE = Bio-psycho-socioecological.

2.1.2 Search strategy

The search strategy used for this rapid meta-review involved searching seven databases: PubMed, Web of Science, Scopus, Sociology abstracts, Social science database, Australian public affairs full text (APAFT), PsycINFO. The key terms for the search strategies relate to (i) resilience, (ii) BPSE models/frameworks, (iii) children and young people, and (iv) systematic reviews (for academic literature only). A full list of the included terms is shown in Appendix Table A-1. The identified terms were translated to MeSH terms and

Thesaurus of Psychological Index Terms (for PsycINFO). No filters were applied to the searches, with the exception of 'peer reviewed' for the APAFT database. The search strategy for each database is presented in Appendix Table A-2. The identified databases and the search terms and strategies were developed in close consultation with an expert librarian. The final search was conducted in July 2023. The stages of data selection, screening, and identification are presented in Figure 1.

2.1.3 Screening and study selection

All articles identified were downloaded into EndNote and duplicates were removed. After deleting duplicates, articles were uploaded from EndNote into Covidence, where additional duplicates were removed. Covidence is a systematic review product tool designed to improve efficiency and transparency of maintaining systematic reviews. Covidence was primarily used with the selection (screening) and extraction phases of the project. In the first step, two independent reviewers completed the title and abstract screening. Discrepancies were resolved via discussion at intervals during the screening process to facilitate calibration for subsequent screening. Discrepancies were resolved by SE. Three reviewers completed the full-text screening of articles, with calibration occurring throughout the process led by SE and LMcD.

2.1.4 Extraction

Data extraction forms were developed, piloted, and then transferred to the data extraction tool in Covidence. Reviewers NX and SE extracted data independently, with meetings to calibrate the approach as needed. Basic data were extracted on study identifier (first author, year); study type, risk contexts (e.g., adversity/traumatic events); outcome conceptualisation; and sample details (number of participants, age, population groups, as appropriate). Specific fields were used to address the review questions, by mapping the multidimensionality of resilience science as it has been applied as part of a BPSE framework (e.g., across the intra-individual, interpersonal, and the socioecological levels).

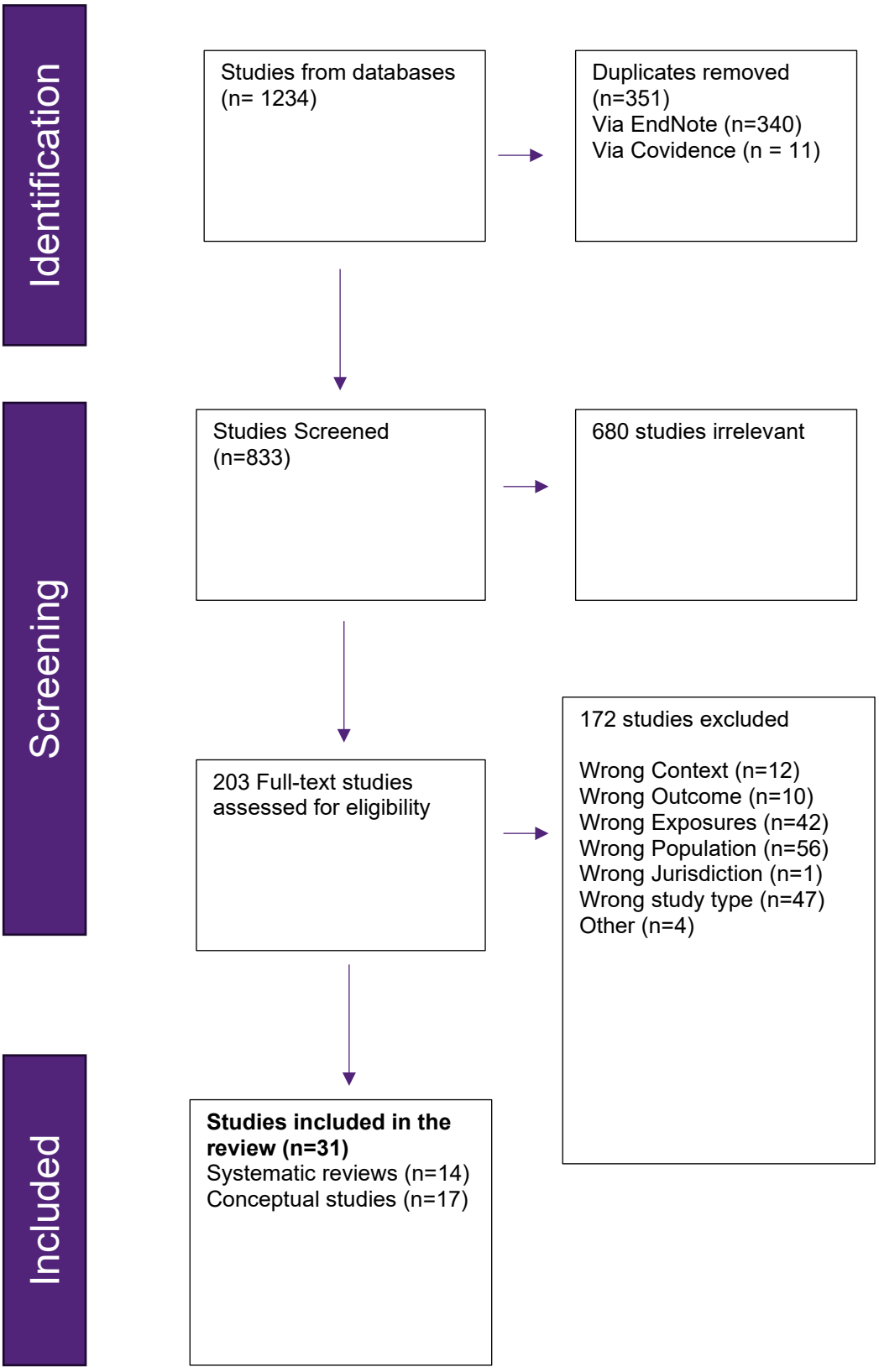


Figure 1. Flow diagram of the search, identification, screening, and inclusion process

2.2 Environmental scan

The meta-review was complemented by an environmental scan to rapidly identify existing BPSE resilience science frameworks that are publicly available and in use in Australia and selected, comparable jurisdictions (New Zealand, the United Kingdom, and Canada). The environmental scan comprised a mixture of organisational websites, government policies and grey literature – reviews of programs or reports commissioned by organisations.

2.2.1 Desktop review

The desktop review began with an appraisal of the existing and emerging programs and frameworks already identified and supported by ARACY and TQKP: ARACY's The Nest, the AFWI model, and work of the Center on the Developing Child at Harvard University.

A desktop search of relevant sources was then conducted, including:

- Targeted search of Australian Commonwealth, States and Territories Government Department websites for relevant current policy documents
- A review of websites of selected Australian organisations identified by TQKP and the Expert Reference Group for examples of the application of BPSE resilience science frameworks
- Google, using advanced search features that allowed a focused search for additional examples from the selected jurisdictions included (i.e., First 10 pages confined to .edu, .org, .gov, co.uk and ac.uk sites)
- Other relevant documentation supplied by TQKP and the Expert Reference Group for the purpose of the review and that met the inclusion criteria

2.2.2 Expert submissions

TQKP and the Expert Reference Group were invited to identify relevant sources for consideration for inclusion. TQKP extended an invitation to their network to submit documented examples of the application of BPSE resilience science frameworks in their organisations' policy and practice for consideration. As a rapid review, the search strategy was dictated by the speed at which websites and search catalogues could be navigated. Where sources were difficult to navigate promptly and did not return many relevant items in the first five search attempts, they were abandoned.

3.2.3 Extraction

An extraction form was developed to document the environmental scan. Data were organised across categories, including definitions of resilience, outcomes conceptualisation and measurement, the risk adversity context being addressed, and how frameworks or models were conceptualised. Based on Llistoella et al.'s (2021) model, interventions aiming to mobilise or address resilience were organised across six points of activity at the level of the individual, family, peers, schools, community and society/policy.

A total of 21 sources were scanned, including organisation's websites, government policies, and reports (see Appendix Table A-3).

2.3 Operationalisation workshop

The final phase of the project aimed to inform recommendations and priorities for the future operationalisation and implementation of a BPSE resilience framework by TQKP.

2.3.1 Purpose

The purpose of the workshop was to facilitate the Expert Reference Group to reflect on the evidence review findings presented and, drawing on their expert knowledge, consider its applicability in the Queensland and Australian context.

2.3.2 Participants

Participants were primarily identified from TQKP's existing network and purposely selected because of the relevance of their work or organisation to the project. Effort was taken to ensure representation from across the academic, government and not for profit sectors, with particular attention given to supporting First Nations representation. Participants who could not attend in person were invited to submit suggestions via email. A full list of participants is included in Appendix Table A-4.

2.3.3 Methods – World Café

The face-to-face workshop employed a World Café methodology, involving concurrent multi-layered small group discussions with participants.

Attendees were provided with an initial presentation of the key evidence review findings and selected case examples on how resilience has been defined, conceptualised, and operationalised as part of BPSE frameworks, paying particular attention to operationalisation issues raised across systems.

The following discussion was framed by three groupings of the six system levers employed by TKQP:

- Concerted leadership / Engaged public and communities
- Putting data and evidence to work / Smart investment
- Strong workforces / Integrated delivery

For each of the above, participants were invited to consider what actions are required within each lever to support operationalisation of a BPSE resilience. Two framing questions were used:

- What actions are required to operationalise and implement a resilience framework for your organisation?
- What actions are required to operationalise and implement a resilience framework in the broader Queensland eco-system?

This method facilitates the inclusion of multiple perspectives and consensus building around a topic as participants move between groups and build on the discussions of others. All participants discussed all six levers.

Discussions were facilitated by members of the TQKP Leadership Team and suggestions were recorded on butcher's paper/'post-its' by the ISSR Project Team. Suggestions were later tabulated for review and analysis and used to inform recommendations for priorities and actions for future operationalisation of a BPSE resilience framework (see Section 4.2.3).

2.4 Analysis and synthesis

In the first step of the synthesis, protective and promotive factors that were extracted from the systematic reviews were categorised into the a-priori defined levels of the BPSE system (i.e., the individual, family, peer, school, community, and societal/policy level). It was noted where the systematic reviews greatly diverged from the pre-defined classification of factors into levels (e.g., where some reviews conceptualised a certain factor as belonging to a differently named level). In keeping with the strengths-based orientation, only promotive or protective factors and positive environments and contexts across the system were synthesised. Step two of this synthesis involved extending on the work of Llistosella et al.'s (2022) integrative systematic review, drawing together the research on resilience in children and young people across a range of risk contexts across the BPSE system (i.e., individual, family, peer, school, community, and societal/policy).

The third stage of synthesis drew together evidence from the meta-review, conceptual literature and the environmental scan into an integrative analysis and the results presented below demonstrate where and when issues relevant to the BPSE resilience system were evident in each.

Finally, the review's integrative analysis was combined with summaries of the actions proposed in the operationalisation workshop, to form priorities and recommendations for the future implementation of a BPSE resilience framework by TQKP.

3. Results

3.1 Overview

The meta-review included 31 studies: 14 systematic reviews and 17 conceptual reviews (see Figure 1). Together, the systematic review studies analysed 646 primary research studies. The general characteristics of the systematic reviews and conceptual reviews are presented in Appendix Tables A-5 and A-6). The environmental scan included 21 resources (Appendix Table A-3). In the results that follow, the review questions are addressed by describing: the definitions of resilience employed; application of resilience across within BPSE frameworks; and operational issues. Evidence gaps are noted throughout. Evidence from across the meta-review and environmental scan is drawn on as appropriate, with relevant examples of systems-wide or specific BPSE resilience frameworks in practice provided where possible.

3.2 Definitions of resilience

Much of the conceptual literature on resilience points to issues around the ambiguity of definitions (Appendix Table A-5). This ambiguity was also recognised in the systematic review literature. Most studies recognised the lack of consensus for the definition of resilience, and the historical evolution of the concept from a trait-based factor or an outcome, to a more dynamic process.

Given that resilience is often conceptualised as an outcome, definitions of the outcome and the term resilience were sometimes used interchangeably across the included reviews. Specifically, the operationalisation of the 'resilient outcome' (i.e., how resilience outcomes are measured) not only varied across the systematic reviews included in the meta-review, but also within each systematic review. This lack of conceptual clarity is reflective of the how definitions continue to be a contested issue in the literature. In our included reviews, the outcome of good mental health received the highest level of convergence, along with adaptive functioning. Although the outcomes across the review were variously defined, the meta-review's inclusion criteria limited the scope of these results such that they fall within the broader domain of wellbeing. Conceptualisations of resilient outcomes in the wider literature are likely to be much broader.

That said, given the intent of TQKP to improve child and youth wellbeing, it is logical to define resilience as a process leading to such an outcome as opposed to an outcome per se. In this meta-review, where the scope of studies included conceptualisations of children as interacting within a socioecological system, the definitions of resilience converged (i.e., common definitional themes emerged across the majority of studies) to represent a more contemporary view of resilience as a multifaceted construct that operates as a dynamic process, specific to a given context and/or time, rather than as a stable characteristic of individuals. For example,

> "the process by which individuals draw on personal characteristics and resources in their environment to withstand and negotiate adversity – a dynamic process across contexts and over the life course" (Gartland et al, 2019, page 2).

This definition of resilience as withstanding or adapting to adversity was also observed in the environmental scan. Here, 'resilience' was almost always defined as 'positive adaption' – individual coping skills and the ability to bounce back after a setback, traumatic event, or adversity, which can be learnt and built up by everyone. Of note, was a particular focus on positive relationships with at least one adult (ideally a parent),

and reducing or removing toxic stress, adversity and trauma in the early years. Building resilience was often viewed as creating intergenerational change, and therefore improving the conditions for individuals, family, community and society at large over time:

> "Early intervention to improve the lives of children reduces the prevalence of social problems later in life and generates huge savings in public spending. There is also a wide range of international literature which demonstrates the long-term savings associated with the provision of intervening early in the lives of children who may be at risk of not meeting developmental milestones and of providing parents with additional support to provide a positive home learning environment." (McLure Watters, 2015, page 3).

The extent to which impact across the life course can be evidenced is questionable and will be returned to later in Section 3.4.

It is also important to consider the risk and adversity contexts for which resilience is framed. As Patterson (2002) pointed out:

> “An effort is made to distinguish two perspectives on resilience: exposure to significant risk as a prerequisite for being considered resilient versus promotion of strengths for all families in which life in general is viewed as risky” (p.233).

For the most part, the systematic reviews and conceptual literature defined risk and adversity as explicit to specific experiences, such as child maltreatment and abuse or forced displacement. A smaller number employed broader definitions of social adversity (see e.g., Gartland et al., 2019; Vaughn & DeJonckheere, 2021; and Llistosella et al., 2022) and two focused specifically on climate change and natural disasters (Ma et al., 2022 and Mohammadinia et al., 2018). This is important to consider when framing resilience within a conceptualisation of systems-level interventions. In considering how to increase resilience and improve wellbeing, it is necessary to reflect on the breadth of experiences and contexts that will impact on a given individual.

It is also necessary to consider how conceptualisations of resilience will need to evolve further to capture the context of living in an increasingly uncertain world (as noted by Ma et al., 2022 with respect to escalating climate change). This broader systems perspective is necessary to enable due consideration of cultural contexts (see Case Study 1 for an example of this in practice). This is particularly important in the Australian context when considering how intergenerational trauma and inequalities resulting from ongoing colonising and racist practices could inhibit resilience as positive adaption. The conceptual literature included also demonstrates that while a broad definition of resilience could be employed, there is “no one size fits all” and interventions based on a resilience framework will likely need to be adapted and tailored to specific groups, such as those who have been forcibly displaced, experience war, or extreme weather events. Consideration of the specific experience of adversity in these contexts, and the different ways in which resilience could be employed as a result, is necessary (Jiang et al., 2022).

Case Study 1: Perspectives on Childhood resilience among the Aboriginal community: An Interview Study

Connection to culture, as a socio-cultural model, was discussed as important to resilience in young people from Indigenous and culturally diverse backgrounds. A report by Young and colleagues (2016) from the Centre for Urban Aboriginal Child Health and Australian National University discussed ways First Nations Australians understand resilience and employed empowerment as a concept to engage cultural knowledge to heal communities and provide positive role models for parenting and families. The study found that some First Nations participants thought of resilience as a 'necessary endurance' - while some people can learn resilience and build it through positive experiences, people who continuously face adversity, for example children of alcoholics, just “have

it in them" and persevere to succeed and support others in the family and the community. Additionally, however, in a context of the adversity faced by Australia's First Nations peoples many participants thought that resilience was a choice:

"Many participants perceived Aboriginal children's resilience as being the ability to endure discrimination and family adversities and make positive choices despite these challenges" (Young et al., 2016, p. 15).

In this way resilience is not necessarily a strength but a means of survival. The need to constantly be resilient was discussed as a facade that First Nations young people had to project, which was exhausting and hindered the achievement of personal goals.

Finally, of note is that while resilience within a BPSE framing was conceptualised as targeting change in systems, such as health, children's services, justice, and education, both the meta-review and environmental scan observed that strategies aiming to build resilience were still often aimed at the individual, rather than systems change itself. This is considered further in the next section.

3.3 Application of resilience in bio-psycho-socioecological models

The six points of intervention used to analyse the convergence of resilience over the BPSE framework was adapted from Llistosella et al.'s (2021) systematic review. In this way, the meta-review builds on this work, and broadens the generalisability of findings (see Appendix Table A-7 and Figure A-1 for the meta-review results). The six points of intervention are at the level of: the individual; the family; peers; schools; education; the community; and society (encapsulating culture, social norms, public opinions, policy and other structural inputs).

The systematic reviews included in the meta-review considered protective factors as relevant based on their own criterion (e.g., Llistosella et al. considered factors with a statistically significant association at the $p<.05$ level as relevant), whereas this report summarised the evidence from the systematic reviews (i.e., the factors considered as relevant by that review). In this way, the reported factors do not necessarily collate all factors as identified from the original research studies included in the systematic reviews, but in some cases may represent a synthesis of those studies. From these results in Table A-7, findings were synthesised into a BPSE conceptualisation of resilience factors as operating within a dynamic system. The conceptualisation depicts the interacting influence of the accumulation of risk factors and the influence of BPSE resilience factors on the resilience process (Appendix Figure A-1).

Broadly, the conceptualisation shows that the BPSE resilience factors, including adaptive skills, cognitions, behaviours, and emotions at the individual level, and the positive experiences from family, peers, and within school and community environments, can buffer or counteract adversity to produce positive outcomes. The model also illustrates that there has been less research effort at the community and societal domains, although there was convergence for supportive relationships at each of the peer, school, and community levels, demonstrating the predominance of further relational elements across the BPSE system.

A brief overview of the evidence at each level is provided next.

