Supporting Behaviour in Early Childhood Education for Enhanced Teacher and Child Wellbeing through Behaviour Support Strategies

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Thesis Abstract

Challenging behaviour among young children in Australian Early Childhood Education and Care (ECEC) settings is increasing, contributing to worsening social and emotional outcomes for children, as well as workforce challenges for educators. This thesis used Bronfenbrenner's Ecological Systems Theory to examine the systems that influence children's early behaviour, with an emphasis on the role of educators in the ECEC context (i.e., the microsystem) and early childhood education frameworks and standards (i.e., the macrosystem) that underpin the quality of ECEC in Australia. An analysis of educator preparation found clear mismatches between qualification requirements and the practical skills required to support children's behaviour in ECEC practice. This gap in knowledge leaves many educators feeling unprepared for the behavioural challenges they face routinely. Furthermore, the quality assessment and evaluation processes guided by the National Quality Standard do not provide educators with meaningful feedback or actionable recommendations to enhance their ECEC practices. Behavioural support interventions have been developed to enhance early childhood educator's understanding of children's behaviour and provide them with practical strategies to best support behaviour in ECEC settings. A scoping review identified six studies examining the effectiveness of behavioural support interventions in the Australian ECEC context. The interventions universally emphasised the promotion of prosocial behaviours rather than correcting challenging behaviours. Furthermore, the review showed that there are multiple mechanisms of action to effectively support behaviour change amongst young children, all ultimately resulting in improvements in social and emotional functioning. However, it is recognised that behavioural support interventions are a solution that is likely to have immediate but short-term effects on behaviour. To effect sustainable behaviour change, a more comprehensive systems-level reform is required. The thesis proposes a three-pronged approach: 1) integrating evidence-based behaviour support content throughout ECEC training, 2) providing hands-on practice opportunities in real settings, 3) transforming the quality assessment process to provide ongoing professional development

and targeted support for educators' behavioural support practices. This research reframes challenging behaviour as emerging from complex interactions between children and their environments rather than reflecting individual problems, offering a pathway for sustainable improvement that benefits both children and educators.

Statement of Originality

This is to certify that the content of this thesis is my own work. This thesis has not been submitted for any other degree or purpose.

I certify that the intellectual content of this thesis is the product of my own work, and that all assistance received in preparing this thesis and all sources have been acknowledged.

No content produced by generative AI tools has been used in the preparation of this thesis.

Elena Guenveur Petrou 15 August 2025

Co-Author Declaration

We the undersigned acknowledge the following statement:

This thesis principally represents the work of Elena Guenveur Petrou.

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List of Commonly Used Abbreviations

BS	Behaviour Support
ECEC	Early Childhood Education and Care
EST	Ecological Systems Theory
EYLF	Early Years Learning Framework
NQS	National Quality Standard

CHAPTER ONE:

Early Childhood Development and Behaviour

1. Early childhood development and behaviour

1.1. The importance of early childhood development

The first five years of a child's life are critical in terms of their lifelong health and wellbeing. Indeed, early development directly influences academic achievement (Rosanbalm & Murray, 2017), health outcomes (Campbell et al., 2014) and social-emotional wellbeing (Zhang et al., 2013) in adolescence and adulthood. During this time, the brain is rapidly developing, and children can learn skills quickly (Gilmore et al., 2018; Rosanbalm & Murray, 2017; UNESCO, 2015). Research has shown that children have 'sensitive' or 'critical' periods during brain development, which are described as limited periods during which children are better at acquiring new information and sustaining these learnings long-term (Knudsen, 2004; Thomas & Knowland, 2009; Twardosz, 2012). This happens as a result of the malleability, responsiveness and adaptability of children's brains (Thomas & Johnson, 2008). It is important to recognise that these critical periods offer a vital opportunity to shape and influence children's behaviour (Knudsen, 2004).

1.2. Global call to increase access to quality ECEC

Quality Early Childhood Education and Care (ECEC) can lay a strong foundation for lifelong learning and wellbeing by promoting children's school readiness, enhancing their educational outcomes, supporting a smooth transition to primary school, and promoting their behavioural skills (Melhuish et al., 2015; Von Suchodoletz et al., 2023; Yoshikawa et al., 2013). Globally, there has been a call to increase children's access to quality ECEC. For example, the United Nations Sustainable Development Goal (SDG) 4 emphasises the need for equity and inclusivity in education to ensure all children are afforded opportunities to promote lifelong learning (United Nations, 2023). Specifically, SDG target 4.2 aims to provide universal access to quality ECEC by 2030 (United Nations, 2023). Early Childhood Education and Care (ECEC) is especially important for disadvantaged children, including those affected by poverty, conflict, disability, and social marginalisation. Participation in

quality ECEC programs can narrow achievement gaps and promote social inclusion (Heckman, 2011; Magnuson & Duncan, 2016). Long-term investments in ECEC yield significant economic returns through increased productivity, higher incomes, improved health, and reduced social costs (Heckman et al., 2010; Reynolds et al., 2011). These benefits highlight the importance of providing all children with access to quality ECEC (Heckman & Karapakula, 2019).

1.3. Behaviour

1.3.1. Definition of behaviour

For decades, the definition of behaviour has been widely debated in the literature with various authors having attempted to give unique definitions (Bergner, 2011; Dretske, 1988; Lazzeri, 2014). Lazzeri (2014, p. 66) describes behaviour comprising of four components: "(i) the occurrence of an organism's action or reaction, (ii) as a class or pattern, (iii) as group behaviour, and (iv) as a change or movement of an object." This definition highlights that behaviour can range from intentional actions to more automatic responses, noting that these behaviours often occur as patterns that repeat themselves in different situations and contexts (e.g., "hand-raising" existing as an ongoing capability in someone's behavioural repertoire). Within a group, behaviour can be coordinated to enable organisms to work together toward shared outcomes (e.g., when bees construct honeycombs). Lastly, Lazzeri's definition of behaviour acknowledges that some physical changes or movements of an object occur without a specific purpose (e.g., accidental movements like stones tumbling downhill); however, the emphasis remains on understanding behaviour as a functional activity that serves some purpose for the organism, whether conscious or unconscious.

Through these distinctions, Lazzeri emphasises that behaviour encompasses a spectrum of activities, from deliberate actions to automatic responses, but distinguishes genuine behaviour from purely mechanical actions. Where Lazzeri takes a more biological and detailed approach, Corsini (2017, p. 99) simplifies, but similarly defines behaviour, as "actions, reactions, and interactions in response to

external or internal stimuli". He also further splits the definition into two types: 1) 'covert' or 'internalising' behaviour and 2) 'overt' or 'externalising' behaviour (Corsini, 2017), both of which are further expanded on in the next section. Overall, there is a consensus in the literature that behaviour is comprised of actions and reactions to internal stimuli (e.g., thoughts or feelings), and external stimuli (e.g., the environment) (Heimlich & Ardoin, 2008; Popescu, 2014). This conceptualisation of behaviour was used for the purposes of this research.

1.3.2. Behaviour in early childhood

Behaviour in early childhood is often described as 'prosocial' or 'challenging'. 'Prosocial' behaviour may be described as desirable, such as sharing toys or helping others (Ulber & Tomasello, 2020). These types of behaviour can be promoted by warm, nurturing and responsive care as well as sensitivity from attachment figures including caregivers and ECEC staff (Williams & Berthelsen, 2017). Conversely, behaviour may be defined as 'challenging' if it is a recurrent pattern that infringes on children's optimal learning or interferes with prosocial interactions with others (Ulber & Tomasello, 2020), such as talking during group instruction or physical outbursts (Artman-Meeker & Hemmeter, 2013). Challenging behaviour can often be a means of communication for young children, particularly those who have not yet learned to talk, and can present themselves as either externalising or internalising behaviour (Little, 2020). Internalising behaviour is seen as 'over controlled' and can manifest as shyness, anxiety, depression, or social withdrawal (Bornstein et al., 2013; Little, 2020; Weeks et al., 2016). Externalising behaviour is deemed 'under controlled' and can include noncompliance or physical aggression, such as biting or hitting, and difficulties with self-regulation (Little et al., 2020; Mindes, 2018; Williford et al., 2017).

Challenging behaviour is the most common health issue amongst preschool-age children (Egger & Angold, 2006; Stein et al., 2022) and decades of research have shown that these behaviours can stem

from various factors, such as context, sex and temperament, as well as parental factors (Carneiro et al., 2016; Clay et al., 1996; Jamnik & DiLalla, 2019). For example, a review by Carneiro et al. (2016) found that parental mental health, including depression and substance abuse problems, disciplinary practices, lower socioeconomic status (SES), and specific characteristics of a child's temperament are associated with more challenging externalising behaviour. With regards to the latter, children who have high irritability and anger, low inhibitory and emotional control, and are difficult to soothe tend to demonstrate more externalising challenging behaviour (Carneiro et al., 2016). Studies by both Clay et al. (1996) and Jamnik and DiLalla (2019) have also highlighted that young females tend to have a higher rate of challenging internalising behaviour compared to their male peers who often exhibit more challenging externalising behaviour.