3.3.1 Individual level

Overall, the synthesis of these results into the conceptual model shows that the breadth of research into individual-level domains and factors outweighs other levels of the BPSE system. The individual-level also encapsulated a wide range of different factors in of itself, including biological and genetic, communication, cognitions, behaviours and emotions. Those with the greatest convergence across reviews were within the categories of intelligence and cognitive abilities, trauma related beliefs, coping skills, self-regulation, and self-esteem.

In the environmental scan, understandings of how an individual develops resilience were often adapted from frameworks such as the Early Years, focusing on intervening in the years from birth (sometimes pregnancy) up to 3-5 years. Approaches at the point of the individual were child centred and 'trauma informed' – 'what happened to you' versus 'what's wrong with you' – and aimed to, for example, support children to fulfil their potential, thrive, and live happy and productive lives (A Great Start for Queensland's Children, State of Queensland Department of Education, 2020). Those organisations mobilising 'brain science' had a similar model of resilience as the early years, aiming to remove toxic stress and adversity to improve children's wellbeing and inform intergenerational change. In considering a systems approach to intergenerational change, however, interventions only aimed at the individual, and which largely operate through organisations and NGO's who support children and families, divert attention and resources away from challenging the broader structural inequalities that maintain disadvantage and the capacity for marginalised communities to mobilise.

3.3.2 Family level

At the family level, the model shows that there is a greater convergence of findings across core domains of parenting quality, family support, and family cohesion and connectedness. This reflects what is known about the importance of supporting responsive relationships in building resilience across the lifespan. In the environmental scan, programs were almost always aimed at parents, drawing from underpinning theories from brain science and attachment theory, which focus on the relationships and bonds between people at different stages of life. These early relationships and bonds in turn influence a person's sense of self and their ability to form bonds and attachment to others. Strategies mobilising resilience aimed to engage parents in support around parenting practices and skills, from pregnancy, post-natal and in the early years, usually up until 3-5 years, although some extend to adolescence. The AFWI, for example, aimed to disseminate knowledge about 'brain science' to parents themselves (as well as professionals supporting parents):

> "At its heart, the work of AFWI is about providing individuals—including parents, educators, health professionals, and policymakers—with knowledge about the importance of healthy brain development during the early years and from an intergenerational and life course perspective to support lifelong mental and physical health and wellbeing. The theory of change posits that learning this knowledge will shift individuals' mental models and mindsets about early childhood, brain development, and the factors that may lead to poor mental health and addiction, and that this shift is a necessary precursor to behavior and practice change." (Tilghman et al., 2020, pp. 4).

Changing mindsets is an important feature of systems change.

It is unlikely that any systems-wide approach to resilience would exclude a focus on the family level, but there were some exceptions to strategies targeting parenting practices in the environmental scan, noting the unfair burden a focus on parenting can create for parents who might be experiencing difficulties themselves. For example, rather than directing their work at parents, Emerging Minds aim to improve the capability of services to support parents. Emerging Minds recognise structural inequalities across five themes: intergenerational disadvantage, substance use, mental illness, trauma, and family and domestic violence. Intergenerational disadvantage is about inequalities, but it is also about support systems and coping mechanisms:

> "A structural approach to intergenerational disadvantage recognises that the parent is not responsible for their experiences of adversity; societal inequity is. It also helps practitioners to be curious about the strategies that parents have used in the past to overcome structural disadvantage." (Emerging Minds, https://emergingminds.com.au/).

Emerging minds offers training to professionals that increase their capacity to support parents through providing practice tools developed around strengths-based practice, cultural competency, and community-oriented resources for non-professionals.

3.3.3 Peer level

There was less evidence for peer level components in the BPSE model, but those that did feature centred on relational factors, such as peer support and connectedness. This is perhaps not surprising given the predominance of foci on the child in the early years but is important to consider as children age and peers become a greater influence over their lives. The reviews contained scant detail on the features of peer support, with it often framed within a broader conceptualisation of social support. In the meta-review, Ma et al. (2022) did provide specific examples of support from friends and peers as protective in the context of climate change events and where its absence can lead to greater psychological distress. Likewise, peers were rarely mentioned across the organisations and programs reviewed in the environmental scan. Where included, it was often in reference to friendships and bullying in the contexts of schools. Triple P, for example, views peers and friendship groups as a sign of resilience, suggesting that better confidence and resilience leads to better social skills and an ability to form friendships. A lack of peer relationships, bullying, or a failure to form meaningful friendships and connections were viewed as risk factors alerting to low resilience.

Jongen et al. (2020) provide examples of peer-based resilience-enhancing intervention for Indigenous adolescents in Canada, Australia, New Zealand, and the United States and this is an area worthy of further research within a systems-perspective (see Case Study 2 below). Much could also be drawn from the broader peer-led health improvement field in this respect, where there is evidence for reducing risk behaviours through peer-led intervention (see, e.g., Campbell et al., 2008).

Case Study 2: Boing Boing

Boing Boing (Resilience Research and Practice), an organisation in the UK, focused on the wellbeing of children by ensuring their immediate needs are met through addressing systemic inequalities and by mobilising community through a grass roots, activist approach.

Boing Boing define a socioecological systems approach as creating a just and fair world where everyone can thrive:

"Looking beyond what can be done to help individuals (which is still an important thing to do), and identifying ways in which the environment people live in can better support them, as well as finding ways to reduce difficulties in the first place."

Of the role of peer relationships in building resilience, Boing Boing say:

"For young people who face major challenges, taking part in community projects and social action may be even more successful than traditional services in improving our mental health. The Boing Boing Foundation is therefore working to bring together young people and our allies in Blackpool to form an Activist Alliance; a collective looking to learn, teach, organise, campaign, fund and disrupt to make change big and small on the issues affecting us and our communities."

This demonstrates the potential role of peers within a BPSE framework that goes beyond the individual-level.

3.3.4 School level

School is a crucial place and setting for the development and delivery of interventions to children and young people. Again, there was less evidence for school level components in the BPSE model but reflects the predominance of foci on the family and early years. Gartland et al (2019) do focus on school factors in their systematic review but note that these were only covered under two contexts: poverty and parental illness. The factors themselves covered student and school environment factors, with evidence for effect of

academic engagement, commitment to school, and a supportive school community. This is an under-researched area in the studies of resilience science partially due to the fact that the concept of resilience is regarded as one of the educational outcomes in the literature of educational psychology (e.g., Skinner & Pitzer, 2012) and has yet to be integrated by the resilience scholarship.

There was evidence from the environmental scan to suggest that schools were generally considered to be safe and inclusive spaces where children could build resilience. Public Health England (2014), for example, recognised the important role of schools in building resilience:

> "Schools, as universal free services that play an important role in the development of children for at least 11 years of their lives, have an opportunity to increase the resilience of the students they teach, their families, and the wider community…..Actions to increase resilience can be targeted at different levels – they can aim to increase achievements of pupils; to support them through transitions and encourage healthy behaviours; to promote better interpersonal relationships between people – particularly parents or carers and children; and to create more supportive, cohesive schools that support both pupils and the wider community." (Public Health England, 2014, p. 15).

Given that there is less evidence of how to mobilise resilience in schools in both the meta-review and the environmental scan, there is a need to test and adapt existing models. One example of implementing the BPSE resilience framework in schools was a locally led program in Queensland, "Pathways to Resilience" (Case Study 3).

Case Study 3: Pathways to Resilience

Pathways to Resilience is an organisation that provides workshops and programs to early childhood education centres and schools, aiming to promote brain science knowledge to professionals and families to improve the wellbeing of children. Pathways to Resilience posit a theory of change that suggests increased knowledge and awareness of neurobiology will improve children's wellbeing over time, and thus lead to stronger families and communities. They advocate that by embedding neuroscience in practice and/or parenting "workplaces and families will provide a predictable, consistent response to children".

The workshops focus on introducing knowledge about the brain and brain health to young people, and aims to build children and young people's self-awareness of their emotions, their capacity to self-regulate, and to build meaningful connections with others. The Pathways to Resilience theory of change relies on adults to model and teach social regulation skills, and the organisation suggests that they 'hold space' for adults undergoing training to engage in reflexivity and explore their own stressors and triggers that might lead to dysregulation or barriers to forming meaningful connections. Pathways to Resilience suggest that the success of outcomes depends on the length of engagement, and offer ongoing training, coaching and mentoring; as a fee for service model, the model is limited to training engagements with those who request it and the time they can afford engage.

While experimenting with different models, as discussed throughout this report there is a need to be mindful of those groups who might be missed or excluded, or who might face unintended consequences as a result of policy and service implementation. Hence the need for experimentation to be combined with robust evaluation.

Given the focus on the early years, Childhood Early Learning Centres and Kindergartens are more of a focus than on schools for distributing knowledge on resilience and brain science. Organisations who work from a model of community hubs, or place-based community models, were more likely to discuss early childhood interventions and making early childcare more accessible through adequate funding. Early Childhood centres can meet local needs and fill a gap in services. A Great Start for Queensland's Children, for

example, suggest a focus on interventions through early childhood providers and increasing participation in kindergarten as a means of building a positive base of wellbeing.

3.3.5 Community level

In reviewing the evidence at the community-level, there was convergence across domains reflective of the community environment itself (i.e., neighbourhood cohesion and safety and security) and of the relationships within communities (i.e., social connectedness), with both found to be protective (see e.g., Gartland et al., 2019). Elsewhere community disruption and breakdown were reported to have a negative effect on resilience (in the context of climate change events) (Ma et al., 2022).

In the environmental scan, 'community' was rarely mentioned in relation to strategies for mobilising resilience. Yet, most of the interventions operated through services, such as non-governmental organisations, which in theory are community-based or minded, and often employ methods modelled on community development practices (see again Case Study 2). Place-based interventions were discussed in some examples, however. One example is the Australian Department of Social Services "Communities for Children" program. The program is a place-based model of investment supporting children and families in 52 disadvantaged communities across Australia. The program funds primary organisations, such as Save the Children, to work with other organisations in the community called Community Partners to provide services targeted to their community. Examples of community partners might be local football clubs or community associations. Communities for Children employ an early intervention approach that supports families to improve their relationships with each other, improve parenting skills, and ensure the health and wellbeing of children. Services are tailored to meet local needs, and can include services such as parenting support, group work and peer support, case management, home visiting, community events and life skills courses. While situated at the community level, this is a good example of a systems approach. Another example, drawing on the concept of 'community hubs' is provided below (Case Study 4).

Case Study 4: Micah Projects

Micah Projects propose a funding model to host community hubs, based on The Nest. Micah Projects is an NGO supporting individuals and families who are homeless or at risk of homelessness, and often come from low socioeconomic backgrounds.

In addition to housing instability, the clients Micah supports might experience a range of issues such as mental health, substance abuse, and/or domestic and family violence. Micah Projects note that their clients "live in constant fear of child safety" and promote interventions that foster a sense of trust and partnership between families and services, rather than punitive, top-down interventions. Micah Projects promote an equitable approach to 'community', acknowledging and focusing on those who are vulnerable and often invisible through building peer and family networks, strengthening community connections, and reducing social isolation.

The environmental scan identified few examples of programs that aimed to engage and mobilise community from the ground up. Exceptions were Indigenous organisations, such as The Urban Centre for Aboriginal Health (see Case Study 1), which suggested a need to employ Aboriginal-led community programs to foster resilience in children (and work with parents and caregivers to enhance their resilience and ability to support the child).

3.3.6 Societal level

There was also convergence across some factors identified at the societal/policy level, which in particular demonstrated the importance of cultural identity as associated with resilience. This is essential in the

Australian context and for engagement with First Nations peoples. The Jongen et al.'s (2020) review of resilience-enhancing intervention for Indigenous adolescents in Canada, Australia, New Zealand, and the United States notes that most employed culturally-based approaches (six of the 16 included studies were from Australia and could be explored further for relevance to the planned TQKP approach). Llistosella et al. (2021) note ethnicity and migration as a risk factor to building resilience, but there is a lack of articulation of how attributes such as indigeneity, ethnicity or migration are risk factors.

There appears to be a lack of attention to addressing the systemic inequalities that constitute risks to resilience. As well as poverty, racism and colonising practices, other examples include mental health issues, housing and homelessness, substance abuse, and domestic and family violence. Addressing the root causes of disadvantage is not easy but should still be kept in mind when building resilience. Beyond Blue, for example, note the need to maintain focus on both:

> "While it is preferable, in theory, to prevent or remove adversities that are detrimental to children's development, it is not always possible in practice. Therefore, you should seek to build children's resilience while also addressing the source of adversity where possible. It is also generally easier to build resilience than to prevent adversity." (Beyond Blue, 2017, p. 15).

Finally, there was a surprising lack of focus on social and public policy as a potential protective factor for resilience in the reviews included in the meta-review, suggesting this is an area that has received little attention. This is despite systems-level interventions being designed to implement a specific model across systems levels, including policy. The reviews included in the meta-review appear unable to provide guidance here. Alternatively, there is evidence for policy-driven, targeted approaches from the environmental scan. The Nest (ARACY, 2014; Goodhue et al., 2021) and the AFWI are good reflections in this case for their efforts to implement models across all services and systems supporting children and parents. The AFWI, for example, focuses on knowledge translation, aiming to "catalyse positive change in policy and practice based on this knowledge rather than on ideology or long held (false) cultural beliefs" (Gagnon, 2022, p.430). For instance, one such long held cultural belief is that genes determine fate, which has been proven wrong by the brain studies – as 'the brain story' highlights, it is the interaction between genes and lived experiences that influence risk and vulnerability to adversity. As such, the AFWI put effort into changing organisations through shared language and knowledge of 'the brain story' by both 'top down' and 'bottom up' means. That is by addressing policy, organisations, and the knowledge and skills of front-line workers. The approach aims to be multidisciplinary and advocates cross sectoral partnerships. The work from the Harvard Centre for the Developing Child is another example, which aims to create more responsive systems through policy that considers the critical role of relationships in promoting healthy development, supportive parenting, and economic productivity.

New Zealand's Child and Youth Wellbeing Strategy is another policy example (see Case Study 5 below), but it lacks detail on implementation, which will be discussed further in the next section.

Case Study 5: The Child and Youth Wellbeing Strategy in New Zealand

Aimed at improving the circumstances of children and young people, recognising the impacts of adversity and toxic stress such as socioeconomic background, domestic and family violence, and substance abuse. Based on the early years framework, the strategy aims to support families to parent better by addressing systemic issues. The strategy has a focus on the wellbeing of communities, not just the economic growth of the country. There is a particular focus on Indigenous culture and addressing systemic racism and discrimination.

1. It provides a common direction and requires accountability across government so that broader social, environmental and economic policies work better together to drive change and enable collective effort, including more locally driven solutions.

2. It places priority on addressing the significant inequities experienced by Māori children and young people and improving services and support for all those with greatest needs.

3. By committing to achieving wellbeing for all children and young people, and regularly reporting on progress, it creates an environment where informal networks and the family and whānau closest to the child can demand change and accountability.

The Child and Youth Wellbeing Framework in New Zealand notes the failure of previous government efforts and policies to achieve similar goals aimed at reducing societal inequalities. This previous failure is put down to a 'fragmentation of effort' and people working in silos to address disparate issues.

The Child and Youth Wellbeing Strategy promotes transformative change and removing barriers to working together in government, across governments and organisations, and with communities. However, there are a lack of guidance for how to implement these ambitious goals, how it will be funded, and who is going to do the work.

3.4 Operationalisation issues

To address the final review question on how BPSE resilience science frameworks have been operationalised as system-level interventions, this section presents evidence from the meta-review and conceptual literature and summarises findings from the environmental scan. First it describes the evidence for deployment of frameworks across and within systems. Then it introduces important concepts impacting on operationalisation at a system-level: fidelity of implementation, contexts and culture, and outcomes and measurement.

3.4.1 Deployment across systems

To uncover underlying theories and assumptions about how resilience science frameworks are meant to work at service, program and system settings, relevant information from the systematic reviews about how evidence was intended to be deployed was synthesised (i.e., where focus was suggested to be concentred at different level of the BPSE system and through what mechanisms – i.e., research, intervention development, practice, and/or policy). Operationalisation issues identified, and/or relevant commentaries of systems level application of resilience science in the meta-review are presented in Appendix Table A-8.

Appendix Table A-8 shows that the systematic reviews included in the meta-review suggest that the evidence and model/framework development is best used to inform clinicians' practice (Afifi & MacMillan, 2011; Domhardt et al., 2015; Kalaf & Plante, 2020; Vaughn & DeJonckheere, 2021), future research and model refinement (Domhardt et al., 2015; Ma et al., 2022; Mohammadinia et al., 2018; Vaughn & DeJonckheere, 2021), intervention and program design (Eruyar et al., 2018; Gartland et al., 2019; Jongen et al., 2020; Llistosella et al., 2022; Sleijpen et al., 2016), and policy planning (Mohammadinia et al., 2018; Sleijpen et al., 2016). Most studies recognised that the deployment of this evidence should be applied across levels of the BPSE system (e.g., Eruyar et al., 2018; Gallagher & Miller, 2018; Garcia & Birman, 2022; Gartland et al., 2019; Jongen et al., 2020; Llistosella et al., 2022; Sleijpen et al., 2016; Yule et al., 2019) with only one systematic review concentrating their advice primarily at the individual level (i.e., Domhardt et al., 2015).

However, none of the included systematic reviews commented upon ways of actually implementing a systems approach to resilience science. Some studies did recognise the potential in operationalising resilience science at system levels, such as within school systems (Yule et al., 2019) and via increased coordination among services and schools (Yule et al., 2019), as well as among international, national, and local NGOs (Eruyar et al., 2018). It was also acknowledged that a systems approach that is ecological in orientation is needed, with particular emphasis on structural and community-level change (Vaughn & DeJonckheere, 2021). Similarly, Kalaf and Plante (2020) argued that working within an eco-systematic

approach (or, as framed in the meta-review, a BPSE approach) is important in order to avoid perpetuating the reproduction of inequality and marginalisation when the burden of resilience is placed on the individual alone. Rather, because a BPSE conceptualisation emphasises that resilience is a dynamic process, mediated by individual characteristics and environmental/structural factors, solutions can be implemented at systems level for broader population-level gains, that at the same time could decrease risk of further stigmatisation, blame, and marginalisation of those experiencing disadvantage. That said, there is little evidence from the meta-review of how to put this into practice.

Likewise, while the conceptual literature proposes multi-system conceptualisations of resilience, there is less evidence of their successful implementation or of what works, for whom, in what circumstances (see Appendix Table A-9). It does, however, provide useful consideration of how to move towards implementation. It also demonstrates the complexity of doing so in practice.

Returning to the broad definition of resilience as a dynamic process described earlier, it is useful here to consider the implications of this from a systems perspective. For example, Ungar et al. (2013) note that:

> "resilience is not a characteristic of any single level of a complex system (neither the individual nor the institutions around them), but instead a dynamic attribute of the relationship between each element." (Ungar et al., 2013 p.350).