While the influences on children's behaviour are multifaceted, challenging behaviour itself can also have impacts on a child's developmental trajectory, creating a complex cycle where environmental factors, behaviour, and outcomes are interconnected. Research has shown that preschoolers who demonstrate challenging behaviour are more likely to develop mental health problems in later childhood and adolescence (Black et al., 2017; Egger & Angold, 2006). However, it is important to recognise that challenging behaviour is often symptomatic of broader environmental, familial, or systems-based issues rather than an isolated problem attributable simply to the individual child. When challenging behaviour occurs in ECEC, children can often be viewed through a negative lens by educators and potentially labelled as a 'problem child' (Little, 2020), which can compound existing difficulties rather than address their underlying causes. Without appropriate early intervention that addresses both the behaviour and its systems-level origins, children may experience more difficulty in forming social relationships (Bayer et al., 2012; McClelland et al., 2006) and are more likely to face school discipline as well as drop out of school in the future (Monahan et al., 2014; Pascoe & Richman, 2009; Tremblay, 2000). This creates a concerning pattern where children who are

experiencing environmental stressors exhibit challenging behaviour, which then leads to negative responses from the system (e.g., their ECEC settings), potentially exacerbating the causes of their behaviour. Furthermore, challenging behaviour in early childhood that is not appropriately addressed through comprehensive, systems-based approaches is associated with difficulties with social adjustment, relationship building (Campbell et al., 2006), and substance abuse in adolescence (Kaplow et al., 2002). While rare, in the most extreme cases, challenging behaviour (i.e., physical violence) can lead to children being suspended or expelled from their ECEC settings (Martin et al., 2018; Zeng et al., 2019), which removes children from potentially supportive environments and deprives them of valuable learning opportunities (Noltemeyer & Mcloughlin, 2010), further perpetuating the cycle of disadvantage. This interconnected pattern highlights why addressing challenging behaviour requires more than managing individual symptoms; it demands understanding and intervening in the broader systems and contexts that shape children's development and behaviour.

Given the above, directly targeting challenging behaviour in early childhood is a potential approach to intervening early to support children's social, emotional, and cognitive development. However, the effectiveness of this targeted and linear strategy to behaviour change may be limited, as it does not account for broader systems-level influences on the development or persistence of children's behaviour. As discussed above, familial and community-based factors, including parental health and wellbeing and household socioeconomic status, have been shown to influence behaviour. However, the educational system is another critical factor, offering vital opportunities to support children's behaviour from a young age. This thesis focusses specifically on a systems-based approach to understanding and supporting children's behaviour with the aim of improving outcomes from ECEC settings for both children and educators, with likely downstream impacts for families and communities.

It is essential to recognise that children's behaviour itself is often symptomatic of broader ecological factors, as mentioned prior. While addressing symptoms of challenging behavioural is important, a

systems-based perspective is crucial as it recognises that challenging behaviour emerges within complex familial, educational and societal contexts. Therefore, this thesis will take a systems-based approach at examining the various factors that lead to children's behaviour problems and suggest potential solutions to these challenges.

1.4. The rise of challenging behaviour in Australia

Challenging behaviour in primary school classrooms has been found to be a significant problem in Australia. Specifically, the Australian Senate Education and Employment References Committee recently released a report highlighting the increase in behavioural disruptions in Australian classrooms (Martin et al., 2023). The reported behaviour problems ranged from "low-level disruptions" (Martin et al., 2023, p. 3), such as a lack of respect for staff, calling out without permission, and being slow to follow instructions. However, more challenging behaviour included verbal abuse or threats, property destruction, physical assault, tantrums, leaving school grounds without permission, and substance abuse. Notably, the report stated that Australian primary school classrooms are some of "the world's most disorderly" (Martin et al., 2023, p. 1). Recommendations arising from the Senate report included the need for teacher training in behavioural support strategies, including evidence-based instructional models that have been proven to be effective in supporting challenging behaviour in classrooms.

The latest national report from the Australian Early Development Census (AEDC) demonstrates similar trends when children are transitioning from ECEC settings to their first year of formal schooling in New South Wales (NSW), as evidenced by notable declines in children's emotional and social competence, skills known to influence children's behaviour (Department of Education, 2023). Importantly, the data presented in these reports have the potential to drive critical changes in Australian primary schools at a national level and highlights the need to examine challenging

behaviour in Australian ECEC settings with the same level of scrutiny. Without this data, it is not possible to understand when challenging behaviour typically first emerges and if these behaviours are indeed evident prior to children attending primary school. Understanding the development and trajectory of challenging behaviour beginning from early childhood has the potential to inform the development and implementation of early intervention and prevention strategies and, in turn, improve student and staff outcomes. Indeed, as ECEC is a critical time for children to develop socialisation skills necessary for a smooth transition to, and overall success in, primary school (Denham, 2006; Lecce et al., 2017), it is imperative to address and support children's behaviour in early childhood.

1.5. Thesis aims and structure

This thesis is presented in six chapters. These include the Introduction and Discussion chapters (Chapters 1, 2, 3 and 6), as well as the scoping review that has been submitted and is currently under its second review for publication in a peer-reviewed journal. The scoping review submitted to the journal consists of the Methods and Results chapters (Chapters 4 and 5) as well as parts of the Introduction and Discussion chapters.

Given the concerning trends in challenging behaviour among young children in Australian ECEC settings, this thesis aims to examine the systems-level factors that contribute to these challenges and identify opportunities for comprehensive reform. This thesis is guided by the following aims:

1. To analyse how the Australian ECEC system prepares educators to support children's behaviour;
2. To evaluate the policy and regulatory frameworks that are intended to guide and evaluate behaviour support (BS) within the Australian ECEC system; and
3. To examine the current landscape of BS interventions in Australian ECEC settings.

The findings from this study will help create recommendations for system changes that better support children's behaviour and development.

CHAPTER TWO:

Influences on and Impacts of Children's Behaviour

2. Influences of and impacts on children's behaviour

2.1. Theoretical frameworks for early childhood development

Children's development is not predetermined, but rather it is shaped by the environment in which they grow up and the systems with which they interact (Bronfenbrenner & Morris, 2006). Over multiple decades, theorists have examined the significant role children's environments play on their learning and development as reflected in Vygotsky's (1962) sociocultural theory and Bandura's (Bandura & Walters, 1977) social learning theory (SLT). Specifically, Vygotsky's theory posited that children's learning and development involved reciprocal interactions with others, such as through negotiation and collaboration, rather than solely via independent explorations (Vygotsky, 1962). He proposed the zone of proximal development (ZPD) which highlights the importance of personalised care or the need for caregivers and educators to adjust their teaching to a child's individual knowledge and learning (Vygotsky, 1962). The ZPD highlights that children are capable of learning and solving problems independently, but that they can achieve even more with assistance, or 'scaffolding', from caregivers (Vygotsky, 1962). Although Vygotsky's sociocultural theory has played a major role in understanding children's development internationally, particularly in educational settings, it has received some criticism. One view is that the ZPD does not take children's motivational influences and current capability level into account (Ameri, 2020). Additionally, some question its application across all social and cultural groups or among children with superior intellectual abilities (Ameri, 2020).

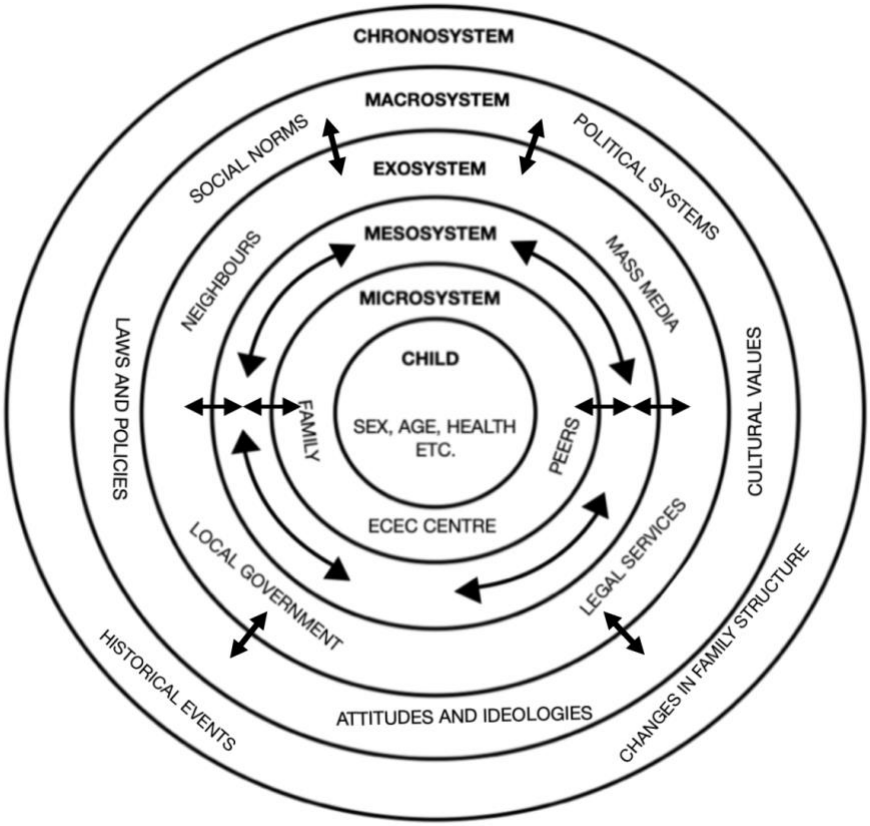
Similar to Vygotsky's theory, Bandura's SLT indicates that children learn from others instead of purely through independent play (Bandura & Walters, 1977). This theory highlights the importance of modelling positive and ethical behaviour for children and the impact that adults' behaviours can have on children's learning and development. Specifically, the theory stipulates that children learn by observing others and modelling their behaviour, also called 'vicarious learning' (Bandura &