They go on to note that "a need to think about multiple systems at multiple levels at the same time." (Ungar et al., 2013, p. 352), and caution that flexibility is required to understand resilience across diverse contexts, with greater emphasis on the interaction between systems than the individuals within these. From this perspective, drawing on a BPSE framework in understanding resilience, and in framing how such a conceptualisation can be employed to improve child and youth wellbeing, is appropriate. Ungar et al offer three principles to consider:

- Equifinality – whereby the proximal processes of environmental interactions could be just if not more influential on outcomes than individual characteristics and biology. As such there is a need to capture complex, systemic interactions across the micro-, meso-, and macro-systems and "a 'decentred' understanding of resilience in which changing the odds stacked against the individual contributes far more to changes in outcomes than the capacity of individuals themselves to change." (Ungar et al., 2013, p. 357).
- Differential impact – whereby resilience has to be understood as highly contextual and interacts with the actual experiences of adversity. In this sense a measure known to be effective at the population level, such as promoting self-efficacy, could have a different effect on an individual facing adversity.
- Cultural moderation – whereby individuals' actions will always be driven by cultural practices and their beliefs and values. In this context, "behaviour, culture and biology interact in a manner that is adaptive to the ecological and sociopolitical context in which individuals live." (Ungar et al., 2013, p. 359). This has implications for how approaches and frameworks found effective in one context are adapted and applied in another.

Consideration of the three principles provides a way forward for future operationalisation of a BPSE resilience framework that is able to centre on factors that are amenable to change from a systems perspective and in the context of the lived experience of those affected.

3.4.2 Deployment within systems

The conceptual literature paid particular attention to the need to engage all stakeholders in the development and application of BPSE resilience frameworks in practice within system levels. Of particular importance here is engaging with children, young people, and their families. As noted by Racine et al. (2022) (in the context of child maltreatment):

> "To understand what interventions work, for whom, and under what circumstances, we must collaborate with the individuals, organisations, and systems in which resilience processes unfold" (Racine et al., 2022, p. 210).

Others noted the need to respect the agency of the children, young people, families and communities involved (see e.g., Scannell et al., 2016). While programs and approaches put in place do have to have a sound evidence base, without appropriate stakeholder consultation, there is always a risk of imposing the wrong intervention, at the wrong time, and in ways that are culturally unacceptable (Masten & Narayan, 2012). Masten and Narayan (2012) also note that there is a risk that naturally occurring resilience could be overlooked without effective co-design. Similarly, Garcia and Sheehan (2016) highlight that children are not passive victims of their experiences (here, in the context of extreme weather events), and that acknowledging and engaging with them will lead to better program design as well as outcomes.

A second operationalisation issue was raised by the environmental scan in terms of whether services and systems have the capacity and capabilities to implement the strategies proposed. Many of the organisations, policies and programs reviewed were aimed at building the capacity of the workforce through training to implement resilience and brain science. The context of government cuts to services, limited resources and capacity, low staffing levels, and a focus on efficiency and the need to do 'more work in less time' should be considered. Furthermore, many of the strategies aimed at implementing resilience promote strengths-based and trauma frameworks, which are resource intensive and require adequate training, time, supervision, and reflexivity to be effective (see also Russ, Lonne & Lynch, 2020).

As an example, Tilghman et al.'s (2020) evaluation of the AFWI model reported successful implementation across a range of organisations, including shifts in strategic direction and resource allocation, shared language, and changes to staffing. Success was reported where there was "clear leadership, less bureaucracy, and less people to move". Organisations most likely to report successful implementation were those who already worked with children and adolescents, or who followed a similar holistic model, such as social work or community development services. For larger services, such as the regional Alberta health service, the review found less "buy in" to create a unified response and concerns around translating knowledge, inconsistent application across different contexts, or for different groups of people with different backgrounds and skill sets.

3.4.3 Fidelity of implementation

A related issue concerns fidelity of implementation (that is, the extent to which a program or intervention is delivered as intended). The meta-review considered evidence for how resilience science had been applied in research within the context of BPSE frameworks, but not specifically on how it had been applied as an intervention or program to create change. This was the focus of one review (Jongen et al., 2020), which is worth considering further to inform operationalisation of a BPSE resilience framework in terms of understanding the fidelity of implementation. While Jongen et al.'s review (2020) describes the included programs' aims, activities and outcomes, it does not report how or if programs were delivered as intended. In the environmental scan, there were examples where services adapted or deviated from the intended purpose of the program in question. In Tilghman et al.'s (2020) evaluation of the AFWI model, it was noted that some services had turned their model, which can be used as a history taking tool to build rapport and relationships with clients, into a risk assessment tool to identity 'problem parents' and at-risk children. A review of the Sure Start program in the UK also found a lack of consistency across service delivery and the skills, qualifications, and the competency of workers delivering the various elements of the program.

This is an essential component of program development and evaluation, all the more so when these would be considered complex (as would be the case with a program of interventions delivered as part of a BPSE resilience framework to improve child and youth wellbeing) (see, e.g., Skivington et al., 2021).

3.4.4 Contexts and cultures

As has already been noted, it is important to consider the role of context and culture in the field of resilience science. In the development and evaluation of complex interventions, it is recognised that impact is highly dependent on context and driven by the social, cultural, political and economic features of the system (Skivington et al., 2021). Yet, the results of the meta-review highlight significant gaps in research, particularly at the community and societal levels of the BPSE system. The conceptual literature has also highlighted the need to consider cultural moderation and authentic engagement and co-design with those with lived experience.

The Environmental Scan shows that a 'one size fits all' model cannot allow for the unique needs, agency, and understandings of resilience that might differ across cultural groups. These are the same groups who are often identified as 'at risk' and might become targets, for example Indigenous peoples and people from culturally and linguistically diverse backgrounds. A focus on groups who are at risk, and implementing mainstream strategies, do not consider the strengths and resilience of those who might have overcome different obstacles and hardships. Indeed, some cultural groups might have different values, beliefs and practices when it comes to understanding parenting, family and community.

The Australian Human Rights Commission Report (2023) highlighted that maintaining strong cultural identities and connection to family were important for building resilience, but that young people faced tensions when identifying with their culture. All of the young people who participated in this study had experienced racism, mostly from adults in the community – this was most likely in schools, but also in the wider community. This recurring cycle of racism was reported to diminish their confidence and self-esteem and it has to be recognised as a barrier to resilience. However, it was not strongly featured in the evidence included in the meta-review (an alternative approach is presented in Case Study 6 below).

The importance of context and culture cannot be underplayed. Of note, the review by Jongen et al. (2020) does pay particular attention to cultural identity and connection and the importance of this for Indigenous youth wellbeing. It could be drawn on further in the future development of a culturally inclusive BPSE resilience framework.

Case Study 6: Family Matters

The Family Matters campaign focuses on the capacity of communities to build connection to culture, which in turn fosters parental and familial wellbeing.

They note that present measures of resilience do not consider intergenerational trauma that comes from a history of systemic abuse. Family Matters suggest that First Nations women are empowered by their identity as mothers, however the resilience that is built up through this process of empowerment and strong cultural identity is stripped from them through processes of child removal. There is more of a focus on child removal than supporting families, with wide ranging impacts on communities through intergenerational trauma.

The Family Matters Campaign calls for strategies concerning First Nations peoples to be Indigenous-led, and to establish and resource commissioners and peak bodies for Aboriginal Children in each state and territory to ensure accountability. Family Matters as an organisation offer reflective practice tools for organisations to deeply reflect on their practice on an annual basis and identify any strengths, challenges and corresponding actions to effectively implementing the six core principles of the campaign to ensure that Aboriginal and Torres Strait Islander children are safe, well and cared for in their families, communities and cultures.

3.4.5 Outcomes and measurement

The review found a lack of consensus in approach to measuring resilient outcomes. Conceptual clarity in the definition of resilient outcomes is needed to inform measurement approaches. The meta-review by its nature has collated and synthesised the breadth of review-level evidence available on how resilience science been applied as part of a BPSE framework in the context of improving child, youth, family and community wellbeing. It has identified the multiple resilience factors, including adaptive skills, cognitions, behaviours, and emotions at the individual level, and the positive experiences from family, peers, and within school and community environments that have previously been employed in the study of resilience. It is evident that there is not consistency in how resilience or its protective factors are measured. This was a particular feature of the conceptual literature reviewed, but also evident in the systematic reviews (e.g., Jongen et al., 2020 noted that only three of the 16 studies in their review used the same outcome measurement instruments).

Conceptually, this is an important consideration, particularly in judging how to employ measurement across systems and over the life course. It is recognised that multi-level resilience-based programs will be more difficult to implement, and also therefore more difficult to evaluate. There is no one standardised approach, causality is difficult to determine, and most methods cannot account for the multiplicity or cumulation of factors or the interactions between these factors (Hermann et al., 2011), and across levels of the BPSE system (Ungar et al., 2013).

Although the studies included used a BPSE framing, very few recognised a life course perspective. Such a perspective is important as children and young people's interactions within the system change over the life course, which point to the need for different approaches at different times and in different contexts. This in turn raises issues for how to approach measurement of ongoing and long-term change, particularly as the impact of adverse events can be long lasting (Jiang et al., 2022). This lack of longitudinal assessment has been noted as problematic elsewhere, whereby without measurement before and after a specific event, data collected is only a snapshot of one moment in time (see Liu et al, 2017).

However, it is not to suggest that future research and program designs should focus on trying to encapsulate all of the measures covered in this review or to seek alignment with one or other particular study. Rather, it is important to consider what is the theoretical underpinning of a given program (i.e., what does it seek to influence/change) and therefore what system levels and measures therein should be the subject of study (Skivington et al, 2021), alongside codesign of measurements of resilience, which are appropriate and acceptable to stakeholders.

4. Discussion

This Report has provided a detailed review of evidence to inform development of a BPSE resilience framework by the TQKP. Employing a rapid meta-review of the context and contemporary challenges of this field has provided understanding of the potential for such an approach and has captured insights to help inform operationalisation in the Queensland and Australian context. Key findings are summarised in accordance with the three questions that the review set out to address:

1. How has resilience science been applied as part of a BPSE framework in the context of improving child, youth, family and community wellbeing?
2. What examples are there of systems-wide or specific BPSE resilience science frameworks in jurisdictions within and similar to Australia?
3. How have BPSE resilience science frameworks been operationalised as system-level interventions?

The Report then presents a conceptual metaphor to support ongoing development of a BPSE resilience framework, considers alignment with other existing frameworks and systems perspectives employed by TQKP, discusses applicability in the Queensland context, and finally, provides recommendations on the future priorities and actions for operationalisation.

4.1 Addressing the evidence review questions

4.1.1 How has resilience science been applied as part of a bio-psycho-socioecological framework in the context of improving child, youth, family and community wellbeing?

The meta-review included 31 studies: 14 systematic reviews and 17 conceptual reviews; and the environmental scan covered 21 resources. Across these, resilience science had been applied as part of a BPSE framework in a multitude of ways and there was no one overarching definition of resilience. There was evidence of an evolution of the concept of resilience from a trait or outcome to a process, and there was convergence in the literature for a conceptualisation of resilience as a multifaceted construct that operates as a dynamic process, specific to a given context and time in place.

When assessed across the six levels of the BPSE framework employed in the review (individual, family, peers, schools, community, and society), the breadth of evidence was clearly skewed to the individual, and to a lesser extent, the family. There also remains limited evidence for the application of resilience across the life course. While application of resilience science at the individual and family levels is of course an essential part of the BPSE framework, the current evidence fails to address the further levels of the system, which exert an important, and possibly greater, influence on the wellbeing outcomes of children, young people and their families that can be potentially harnessed to influence population-level outcomes.

4.1.2 What examples are there of systems-wide or specific bio-psycho-socioecological resilience science frameworks in jurisdictions within and similar to Australia?

None of the included systematic reviews commented on how to implement a systems-approach to resilience science and while the conceptual literature proposed multi-system approaches, there was little evidence provided for actual implementation. The environmental scan did identify examples of what were proposed as systems-wide or specific BPSE resilience science frameworks in jurisdictions within and similar to Australia. However, none were without problems. The findings point to the complexity of translating theory into practice.

The examples provided demonstrate the ‘messiness’ and complexities of the lives of individuals, communities, and the operations of organisations who are targeted in strategies aiming to build the resilience of children and young people. The environmental scan highlights the dangers of ‘sameness’ in hegemonic models that aim to implement a ‘one size fits all model’, illustrating specific examples of where individuals or communities from different cultural backgrounds, such as Indigenous peoples or refugees and migrants, might not share the same histories, values and beliefs and therefore might face tensions when presented with what are inherently western models of parenting and wellbeing, and exacerbate tensions between cultural connection and pride, and policies of assimilation.

4.1.3 How have bio-psycho-socioecological resilience science frameworks been operationalised as system-level interventions?

A key finding from the meta-review and environmental scan is that there is “no one size fits all’ approach. The conceptual literature suggests that while a broad definition of resilience can be employed, interventions within a systems-level framework will need to be adapted and tailored to specific groups. As noted above, evidence for actual implementation is limited.

The environmental scan also points to the problem of the ‘implementation gap’, between the goals of governments and policy and how these are to be implemented in practice in often less than ideal contexts. There was limited attention to systemic inequalities such as poverty or racism, or adapting resilience models to be culturally appropriate. This is a particularly important consideration in the Australian context.

Finally, the evidence points to the complexity of operationalisation. The impacts of resilience have to be understood in the context of multiple systems that interact, in multiple ways, and often at the same time. Further work is required to operationalise a BPSE resilience framework from a systems perspective, that is grounded in the context of lived experience, implementable, and measurable, to fully understand what works, for whom, and in what circumstances.

4.2 Operationalisation of a bio-psycho-socioecological resilience framework for Queensland

4.2.1 Resilience builder – a conceptual metaphor

Based on the findings from the rapid meta-review and environmental scan, a conceptual metaphor for the BPSE resilience framework is proposed to present the complex resilience ecosystem and life course perspective in an accessible visual format. It has been developed by taking into consideration of a range of principles and theoretical perspectives, including those of Kendall-Taylor & Haydon (2016) for metaphor development (see box below).

> "An effective metaphor for communicating basic principles from the science of resilience needed to achieve the following:
>
> 1. Establish that resilience is an outcome or process, rather than a trait.
> 2. Direct attention to the broad array of contextual and environmental processes that influence developmental outcomes.
> 3. Communicate the interplay between genetic, biological, and environment processes in shaping resilient outcomes.
> 4. Inoculate against the notion that the resilient outcomes are the exclusive result of innate motivation and willpower and focus attention on the contextual processes that support positive development.
> 5. Allow people to see that resilient outcomes can be cultivated. "
>
> *Kendall-Taylor & Haydon, 2016, p. 579.*

The illustrative metaphor draws on a seed (the child) that sprouts and grows when it is situated within fertile soil (an analogy for the family) that is nourished from the sun, rain, and clear air (depicting the community and society) (see Figure 2). Like the natural environment, this resilience ecosystem interacts: the sprouting seed does not just receive inputs from the soil and environment, but it also converts the energy of the sun and water in the soil to produce oxygen, giving back to the environment. Metaphorically, this interacting process depicts the bidirectional interaction between the child and their environment, as well as depicting the intergenerational transmission of resilience.

This metaphor also illustrates the life course perspective, which is a critical but often overlooked element of the resilience process because of the way resilience operates dynamically over the life course. The life course perspective is illustrated by the stages of growth of the child from the metaphorical seed to the fully grown tree. In this way, the metaphor can communicate the unique needs of children at different life stages, which are particularly relevant to operationalisation in terms of intervention designing.

For example, a seed (the infant) contains hereditary genetic information, but it receives the conditions it needs to germinate and then root and sprout from within the soil (the family), which itself receives water needed to activate germination from rain (community and society) and nutrients from generational investment in its fertility. This suggests that at this life stage, programs targeted at supporting family in terms

of capabilities (e.g., parenting skills from community nurse programs) and conditions to thrive (e.g., policies for parental leave, social housing etc.) are appropriate.

As the seed sprouts, it receives greater direct input from the environment (community, including childcare and schools), suggesting that programs and supports can also be directed through early education, school, and service systems that are influenced by the policy context at the societal level. For instance, policies around public school funding, and transforming childcare workforce (e.g., via higher qualification, increased level of pay and thus sequentially higher professional status) would be of benefit to all children (while likely some way off in the Australian context).

As the child grows through adolescence and young adulthood, their agency increases and interactions within resilience ecosystems grow stronger, such that they can contribute to resilience building at a community level, and can thrive, enjoy life, and contribute to the whole of society as well as the next generation. Together, this metaphorical resilience ecosystem can represent a shared vision for people, organisations and sectors to work together on creating an optimal and resilient ecosystem for children to thrive.

In addition, this metaphor also has the capacity to include different types of adversities. Like human development, this reciprocal ecosystem can breakdown at a range of different points within the ecosystem, or interactions at these points. It suggests that not all children develop from fertile soil, the sun doesn't always shine, and there can be periods of drought. These points of breakdown in the ecosystem can act as metaphors for systemic inequality and disadvantage and poorly functioning systems of support. A range of analogies (e.g., introduction of pests) can also be used to depict how adverse events and risk contexts can threaten the balance of the ecological system. Adversities that are a threat to the ecosystem are conceptualised in terms of both high-risk events such as disasters or trauma, as well as daily challenges (e.g., finding a place to live or getting the next meal on the table).

The metaphor can be used in a variety of settings to communicate the interacting BPSE systems, and the relevance of their interactions and deployment across the life course, in a user-friendly accessible way.

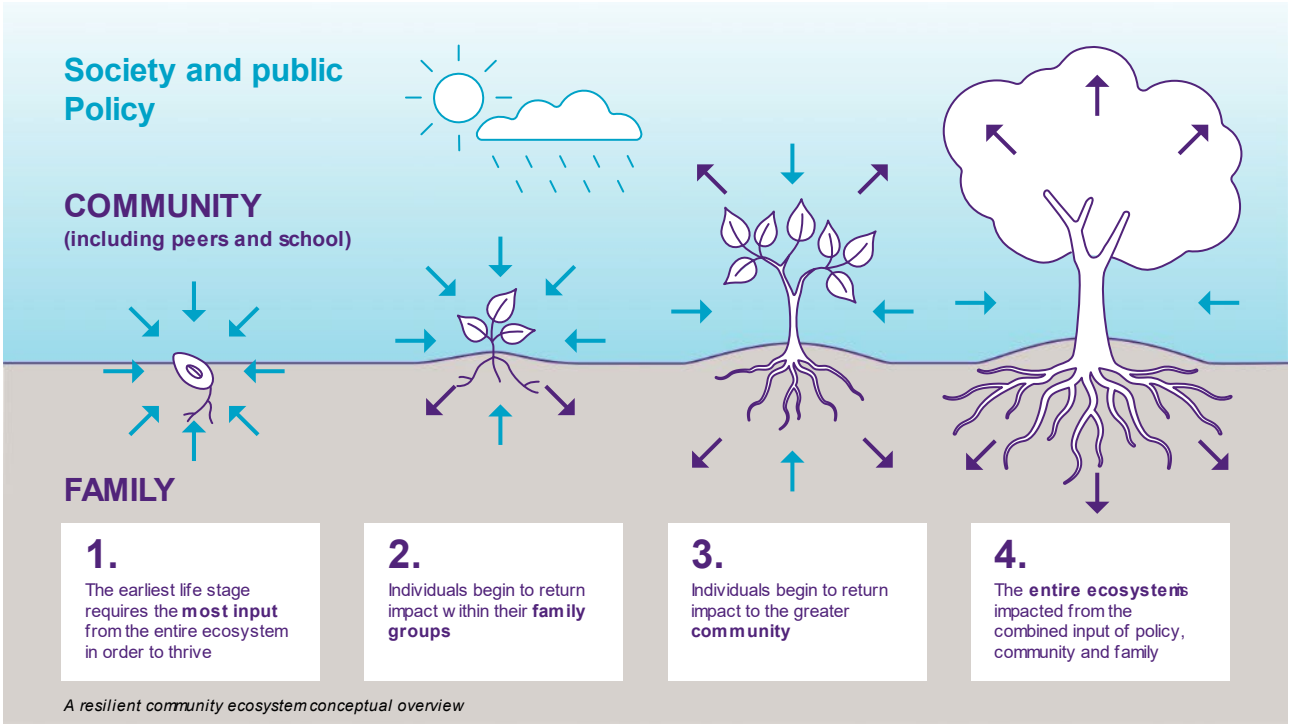


Figure 2: Resilience builder – a conceptual metaphor

4.2.2 Alignments with existing frameworks and systems perspectives

The Nest

One of the key findings of the review was that the outcomes were disparate, difficult to measure, and poorly defined. There is a clear need for greater conceptual clarity around how outcomes are defined and measured in the context of resilience. The Nest is well situated as an established wellbeing framework to align efforts to define, measure, monitor and evaluate program and policy efforts to support resilience. It conceptualises wellbeing across six interrelated domains that support children to achieve their potential: valued, loved, and safe; material basics; healthy; learning; participating; and positive sense of identity and culture.

We note consistency between the review findings and the Nest's six wellbeing domains. For example, the domain that children should be valued, loved, and safe, is reflecting in many of the relational factors (e.g., social support, connectedness) that were identified across the multiple layers of the BPSE system (i.e., family, peer, schools, communities). The domain of learning from the Nest is also reflected in our findings that schools operate as a critical environment for the expression of a range of protective factors (e.g., access to education, school engagement). A positive sense of identity and culture was also identified as a strong and consistent theme at the individual level and the societal level of the BPSE system in the meta-review. Finally, the meta-review also identified studies that detailed interventions that were designed to build resilience by targeting participation in civic activities, social justice activities, and involvement in community resilience building as protective factors following adversity. The alignment between the review findings and the Nest wellbeing domains suggests strong potential for linking these frameworks going forward.

The strength of linking The Nest and a BPSE resilience framework is the common theoretical alignment against the ecological framework. Tools based on The Nest framework, such as ARACY's Wellbeing Wheel for Children, can guide practitioners who work with children and families to have quality wellbeing conversations (as per ARACY's the Common Approach) about the resources and challenges across the ecological system in each of the Nest's wellbeing domains. Further alignment of the Nest and a BPSE resilience framework could also be used as a measurement and monitoring tool for programs, services, and policy, the need for which will be discussed further in Section 4.2.3).

That said, there are a few caveats to consider. Consideration of the alignment between the Nest and the domains of a potential BPSE resilience framework has been completed at a level of abstraction, rather than by direct comparison of actual measures and outcome definitions. In both framings, there is also an absence of measures addressing more systemic drivers, such as poverty and racism. Further development and alignment of the two frameworks requires consideration of the theoretical underpinnings of resilience initiatives and strategies and codesign of measures that are appropriate to these.

The Resilience Scale

The Center on the Developing Child at Harvard University communicates the resilience process using a metaphor of a balance scale, with protective experiences and supports (e.g., supportive relationships, community resources) and adaptive skills (e.g., skill-building, coping skills) on one side, and adversity (e.g., stress, violence, neglect) on the other side. To tip the scale toward positive outcomes (resilience), protective experiences and coping skills are needed to counterbalance the adversity.

The 'fulcrum' is an analogy of the biological make-up of a child and their individual differences, but the fulcrum is depicted as a sliding set point (i.e., it is not fixed). The accumulation of factors that load and tip the scale can shift the position of the fulcrum, which can also be more easily shifted at different points in an individual's life (e.g., during early childhood when brains are more malleable).

This metaphor can explain variation in children's resilience outcomes because of the variations in the ways that these adversities and experiences are loaded onto the scale, and the positioning of the fulcrum over-time. This explanatory metaphor of resilience reflects the findings of our meta-review, in that various BPSE

resilience factors, including adaptive skills, cognitions, behaviours, and emotions at the individual level, and the positive experiences (particularly relational experiences) and supports from family, peers, and within school and community environments, were found to buffer or 'counterbalance' the accumulation of adversity, to produce positive outcomes.

However, the extent to which the Resilience Scale perpetuates the focus on individual characteristics is worth considering. The meta-review highlighted risks inherent in focusing on individual characteristics in the resilience process in terms of reproducing inequality and marginalisation by further burdening individuals experiencing disadvantage or vulnerability. The evidence points to the importance of the resources and supports within the broader BPSE system as well. While the development of the Resilience Scale suggests inclusion of contextual influences through the idea that the environment and communities can 'add to the scale' on each side, this analogy does not necessarily depict the interactions between the levels of the BPSE system that the review evidence notes as significant.

Finally, although the Resilience Scale acknowledges life course considerations to some extent by depicting the fulcrum as a sliding set point that is more easily moved at different stages of the life course, there are other ways in which the life course is not considered where it may be important (e.g., the timing of experiences and supports across the life course), as emphasised in the Resilience Builder Ecosystem Metaphor proposed above.

As such, there may be benefit in linking the Resilience Scale with other tools and frames (which could include the BPSE resilience framework and the Resilience Builder Ecosystem Metaphor, subject to further testing and refinement). This could facilitate communication of the insights derived from this evidence review and support operationalisation of resilience science by creating a shared understanding of the complex and expansive body of evidence.

Queensland strategies and frameworks

In conducting the evidence review, it has become apparent that there are additional opportunities for aligning a new BPSE resilience framework with other strategies and frameworks already in place in Queensland. While beyond the scope of the project, potential alignment with Queensland Government strategies, such as the Communities 2032 Strategy, those informing disaster preparedness and recovery (e.g., Community Services Industry Alliance, 2023; Neighbourhood Centres Queensland, 2023), place-based approaches and initiatives, as well as strategies and frameworks specifically developed to address First Nations inequities, could be beneficial. This is reflected in the priorities for action set out below (see Section 4.3).

4.2.3 Applicability in the Queensland context

The second phase of the project engaged its Expert Reference Group in discussion of the evidence review findings to inform operationalisation in the Queensland and Australian context. The Group was invited to consider the evidence and suggest actions required for operationalisation, framed in the context of the six system levers employed by TKQP:

- Concerted leadership
- Smarter investment
- Engaged public and communities
- Stronger workforces
- Integrated delivery
- Putting data, evidence and learning to work

The experts drew on their knowledge of their own organisations and the wider Queensland eco-system in their suggestions. The key themes and areas for action raised are summarised and shown in Appendix Table A-10.

The six systems levers were useful to frame the discussion, but at the same time it was apparent that there is significant, potential overlap and interaction between these. This should be kept in mind when reviewing the themes and areas for action.

Concerted leadership

In considering the actions required for concerted leadership to implement a BPSE resilience framework, the experts discussed the need for a new approach to leadership and building up leadership capacity within communities. There was a collective sense that things need to be done differently in order to maximise the potential for a resilience framework. There needs to be space to try new things, be creative, agile, and innovative, and to allow people the flexibility and trust to fail. As one Expert Group member noted:

> "We just keep doing the same thing to be safe – we need data to learn, not only about what works, but also, probably more importantly, from mistakes."

The Expert Group also recognised the value of uplifting leadership within communities and talked of examples where this worked well, particularly in the context of First Nations organisations. However, there were also multiple examples of where opportunities for leadership in communities had been missed and a sense that the work of community leaders is often invisible or overlooked. The community may be consulted, but then final decisions are made elsewhere and without reporting back. This also spoke to the need for greater engagement with communities, which is discussed further below.

Smarter investment

The experts identified a need for a cohesive vision for investment, a reimagining of funding models and financial support for cross-sector and cross-agency collaboration to realise the potential of the proposed BPSE resilience framework. It was suggested that appropriate investment in resourcing the framework and related relational aspects of the framework would be needed (in terms of funding, time, and professional development) to reflect the true cost of change. Building on this, it was suggested that a different funding model that gave greater control to providers and communities would be required, as would breaking down silos to mobilise cross-sector investment (impact investors were suggested as a model to learn from). The experts noted that existing investments should be capitalised on and not discarded. Cross-sector and cross-agency collaboration was not considered easy, given silos and risk tolerance of funders, but seen as necessary for a systems-level framework to achieve potential.

Engaged public and communities

In discussing the importance of engaging with the public and communities, the starting point was the need for the inclusion of First Nations perspectives. The experts noted that any BPSE resilience framework for Queensland could not be developed and implemented without greater understanding of the experiences of Aboriginal and Torres Strait Islander peoples in the context of resilience. Alignment with existing polices and frameworks would be required, as would ensuring programs were grounded in and supported cultural safety within communities.

Reflecting the discussion on community leadership and investment, a number of ways of engaging communities and building up capacity were proposed. It was broadly recognised that approaches should be authentic and ongoing, and responsive to the actual needs of communities, with all marginalised groups engaged in co-design to draw on lived experience (with particular note for the need to include children and young people's voices). Caution was noted in that communities need support to build capacity and supported to work collectively rather than compete for limited resources. It was also noted that there are many different strategies and frameworks across the organisations within Queensland and a common language for resilience and the BPSE framework would be required.

Stronger workforces

It was recognised that a strong workforce was integral to delivering on a BPSE resilience framework. That said, there was real concern that sectors and systems are overworked. The impact on the workforce cannot be underplayed and the experts noted that "workers need to be resilient to implement resilience strategies". As such, attention should be paid to workers' brain health and the provision of adequate training and professional development. Putting theory into practice is not just about doing a one-off training course, but requires a "way of being", reinforced across sectors and workplaces (i.e., from initial training in the tertiary education sector through to all levels within organisations).

A note of caution here is that all of the emphasis cannot be placed on individual workers, otherwise the overwork and burn out of professionals will simply be reinforced. Change is required within the culture of organisations; training and strategies to mobilise resilience should be aimed at everyone, from front-line workers to executives and board members.

Integrated delivery

In considering service integration across systems, the experts reflected on the need for a new BPSE resilience framework to consider the wide use of the term across sectors in the State and the potential for definitions to become confused or lose resonance.

Within the system, it was suggested that there is a need for a 're-valuing' of practice, to draw out how existing skills and approaches align with resilience and to increase relevance to the professionals who will be tasked with action. Supporting communities of practice could help to break down silos, which were a key feature of the discussion around integrated delivery. Reflecting again on the need for smarter investment, the experts noted that current funding models create administrative burdens and a competitive environment that discourages cross-sector or cross-agency collaboration. An alternative view, suggested by one expert, was not to break down silos but work within them to strengthen disparate responses.

Finally, the experts again returned to the need for approaches and programs to be embedded in communities as part of a BPSE resilience framework, with place-based or place-focused initiatives welcomed alongside a need for resilience to be defined by, not for, community, employing robust co-design principles. Top-down solutions can create distrust and there needs to be space for all sections of community to engage in service design and delivery. As noted by one expert, this requires:

> "holding space for multiple ways of engaging community – some will mobilise, some will observe – it is about meeting community, organisations, and individuals and families 'where they are at'.".

Putting data, evidence and learning to work

As presented in the conceptual metaphor above, all of the work to implement a BPSE resilience framework needs to be embedded in the application of sound data, evidence and learning. For the experts, this raised issues around what data are collected, how they are accessed and shared, and how evidence gaps could be filled, which requires well-designed evaluation frameworks and theories of change prior to implementation of any programs. It is essential that the data collected are relevant and useful and that the systems developed are designed to capture the complexity of projects in implementation. This requires data cognisant of place, context, and relationships, and also of process (i.e., it is about more than the outcomes). As noted earlier in the review, this is essential for understanding, not just what works, but what works for whom, in what circumstances, and why.

A particular challenge will be access to, and sharing of, data across departments, jurisdictions, and sectors. The experts also noted that it would be more useful for data to be available in real-time, and that support is required to enable organisations to make best, and ethical, use of the data available to them. Sovereignty over First Nations data also needs to be considered. Additional data gaps concerned mapping of evidence across system levels.

Finally, the experts offered some general reflections relevant to the operationalisation of a BPSE resilience framework in Queensland. In addition to what has already been covered above, there was a collective view that there is a need to ensure that thinking from a systems perspective is dominant and consistent across all activities to prevent additional pressure being put onto individuals. The framework will have to capture complexity, while not adding complexity to what is already a difficult and complex environment, and do so in an ethical, relational, and pragmatic way. It should value and recognise all levels and levers within the system, and build on what is already in place, but shift power to the people and communities that will be most affected.

4.3 Priorities and actions for operationalisation of a bio-psycho-socioecological resilience framework

Synthesis of the meta-review, environmental scan, and the Expert Reference Group's discussion on operationalisation has informed the formation of six overarching priority areas for future action to implement a BPSE resilience framework in Queensland. The priority areas and their associated actions and recommendations are summarised below and in Figure 3.

Priority 1: Ground the bio-psycho-socioecological resilience framework in, and privilege, First Nations knowledge and perspectives

The first priority is to ground the BPSE resilience framework in, and privilege, First Nations knowledge and perspectives. This should be considered a pre-requisite for any further operationalisation of the conceptual framework by TQKP. Going forward, there should be ongoing engagement with First Nations groups and communities and efforts to ensure that specific activities under the Framework that affect First Nations peoples and communities are Indigenous-led where possible.

Recommendations

- Initiate engagement with First Nations groups and communities to develop understanding of First Nations perspectives on resilience within communities.
- In operationalising the BPSE resilience framework, consider how intergenerational trauma and inequities resulting from colonising and racist practices and systems impact on First Nations peoples.
- Avoid deficit narratives and support strengths-based approaches to promote resilience and wellbeing in First Nations communities (see e.g., Bullen et al., 2023).
- Recognise the importance of cultural identity and connection in the wellbeing of First Nations children and young people in the co-development of resilience strategies and initiatives.
- Work with First Nations peoples and organisations to ensure that initiatives within the BPSE resilience framework for their communities are Indigenous-led.
- To promote Indigenous sovereignty over data, Indigenous peak bodies should be engaged to identify what data should be captured and how this data should be used to mitigate against current practices of identifying risk factors, such as Indigeneity, without paying attention to structural forces that contribute to these risks.

Figure 3: priority areas for future action to implement a BPSE resilience framework

Priority 2: Capture complexity and context within an ecological and evidence-informed, life course approach

The evidence review has demonstrated the complexity of the issues at hand. The very development of a BPSE resilience framework requires engagement with complexity and recognition that systems are dynamic. It cannot be assumed that what works in one setting or context will translate so effectively to another and there is also little evidence employing a life course perspective.

Recommendations

- Develop a clear definition of resilience as a process to inform operationalisation of the BPSE framework that can align with the breadth of understanding of what it is to be resilient or to do resilience.
- Consider the risk and adversity contexts for which resilience is framed and develop definitions and activities that recognise the impact of specific adverse events, systemic drivers of inequity, and the context of living in an increasingly uncertain world.
- Build further understanding of the Queensland resilience eco-system to inform and apply a systems approach that is reflective of the BPSE levels and Queensland context, while relevant to all of the systems actors involved (systems mapping could be employed for this purpose).
- Apply a systems perspective to map out a theory of change for the BPSE resilience framework that is ethical, relational and pragmatic, and that can be underpinned by a comprehensive measurement plan that identifies the multiple, appropriate and acceptable data and methods that will need to be employed to measure change across the life course.

- Work with stakeholders in the system to identify, access and share existing data that is cognisant of place, context and relationships, outcomes, and process to enable monitoring and evaluation of the BPSE resilience framework and its implementation.

Priority 3: Focus on integration and relationships across all levels and levers in the system

The drivers of wellbeing and factors promoting resilience are interlinked and operate across levels of aggregation, including individuals, families/households, institutions, and within communities, while impacted by state and national policies and the global geopolitical climate. While individual characteristics, behaviours, and attitudes play important roles in shaping experiences and outcomes, it is the larger contexts and systems that people are embedded within that truly shape outcomes. Yet currently evidence for solutions is skewed and greatest in volume at the individual and family levels. There is a clear need to consider how to reach beyond the individual in implementation and evaluation of a BPSE resilience framework.

Recommendations

- Ensure that strategies to build resilience are developed across the levels of the BPSE system and of the system itself, rather than solely at the individual and family levels.
- Support the development of strategies to build resilience in the levels of the BPSE system that have less evidence so far, specifically around the peer, school, community and societal levels.
- Broaden the perspective of evidence that can be drawn upon to include other sectors and fields of research that could inform the development of specific strategies across the system levels (e.g., peer-led health improvement, school-based programs, place-based approaches).
- Co-develop strategies to increase resilience that are designed to address the systemic inequities that constitute risks to resilience, including poverty and racism and other root causes of disadvantage.

Priority 4: Leverage existing and emerging policy and practice in Queensland and beyond

The current policy and practice environment in Queensland is primed for implementation of a BPSE resilience framework and there is potential for such an approach to support other initiatives across government and sectors. It would be beneficial to leverage from existing and emerging policy and practice rather than always seek to create anew. Attention should also be paid to the capacity and capability of existing services and providers to implement a BPSE resilience framework.

Recommendations

- Invest effort and resources in building partnership and buy-in for a resilience approach, seeking alignment with existing strategies and initiatives across government and sectors, reaching beyond the traditional players in the child and youth wellbeing space.
- Recognise that capacity for implementation of a resilience framework will vary across sectors and organisations and start implementation with organisations that are better equipped to adopt initiatives given their size or existing approaches (e.g., strengths-based, child and youth focused).
- Promote funding and strategies that are cross-sectoral and multidisciplinary, engaging both “top-down” and “bottom-up” approaches that are relevant to context and translatable across policy, organisations, communities, and are informed by and directly relevant for workers and the people the strategies are directed at.
- Work with organisations and services within the system to ensure that adequate and ongoing training and professional development underpins and reinforces delivery of resilience framework initiatives.