Walters, 1977). A large part of SLT involves the concept of reinforcement. Indeed, Bandura emphasised the use of positive reinforcement, such as praise, whereas punishment, such as yelling, was discouraged as behaviour is more likely to be modelled if rewarded (Nabavi & Bijandi, 2012). However, the SLT has also received criticism as some researchers question if reinforcement is necessary for children's learning (Nabavi & Bijandi, 2012). This raises important questions as to whether the authenticity and individuality of children are being fostered or whether their behaviour is shaped to align with what adults deem appropriate. Children's agency is important for their wellbeing (Steckermeier, 2019) and is increasingly becoming a focus in current ECEC research (Varpanen, 2019).

Notably, Vygotsky's and Bandura's theories both indicate that the responsibility for raising young children falls on caregivers close to them, such as parents and educators. While Bronfenbrenner's (1979) ecological systems theory (EST) also emphasises the role of caregivers in shaping child development and learning, it expands beyond this sphere to demonstrate other sources of influence. Indeed, research supports the critical role played by various systems and people other than primary caregivers in a child's life, learning and development (Paat, 2013). As depicted in Figure 1, in the EST, the child sits at the core of the model, with each subsequent layer reflecting a system that acts as an external force on the child's early development. In the original model, the first layer of influence is the 'microsystem', which consists of people and organisations closely affiliated with the child, such as their parents, friends, teachers, educational centre, and place of worship. Next is the 'mesosystem', which refers to the relationships between elements in the microsystem, such as the relationship between parents and teachers. The 'exosystem' consists of influences such as neighbours, local government, and mass media. Next is the 'macrosystem' which involves broader sources of influence such as social norms, cultural values, laws, and policies. Lastly, the 'chronosystem' refers to social

and contextual changes that happen throughout a child's lifetime, such as historical events or changes in family structure (Bronfenbrenner, 1979).

Figure 1. Bronfenbrenner's ecological systems theory model reproduced from Hayes et al. (2017)



Over time, Bronfenbrenner expanded the theory from an 'ecological' to a 'bioecological' theory, emphasising how biological and ecological systems are interrelated. This adaptation acknowledges that a child's development is not only influenced by their environment, but also by their biology, highlighting both nature and nurture as key influences on development (Bronfenbrenner, 2001). This theory also grew to include a process-person-context-time model, highlighting how these four elements (process: interaction with people or objects; person: child's personality, physical characteristics and intelligence; context: individual systems, such as the microsystem; and time: the chronosystem) influence children's developmental outcomes (Bronfenbrenner, 1999). For example,

the combination of a child's intelligence, the characteristics and qualifications of their educator, the interactions between them and how often or long these occur, can all shape early childhood development.

Bronfenbrenner's EST was ground-breaking, particularly as it positioned the child as an active participant in their own development rather than an object to be studied, and it shifted the responsibility of raising a child from primary caregivers to a wider variety of influences. Nevertheless, the theory has been critiqued (Elliott & Davis, 2020). For instance, in Australia it has been highlighted that the theory is not wholly representative of First Nations children as it does not recognise the developmental importance of the spiritual connection between child and country, kin and their cultural identity in terms of where they come from and who they are (Elliott & Davis, 2020). It also does not acknowledge the importance of ancestry and family connections, such as the value of family traditions, failing to recognise the key role these can play in identity development for children (Elliott & Davis, 2020). There have also been suggestions to further modify the theory to include more complexity or 'networking' between each system; specifically, how each system relates in an overlapping way and how individuals interact with other systems (Neal & Neal, 2013).

Although these theories are popular and remain highly regarded, there are also more recent theories, such as the dynamic systems theory (DST) (Yoshikawa & Hsueh, 2001). Similar to the EST and the sociocultural theory, the DST also highlights the role that outside influences, such as caregivers, play in children's learning and development. However, instead of focussing solely on identifying the origins or causes of behaviour, the DST, like the EST, expands the scope of explanation by exploring the interaction between microlevel factors (e.g., hormonal influences) and macrolevel systems (e.g., parenting practices or societal norms) that contribute to the development of new abilities; this is referred to as 'multicausality' (Newman & Newman, 2020). The DST goes into further detail as it

argues that all developmental outcomes result from the spontaneous emergence of organised, higher-level patterns through repeated interactions among basic components. This process, known as 'self-organisation', explains how growth and new ideas or patterns come about naturally, whether in living things, communities, ecosystems, or even the planet as a whole (Lewis, 2000). Another assumption of the DST is that behavioural change happens across various timescales: for instance, neural activity takes place in milliseconds; reaction times occur within hundreds of milliseconds; skill learning unfolds over hours, days, or months; developmental changes span weeks to years; and evolution happens over much longer periods (Smith & Thelen, 2003). The DST indicates that development is a probabilistic result arising from the interaction of processes across various levels and systems, a phenomenon known as 'emergence' (Newman & Newman, 2020). Ultimately, the DST suggests that development is influenced by internal and external forces that interact and shape new abilities and behaviours, similar to Bronfenbrenner's EST.

All of these theories highlight the crucial role that social and contextual influences play in children's development, recognising that development involves complex, reciprocal relationships between children and their environments, where children both shape and are shaped by the multiple systems in which they operate However, acknowledging there are strengths and limitation to all of these theories discussed in this section, Bronfenbrenner's (1979) EST has been used as the theoretical framework for this research as it is a useful way in which to conceptualise children's development and recognise important influences at both an individual and systems-level.

2.2. Influences on the development of children's behaviour

2.2.1. Microsystem influences

Early childhood education and care

ECEC settings play a crucial role in children's development, providing opportunities for early learning and supporting overall wellbeing (Ansari & Purtell, 2017). Research has demonstrated that ECEC has long-term benefits for children as those who attend have been shown to have stronger language and literacy skills (Ansari et al., 2019), better math and reading skills, higher attendance rates and fewer disciplinary referrals in primary school (Bakken et al., 2017). Furthermore, studies have indicated other associated long-term benefits later in life, such as higher income, lower levels of criminal behaviour, greater social competence, and better overall mental and physical health (D'Onise et al., 2010; García, et al., 2021).

Despite recognised benefits, only 40% of children attend ECEC programs globally (United Nations Children's Fund, 2023, June). In Australia specifically, a June 2023 report from the Australian Department of Education found that 49.2% of children aged zero to five years attend ECEC, spending an average of 26.2 hours per week in ECEC centres (Department of Education, 2023, June). Primary caregivers may enrol their children in ECEC for various reasons, ranging from work commitments to wanting their children to have access to quality learning opportunities (Kim & Fram, 2009; Sandstrom & Chaudry, 2012).

It is important to recognise that the benefits associated with ECEC are mediated by quality. In contrast to lower quality ECEC, participation in higher quality ECEC in early childhood has been shown to be associated with stronger cognitive, academic, social, emotional, and school readiness skills (Gilliam, 2005; NICHD Early Child Care Research Network, 2002), better reading skills in adolescence (Felfe et al., 2015), social competence (Smith & Fox, 2003), reduced high school drop-out rates, higher rates of high school graduation, and lower risk of poverty in adulthood (Domond et al., 2020). The benefits of high-quality ECEC centres are particularly relevant for at-risk children, meaning children who are developmentally or economically disadvantaged, as they are otherwise

more likely to miss out on valuable learning opportunities that high-quality ECEC centres offer (Cornelissen et al., 2018; Herndon & Waggoner, 2015; Landry et al., 2014). These could vary from school readiness activities that promote motor, literacy and math skills (Cornelissen et al., 2018; Landry et al., 2014) to a curriculum focussed on children's socio-emotional development (Fontaine et al., 2006; Herndon & Waggoner, 2015; Landry et al., 2014). Reasons for missing out on these opportunities vary, but in general, disadvantaged children have less physical access (i.e., they are in remote, lower SES locations) and financial access (i.e., low family income, poverty) to high-quality ECEC services (Clarke & Thévenon, 2022).

ECEC quality can be impacted by 'structural' factors, such as educator-child ratios, curriculum, and staff qualifications, and 'process' factors, such as staff interactions with children, learning opportunities for the children and peer interactions (Edwards, 2021; Slot, 2018). Indeed, process quality significantly emphasises the value of children's experiences and interactions, such as the emotional care they receive (Edwards, 2021), and may be positively or negatively affected by structural factors. For example, a higher ECEC room educator-child ratio (e.g., 15 children to one educator) can interfere with positive relationships between educators and children (Slot, 2018). Notably, research has shown that process quality is a stronger indicator of children's developmental and academic outcomes than structural quality (Edwards, 2021; Slot, 2018). A major component of process quality is early childhood educators and their relationships with children, which will be discussed below.

Early childhood educators

Secure attachment figures are essential for children's development; indeed, studies have shown they can support children's self-regulation, academic achievement, social and emotional competence, as well as holistic wellbeing (Arace et al., 2021; Zsolnai & Szabó, 2021). Early childhood educators are

consistently recognised in the literature as central secondary attachment figures for young children (Arace et al., 2021; Bowlby, 1969; Bowlby, 1988; Mata López et al., 2022; Wilson-Ali et al., 2019), and one of the main factors that influence ECEC quality (Hanafi, 2015; Harrist et al., 2007). Importantly, the sensitive and stimulating relationships between educators and children (e.g., educators responding quickly and warmly, identifying children's feelings, and building on their interests) play a critical role in the healthy development of children, such as strengthening their social, emotional and cognitive functioning, improving their short- and long-term learning, and supporting overall health (Blewitt et al., 2021; Chen et al., 2021; Moen et al., 2019). Secure attachments with educators can also act as a buffer from the effects of stressful life experiences (e.g., family violence, abuse or maltreatment) that can negatively impact optimal brain development (Mortensen & Barnett, 2016; Sciaraffa et al., 2018; Tarullo & Gunnar, 2006). Educators are also key figures in modelling prosocial behaviours for children, and teaching children self-regulation and conflict resolution skills, which are critical elements of prosocial behaviour (Hipson & Séguin, 2016).

Notably, transitioning from home into ECEC is a commonly occurring stressor for both children and families (Brace, 2020). At a biological level, infants and young children fear for their survival in this new and unfamiliar space and, as a result, exhibit varying levels of emotional distress (Brace, 2020; O'Connor, 2018). As children adjust to ECEC settings, educators, as secondary attachment figures, are responsible for bonding with and soothing children, building a secure base for them away from home (O'Connor, 2018), and helping them develop a sense of belonging, all of which are crucial to their wellbeing. Educators' qualifications are also linked with children's development: Research has shown that the quality of ECEC environments is higher in rooms with degree-level qualified educators (Manning et al., 2019), as they typically have a more comprehensive skill set and deeper knowledge about child development (Nutbrown, 2021). The influence of early childhood educators on child development and wellbeing will be explored further later on in this thesis.

2.2.2. Macrosystem influences

The National Quality Standard (NQS)

What is deemed necessary to achieve high-quality ECEC varies within the research literature and educational policies; however, there is generally a consensus that positive and respectful relationships between families and staff, quality educational experiences for children, professionalism, qualified staff, and a high teacher-child ratio are all necessary components for high-quality ECEC (Hanafi, 2015; Harrist et al., 2007). In Australia, these elements are reflected in the National Quality Standard (NQS), which is the quality assessment system implemented by the Australian Children's Education and Care Quality Authority (ACECQA, 2018), the governmental organisation responsible for the assessment and evaluation of ECEC centres. As shown in Table 1, the NQS comprises seven overarching 'quality areas': 1) educational program and practice, 2) children's health and safety, 3) physical environment, 4) staffing arrangements, 5) relationships with children, 6) collaborative partnerships with families and communities, and 7) governance and leadership. Each quality area is defined by high-level outcome statements and more granular elements that reflect quality 'standards' (ACECQA, 2017). The targets or goals contributing to each quality area are described in Table 1.

Table 1. Australian National Quality Standard quality areas and how they influence children's development, learning and holistic wellbeing (ACECQA, n.d.)

Quality Area	Description
Quality area 1: Education program and practice	- Maximise children's learning - Ensure children can develop their unique interests - Reflect the diversity of the children at the centre

Quality Area	Description
Quality area 2: Children's health and safety	- Ensure children have opportunities for adequate sleep, rest and relaxation - Provide children with sufficient physical activity - Provide adequate protections from infections and illness
Quality area 3: Physical environment	- Provide opportunities for children to explore and experiment in both their indoor and outdoor environments - Ensure children have quality learning resources to support their development
Quality area 4: Staffing arrangements	- Provide children with qualified and experienced educators - Promote respectful interactions between staff to encourage a supportive environment for both staff and children
Quality area 5: Relationships with children	- Encourage staff to have positive relationships with children by promoting kindness, compassion and collaboration - Provide children with a relaxed, happy atmosphere
Quality area 6: Collaborative partnerships with families and communities	- Allow families to express their opinions freely and take them into consideration - Promote a collaborative, supportive and reciprocal relationship between educators and families and communities
Quality area 7: Governance and leadership	- Ensure centres have a Quality Improvement Plan to help them strive for higher quality and set goals and policies to achieve this

Although the NQS provides a comprehensive framework for quality ECEC, research reveals a fundamental disconnect between what the NQS expects from educators and what it actually provides them to achieve these expectations (Jackson, 2015; Phillips & Fenech, 2023). The core issue lies in the NQS's approach to behaviour support (BS) guidance: while the framework establishes clear quality expectations, they are expressed at such a broad level that educators struggle to translate them into specific practical strategies. For instance, Quality Area 5 requires educators to have "positive relationships with children" and respond to children's behaviour in ways that "preserve dignity and are respectful" (ACECQA, 2018, n.p.), but it does not provide any concrete guidance on how to do this in practice. For example, when a child is upset and has a tantrum, an educator knows from the NQS that they should respond respectfully, but the framework offers no specific strategies for de-escalation, understanding the underlying causes of the behaviour, or supporting the child's emotional regulation in that specific moment. Educators report that this lack of practical guidance leaves them uncertain about how to translate broad quality principles into effective, evidence-based BS strategies (Phillips & Fenech, 2023).

This disconnect represents a classic example of the challenges identified in Bronfenbrenner's EST (1979) when macrosystem influences (i.e., policies or frameworks) fail to provide adequate support for microsystem interactions (i.e., daily educator-child relationships). The NQS was designed as a quality assurance framework rather than a practice guidance document, focussing on what quality should look like in ECEC centres rather than how to achieve it. This means educators are left to bridge the gap themselves, translating broad principles into strategies without adequate support or training.

On top of these existing problems, the quality assessment process exacerbates them. Regulatory visits evaluate if educators are meeting the broad NQS standards, however assessors typically do not provide specific feedback on how educators could improve their BS strategies or access to evidence-based BS strategies. This leads to educators knowing that they are expected to support children's behaviour effectively but receiving little practical guidance on how to do this. In fact, research has

shown that educators view the quality assessment process as unreliable as they feel it can be based on the subjective opinions of regulatory authority officers (Jackson, 2015), rather than reflecting a well-established and measurable standard. This disconnect between policy expectations and practice realities creates additional stress for educators who understand what they should do but lack confidence in their ability to implement these ideals consistently, especially when faced with challenging behaviour (Quesenberry et al., 2014; Stein et al., 2022). When educators feel underprepared to handle difficult situations, this uncertainty can contribute to the high stress levels and turnover rates documented in the ECEC sector (Friedman-Krauss et al., 2014; Thorpe et al., 2020), which in turn affects the quality of care and education that children receive (Cassidy et al., 2017; Schaak et al., 2022).