Priority 5: Cultivate child- and community-led approaches and prioritise the voices of people and places to meet needs

The success of a BPSE resilience framework will be determined by the people and places it seeks to support. This is best achieved by engaging with children, young people and their families and communities from the outset and throughout. Robust co-design can enhance understanding of context dependencies and improve implementation and, while approaches will depend on the programs being developed alongside practical constraints on time and resources, it can ultimately lead to better outcomes.

Recommendations

- Employ a consistent, co-design approach to the development, delivery, and evaluation of all strategies within the BPSE resilience framework that engages with children, young people and their families and communities throughout.
- Acknowledge that there is no “one size fits all” approach and adapt and tailor programs collaboratively with specific marginalised groups and to allow for the unique needs, agency and understandings of resilience that could differ across cultural groups.
- Support communities to build capacity in relation to developing and leading resilience strategies and to work collectively rather than competing for limited resources.
- Employ the resilience framework as a tool to support a new approach to community leadership, enacting a cohesive voice for change and supporting leaders in communities to take ownership of initiatives and be valued for their work.
- Engage with place-based and place-focused approaches to ensure that resilience strategies are defined by, not for, the communities involved.

Priority 6: Experiment in application, implementation, and evaluation to support innovation and impact towards a shared vision of resilience

Reflecting on all of the above priority areas, the TQKP is encouraged to experiment. Transformative systems change is a process requiring multiple actions from multiple stakeholders over time and across scale. It requires trialling and testing new initiatives, while being willing to fail. The evidence review demonstrates that there is no definitive approach to follow, but there is plenty to start to build upon.

Recommendations

- Establish best practice principles to underpin the design, delivery and evaluation of initiatives under the scope of the resilience framework that enables strategies to be adapted, trialled and tested, while ensuring attention is paid to the fidelity of implementation to inform future initiatives and ongoing development of the resilience framework.
- Draw from comprehensive, best practice approaches and methods that explicitly recognise the need to capture changes within systems in evaluations (see e.g., Skivington et al, 2021; McGill et al, 2020; McGill et al, 2021).
- Invest in mechanisms to capture the complex, systemic interactions across systems levels that will be necessary to evidence impact and outcomes across populations and contexts.
- Embed the framework in the application of sound data, evidence and learning and advocate for systems to enable ethical, real-time access and sharing of relevant data across departments, jurisdictions, and sectors.

4.4 Review strengths and limitations

The strength of the approach of using a meta-review meant that this evidence review was able to extract and synthesise a broad range of evidence from a large number of original research articles. This breadth of research was compiled rapidly to allow for the timely dissemination of evidence to inform stakeholder actions to affect change. The co-design of this review with the research partner, TQKP, and engagement with expert stakeholders, increases the relevance of this work and the likelihood that the evidence-informed advice and recommendations will be actionable.

Although the approach to this evidence review was rigorous, there are limitations that should be borne in mind when interpreting the findings. The systematic reviews included in the meta-review conducted their own quality appraisal of the original research articles comprising their review, however, due to time constraints, a formal quality assessment of the systematic reviews themselves was not conducted. As such, all evidence included in the meta-review was treated equally despite there likely being variations in quality. Similarly, narrative conceptual reviews were included in the meta-review, which have a higher risk of bias due to the unsystematic approach used when selecting research evidence. However, to mitigate this limitation, findings for systematic reviews and narrative conceptual reviews were analysed and presented separately so that these potential biases can be considered when interpreting findings.

The generalisability of the meta-review findings was limited by the inclusion/exclusion criteria. For example, only studies published in English were included and studies that did not include original research articles from Australia or similar jurisdictions were also excluded, limiting the diversity of reviews included. This jurisdictional scope was chosen due to the need to provide context-specific advice relevant to Queensland and Australia, however, well-developed research with a focus on the context of the United States may have been excluded based on this criterion. There are a range of country-level differences that should be considered when interpreting the findings of this review broadly because children and families are embedded within environments produced from different societal, political, and historical contexts. Finally, it is possible that original articles may have been represented across more than one systematic review, which may have inflated the level of convergence reported in the conceptual model.

This work sits early in the exercise of deploying a resilience science framework for the Queensland and Australian context. During the evidence review, a range of evidence gaps (discussed above) were noted to inform the broader research agenda for this area, including the need for common tools to measure resilience and resilience outcomes, further research on impact of broader systems, how these systems can work together to improve outcomes for children and young people, and the incorporation of evaluation as an important element of bridging the evidence to practice gap. Alongside this work, urgent action is needed on the prevention and reduction of the adverse environments and risk contexts that children and young people encounter. There is a well-developed literature on the predictors of adverse childhood experiences. Future research should ensure that this literature is synthesised to derive insights into how to reduce these sources of adversity as well. Furthermore, children and young people face an increasingly unstable world and uncertain future, but research on resilience in these contexts is less well developed. It deserves further attention and efforts to build resilience will need to factor this in.

5. Conclusions

A BPSE resilience framework comes with great potential for the TKQP. It presents an opportunity to act as a unifying thread bringing together existing activities already framed within the context of resilience science models as well as other initiatives from across sectors and in policy and practice in Queensland. It is not a straightforward task and the operationalisation and implementation of the resilience framework requires further work to ground it in First Nations perspectives and to truly capture and account for the complexity of the system in which it will be bound. It needs to enable resilience in context and in ways that move the sector

from “them to us”, from “othering to togethering”, and from silos to consideration of how all parts of the eco-system are connected and working as a whole.

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Appendix A

Table A-1 Search terms

Psychological theory OR (concept 3 AND concept 4)				
Concept 1 – Resilience Science	Concept 2 – Population	Concept 3 – Outcome of interest: frameworks	Concept 4 Bio-psycho-socio-ecological model	Concept 5 – Reviews
Resilien*	Child*	Frame*	ecolog*	"systematic review"
	"Young people"	Tool*	Socio-ecological OR socioecological	"rapid review"
	Youth*	Model	System-level OR systems-level	"meta-anaylsis"/ "meta analysis"
	Family or Families	"Conceptual framework*"	Biopsychosocial OR bio-psychosocial OR Bio-psyco-social	"scoping review"
	"Young Adult*"	Schema*	Biopsycho-socio ecological	Guideline*
	Boy*	Conceptual model	Bioecological	Practice Guideline*
	Girl*	Theoretical model	Ecological	"Cochrane Review"
	"Young person*"	Paradigm	Social ecology	Review
	Student*	Strategy or strategies	Social-ecological	
	"School Child*"			
	Infant or Infancy			
	Teen*			
	Adolscen*			

Table A-2 Search strategy

PubMed (493 returned):

((((C) OR ("resilience science")) AND ((((((((((((child[MeSH Terms]) OR (adolescent[MeSH Terms])) OR (young adult[MeSH Terms])) OR (infant[MeSH Terms])) OR (adolescence[MeSH Terms])) OR (child*)) OR (youth*)) OR ("boys" OR "boy")) OR (girl*)) OR (teen*)) OR (school-child*)) OR (student*)) OR (Families)) OR (family[MeSH Terms])))) AND ((psychological theory) OR ((((((((framework*) OR (tool*)) OR (model*)) OR (Conceptual framework)) OR (Schema*)) OR (Conceptual model)) OR (Theoretical model)) OR (strategy OR strategies)) AND ((((((((((ecolog*) OR (Socio-ecological)) OR ("socio ecological")) OR (socioecological)) OR (Systems-level)) OR (System-level)) OR (Biopsychosocial)) OR (Bio-psychosocial)) OR (Bio-psycho-social)) OR (Biopsycho-social)) OR (Social ecology)) OR (Social-ecological))))) AND ((((((Guideline) OR (Meta-Analysis)) OR (Review)) OR (Systematic Review)) OR (Practice Guideline)) OR (meta-review))

Scopus (205 returned):

(TITLE-ABS-KEY (resilien*)) AND (TITLE-ABS-KEY (child* OR "Young People" OR youth OR family OR families OR "Young adult*" OR boy* OR girl* OR "Young Person*" OR school-child* OR student* OR infant* OR infancy OR teen* OR adolescen*)) AND ((TITLE-ABS-KEY ("psychological theory")) OR ((TITLE-ABS-KEY (frame* OR tool* OR model* OR "Conceptual framework*" OR schema* OR "Conceptual model*" OR "Theoretical Model*" OR paradigm* OR strategy OR strategies)) AND (TITLE-ABS-KEY (ecolog* OR socio-ecological OR socioecological OR system-level OR systems-level OR biopsychosocial OR bio-psychosocial OR bio-psyco-social OR biopsycho-socio AND ecological OR bioecological OR ecological OR social-ecology OR social-ecological)))) AND (TITLE-ABS-KEY (meta-analysis OR metaanalysis OR "meta analysis" OR guideline* OR "Practice Guideline*" OR review*))

Web of Science (235 returned)

(TS=(resilien*)) AND (TS=(child* OR "Young People" OR youth OR family OR families OR "Young adult*" OR boy* OR girl* OR "Young Person*" OR school-child* OR student* OR infant* OR infancy OR teen* OR adolescen*)) AND ((TS=("psychological theory")) OR ((TS=(frame* OR tool* OR model* OR "Conceptual framework*" OR schema* OR "Conceptual model*" OR "Theoretical Model*" OR paradigm* OR strategy OR strategies)) AND (TS=(ecolog* OR socio-ecological OR socioecological OR system-level OR systems-level OR biopsychosocial OR bio-psychosocial OR bio-psyco-social OR biopsycho-socio AND ecological OR bioecological OR ecological OR social-ecology OR social-ecological)))) AND (TS=(meta-analysis OR metaanalysis OR "meta analysis" OR guideline* OR "Practice Guideline*" OR review*))

Sociology Abstracts (29)

noft(resilien*) AND noft(child* OR "Young People" OR youth OR family OR families OR ("young adult" OR "young adulthood" OR "young adults") OR boy* OR girl* OR ("young person" OR "young persons") OR school-child* OR student* OR infant OR infancy OR teen* OR adolescen*) AND (noft("psychological theory") OR (noft(frame* OR tool* OR model* OR ("conceptual framework" OR "conceptual frameworks") OR schema* OR ("conceptual model" OR "conceptual modeling" OR "conceptual models") OR ("theoretical model" OR "theoretical modeling" OR "theoretical modelling" OR "theoretical models") OR paradigm* OR strategy OR strategies) AND noft(ecolog* OR socio-ecological OR socioecological OR system-level OR systems-level OR biopsychosocial OR bio-psychosocial OR bio-psyco-social OR biopsycho-socio AND ecological OR bioecological OR ecological OR social-ecology OR social-ecological))) AND noft("systematic

review" OR "systematic-review" OR "rapid review" OR meta-analysis OR metaanalysis OR "meta analysis" OR "Scoping review" OR guideline* OR ("practice guideline" OR "practice guidelines") OR review*)

Strict (29 retrieved – same)

[STRICT] noft(resilien*) AND noft(child* OR "Young People" OR youth OR family OR families OR "Young adult*" OR boy* OR girl* OR "Young Person*" OR school-child* OR student* OR infant OR infancy OR teen* OR adolescen*) AND (noft("psychological theory") OR (noft(frame* OR tool* OR model* OR "Conceptual framework*" OR schema* OR "Conceptual model*" OR "Theoretical Model*" OR paradigm* OR strategy OR strategies) AND noft(ecolog* OR socio-ecological OR socioecological OR system-level OR systems-level OR biopsychosocial OR bio-psychosocial OR bio-psyco-social OR biopsycho-socio AND ecological OR bioecological OR ecological OR social-ecology OR social-ecological))) AND noft("systematic review" OR "systematic-review" OR "rapid review" OR meta-analysis OR metaanalysis OR "meta analysis" OR "Scoping review" OR guideline* OR "Practice Guideline*" OR review*)

Social Science Database (29 retrieved):

noft(resilien*) AND noft(child* OR "Young People" OR youth OR family OR families OR "Young adult*" OR boy* OR girl* OR "Young Person*" OR school-child* OR student* OR infant OR infancy OR teen* OR adolescen*) AND (noft("psychological theory") OR (noft(frame* OR tool* OR model* OR "Conceptual framework*" OR schema* OR "Conceptual model*" OR "Theoretical Model*" OR paradigm* OR strategy OR strategies) AND noft(ecolog* OR socio-ecological OR socioecological OR system-level OR systems-level OR biopsychosocial OR bio-psychosocial OR bio-psyco-social OR biopsycho-socio AND ecological OR bioecological OR ecological OR social-ecology OR social-ecological))) AND noft("systematic review" OR "systematic-review" OR "rapid review" OR meta-analysis OR metaanalysis OR "meta analysis" OR "Scoping review" OR guideline* OR "Practice Guideline*" OR review*)

PsychInfo Database (181 results)

S1: MM "Resilience (Psychological)" OR TI Resilien* OR AB Resilien* OR SU Resilien*

S2: TI (child* OR "Young People" OR youth OR family OR families OR "Young adult*" OR boy* OR girl* OR "Young Person*" OR school-child* OR student* OR infant OR infancy OR teen* OR adolescen*) OR AB (child* OR "Young People" OR youth OR family OR families OR "Young adult*" OR boy* OR girl* OR "Young Person*" OR school-child* OR student* OR infant OR infancy OR teen* OR adolescen*) OR SU (child* OR "Young People" OR youth OR family OR families OR "Young adult*" OR boy* OR girl* OR "Young Person*" OR school-child* OR student* OR infant OR infancy OR teen* OR adolescen*)

S3: TI (frame* OR tool* OR model* OR "Conceptual framework*" OR schema* OR "Conceptual model*" OR "Theoretical Model*" OR paradigm* OR strategy OR strategies) OR AB (frame* OR tool* OR model* OR "Conceptual framework*" OR schema* OR "Conceptual model*" OR "Theoretical Model*" OR paradigm* OR strategy OR strategies) OR SU (frame* OR tool* OR model* OR "Conceptual framework*" OR schema* OR "Conceptual model*" OR "Theoretical Model*" OR paradigm* OR strategy OR strategies)

S4: TI (ecolog* OR socio-ecological OR socioecological OR system-level OR systems-level OR biopsychosocial OR bio-psychosocial OR bio-psyco-social OR biopsycho-socio AND ecological OR bioecological OR ecological OR social-ecology OR social-ecological) OR AB (ecolog* OR socio-ecological OR socioecological OR system-level OR systems-level OR biopsychosocial OR bio-psychosocial OR bio-psyco-social OR biopsycho-socio AND ecological OR bioecological OR ecological OR social-ecology OR social-ecological) OR SU (ecolog* OR socio-ecological OR socioecological OR system-level OR systems-

level OR biopsychosocial OR bio-psychosocial OR bio-psyco-social OR biopsycho-socio AND ecological OR bioecological OR ecological OR social-ecology OR social-ecological)

S5: TI "psychological theory" OR AB "psychological theory" OR SU "psychological theory"

S6: S3 AND S4

S7: S5 OR S6

S8: TI (meta-analysis OR metaanalysis OR "meta analysis" OR guideline* OR "Practice Guideline*" OR review*) OR AB (meta-analysis OR metaanalysis OR "meta analysis" OR guideline* OR "Practice Guideline*" OR review*) OR SU (meta-analysis OR metaanalysis OR "meta analysis" OR guideline* OR "Practice Guideline*" OR review*)

S9: S1 AND S2 AND S7 AND S8

Table A- 3 Environmental scan – Extraction/Sources

Name/Title	Author (year), URL	Information type (e.g., report, policy document, website)	Jurisdiction
3 Principles to Improve Outcomes for Children and Families	Centre for the Developing Child, Harvard University (2021) https://pediatrics.developingchild.harvard.edu/wp-content/uploads/2021/12/3Principles_Update2021v2.pdf	Report (Update/Framework)	North America
A Great Start for Queensland Children	State of Queensland (Department of Education) (2020) https://qed.qld.gov.au/programsinitiatives/education/Documents/early-years-plan.pdf	Report, Queensland Government	Australia
AFWI Developmental Evaluation	Tilghman, L., Cain, M., McCann, C., Cook, J. (2020) https://www.albertafamilywellness.org/resources/reports/afwi-developmental-evaluation-report	Report (Evaluation and Case Studies)	Canada
Benevolent Society, Resilience Practice Framework		Report – Articulation of Framework	Australia
Boing Boing -Resilience Research and Practice	Boing Boing Foundation - https://www.boingboing.org.uk/	Website, also has a number of publications and submissions	United Kingdom
Building Resilience in Children Aged 0-12: A practice Guide	Beyond Blue (2017) https://www.beyondblue.org.au/docs/default-source/resources/bl1810-building-resilience-in-children-aged-0-12-booklet_acc.pdf?sfvrsn=901946eb_2	Report (Practice Guide, targeted at practitioners and professionals working with children)	Australia

Child and Youth Wellbeing Strategy	Government of New Zealand (2019) https://www.childyouthwellbeing.govt.nz/sites/default/files/2019-08/child-youth-wellbeing-strategy-2019.pdf	Report – National strategy to improve the wellbeing of children and nation	New Zealand
Communities for Children	https://www.dss.gov.au/families-and-children-programs-services-families-and-children-activity/communities-for-children-facilitating-partners-cfc-fp	Website - Australian Government initiative, targeting disadvantaged communities	Australia
Emerging Minds	https://emergingminds.com.au/	Website - organisation, has a number of resources including research based on partnerships with universities	Australia
Evaluation of the Resilient Families Service (Benevolent Society), Final Report	ARTD Consultants (2020) https://www.nsw.gov.au/sites/default/files/2023-05/resilient-families-final-evaluation-2020.pdf	Report – Independent Evaluation	Australia
Evidence for the Common Approach	Aracy - https://www.aracy.org.au/documents/item/715	Report	Australia
Family Matters	https://www.familymatters.org.au/	Website - national campaign to ensure Aboriginal and Torres Strait Islander children and young people grow up safe and cared for in family, community and culture	Australia
Family Partnership Model	https://www.cpcs.org.uk/fpm/	Website – model promoting family and community led resilience strategies	United Kingdom
Give All Our Children a Great Start	Micah Projects - https://homeforgood.org.au/assets/docs/Factsheets/Give-all-our-children-a-great-start.pdf	Proposal to Government	Australia