2.3. Impacts of challenging behaviour

2.3.1. Impacts of challenging behaviour on early childhood educators

The challenges outlined above – from inadequate preparation in ECEC training to policy-practice disconnections – help explain why challenging behaviour has become such a significant concern for early childhood educators and the children in their care (Quesenberry et al., 2014; Snell et al., 2012; Stein et al., 2022). In fact, behaviour is a key issue that ECEC educators are required to engage with daily (Carr & Boat, 2019; Fabiano et al., 2013; Stein et al., 2022). Importantly, research has shown that the ideal time to work with young children on their behaviour to prevent future behavioural issues is when they are in preschool (Papachristou & Flouri, 2020; Plath et al., 2016; Riggleman, 2021). Literature has highlighted the effectiveness and various benefits of early intervention over the years (Blewitt et al., 2021; Britto et al., 2017; Powell et al., 2007). For example, early intervention for children's behaviour improves children's social competence, emotional competence, behavioural self-regulation, and early learning skills (Aksoy, 2019). Tackling challenging behaviour in early childhood can prevent future progression (Bornstein et al., 2013; Riggleman, 2021), including

decreasing the likelihood of children developing antisocial behaviour and conduct disorders (Papachristou & Flouri, 2020; Plath et al., 2016). Additionally, early interventions have been shown to decrease rates of delinquency, crime, welfare dependency, and teenage pregnancy (Aksoy, 2019), as well as increase academic success, family stability, employment, and income (Parks, 2000). Furthermore, supporting children's behaviour appropriately promotes the development of key socio-emotional skills, such as resilience, self-regulation and confidence (Blewitt et al., 2021; Jones et al., 2015; Zinsser et al., 2011).

Importantly, supporting children's behaviour is also beneficial to early childhood educators (Obee et al., 2023). Indeed, ECEC educators have frequently labelled challenging behaviour as a key concern in their profession (Hemmeter et al., 2007; Joseph & Strain, 2003; Stein et al. 2022). Externalising behaviour in children is more likely to lead to fraught relationships with educators, including more conflict. This discord between children and educators tends to further exacerbate children's externalising behaviour, leading to lower academic achievement for the child, and increased stress for the educator, ultimately becoming a dangerous reciprocal cycle that harms both parties (Cassidy et al., 2017; Shi et al., 2020; Stein et al., 2022). Less is known about the impact of childhood internalising behaviour on educators, but some have suggested they impact the formation of close relationships with educators (Baker et al., 2008).

Notably, many educators report that they lack knowledge about how to support children exhibiting challenging behaviour (Quesenberry et al., 2014; Snell et al., 2012; Stein et al., 2022). Indeed, lack of knowledge of BS practices has consistently been shown to negatively impact educator wellbeing, particularly their mental health and stress levels (Clayback & Williford, 2022; Friedman-Krauss et al., 2014; Stein et al., 2022). In turn, high levels of stress among early childhood educators have been shown to be associated with a high turnover rate in the profession generally. Data from a recent study

showed the annual turnover rate amongst early childhood educators in Australia varied between 37% and 47%, with the highest rates being in remote locations (Thorpe et al., 2020). In fact, those completing a university degree in ECEC were more likely to leave within 12 months of starting their position as an educator. This is particularly concerning, as it is known that higher qualifications of ECEC staff play a central role in the overall quality of education that children receive (Manning et al., 2019). According to the survey, the most common reasons for exiting the ECEC workforce were work conditions and personal circumstances. Further exploration highlights that early childhood educators are exiting the profession due to emotional exhaustion, lower satisfaction with pay and benefits, workforce issues, inadequate support, and feeling undervalued (Bull et al., 2024). Strikingly, the study showed that 73% of early childhood educators leaving their centres were leaving the ECEC sector as a whole.

2.3.2 Impacts of educator stress and low job satisfaction on children's experience in ECEC

Rapid educator turnover can disrupt opportunities for children to develop meaningful relationships with their educators, with serious consequences for children's wellbeing, development, and behaviour, such as regressing, acting out and having difficulties connecting with new educators (Cassidy et al., 2011; Kwon et al., 2020). The inability to build a positive relationship with an educator can also further impact children's behaviour, as a breadth of research has repeatedly demonstrated a strong association between teacher-child relationships and children's behaviour and wellbeing (Blewitt et al., 2021; Grosse et al., 2022; Poulou et al., 2022). Studies have shown that high-quality teacher-child relationships largely influence children's self-regulation skills, prosocial behaviour, social-behavioural skills, and academic success (Cadima et al., 2016; Chen et al., 2021). Children can learn inter- and intrapersonal social strategies when interacting with their educators (Silver et al., 2005). For example, educators may model prosocial behaviour for children or give them suggestions on how to resolve conflicts with their peers (Hipson & Séguin, 2016). Furthermore, a meta-analysis

by Lei et al. (2016) demonstrated a strong link between child-educator relationships and children's behaviour, specifically externalising behaviour. Positive relationships were associated with reductions in children's externalising behaviour, whereas negative relationships were shown to correspond to increased externalising behaviour. These correlations can be explained in terms of reciprocal respect; studies have shown that children who are closer with their educators tend to feel more secure with them and follow their instructions (Verschueren & Koomen, 2012), whereas children who have conflict with their educators tend to do the opposite as they feel isolated and frustrated, which in turn can be associated with difficulties with peers and conduct problems (Roorda et al., 2014).

When educators suffer from high levels of stress and low job satisfaction, children's wellbeing can also be affected, as it compromises the quality of education the children receive (Cassidy et al., 2017; Lee & Quek, 2018; Schaak et al., 2022). In fact, research shows a clear link between high educator stress levels and low job satisfaction and children's expulsion rates from ECEC centres (Gilliam, 2005; Gilliam & Shahar, 2006; Perry et al., 2008). Expulsion, the permanent removal of a child from their educational setting, is the most severe disciplinary action that educational staff can take in response to a child's behaviour (Gilliam & Shahar, 2006). Notably, expulsion rates due to challenging behaviour among children aged zero to five years in the United States (US) are nearly three times higher than school-aged children, which highlights the significant need for early interventions for children this age to support them as well as their educators (Wymer et al., 2020; Zinsser et al., 2022). Aside from the acute negative effects expulsion can have on children, such as feeling ostracised and missing out on valuable learning opportunities in the classroom (Noltemeyer & Mcloughlin, 2010), expulsion can also have severe effects on children later in life in relation to educational, financial and social outcomes (e.g., criminal activity) (Monahan et al., 2014; Pascoe & Richman, 2009).

The need for culturally responsive behaviour support

The lack of culturally responsive BS, specifically for First Nations children, is a global issue that has been researched in Australia and other countries, such as Canada (Bellamy et al., 2022; McIntosh, 2014; Schimke et al., 2022). The research shows that educators lack knowledge in crucial factors that can influence behaviour, such as intergenerational trauma related to colonisation, racism, and institutional discrimination (Bellamy et al., 2022; Schimke et al., 2022). Findings also indicate that educators may perceive First Nations children's behaviour as challenging without recognising that it may relate to the discrepancy between the educational environment and the child's culture (McIntosh et al., 2014). For example, by not fully appreciating the influence of a child's culture on their behaviour, educators may inaccurately perceive a child as being disrespectful, leading to inadequate or inappropriate BS (Utley et al., 2002; West et al., 2007). These findings intersect with critiques of Bronfenbrenner's EST overlooking children's cultural values and the role these play in their development (Elliott and Davis, 2020). Importantly, all the studies referenced above highlighted the essential need for teacher training in culturally responsive BS to improve ECEC outcomes for educators and children, and particularly for First Nations children (Bellamy et al., 2022; McIntosh, 2014; Schimke et al., 2022; Utley et al., 2002; West et al., 2007).

It is important to recognise that challenging behaviour in young children may indicate developmental disorders or other conditions emerging during these formative years, such as autism spectrum disorder (Matson & Nebel-Schwalm, 2007) or foetal alcohol spectrum disorder (McDougall et al., 2020). Early diagnoses through culturally appropriate assessments are crucial to determine suitable interventions, if any, that match each child's specific needs. Applied Behaviour Analysis, for example, is one evidence-based approach specifically developed to support children with autism through structured behavioural interventions (Granpeesheh et al., 2009). While this thesis has primarily examined behaviour in the ECEC context generally, exploring typical behavioural

development and common challenges in normally developing children, the significance of specialised assessment and intervention for children with developmental differences must be acknowledged. Understanding the distinction between more routine behavioural challenges relative to the pattern of behaviours and other clinical symptoms associated with developmental disorders is important for early childhood educators so they can guide families toward appropriate resources and support systems that can profoundly influence long-term outcomes.

CHAPTER THREE:

Behaviour Support Training in ECEC Qualifications

3. Behaviour support training in ECEC qualifications

3.1. Behaviour support

Global research over the past few decades has shown that behavioural and emotional problems in children are on the rise, resulting in an increased need for youth mental health services (Perou et al., 2013; Leeb et al., 2014). Furthermore, a study found significant increases in children's anxiety and depression, as well as diagnosed behavioural and conduct problems (Lebrun-Harris et al., 2022). As discussed previously, ECEC is a critical opportunity to provide BS to children to support their development and wellbeing. BS is defined as a range of strategies that help adults respond to children's behaviour, while ideally focussing on supporting their growth and wellbeing (Little, 2020). While there are other terms used for 'behaviour support' in the literature, such as 'behaviour management', 'classroom management' and sometimes 'behaviour modification', this research uses the term 'behaviour support' to emphasise that children's behaviour is something that should be supported, not managed, by educators.