Independent Review of the Sure Start Program	RSM McClure Watters (Consulting) (2015) https://www.education-ni.gov.uk/sites/default/files/publications/de/final-report-review-of-sure-start.pdf	Report (Independent review)	United Kingdom
It really stabs me: From resignation to resilience, Children and YP's experiences of racism in the ACT	ACT Human Rights Commission (2023) https://hrc.act.gov.au/wp-content/uploads/2023/03/It-really-stabs-me_2023.pdf	Report (summary of research findings, consultation with young people and children)	Australia
Local Action on Health Inequalities: Building Children and Young People's Resilience in Schools	Public Health England (2014) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/730917/local_action_on_health_inequalities.pdf	Report (Evidence Review)	United Kingdom
Pathways to Resilience	https://www.pathwaystoresilience.org/	Website – organisation promoting and implementing resilience strategies, with resources	Australia
Perspectives on Childhood Resilience among the Aboriginal Community: An Interview Study	Young, C., Tong, A., Nixon, J., Fernando, P., Kalucy, D., Sherriff, S., Clapham, K., Craig, J. C., Williamson, A. (2016), Centre for Urban Aboriginal Child Health, Australian National University https://openresearch-repository.anu.edu.au/handle/1885/139207	Report (summary of research findings, interviews)	Australia
Resilient Kids	https://resilientkidscan.org/	Website – organisation providing resources for children, adults, and practitioners, as well as links to organisations and publications	Canada
Triple P Parenting	https://www.triplep-parenting.net.au/qld-en/hot-parenting-topics/resilient-children-cope-better/	Website - offers evidenced based strategies to improve parenting, family and community wellbeing	Australia

Table A- 4 Expert Reference Group

Name	Organisation
Sheryl Batchelor	CEO, Yiliyapinya; TQKP Leadership Table member
Sarah Callinan	Lead, QATSCIPP
Belinda Drew	DDG, Qld Govt, Department of Treaty, Aboriginal and Torres Strait Islander Partnerships, Communities and the Arts; TQKP Leadership Table member
Ruth Fagan	Senior researcher, Jawun Research Centre, CQU
Linda Hansen	COO, Outback Futures; TQKP Leadership Table member
Dr Geraldine Harris	CEO, Pathways to Resilience
Laurel Johnson	Senior Research Fellow, ISSR
Meagan Killer	Director, QMHC
Dr Katrina Lines	CEO, Act 4 Kids; TQKP Leadership Table member
Katie Norman	Senior Program Manager, Tim Fairfax Family Foundation
Shirralee Ransley	A/Director Practice Quality, The Benevolent Society
Tegan Spalding	Consultant, Pathways to Resilience
Shirley Stinson	Manager, First Nations Children and Family Centre, Kambu Health

Table A- 5 Descriptive characteristics of the conceptual studies included in the rapid meta-review

Author (Year)	Country ^	Population	Risk/Adverse context	Outcome	Definition of resilience
Bennett 2018	USA (First Author), International collaborators.	General perspective with reference to children throughout.	Potentially traumatic events	To influence the development of regulatory flexibility and decrease the sociocultural factors linked to the non-resilient experience, thus mitigating adversity's long-term effects on health.	Resilience as a psychological construct was identified by mental health professionals (e. g., development psychologists and psychiatrists) due to work with children who developed into functional, capable adults despite severe chronic adversity early in life.
Boxer 2013	USA	Children exposed to violence	Violence exposure	Coping and resilience	The authors use the operational definition of "the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances". However, the authors query whether successful adaptation means optimal positive outcomes (e.g., prosocial behaviour) or is a lower bar (aka 'survival') sufficient?
Chrisman 2014	USA	children and adolescents	Mass trauma, including disasters, war, and terrorism	Recovery	Resilience is "the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner"
Dangmann 2022	Norway	Refugee children	Forcibly displaced children	Wellbeing and health	Not explicitly defined.
Garcia 2016	Spain /USA	Children (18 years or younger)	Extreme weather events.	Children's health (including direct and indirect mental health effects).	None provided.
Herrman 2011	Australia and Canada	Children and adults	Maltreatment, including physical, sexual, and emotional abuse, neglect, and exposure to intimate partner violence.	Resilience	Authors recognise evolving definitions of resilience over-time, and the lack of consensus in definition and measurement. The authors state that "resilience is understood as referring to positive adaptation, or the ability to maintain or regain mental health, despite experiencing adversity"

Jiang 2022	USA	Children	Adversity in general, such as poverty, war-related traumatic events and bullying.	Resilience-based interventions on mental and behavioral health in children.	Authors recognise lack of consensus in definition (stable personality trait vs dynamic process or an outcome). A process-oriented definition emphasizes the changeability of resilience that is dynamically influenced by individuals' internal and external environmental factors. An outcome-oriented definition views resilience as the adaptive outcome in the face of adversity that can be modified, at least partially, by resilience (or protective) factors. The authors adopt an outcome-oriented definition to reflect the modifiable and teachable nature of many resilience factors
Masarik 2022	USA	Children and youth	Forcibly displaced children and youth	Resilience pathways	The authors adopt Masten's definition: "the capacity of a system to adapt successfully to significant challenges that threaten the function, viability, or development of the system". The authors recognise that it is a multidimensional construct, best understood within an ecological framework.
Masten 2012	USA	Children and youth	Disaster, War, and Terrorism	Neurobiological and psychosocial outcomes	Adopt Masten's definition as the ability of a dynamic system to withstand or recover from significant challenges. Recognises resilience is a dynamic concept with application across systems, within an individual (e.g., stress-response system, immune system, cardiovascular system), a family system, a community system, or an ecosystem, which interact and are impacted by complex and changing contexts.
Mendez 2023	USA	Refugee youth	Refugee	Wellbeing	Not explicitly defined.
Prime 2020	Canada	Families	COVID-19 pandemic	Family wellbeing	Not explicitly defined.
Racine 2022	Canada	Children (age not defined)	Child maltreatment (including physical, sexual, and emotional	Positive lifespan outcomes (e.g., child's mental health outcomes, child emotion	It is "the capacity of a system to adapt successfully to disturbances that threaten the viability, function, or development of the system (Masten, 2019). Thus, rather

			abuse, neglect, and exposure to family violence).	regulation difficulties, poor self-esteem, depressive symptoms, among others)	than focus uniquely on an individual's outcome, resilience is a process that involves multiple levels of the child's world (i.e., individual, family, and community) to support positive adaption.
Salmon 2021	New Zealand	Children and adolescents	COVID-19	Psychological well-being (including mental health and developmental outcomes for children	Not explicitly defined.
Scannell 2016	Canada	Children and youth	Disasters	Recovery and resilience	"Resilience is both an individual capacity to identify and access resources (e.g., psychological, social, cultural, and physical), and the individual and collective ability to ensure the equitable and culturally relevant provision and access to these resources."
Slone 2021	Israel	Children and youth	Wars and armed conflict	Mental Health	Not explicitly defined, but the authors recognise that it is a process (i.e., processes of resilience that can mitigate adverse outcomes') and that it is a multidimensional construct.
Ungar 2013	Canada	Children (no specific age range provided)	Varied contexts (non-specific adversity)	Wellbeing	The authors adopt Ungar's 20008 definition: In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided and experienced in culturally meaningful ways (As per Ungar, 2008, p. 225).
Wadsworth 2018	USA	Youths	Poverty, poverty-related stress	process of resilience and adaptation, development	Not explicitly defined.

Table A- 6 Descriptive characteristics of the systematic review studies included in the rapid meta-review

Author (Year)	Country ^	Studies included	Population	Risk/Adversity context	Outcome	Definition of resilience
Afifi (2011)	Canada	27	People (including children with a history of child maltreatment	Child maltreatment	Competence and functioning (cognitive–academic, emotional, social, physical, or behavioural)	The authors recognise the variations in definitions for resilience (e.g., high functioning vs absence of poor functioning). The authors state that Resilience is not static; it may vary over time and across developmental phases.
Domhardt 2015	Germany	37	Children (<10 years) and adolescents (11-18 years), but also adults (when examining long term resilience)	Child Sexual Abuse	The outcome was conceptualized as adaptive functioning and/or the absence of psychological disorders.	"The phenomenon of a dynamic developmental process encompassing the attainment of positive adaptation within the context of significant adversity is referred to as resilience" (p.476).
Eruyar 2018	UK	82	Children (0-18 years)	Forcible displacement	Mental health	The authors recognise the "expanding view of resilience as a dynamic process that is affected by the child's sociocultural or conflict context, rather than merely counterbalancing the effect of risk factors" (p.304).
Gallagher 2018	United States	41	Children and adolescents	Examples provided in the model: Psychiatric symptoms, dysfunctional family, physical/sexual abuse.	Suicidal ideation, attempts, completed suicide.	Authors identify two primary elements of resilience: (1) the presence of risk factors or adverse life circumstances, such as childhood physical or sexual abuse or current life stress, that increases an individual's risk for a negative outcome such as suicidal ideation or behaviors; and (2) the presence of protective factors, such as self-esteem or problem-solving ability, that buffer or protect the high-risk individual against the negative outcomes stemming from his or her elevated risk This conceptualization suggests that resilience results from the interaction of risk and protective factors (i.e., a moderation effect)
Garcia 2022	USA	31	Unaccompanied youth (immigrant youth of all ages and types of legal status)	Migration of unaccompanied youth, refugee and asylum seeker experience	Well-being (psychological, socio-emotional and physical wellness), but specifically psychological health and distress upon arrival and in resettlement.	The authors adopt Ungar's (2018) differential impact theory to understand resilience, which refer to "competence under stress" (Ungar, 2008, p. 220). "Ungar's (2018) model suggests that the potential positive or negative impact of the environment on young people's well-being may vary by a young person's level of vulnerability and the quality of the environment. In line with the ecological metaphor, Ungar's

						model suggests that resilience is promoted through contextual or environmental factors in a child's life and social-ecological forces, such as family, school, culture, and community, contribute to resilience (Ungar, 2008)"
Gartland 2019	Australia	30	Children (5-12 years)	Social adversity (e.g., poverty, racial discrimination, maltreatment)	Outcome conceptualised as 'resilience', and included studies measuring internalising/externalising problems, academic skills, psychopathology, life satisfaction (among others)	Authors recognise that there are a multitude of resilience definitions, but that there are two common factors necessary to the definition: • "The experience of adversity or stress" • "The achievement of positive outcomes during or following the exposure to adversity" The authors refer to contemporary views of resilience as "the *process* by which individuals draw on personal characteristics and resources in their environment to withstand and negotiate adversity –a dynamic process across contexts and over the life course" (p.2).
Jongen 2019	Australia	16	Indigenous adolescents in CANZUS nations (10-19 years)	Increased exposure to socioeconomic risk factors	Mental health (sometimes also conceptualised as resilience)	Authors recognise a lack of consensus in definition (e.g., trait, a process, or an outcome, or as a broad concept encompassing all of these) and measurement of resilience. The authors state that they "consider resilience to be about both individual attributes or assets and external social, systemic, and physical resources" (p.4).
Kalaf 2019	Canada	50	Refugee children and youth	Refugee experience/forcible displacement	Mental health and resilient outcomes	Resilience is the ability to adjust appropriately to life problems and remain healthy despite exposure to trauma (Bonanno, 2004; Garmezy, 1991). It is also defined as the attainment of desirable psychosocial development and growth despite exposure to risk. Authors recognise evolution of concept from an intrinsic trait to a process influenced by internal and external factors (i.e., Masten perspective).
Llistosella 2022	Spain	31	Children and young people (7-24 years) and their families	Various exposures (e.g., poverty, maltreatment, sexual abuse COVID -19 pandemic context)	Variously defined (e.g., good mental health, positive development, psychological well-being, among many others)	The authors state that resilience is the "capacity to cope with adversity in contexts of high risk or difficulties" (p. e3278). Although the authors recognise that there are a multitude of definitions of resilience, they identify commonalities in definition as "a phenomenon observed in contexts of high risk, overcoming, adapting and adjusting in the face of adversity, and attaining good mental health despite difficulties" (p. e3278).
Ma 2022	Australia	92	Young People (0-24 years)	Climate change and related acute (e.g., floods) or chronic	Mental health	Not explicitly defined.

				(e.g., drought) events.		
Mohammadinia 2018	Iran	28	Children (<18 years)	Climate change and related natural disasters (e.g., floods)	"A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity"	Used the definition: the "individual ability to adapt to the tragedy, trauma, adversity, hardship, and ongoing significant life stressors and also to anticipate, tolerate and bounce back from external shocks, and pressures in their life to avoid more vulnerability" (p.2).
Sleijpen 2016	The Netherlands	26	Children and young people (10-20 years)	Refugee experience	Mental health	Authors recognise lack of consensus in definition (i.e., individual trait versus developmental process) and measurement of resilience. The authors conclude that "Resilience of young refugees cannot be described in a static nor in a one-dimensional way" (p.175), thus supporting the developmental process definition of resilience.
Vaughn 2021	United States	37	Youth	Variously defined (including discrimination and inequity due to racial, ethnic, gender and sexual identities; chronic medical conditions or mental illness; academic adversity; family structure and functioning; and housing and financial insecurity or poverty.)	Wellbeing	Authors adopt Ungar's definition, who defines resilience as: "both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their wellbeing, and their capacity individually and collectively to negotiate for these resources to be provided and experienced in culturally meaningful ways".
Yule 2019	United States	118	Children and adolescents (<18 years)	Exposure to violence	Adaptive functioning (e.g., positive self-worth and social competence, and low levels of psychological difficulties)	Authors adopt contemporary and leading resilience theorists conceptualisation that resilience is: • "positive adaptation in individuals who have been exposed to significant adversity" (p.407). • "a state of functioning that reflects the constellation of individual characteristics, external supports, and current stressors present at a particular time rather than a stable characteristic of individuals" (p.407).

Table A- 7 Description of the frameworks or models used in the systematic reviews included in the rapid meta-review, and their operationalisation across individual, family, peer, school, community and societal levels

Author (Year)	Framework/Model/Theory	How factors were conceptualised within the framework/model/theory	Individual – Domains and Factors Identified	Family – Domains and Factors identified	Peer – Domains and Factors Identified	School – Domains and Factors identified	Community – Domains and Factors identified	Societal – Domains and Factors Identified
Afifi (2011)	Not explicitly identified.	Although it did not explicitly use the ecological model, this paper identifies and organises protective factors at individual, family and community levels respectively.	Personal characteristics, traits, and resources, such as: personality traits, intellect, self-efficacy, coping, appraisal of maltreatment, and life satisfaction.	Resources and supportive relationships, such as: family coherence, stable caregiving, and parental relationships	Peer relationships (conceptualised under community)	Not identified	Nonfamily member relationship, Nonfamily member social support,	Religion
Domhardt 2015	Bronfenbrenner's Ecological model of human development.	Emerging protective factors from the literature were classified within three broad categories, referring to Bronfenbrenner's ecological model of human development (1) Internal factors related to the victim; (2) external factors, related to the family of the victim; and (3) external factors related to the wider social environment of the victim.	Internal Factors: Optimism and hope, control beliefs and internal locus of control, active coping, externalising blame, trauma related beliefs, and cognitions, education and schooling, emotional intelligence, interpersonal competence and trust,	Family social support, stable family, positive parenting, caregiver level of education, SES Of family.	Conceptualised under 'community'. *Community variable:* Positive peer influence	Conceptualised under individual and community, depending on variable type. *Individual variables*: being certain about educational plans, achieving stronger academic performance, positive feelings towards school, showing more	Community social support, club involvement	None mentioned.

			social attachment, self-esteem, religiosity and spirituality, leisure and culture activities, perception of health.			school engagement. *Community variables*: School safety		
Eruyar 2018	Data synthesis guided Bronfenbrenner's ecological theory	Findings organised under child, family, school, community and societal levels. From the synthesis, the authors propose a new psychosocial model of resilience-building for refugee children, that presents six hierarchical and interconnected service levels: Layer 1 depicts providing safety (base layer of pyramid), Layer 2 depicts nurturing caregiving and environments, layer 3 depicts resilience-building through schools and communities, layers 4 depicts non-specialist resilience-building interventions, layer 5 depicts trauma-focused or other psychological interventions, and	Older Age (mixed findings: risk and protective); coping strategies as protective (i.e., emotional regulation, problem-solving and/or cognitive restructuring)	Protective factors: Perceived parental support, family connectedness, family acceptance, and social support.	None mentioned	None mentioned	Integrated within societal level. Community factors such as safety, criminality and stigma (risk factors).	Societal and cultural level: Risk factors: difficulties of adaption to culture and language of host country, experience of discrimination Community factors such as safety, criminality and stigma (risk factors).

		layer 6 (the top point of the pyramid) depicts cost-effective access to mental health care.						
Gallagher 2018	Ecological model of resilience to suicidal outcomes in youth.	This model depicts protective factors as interaction variables between the risk/adversity and the outcome. These variables are categorised into domains of individual assets and ecological resources (parents and family, peers and school, community and culture). The authors evaluate the current research available on protective factors within two broad categories: (1) individual assets such as problem-solving skills, self-esteem, and emotion regulation; and (2) ecological resources, including parents and family, peers and school, and the larger community and cultural context.	Individual assets: Self-esteem Religious orthodoxy Emotion regulation Cognitive style Problem-solving ability	Parents and family: Parent support Family alliance Trusted adult in family Authoritative parenting	Combined with School in model: Low peer victimization Peer acceptance	Combined with Peers in model: Positive school climate Teacher connection	Community and culture: Meaningful activities Service to others Acculturation Community connectedness	Not reported
Garcia 2022	Ecological, resilience, and developmental framework.	The ecological metaphor focuses on the relationship between individuals and the multiple social systems in which they are embedded.	Individual characteristics such as: Competencies Self-esteem	Quality of placement (e.g., foster care) Connection to family	Social Support Developing social networks with both ethnic and resettlement/host country culture peers	School climate (stability, opportunities to interact with peers, care from teachers, setting for	Relational factors: - Building a sense of community - Connecting to resettlement agencies	Cultures and norms of the countries they pass through during their journey, which are often filtered through more