3.2. Behaviour support training in ECEC qualifications

In Australia, there are different levels of qualifications for early childhood educators, which are expanded upon below, with specific reference to course content about behaviour and BS.

3.2.1. Certificate III training

The Certificate III qualification serves as an entry point into the ECEC profession in Australia. During this qualification, educators in training begin to develop a foundational understanding of child development and behaviour. The nationally recognised training package for Certificate III outlines several core units and competencies that relate to supporting children's behaviour, such as 'Work effectively in children's education and care' and 'Develop positive and respectful relationships with children' (Australian Government Department of Employment and Workplace Relations, 2021a).

Through these units, educators learn about the importance of building positive, respectful relationships with children as a basis for supporting their behaviour and development. They gain skills in using simple strategies to promote positive behaviours, such as offering praise and encouragement, setting clear boundaries, and redirecting children when necessary. Additionally, Certificate III students begin to be taught about the role of the learning environment in shaping behaviour, and learn to create inclusive, engaging spaces that promote positive interactions (Australian Government Department of Employment and Workplace Relations, 2021a).

Underpinning these practical skills is an introduction to basic child development theories and milestones. Educators learn about typical behaviours for different age groups and stages of development, which aims to help them respond appropriately to children's needs. They also become familiar with relevant legal and ethical requirements around guiding children's behaviour, as outlined in Early Childhood Australia's (2016) Code of Ethics document.

While Certificate III provides a solid foundation, the knowledge and skills gained at this level are primarily focussed on supporting behaviour under supervision in simple situations. As educators in training progress to higher levels of qualification, they develop a deeper understanding of child development and behaviour, and gain the ability to apply this knowledge more independently in diverse contexts.

3.2.2. Diploma training

Building on the foundational knowledge gained in Certificate III, the Diploma qualification enables educators to take on more responsibility for proactively supporting children's behaviour. The Diploma training includes units such as 'Plan and implement strategies for the inclusion of all children' and 'Embed environmental responsibility in service operations', which require a more advanced understanding of child development and behaviour (Australian Government Department of Employment and Workplace Relations, 2021b).

At this level, educators deepen their knowledge of key developmental theories and learn to apply these concepts to inform their practice. They develop skills in observing, documenting, and analysing children's behaviour to gain insights into their individual needs and preferences. This allows educators to plan and implement targeted strategies to support each child's behavioural and social-emotional development (Australian Government Department of Employment and Workplace Relations, 2021b).

Diploma-qualified educators also learn to work collaboratively with families to understand and respond to children's behavioural needs. They recognise the importance of building partnerships with families and drawing on their unique insights to create a holistic approach to supporting children's development (Australian Government Department of Employment and Workplace Relations, 2021b). This often involves adapting the learning environment and routines to better support individual children's self-regulation and social development.

For children with more complex behavioural needs, educators at the Diploma level learn to develop individualised BS plans. These plans outline specific strategies and approaches tailored to the child's strengths, needs, and context, and are implemented in collaboration with families and other professionals (Australian Government Department of Employment and Workplace Relations, 2021b). Diploma-qualified educators also gain leadership skills to model and guide other educators in supporting positive behaviour, ensuring a consistent, evidence-based approach across the ECEC centre.

However, despite this enhanced preparation, significant gaps remain at the Diploma level. While educators learn about family partnerships in principle, the training provides limited guidance on navigating complex family dynamics or working with families experiencing trauma, mental health challenges, or cultural differences that may influence their approach to behaviour (Bellamy et al., 2022; Schimke et al., 2022). The development of individualised BS plans, while valuable, often lacks grounding in trauma-informed practice or understanding of how adverse childhood experiences may

manifest as challenging behaviour (Mortensen & Barnett, 2016). Additionally, the leadership skills component assumes that Diploma-qualified educators will have access to evidence-based resources and ongoing professional development, yet many report feeling unsupported in translating their theoretical knowledge into effective practice when faced with complex behavioural situations (Quesenberry et al., 2014; Stein et al., 2022).

3.2.3. University degree training

Advancing to a university (Bachelor's) degree in ECEC, educators gain a comprehensive understanding of the theoretical and research base underpinning effective BS practices. Specific units of study vary between university organisations, but the qualification typically covers advanced child development, learning, and behaviour concepts, drawing on current research and evidence-based practices (Australian Institute for Teaching and School Leadership, 2011). At this level, educators engage in deep, critical reflection on the various factors that may influence children's behaviour, such as temperament, family context, cultural background, and additional needs. They learn to use a range of formal and informal assessment tools to gather data and analyse children's behavioural patterns and needs (AITSL, 2025). This enables them to design, implement, and evaluate comprehensive, individualised learning programs that promote children's positive behaviour and social-emotional development.

University-qualified ECEC educators also develop skills in collaborating with other professionals, such as psychologists or occupational therapists, to provide a multidisciplinary approach to supporting children's behaviour when needed (AITSL, 2025). They learn to advocate for evidence-based policies and practices that promote positive behaviour at a service, community, and system level. This qualification also emphasises the importance of ongoing professional learning and staying engaged with current research to continually enhance their BS practices. Educators also gain research skills to critically evaluate and apply new evidence to their work (AITSL, 2025). This preparation

positions university-qualified educators to lead the implementation of evidence-based BS interventions within their settings, drawing on their understanding of research methodologies to assess intervention effectiveness and adapt programs to meet the specific needs of their children and families. This supports them in taking on leadership roles to guide and mentor others in implementing effective, evidence-based approaches to supporting children's behaviour.

3.2.4. ECEC setting qualification requirements and training gaps

In Australian ECEC settings, 50% of educators must be diploma-qualified or actively working towards their diploma-level ECEC qualification or higher (Education and Care Services National Regulations 2011, s. 126). It should be noted that educators are not obliged to continue their training from one qualification level to the next (e.g., Certificate III qualified educators are not required to complete their diploma, diploma qualified educators are not required to complete their university degree, etc).

While educators gain varying levels of knowledge about children's behaviour and how best to support it through their qualification studies, recent reports regarding declines in social and emotional competence (Department of Education, 2023) and the rise of challenging behaviours (Martin et al., 2023) suggest that current qualification frameworks may not be adequately preparing educators for the behavioural challenges they encounter in practice. Another factor may be that educators are not required to complete any further study, therefore do not gain the deeper theoretical knowledge that is taught in higher qualifications, such as a university degree. One way to address this gap between training and practice realities is through BS interventions designed to help educators at all levels of qualification in the workplace enhance their knowledge and provide them with practical BS strategies to supplement their formal qualifications.

3.3. Behaviour support interventions

Various BS interventions have been developed internationally to support early childhood educators in working with children in appropriate and effective ways, with extensive research and implementation occurring particularly in the US (Obee et al., 2023). BS interventions vary by method of delivery but often consist of a multi-week program delivered by accredited professionals, such as behavioural specialists or psychologists (Obee et al., 2023). They also look at targeting 'process' factors, such as educator-child interactions (Edwards, 2021; Slot, 2018). The aim is to educate groups of teachers about child development, such as age-appropriate behaviour, equip them with strategies to apply in practice, and enhance their practice through active self-reflection on successes and potential improvements that could be made (Obee et al., 2023). These interventions may be necessary where existing ECEC educator training inadequately prepares educators for behavioural challenges they might experience in practice or where there are gaps between theoretical knowledge from training and practical application in ECEC settings. These interventions aim to enhance educators' knowledge and skills in BS strategies (Obee et al., 2023). While not explicitly stated as intervention objectives, improved educator competence in this area may contribute to increased wellbeing, reduced stress levels, and greater confidence when supporting children with challenging behaviour in the ECEC environment (Obee et al., 2023). Specifically, delivering BS interventions early has been emphasised, as this has been shown to prevent the development of externalising behaviour in young children (Bornstein et al., 2013).

Nevertheless, popular BS programs have been developed and applied in early childhood settings, such as Positive Behaviour Support (PBS) and its various individual adaptations to different settings; these include 'school-wide PBS', where the principles of the program are integrated into school curriculums and philosophies, as well as 'individual PBS', which is used to support the specific challenging behaviour of individual students (Banks & Obiakor, 2015; Carr & Boat, 2019; Stanton-

Chapman et al., 2016). In the Australian context, PBS approaches are being implemented, however only in school settings (School-wide Positive Behaviour Support) and not ECEC settings (Department of Education and Training Victoria, 2025). It is also funded by the National Disability Insurance Scheme for people with disabilities and challenging behaviour in schools and aged care settings across Australia (Fisher et al., 2024). PBS is an intervention consisting of three tiers: 1) 'primary' or 'universal prevention', which includes strategies that are used to support all children in educational settings, 2) 'secondary prevention', which supports children considered to be 'at-risk' based on their academic performance and/or behaviour, and 3) 'tertiary prevention', which is implemented for children who are deemed at high-risk because of their behaviour (Little, 2020). PBS has been shown to decrease children's challenging behaviour and increase their overall engagement during group activities (Blair et al., 2010; Carr & Boat, 2019; Hemmeter et al., 2007). It has also been shown to increase educators' knowledge of challenging behaviour and effective BS strategies, as well as their general engagement in the classroom (Carr & Boat, 2019; Hemmeter et al., 2007).

Another popular BS program in the US is the Incredible Years Teacher Training series for educators (Carlson et al., 2011; Herman et al., 2011; Webster-Stratton, 2014). The intervention includes modules that support educators to collaborate with primary caregivers, create positive relationships with children, and use preventative strategies to reduce children's challenging behaviour, as well as teach them social and emotional skills (Baker-Henningham et al., 2009). It uses practical skills such as videotape modelling, role playing and discussions to help educators practice practical skills (Baker-Henningham et al., 2009). Educators are set tasks to create their own individual BS plans that include specific phrases of praise to support children's behaviour and to develop a classroom routine and rules (Baker-Henningham et al., 2009). Studies conducted in Jamaica (Baker-Henningham et al., 2009) and the US (Carlson et al., 2011) have demonstrated the effectiveness of this program, including reduced challenging behaviour and increased prosocial behaviour in children, higher

interest and enthusiasm from children in classroom activities, increased teacher warmth, and better BS strategies used by teachers. In the Australian context, the program has been recognised and implemented through initiatives such as the Communities for Children program (Australian Institute of Family Studies, n.d.).

The literature indicates that PBS and the Incredible Years Teacher Training series are the most popular and most studied interventions; however, Table 2 provides an overview of other programs to highlight the variety of available interventions. It is important to note that while these interventions have been developed and predominantly researched in the US context, they address fundamental challenges in BS that are not unique to American ECEC settings. As outlined in section 6.2.1, Australian ECEC educators experience similar difficulties in translating what they have learned in their formal qualifications into effective practical skills for supporting children's behaviour. This suggests that targeted professional development interventions may be equally applicable within the Australian context.

Table 2. Behaviour support interventions and their descriptions

Behaviour support interventions	Location	Description
Second Step (Upshur et al., 2013)	Massachusetts, USA	Educators led lessons focussed on problem-solving, empathy, and managing emotions by using various materials (e.g., puppets, music CDs and lesson cards).
BEST in CLASS (Conroy et al., 2015)	Not reported	Educators attended a workshop and received a teacher manual and practice-based coaching, covering seven instructional modules on BS strategies.

Teacher-Child Interaction Training (Fawley et al., 2020)	Virginia, USA	Educators were trained through workshops, consultations, coaching, and materials, focussing on building positive educator-child relationships and BS skills.

Despite the variety of BS interventions that have been developed for educators, evidence of efficacy and effectiveness in diverse ECEC settings and contexts remains limited. Indeed, a recent systematic review of studies of BS interventions used in the US highlighted the need for research to explore how interventions can be adapted to meet the needs of educators from different backgrounds with differing levels of knowledge and skills, as well as in relation to variability in ECEC infrastructure and resources (Obee et al., 2023). Furthermore, given the dynamic relationship between culture, context and behaviour explored earlier in this thesis, it is critical to understand if and how BS interventions have been designed to be culturally responsive. These issues are also relevant within the Australian context, where ECEC educators increasingly work with diverse populations, yet may receive training that does not adequately prepare them for culturally responsive BS practices. While Australian ECEC educator qualifications include content addressing diversity and inclusion, as outlined in section 6.2.1, it remains unclear whether this content effectively translates into practical, culturally responsive BS skills, particularly considering the implementation challenges discussed in section 6.2.3. Cultural values and practices play a significant role in shaping children's development and behaviour (Bronfenbrenner, 1979). When designing interventions for First Nations children for example, it is crucial to collaborate with their communities to ensure that the interventions are culturally relevant and effective (Perkes et al., 2022; Smith et al., 2017). By engaging in participatory research approaches and incorporating Indigenous ways of knowing, researchers can develop interventions that are more likely to be accepted and implemented by First Nations families and educators (Perkes et al., 2022; Smith et al., 2017). The cultural, linguistic, geographic and socioeconomic diversity in Australia make it an appropriate setting in which to explore this further. Indeed, in the Australian

context, there is considerable need to understand if available BS interventions are flexible in their design to allow them to be adapted based on educator demographics, qualifications and experience, education setting, and diversity of attending students. Importantly, it is also necessary to examine whether such interventions address specific gaps in Australian ECEC educator training and ongoing professional development, particularly in translating theoretical knowledge about BS into effective practical skills. Furthermore, it is crucial to understand if and how such interventions have been evaluated and the outcomes used to determine effectiveness within the Australian ECEC context.

It is important to note that implementing evidence-based interventions in ECEC environments can be quite difficult. Early childhood educators often face demanding work requirements that extend beyond meeting the developmental and educational needs of the children they are teaching, to also communicating with and supporting families, accommodating their colleagues, and completing burdensome administrative tasks (e.g., paperwork) (Beltman et al., 2020). Furthermore, access to BS interventions is highly variable across Australian ECEC settings. Educators may lack access to evidence-based interventions due to factors such as geographical isolation, particularly in rural and remote areas, limited funding for professional development, insufficient release time from teaching duties to attend training, and lack of awareness about available programs. Additionally, interventions are often delivered through research studies rather than being systematically available to the broader ECEC workforce, creating inequitable access based on research participation opportunities.

Even when educators have access to BS training, significant barriers to implementation remain. Successful BS intervention implementation can be hindered by the varying qualifications, experiences, and skill levels of ECEC staff, high workforce turnover rates, and inconsistent access to ongoing professional development and coaching support (Thorpe et al., 2020). These challenges need to be considered when designing and evaluating BS interventions to ensure they are feasible, sustainable, and effective in real-world ECEC settings.

3.4. Summary of system level influences on children's behaviour

It is important to consider the role of BS interventions within the macro- and microsystems that help to shape children's behaviour in their early years. Specifically, at the macrosystem level, the quality of ECEC is guided by the NQS and monitored using the NQS quality assessment. However, critical reflection on the NQS highlighted a marked disconnect from educators' experiences and the NQS, limiting its value in guiding or informing change for individual educators or an ECEC setting. At the level of the microsystem, educators consistently indicate that they lack sufficient knowledge about how to appropriately support children's behaviour (Quesenberry et al., 2014; Snell et al., 2012; Stein et al., 2022), which suggests there are gaps in the current curriculum for early child educators with regards to understanding and supporting behaviour. This is a growing concern given the rise in challenging behaviour amongst children in Australia (Department of Education, 2023; Martin et al., 2023). While this issue requires a long-term, comprehensive and system-based solution, BS interventions offer a solution that is likely to have immediate, though potentially short-term, effects.

CHAPTER FOUR:

Scoping Review Methods

4. Scoping review methods

4.1. Rationale for scoping review

It is now vital to understand the extent of research available regarding BS interventions in Australian ECEC settings. A scoping review provides a valuable methodology by which to summarise and disseminate the current research literature to educators, policymakers and researchers working in the ECEC space; however, it is also a critical tool by which to identify key gaps in the existing literature (Arksey & O'Malley, 2005). The aim is to gain insights into best practices for BS and areas requiring improvement to better support children's behaviour in the short term while more sustainable, long-term solutions are devised and implemented. While similar scoping reviews have been conducted on BS interventions in other countries (Bornstein et al., 2013; Obee et al., 2023), this is the first scoping review of BS interventions in the Australian context. The aim of this review is to scope current BS interventions used in Australian ECEC centres to:

1. Identify what behaviours were targeted by the BS interventions;
2. Explore how the interventions were delivered to educators;
3. Examine what BS strategies were included in the interventions as mechanisms for behaviour change;
4. Determine how outcomes were assessed for children and educators and in relation to intervention feasibility and fidelity; and
5. Examine the contexts in which the interventions were studied.

4.2. Approach

This review followed a systematic approach. Prior to completing this review, a protocol was created and registered with the Open Science Framework (OSF) Registries (DOI: https://doi.org/10.17605/OSF.IO/ZY7QX). The Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) statement was applied (Moher et al., 2009) in addition to using the

PRISMA extension for Scoping Reviews (PRISMA-ScR) Checklist to describe search strategies, study selection and screening, and results (Tricco et al., 2018).

4.3. Inclusion and exclusion criteria

The chosen inclusion and exclusion criteria for the studies are provided in Table 3.