		The authors conceptualise individual-level factors using Ungar's (2008) "competence under stress" framework, viewing them as outcomes or responses to environmental stressors and supports. These individual and ecological levels were examined across pre-to post-migration stage.	Belief in a higher power, Good temperament, coping skills Acculturation	Building a relationship with foster parents Family support Maintaining communication and connection with family in the country of origin		acculturation to unfold)	Cultural factors: - Connecting with their ethnic community through participation in community centres or ethnic organisations - Guidance from adult mentors from the same country and culture Youth view themselves represented by community members	proximal environments, local communities, and institutions such as schools.
Gartland 2019	Takes broader conceptualisation of resilience that includes individual factors and factors in the socioecological context surrounding the child.	The factors investigated in each study have been grouped into the domains of individual, family, social, school and neighbourhood/community.	Emotion regulation Cognitive abilities Coping Hope Self-esteem Self-efficacy Self-identity Gender Help Seeking Temperament Positive affect Living skills Prosocial skills	Family relationships Parenting skills Family socio-economic status, Caregiver relationship Family environment Parent mental health Caregiver well-being	Identified as 'social domain' - Social support Friends	Supportive School environment Teachers Student engagement	Neighbourhood (quality, cohesion and support) Community (support)	Spirituality Culture
Jongen 2019	Social ecological perspective.	This review attempts to identify how the	At individual levels,	At family levels these	At peer level the interventions aimed	Interventions aimed to	At community level these	Some interventions

		evaluated interventions (at individual, family, community, and school system levels) adhere to the theoretical foundations of resilience consistent with a social-ecological perspective. Resilience-promoting factors employed in interventions are identified at multiple levels including the individual, social (family and peer network), and societal (school environment or community) levels, as well as through strengthening connection to culture and cultural identity.	Interventions reviewed aimed to enhance individual assets: "... through teaching problem solving and social, emotional, or life skills or strengthening Indigenous identity, self-esteem or self-efficacy" (p.10)	interventions aimed to foster connection with family and strengthen relationship with family	to foster connection and strengthen social bonding with peers.	strengthen positive relationship with schools.	interventions aimed to foster connection with community, foster connection to positive role models, foster increased community participation and engagement, and increase the community capacity to improve indigenous adolescent resilience	also aimed to strengthen cultural identity and cultural connection
Kalaf 2019	Ecological framework (bioecological model).	The child is placed at the centre of the model and represents biological and personal characteristics. The microsystem represents the child's direct social environments (home and school), including all people and institutions with which the child interacts. The mesosystem represents the connections between the elements of the microsystem. The exo-system is composed of societal	Mediating effects: Insight Healing trauma Meaning making Emotional processing Creativity Empowerment Play Positive affect Identity Self-esteem Grieving Hope Purpose	Mediating effects (microsystem) Social adjustment Supportive Relationships Belongingness Alleviates isolation. Ingroup Cohesion Mediating effects (Meso-system(Parents	Mediating effects (microsystem) Social adjustment Supportive Relationships Belongingness Alleviates isolation. Ingroup Cohesion	Mediating effects (microsystem) Social adjustment Supportive Relationships Belongingness Alleviates isolation. Ingroup Cohesion Beter Academic Performance	Mediating effects (Exo-system) Community resources Safety Supportive Facilitators Collective Meaning	(Mediating effects macrosystem) Expression of cultural identity Culturally meaningful Art Cultural Coping Behaviours Expression of political and religious ideologies Cultural views on mental health and healing

		structures (e.g., access to health care) and events, which can directly impact the child's development. The Macrosystem incorporates overarching elements of society that the child has no control over (e.g., culture, values and ideology). Culture, which encompasses the social behaviours and norms of a group (knowledge, beliefs, arts, laws and customs).		involvement in intervention School or Community based interventions Parents Approval of intervention				Cultural meaning of war
Llistosella 2022	Data synthesis guided by the ecological model of resilience (Birks & Mills, 2011). From this synthesis, the authors developed 'The Individual and Environmental Resilience Model (IERM).	The IERM presents two dimensions (individual and environmental). The individual dimension comprises the biological, behaviour, communication skills, cognitive and emotional factors, and the environmental dimension considers the family, school, peers, cultural and community factors. The model is Intended to be dynamic, non-closed and empirical, allowing for integration of new additional factors.	Conceptualised as the 'Individual skills dimension' with 5 overarching factors: - Biological factors (e.g., genetics) - Communication Skills factors (e.g., social skills), - Cognitive factors (e.g., intelligence), - Behaviours (e.g., physical activity) and	Family (e.g., parenting quality) is one of the 5 overarching factors within the environment dimension. There are 8 evidence-based resilient variables identified under this factor.	Peers (e.g., peer support) is one of the 5 overarching factors within the environment dimension. There are 7 evidence-based resilient variables identified under this factor.	School (e.g., school engagement & connectedness) is one of the 5 overarching factors within the environment dimension. There are 6 evidence-based resilient variables identified under this factor.	Community (e.g., social resources and support) is one of the 5 overarching factors within the environment dimension. There are 7 evidence-based resilient variables identified under this factor.	Cultural (e.g., spirituality) is one of the 5 overarching factors within the environment dimension. There are 5 evidence-based resilient variables identified under this factor.

			- Emotional factors (e.g., self-regulation). The range of evidence-based resilient variables identified under each factor ranges from 2-13.					
Ma 2022	Ecological system theory	The risk and protective factors were categorised according to levels identified in ecological system theory: "Ecological system theory is a model frequently used in child development studies to describe the inter-relations of an individual with the system levels they reside within – that is the micro- (immediate environment), exo- (social structures that have influence over micro-systems), and macro-system (socio-cultural elements) levels" The authors did not include the meso-system level.	Genetics, coping strategies, personality traits, neurology.	Conceptualised as part of the microsystem. - Protective factors: Positive parenting style, Family relationships (supportive, stable, secure attachment), Family social support - Risk factors: Parental distress, Family violence and conflict	Conceptualised as part of the microsystem. - Protective factors: Peer social support - Risk factors: Peer victimisation	Conceptualised as part of the microsystem. - Protective factors: Social support from Teachers, Schools as a setting of social support, community connection - Risk factors: Peer victimisation	Conceptualised as 'exo-system: - Community connection (protective) -Community violence (risk).	Macrosystem: cultural identity (e.g., Indigenous connection with land and traditions, acculturation, both protective).
Mohammadinia 2018	LM-CRID: 'Child Resilience Indicators in Disaster' (Purpose-developed model, not based on theory).	Research findings were categorized into two groups: internal (mental health, spiritual, and physical factors) and external (social behaviour and environmental and ecological) factors.	Conceptualised as 'Internal factors' - Mental health factor: cognitive, personal	Conceptualised as 'External (social behaviour) Factors': e.g., interpersonal	Conceptualised as 'External (social behaviour) Factors: Interpersonal/friends ("have good friendships")	Conceptualised as 'External (social behaviour) Factors: School community (e.g., "participating in	Conceptualised as 'External (social behaviour) Factors: Community/ Neighbourhoods	Conceptualised as 'External (Environmental and ecological) Factors: Built capital (e.g., public transport) and

			characteristics, educable. - Spiritual factor: believing in religious support - Physical factor: physical condition and genetics.	family ("have family support")		school activities")	("having a sense of community")	natural capital (access to natural resources)
Sleijpen 2016	Ecological model, with developmental perspective.	The key sources of resilience that emerged (i.e., social support, acculturation strategies, education, religion, avoidance, and hope) were said to relate to the following domains: - attributes and capacities of the youth themselves, - aspects of their family and immediate vicinity, and - characteristics of their wider social and political environments. However, the sources were not specifically categorised under each domain and left to the reader to interpret.	- Avoidance (avoiding painful thoughts and feelings) - Hope - Acculturation strategies (connecting to culture of origin, adaptation to new lifestyle)	- Family cohesion - Family social support	- Peer Social Support - Social Support from people with shared cultural background	Education and knowledge as pathway to status and control	- Support from professionals and services	Religion

Vaughn 2021	The social ecological model of resilience (SER)	SER conceptualized to include four layers of resilience that interact to influence health and wellbeing: 1) personal; 2) relational; 3) structural; and 4) spiritual/cultural]. The personal layer includes an individual's traits, characteristics, and dispositions (eg, agency, self-esteem and motivation). The relational layer involves the supportive network of friends, peers, parents, family, community members, and professionals (eg, teachers, counselors, religious leaders, mentors) who serve as what some Indigenous communities call "circles of care." The structural layer (sometimes referred to as community resilience) includes non-relational aspects of resilience in the social environment such as schools, community organizations, churches, social services, financial resources, and neighborhood safety. The spiritual/cultural layer reflects contextual aspects of SER related to the morals, ethics, values, and worldviews surrounding	Referred to as the personal layer: Academic achievement Self-efficacy Agency	Identified under 'relational layer': Social capital from meaningful relationships - parents	Identified under 'relational layer': Social capital from meaningful relationships - peer	Identified under 'relational layer' – -Teacher-learner partnership. Some school level factors identified under the 'structural layer-: -School activities, routines, resources offered by school	Many community level factors identified under a 'structural layer': -safe spaces in the community -local government organizations promoting youth activism -low neighbourhood risk -Community cohesion	Identified as 'Spiritual cultural layer': -Shared language -religious beliefs - future dreams -cultural values and practices

		individuals (ie, dreams, indigenous traditions, guiding cultural philosophies, religious and spiritual beliefs, traditional practices, shared language, and heritage of an ethnic group). While the layers are described distinctly, there are interactions.						
Yule 2019	Bronfenbrenner's ecological framework	Results of the systematic review are organised according to the ecological framework and classified protective factors into 11 domains representing the individual, family, school, peer, and community levels.	- Positive self-perceptions - Cognitive Abilities - Self-regulation - Coping	- Family Support - Parental effectiveness	Peer Support	School Support	-Community cohesion -Extracurricular activities -Religious involvement	Not identified

Table A- 8 Description of the level of deployment and systems level application of resilience in the systematic review studies

Author (Year)	Level of Deployment of resilience science/framework	Commentary on systems level application of resilience science/framework
Afifi (2011)	Clinicians	Not addressed.
Domhardt 2015	Informing clinical practice and supporting the development of a theoretical basis for interventions that aim at attaining positive mental health. Level of deployment primarily suggested at the individual level.	Not addressed
Eruyar 2018	Authors suggest findings to support intervention design. Authors argue that "complex needs require a multimodal approach by designing interventions with integrated components that mirror the child's current situation throughout the migration process, that is at individual, family, community/school and society level."	Authors note the challenges are to establish joint care pathways to address the well-evidenced level of unmet need through limited recognition of mental health problems, predominantly following social rather than health care routes in order to enhance access and engagement. The co-ordination and common direction between international, national and local NGOs, of both humanitarian and developmental remit, with existing statutory agencies, requires the adoption of common principles and complementary objectives. Such a comprehensive psychosocial model is presented in the authors psychosocial model of resilience-building for refugee children.
Gallagher 2018	In keeping with an ecological approach to resilience, the authors suggest that prevention strategies should address multiple domains of resilience, including the individual, family, peer, school, community, and social context.	Not addressed.
Garcia 2022	Deployment relevant at communities, systems, policy levels.	"The ecological metaphor focuses on the relationship between individuals and the multiple social systems in which they are embedded (Trickett, 1984). It views individuals as adapting to cope with the characteristics of a setting and stresses the importance of identifying resources to change systems (Trickett,1984)."
Gartland 2019	The authors suggest that resilience interventions will be most effective where both individual and broader relevant socioecological aspects are addressed, and multilevel approaches are taken.	Not addressed

Jongen 2019	To support intervention design at individual, peer, school/community and culture levels. "Our findings suggest that in line with social-ecological and cultural resilience models, interventions for enhancing Indigenous adolescent resilience ideally incorporate activities to enhance individual assets, community/social resources, and cultural connection and identity"	Not addressed
Kalaf 2019	The findings of this review are aimed at supporting clinicians and art therapists in their practice. This review suggests that expressive therapy can mediate personal and environmental factors that promote refugee resilience across all bio-ecological systems by reestablishing protective factors that inhibit the risks involved with political displacement and war trauma.	The authors share Vesely, Letiecq, and Goodman's (2017) perspective, which urged those working with refugees and immigrant families to adopt an ecosystemic approach because "existing resilience frameworks remain in danger of perpetuating family and community marginalization and social inequality when the burden of resilience is placed on individuals"(p. 107).
Llistosella 2022	Findings support intervention design that focus on multiple dimensions aimed at developing protective factors with supporting scientific evidence. Conceptual model provides evidence that should be taken into account when developing programs to promote resilience.	Not addressed
Ma 2022	These authors suggest that their review is relevant for research planning.	Not addressed
Mohammadinia 2018	Authors suggest findings to inform research and policy planning.	Not addressed
Sleijpen 2016	Deployment appropriate at individual level, families, communities, culture, and for intervention/policies	- It is known that there are sufficient resilience factors beyond individual characteristics that can be modified by outside intervention or by policy (e.g., improving access to educational opportunities). - With regard to mental health services, the results revealed that young refugees in general have little knowledge of and experience with problems accessing this type of support. They have to deal with multiple issues and are therefore referred to different services every time another problem arises. More low-key information about mental health services (for example at school) and the co-location of services might increase youth's engagement in treatment.

Vaughn 2021	To inform the practice of teachers, and other practitioners who work with youth - To further delineate and advance the social ecological model of resilience.	The review points to the important role of the structural layer in the SER model, which includes systems, policy, and community-level change rather than blaming the young person for material disadvantages and the adverse community environments (eg, housing quality, community violence, etc.) in which they may find themselves. Overall, the review encourages a moving away from the idea of resilience as an individualistic construct, to the importance of the entire social ecology in resilience toward the health, adjustment, and wellbeing of youth.
Yule 2019	Prevention and health promotion efforts should strengthen supportive relationships across ecological contexts, including families, schools, and communities, and to the potential benefit of school-based programs that foster self-regulatory capacities. Findings suggest that universal prevention efforts are likely to benefit children whether they have experienced violence or not.	“Schools have received less attention as contexts for promoting resilience but provide another setting for creating healthy, supportive relationships for children and building individual strengths.”

Table A- 9 Description of the frameworks or models used in the review of conceptual studies, and implications for future operationalisation

Author (Year)	Framework/Model/ Theory	How factors were conceptualised within the framework/model/theory	Implications of note for future operationalisation.
Bennett 2018	Biopsychosocial approach	N/A	Making resilience a focus in medical care requires not only an understanding of the complexities of health but also the capabilities of managing these in the context of the patient. Issues requiring consideration include the following: Health professional students need to be exposed to people with low resilience resulting from socioeconomic disadvantage, domestic difficulties, unemployment, and etc. Health professional students and practitioners need to listen and understand people's narratives so they always can consider what other than a specific disease mechanisms are contributing to the person's difficulties to cope—now and into the future Clinical practice needs to facilitate pathways to remediate sources impeding on resilience as well as teaching resilience enhancing skills Remuneration systems need to "monetarily value" the work and skill required to manage people with low resilience Local government needs to coordinate community Governments must redesign health systems based on the needs of people.
Boxer 2013	Ecological model	The authors approach children's social behavioral development from a developmental-ecological view—that is, "the basic notion that children's behavior in terms of situational reactions as well as habitual styles of response is fundamentally the product of personal, dispositional factors such as temperament, cognitive ability, and	The authors prioritise coping skills as critical to understanding how children can demonstrate and sustain resilience. Coping skills are amenable to intervention (e.g., psychoeducation, group-based approaches in school contexts). The authors call for research on coping in children from low-income, ethnic minority communities.

		activity levels, and contextual factors such as socialization by parents, peers, and the media"	
Chrisman 2014	Risk and resilience framework informed by developmental systems theory and the related core principles of contemporary developmental psychopathology	The authors reflect on the following fundamental principles for understanding the impact of terrorism on children: Principle 1: Children show a dose gradient in response to direct threat. Principle 2: Developmental timing of the adversity will influence reactions and sequelae (e.g., younger children can be protected because of cognitive immaturity) Principle 3: Experiences and consequences are mediated and moderated by family, peer, and school systems, and particularly by relationships in these systems. Principle 4: Individual differences in vulnerabilities and capabilities influence child responses and resilience.	Community and social supports for children and families are essential for resilience in recovery from mass trauma. Community health is essential for resilience of families. Responding to disasters requires both a public health component (identifying those in need of services) and clinical component (treating emotional and behavioral responses from the disaster). The American Academy of Child and Adolescent Psychiatry has published a Practice Parameter on Disaster Preparedness, which has well-researched and evidence-based rated principles for child mental health clinicians to follow. Many of these principles are reviewed in this article. In addition to this important document, there is an excellent resource provided by the National Child Traumatic Stress Network, which gives an updated review of empirically supported treatments and promising practices.
Dangmann 2022	Ecological model	An ecological model of refugee health including both risk and resilience factors is therefore recommended. The model also includes the dynamic inter-relationship of past traumatic experiences, ongoing daily stressors and the disruptions of basic systems affecting both the individual and families as a whole, offering a framework to better understand the health disparities and appropriate interventions for refugee children.	The grounding principle is that all interventions are founded on human rights, and that refugee children are first and foremost children, not refugees. Thus, all children have the right to access appropriate support and services, no matter where they come from or why they had to leave. Based on the ecological framework, the authors argue that a holistic approach is necessary to promote health and wellbeing in refugee children, targeting both risk and resilience factors at individual, family and societal levels. The much-used Inter-Agency Guidelines for Mental Health and Psychosocial Support depict this approach in a pyramid of mental health and psychosocial support.

Garcia 2016.	The authors propose a 'Casual Loop Model' to explain how Extreme Weather disasters affect children. The model includes the child as the key stakeholder. The authors contrast the complex-systems model with a linear model, argues that within the linear model, the child is not explicitly present, and it ignores complexity of interactions among determinants of child health and wellbeing.	Resilience Factors are categorised under the following: Individual factors (i.e., physical and mental coping capacities), environmental context (i.e., family and socio-cultural support, education, health care, nutrition). The model also depicts 'climate mitigation measures', 'adaptive policies measures, and programs' and 'screening treatment and prevention' as Resilience Factors, thus acknowledging system-level factors that influence child health and wellbeing. The conceptual model that illustrates the permanent interactions between positive and negative factors that determine the overall net health impacts of Extreme Weather Driven Disasters on children.	The authors state: "complex systems thinking enables a more integrated mapping of the problem components", which can inform where to place policy efforts. Children are not just passively experiencing the process of growth and development and the traumatic experiences of life. They are actively engaged in it in purposeful ways, even from their earliest days. Programs to adapt to the risk of Extreme Weather Driven Disasters and their impacts on child health would benefit from acknowledging this active perspective rather than seeing children as unarmed victims.
Herrman 2011	N/A	This article acknowledges that various factors and systems contribute as an interactive dynamic process that increases resilience relative to adversity; and that resilience may be context and time specific and may not be present across all life domains. Accordingly, there are multiple sources and pathways to resilience, which often interact, including biological, psychological, and dispositional attributes, and social support and other attributes of social systems (I.e., family, school, friends, and community). Resiliency factors identified included: Nurturance, personal factors, biologic-genetic, environmental, family-friends,	- Clinical and public health interventions are both relevant for improving resilience among children. - Effective interventions to develop resilience require partnerships across health and non-health sectors. - Practicing professionals should collaborate with policy-makers to develop policies and interventions to bolster resilience. - Clinicians to renew emphasis on the value of good history taking, a strong therapeutic alliance, and reinforcing factors known to facilitate resilient outcomes.

		social-economic, cultural-spiritual, and community policy.	
Jiang 2022	Three socioecological levels: individual, family, and community.	Individual, family and community. More recently, building on the socioecological systems theory, researchers have highlighted the importance of the interplay of resilience factors within and across the child, family, and community to facilitate positive developmental outcomes in children who experience adversity.	Resilience-based interventions refer to the interpersonal or informational practices that target the building of skills, capacities, and resources at one or multiple socio-eco-logical systems to facilitate positive developmental outcomes. The key feature of resilience-based interventions is that such interventions focus on building resilience factors rather than remedying deficits or ameliorating exposure to adversity. Therefore, the success of resilience-based interventions relies on a solid understanding of adversity (e.g., type, duration, chronicity, severity) that the target population faces and the resilience factors that are useful and feasible for individuals to access through the socioecological systems (e.g., family, community) in which they reside.
Masarik 2022	Family stress model, Ecological Systems, and resilience science	Factors that are positive in nature and that promote positive adjustment despite stress can be found inside the individual, the family, school, local community, and the broader social-political contexts of a setting (i.e., macrosystems) at a particular time (i.e., chronosystems)	Research and policy work involving resettlement agencies needs to be expanded.
Masten 2012	Risk and resilience framework informed by Developmental systems theory	Resilience depends to a large extent on fundamental human adaptive systems embedded in individuals, relationships, families, friends, communities, and cultures. Masten identifies a common set of factors associated with better neurobiological and psychosocial outcomes, often termed promotive factors, such as: self-control and problem-solving skills close relationships with competent caregivers	Resilience frameworks provide guidance for preventative intervention and policy, but there is limited intervention research for what works, for whom, and when in relation to meeting needs of children and young peoples exposed to disasters and other mass exposures to extreme adversities. Masaten (2011) argued for a synthesis of basic and applied resilience frameworks (“translational synergy”), where research is designed collaboratively by field and research experts working together, with goal of fostering resilience in individuals (intervention goals) while testing theories of change (Science goals). Five broad intervention principles have been proposed for mass trauma based on the literature by Hobfoll et al. (2007): promote a sense of safety, promote calming, promote a sense of self-

		good schools and safe neighborhoods	and collective efficacy, promote connectedness, and promote hope. Five caveats: there are concerns about intervening at the wrong time, too intrusively, and with strategies that have little basis in research or are even contraindicated by evidence. Moreover, it is important to consider the possibility that intervention may disrupt or undermine naturally occurring resilience and recovery processes. Additional concerns stem from the widely acknowledged risks of imposing culturally or developmentally inappropriate interventions.
Mendez 2023	Social-ecological systems theory	The author describes risk and protective factors at varying levels of the ecology, such as the Individual level (e.g., the child's psychosocial characteristics, race, ethnicity, gender, skin color and religious affiliation, prior trauma exposure, styles of acculturation), microsystem level (e.g., families and peers, including financial instability, poverty, and parents' loss of professional status, may be used to categorize refugees lower in the social hierarchy, engendering discrimination), exosystem level (i.e., factors related to the broader community, such as social attitudes, misattributions, and media coverage), macrosystem level (i.e., the most distal level of the social ecology and includes factors linked to the socioeconomic conditions, laws and policies, culture, and history within a country) and the chronosystem, which encompasses the passage of time, emerging sociohistorical events and transitions, and interactions among the other ecological levels over time	Integrate components addressing discrimination into existing evidence-based treatments for trauma may be promising. Educational environments and community based programs are likely optimal settings for such interventions. In order to promote social inclusion and provide effective interventions, a focus on multiculturalism and increased educational awareness regarding cultural competency and responsivity is needed for clinicians, service providers, school personnel, and other professionals who have contact with refugee youth and their families.

Prime 2020	Systemic models of human development and family functioning	The central focus on family well-being comes in light of high-quality evidence to show that children's adjustment is largely contingent on the general climate and relationships in a family and that interventions to support child well-being are more effective when they include family components.	Based on the literature they reviewed, the author recommends family-based interventions via telehealth to support caregiver well-being, parenting behavior, and child mental health, including in high-risk populations. However, telehealth services need to be tailored for families who are socially disadvantaged, there is emerging evidence that technology-assisted interventions are not effective in socially disadvantaged populations without a direct contact component (e.g., in-person, video, or phone calls).
Racine 2022	Social ecology	Conceptualises a child's social ecology with individual (e.g., Child's intellectual abilities, social skills, ability to cope, and emotion regulation capacity), family (e.g., Factors occurring within the proximal familial environment, such as the caregiver-child relationship, connectedness within the family, and relationships with siblings), and community (distal factors occurring outside the home, such as educational support, peer relationships, or a supportive relationship with an adult outside the family) levels.	Conducting translational research requires stepping outside the academic silo into the complex systems Approaches that build community partnerships and engage with the clinical settings where prevention and interventions are being applied are most likely to be successful in bridging the gap between science and practice.
Salmon 2021	Ecological model and a developmental psychopathology framework	Children's development is characterized as nesting within multiple interacting levels (cultural, sociopolitical and economic, parenting and individual), of which the most powerful is the child's immediate care setting	Review findings highlight the need for interventions at each point of the ecological system. Examples include financial support for caregivers and widely available and accessible mental health and parenting resources delivered in multiple ways. These resources can guide caregivers towards evidence-based approaches to improving and maintaining their child's mental health and development. These approaches include positive approaches to discipline, engaging children in conversations about everyday past experiences, and talking with their child about the pandemic to reduce fear and correct misinformation.
Scannell 2016	Socio-ecological model	Scannell and colleagues' incorporate a relational understanding of well-being that is embedded in a social ecological framework, recognizing the relative strengths and	The focus of this conceptual review is on the role of place in children's resilience. Place attachment is a source of pre- and post-disaster resilience that can support the recovery of individuals, families, and communities. A number of place-based routes to disaster recovery and

		vulnerabilities of overlapping physical, social, and economic environments.	resilience have been identified, which require further research and intervention planning, for example: The need for suitable places post-disaster for youth to re-engage in the tasks of development. Place attachment leverages social capital which is reinforced through sense of belonging, civic participation, access to resources Including young people in the decision-making about rebuilding would likely aid in the repair of disaster-disrupted developmental processes, like mastery, contribute to post-disaster reformation of place attachment, and further impact their recovery and sense of resilience. Place attachment facilitates continuity and symbolises hope, which is important to youth's disaster recovery Forming new place bonds can help ease place attachment disruptions in children and youth
Slone 2021	Bronfenbrenner's Ecological Systems Theory	Many of the factors found to be resilience promoting were combined by the authors at higher-tier broader environmental level, termed as Social Climate of Support. In a conceptual model, the social climate of support encapsulates interacting personal (e.g., sense of belonging), family (e.g., family functioning) and societal/community (e.g., school connectedness, community support) resilience-promoting factors, which impact mental health outcomes of children exposed to war traumas.	Clinical implications pertain to strategizing therapies and interventions according to specific individual and group resilience-promoting needs or according to strengthening family, school, community, and societal resources or both. On the level of policy decision-making, the notion of producing a climate of social support can direct policy toward service provision and resilience-based programs aimed to build both individual strengths and capacities but also to encompass protection and development of the resources of families, peers, schools, community organizations, and societal structures that support children's adjustment and wellbeing. A supportive socio-ecological context is as vitally important a determinant of resilience as intra-individual variables and should be a central focus for creation of societal resilience-promoting infrastructures.

Ungar 2013	Multisystemic social-ecological theory of resilience	Results from decades of resilience research can be sorted into bio-, micro-, meso-, exo-, macro-, and chrono-systemic processes. Using a multisystemic social-ecological theory of resilience, the authors identify three principles to inform a bio-social-ecological interpretation of resilience: equifinality; differential impact; and contextual and cultural moderation.	Three principles to inform interventions from a bio-social-ecological perspective: - Equifinality: In the case of resilience, studies that capture the complexity of systemic interactions show that microsystemic processes tend to be less predictive of positive outcomes than the meso- and macrosystemic interactions that trigger individual responses to stress. In other words, we find support for a "decentred understanding of resilience in which changing the odds stacked against the individual contributes far more to changes in outcomes than the capacity of individuals themselves to change (Ungar, 2011b). - Differential impact: Protective and promotive factors that facilitate human development exert a differential impact across context and time. - Cultural moderation: The ecocultural perspective, like a social-ecological understanding of resilience, supports two propositions. First, all societies exhibit commonalities (or what Berry terms cultural universals) like attachment and a search for efficacy. Second, behaviour is expressed differently in response to the demands of culture and context.
Wadsworth 2018	Intersectionality framework	An intersectionality lens recognizes the strengths that youths develop to cope with marginalized status and makes visible their connection to structural conditions. Inherent in this theory is also the idea that marginalized groups share many core experiences that stem from a common source—structural inequality.	We "need to think outside the typical individualistic skill and coping boxes to locate malleable mechanisms upon which to intervene" Leverage context-specific protective factors to build upon youth's preexisting individual and collective assets Connection to one's cultural heritage are key aspects of cultural identity development likely to promote resilience across social categories and cultural contexts salient to poor youth. Connecting with others and learning how to participate in collective social action can be viewed as ways of coping with systemic stressors that enable individual agency and foster belongingness Authors suggest that "strength-focused, social justice oriented, intersectional interventions building on this solid foundation of

empirical evidence are the future direction of both research and intervention for children and families in poverty"

The Authors describe the Building a Strong Identity and Coping Skills (BaSICS) intervention within the conceptual review paper.

Table A- 10 Actions required to operationalise and implement a resilience framework in Queensland

Systems Lever	Actions required for operationalisation
Concerted leadership	**A new approach to leadership:** • Giving permission to people to do things differently and be comfortable with risk. • Leaders should create safe space to fail – trust people and allow them to navigate change. • Create flexible environments that encourage creativity and innovation. • Leaders/policy should move away from being prescriptive, to be more responsive. **Build up leadership capacity in communities:** • Uplifting leaders to support community leadership throughout – more than just community consultations. • Delegating authority to First Nations controlled organisations. • Recognise the work and achievements of community leaders to build up capability in leadership.
Smarter investment	**Cohesive vision for investment:** • A need for investment in the articulation of a resilience framework to provide cohesive vision for investment and focus. • Appropriate funding and untied funds can ensure responsiveness and prevent gaps in operationalisation of a resilience framework. **Reimaging of funding models:** • A reimagining of funding models that place greater control in the hands of providers and communities (e.g., can the First Nations' community-led models be generalised to other contexts?). • A rethinking of investment from larger organisations to smaller organisations who are able to be more agile, flexible, responsive, and innovative in generating solutions appropriate for their community and context. • Support communities to identify what should be funded (e.g., empowered communities model). **Cross-sector and cross-agency collaboration:** • Capitalising on current investment and not dismissing what has come before a framework by investing in only the 'new and shiny' programs and services. • Capitalising on current investment to use existing cross-agency collaboration infrastructure to mobilise conversations, action, and to activate systems to work together. • Noting work and funding mechanisms tend to be siloed and funders and government tend to be risk averse.

Engaged public and communities

First Nations considerations:

- A Resilience Framework has to consider First Nations culture (and reflect existing work, e.g., the National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and Social and Emotional Wellbeing 2017-2023).
- Consider Australian First Nations context for resilience research.
- Strategies affecting Indigenous peoples should be Indigenous-led – knowing, being and doing – and amplify First nations voices.

Engaging communities and building up capacity:

- Approach needs to be adaptive to communities' need and responsive to context.
- All marginalised groups should be engaged in co-design processes – drawing on lived experience and mobilising through advocacy groups.
- Include and support children and young people's voices.
- Communities need help to build up their capacities and support to be inter-dependent rather than competing for resources.
- Support cross-organisation partnerships and secondments and peer support within communities, maximise use of community facilities (i.e., make schools and other public spaces accessible after hours).
- There are many different strategies, initiatives and framework across QLD organisations, which may suggest a struggle to achieve a common language.

Stronger workforces

Supporting the workforce:

- Sectors and systems are overworked –resulting in 'buck-passing' and laying blame, and the encroachment of personal lives into professional and vice versa.
- Workers feel disempowered and weighed down by systems and require support for their own 'brain health'.
- Cultures of organisations needed to be supportive, creating conditions for learning and reflexivity (not just accountability and 'tick a box' type efficiency).

Adequate training and professional development:

- New knowledge takes repetition and continued learning – related to supervision and reflexivity, regularly reviewed and revisited.
- Training and professional development needed to be across all areas of the workplace, from the front-line to the boardroom and executives.
- Engagement across the tertiary sector to implement training and knowledge on resilience from the outset.

Integrated delivery of services	**A common understanding of resilience:** • Danger of resilience becoming a 'buzzword' – loss of impact and turning people off. • Perhaps not about a common definition, but a way of getting everyone aligned on understanding, 'being', or doing resilience. • Consider how existing frameworks fit with resilience, and how these might be modified for implementation (rather than risk resilience getting misinterpreted). **'Re-valuing' practice:** • A 're-valuing' of practice –revisiting frameworks, such as strengths based and trauma informed, and forming a common identity and community of practice. • The experts recommended professionals start with "what is your why?" – drawing out how existing skills and frameworks align with resilience, and the relevance to workers, clients and community. **Silos:** • Silos act as a barrier to integrated delivery and are reinforced by current funding models and bureaucracy. • Consider working in the direction of silos to strengthen disparate responses, which could be more effective than trying to change the purpose of the system. **Community embedded:** • Place-based, or place-focused, community interventions as means to maintain a focus on locally led solutions, with community retaining control and ownership. • Distance between policy and local experience creates distrust on how interventions will be implemented. • Resilience needs to be defined by community and co-design principles employed to provide multiple ways for community to engage in the process.
Putting data and learning to work	**What data are collected?:** • Need for high quality data relevant to the context and place that is better able to demonstrate impact (e.g., data that illustrates pathways through resilience process). • Need for process data alongside outcome indicators, which alone do not adequately capture the process of change. • Greater qualitative capture of relational information and the inclusion of children's voices. **Data sharing and access:** • Encourage continued efforts to support data sharing and data linkage across departments, jurisdictions and sectors to inform decision making (e.g., child development atlas). • Make data accessible and available in real-time, with due consideration of ethical and confidentiality issues, as well as effective system design. • Support best practice ways of working and engaging with data (e.g., university/other organisation partnerships).

- First Nations peoples should have sovereignty over First Nations data – they should get to define what data is collected, how it is shared, and Indigenous communities should "own data".

Considering and filling evidence gaps

- Critical considerations for this lever were 1) data sovereignty and 2) the imperative to only collect data that is critical to service delivery.
- Effort is needed to measure and map evidence at the community and systems level, including service mapping (with quality assurance and real-time updating), and measurement and monitoring of cultural capability and institutional racism in institutions and services.

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AUSTRALIA
CREATE CHANGE

INDIVIDUAL LEVEL

Biological factors
Genetic factors (2)
Older age (1)
Gender
Neurology

Communication Skills
Social skills (3)
Expressive skills

Cognitive (2)
Have a better life (aspirations and positive life goals) (1)
Intelligence/cognitive abilities (5)
Self-efficacy (sense of control, internal locus control) (4)
Lower guilt cognitions
A sense of duty
Ego development
Learning Management skills
Low negative cognition (2)
Maturity
Self-awareness of strengths and weaknesses (1)
Self-determination (2)
Tolerance of negative affect
Trauma related beliefs and cognition (5)
Religiosity and spirituality (4)

Behaviours
Physical, leisure, and cultural activity (2)
Coping (6)
Competence (2)
Perseverance
Adapt and change
Curiosity and exploration (2)
High performance
Reduced novelty seeking
Staying out of trouble
Personality traits and characteristics (3)
Problem Solving (2)
Good temperament (2)
Acculturation (2)
Help seeking

Emotional
Self-regulation (5)
Empathy, solidarity, altruism, compassion, trust, tolerant for others (2)
Perceived support (Family, social, spiritual, school)
Confidence
Optimism (2)
Self-esteem (6)
Hope and expectancy (4)
Satisfaction (1)
Self-concept, self-image (satisfaction with body image)
Humour
Less motivation to seek revenge
Physical and emotional wellness (2)
Sense of coherence
Self-identity (2)
Grieving

RISK CONTEXT (ADVERSITIES)

Armed conflict or facing terror
COVID-19 pandemic
Exposure to violence and victimisation (2)
Homeless
Low quality family environment
Maltreatment and sexual abuse (3)
Ethnic minority
Negative life events
Parents with mental disorders
Poverty or low socioeconomic status (2)
Refugee camps/Refugee experience (3)
Risk of social exclusion
Substance abuse
Climate change and natural disasters
Racial Discrimination

Accumulation of risk factors

RESILIENCE PROCESS

OUTCOMES

Ability to bounce back in adversity
Ability to prevent PTSD
Ability to seek support networks and coping strategies in people who experience trauma
Absence of substance abuse
Good mental health (5)
Good psychosocial functioning
Maintain socially competent behaviours despite stress.
Neighbourhood, family and social cohesion
No victimisation
Overcoming adversity
Personal competence and acceptance of self and live
Positive adaptation
Positive development
Psychological wellbeing
The ability to cope with stress and adversity.
Adaptive functioning (e.g., positive self-worth and social competence, and low levels of psychological difficulties) (2)
Physical, mental, and social well-being
Broadly defined (e.g., internalising/externalising problems, academic skills, psychopathology, life satisfaction, etc)

BIOPSYCHO-SOCIO-ECOLOGICAL RESILIENCE FACTORS

FAMILY LEVEL

Parenting/care giving quality (combination of warm, expectations and structure (family-cantered care, Family meals together, good parent-child communication, low parents stress, good family climate, low exposure to domestic violence, clothes and food. (8)
Family/parent support (10)
Rules or routine
Connectedness to family (4)
Low levels of family adversity
Low levels of family violence (2)
Family sense of coherence (2)
Family cohesion (4)
Parent emotion/ distress (3)
Family SES factors (2)
Meaningful relationship with at least one trusted adult in family unit (5)
Positive family environment (1)

PEER LEVEL

Peer support (6)
Connectedness to peers (4)
Satisfaction with friendships (2)
Decreased affiliations with delinquent peers
Peer competence
Positive peers (2)
Safe interpersonal relations (3)
Meaningful relationship (friendship) with peers (3)
Support from shared cultural background (2)

SCHOOL LEVEL

School engagement and connectedness (6)
Access to education (2)
Having a positive mentor
School safety (4)
Academic expectations and involvement (3)
Teacher support (5)
Positive School Climate (4)
Meaningful relationship within context (1)
Academic performance (2)

COMMUNITY LEVEL

Social resources and support (medical, aid) (5)
Social relationships and connectedness (7)
Socioeconomic status
Neighbourhood-level cohesion and control (5)
Participation in community activities or service work (5)
Safety and security (4)
Practice a regular life, giving back to family and community (3)

SOCIETAL LEVEL

Cultural
Spirituality (3)
Ethnic identity (2)
Cultural heritage and identity (6)
Faith-based supports
Positive religious coping.
Religion (2)
Political ideologies (1)
Language (2)
Norms (1)

Other
Built capital & natural resources (1)

Figure A-1. Conceptualisation of bio-psycho-socioecological resilience factors identified in systematic review studies (n=14) that synthesised 646 original studies. Factors that converged between 2 or more systematic review studies are denoted with a number indicating the degree of convergence.

Contact details

Professor Lisa McDaid
E l.mcdaid@uq.edu.au

The Institute for Social Science Research at the University of Queensland (UQ) acknowledges the Traditional Owners and their custodianship of the lands on which UQ operates. We pay our respects to their Ancestors and their descendants, who continue cultural and spiritual connections to Country.