Table 3. Inclusion and exclusion criteria for scoping review

	Inclusion	Exclusion
Intervention target	Challenging behaviour, prosocial behaviour	Literacy, mathematics, nature, science, motor skills, eating behaviours, sleep behaviours
Population	Children aged zero to six years	Children older than six years
Participants	Not defined	Special education
Date published	Between 2014-2024	Before 2014
Language	English	All other languages
Location	Australia only	All other countries
Target sample	Educators, Early Childhood Education and Care (ECEC) services	Anyone outside of educators and ECEC services (e.g., policymakers, families)
Training	In-service, training, coaching, professional development, instruction	Any other mechanism
Design	Randomised Controlled Trials, quasi-experimental designs, non-randomised designs, pre-post designs	Protocols, case studies, observational studies, systematic reviews, meta-analyses

4.4. Search strategy

A search was conducted in April 2024 using the following databases: *Scopus*, *PsycINFO* (via *Ovid*) and *ERIC* (via *Ovid*). The search was rerun in March 2025, and no new eligible papers were found. Each search term used, including additional limitations, used in Scopus, and the results of the search, are shown below in Table 4. The specific search terms and limitations for the other databases, including all of the results of each search, can be found in Appendices A and B.

Table 4. Search terms, limitations and results of search using Scopus

Setting	(TITLE-ABS-KEY ("early childhood" OR "early education" OR "education" OR "preschool*" OR "child care" OR "preservice" OR "nurser*" OR "day care")
Participants	AND TITLE-ABS-KEY ("educator*" OR "teacher*" OR "workforce")
Intervention target	AND TITLE-ABS-KEY ("behavio* support" OR "behavio*" OR "behavio* modification" OR "behavio* management" OR "classroom management" OR "challenging behavio*" OR "disruptive behavio*" OR "externalising behavio*" OR "problem behavio*" OR "social emotional learning" OR "social emotional development" OR "socio-emotional learning" OR "socio-emotional development" OR "prosocial development" OR "empathy development" OR "prosocial" OR "emotional support" OR "mindful*")
Training	AND TITLE-ABS-KEY ("intervention*" OR "program*" OR "curricul*" OR "training" OR "professional development" OR "teacher development" OR "staff development" OR "inservice" OR "coach*" OR "competenc*" OR "skill*" OR "education" OR "support*" OR "framework*" OR "strateg*")
Study design	AND TITLE-ABS-KEY ("rct" OR "randomi* control* trial*" OR "quasi-experimental" OR "pre-post" OR "non-randomi*")
Cultural component	OR TITLE-ABS-KEY ("cultur*" OR "indigen*" OR "first nation*" OR "aborigin*" OR "rac*" OR"ethnic*"))
Limitations	AND PUBYEAR > 2013 AND PUBYEAR < 2025 AND (LIMIT-TO (LANGUAGE , "english"))AND (LIMIT-TO (AFFILCOUNTRY , "australia"))
Results	**504**

4.5. Study selection and screening

All papers were imported from EndNote to Covidence, where duplicates were removed both automatically and manually. The remaining papers were screened in accordance with the eligibility criteria. The title and abstract screening were completed by two independent reviewers (EGP and HML) and any conflicts were resolved through an arbiter (GH). This process was repeated for the full-text screening.

4.6. Data extraction and analysis

The data were extracted by one researcher (EGP) in consultation with the senior researchers (HML and VL), with iterative refinements made throughout the process. Descriptive statistics, including frequency counts and percentages, were used to summarise the study and BS intervention

characteristics. Additionally, a basic qualitative content analysis was used to explore the mechanisms of action leading to behaviour change identified in each of the BS interventions. To do so, the steps undertaken by EGP in consultation with HML and VL included: 1) preparation (i.e., data review and immersion), 2) organising (i.e., inductive extraction, open coding, framework development, and review), and 3) reporting (Elo & Kyngäs, 2008).

4.7. Ethical considerations

As this research did not involve the participation of human subjects, ethical approval was not required.

CHAPTER FIVE:

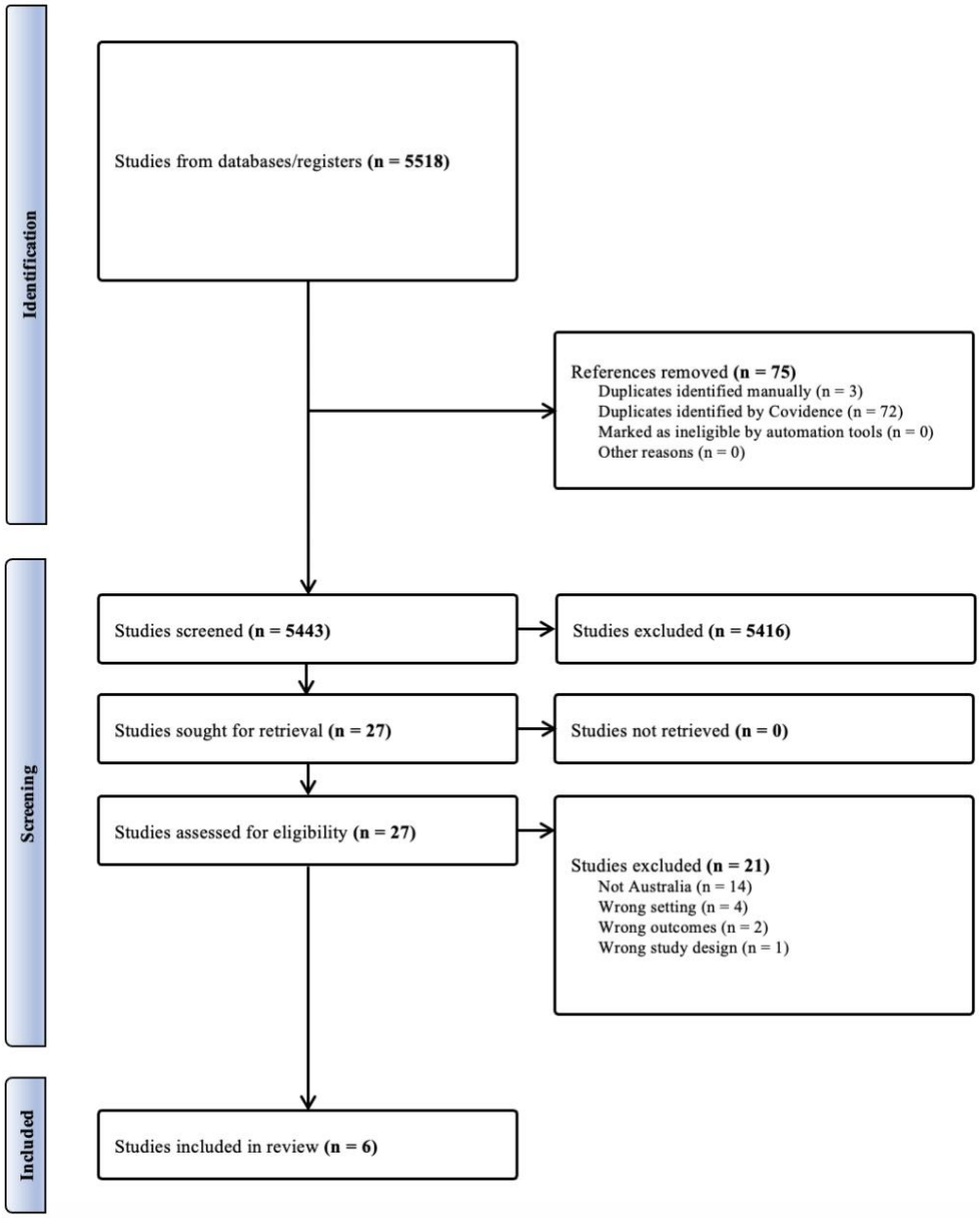
Scoping Review Results

5. Scoping review results

5.1. Search results

Searches yielded 5443 papers for screening, of which 27 were identified for full-text review, with 21 failing to meet inclusion criteria. A total of six studies (Howard et al., 2020, Muir et al., 2024, Piek et al., 2015, Sexton et al., 2022, Soliman et al., 2021, Swalwell & McLean, 2021) were included in this review. The PRISMA flow chart of the screening is provided in Figure 2.

Figure 2. PRISMA flow chart of screening results



5.2. Study characteristics

The studies included in this review are summarised in Table 5. The majority of studies (n = 4) were conducted in Melbourne, Victoria (VIC), with the remaining two studies being conducted across both metropolitan and regional areas in New South Wales (NSW) and Western Australia (WA). The study designs included a mix of randomised and non-randomised controlled trials and a quasi-experimental mixed methods design. Two studies (Sexton et al., 2022, Piek et al., 2015) included a longer-term follow-up (12 months and 18 months, respectively) of their studies to investigate sustainability of the outcomes over time. Four of the studies were conducted in preschools (preschool and pre-primary

school are equivalent in the Australian ECEC context), while two were in an early childhood or learning centre. In the Australian context, preschool (or 'pre-primary') provides developmental and educational programs to children aged three to five years before beginning primary school, and early childhood or learning centres refer to educational programs that cater to children aged zero to six years. Six different BS interventions were investigated in the studies included in this review and the time required of educators to engage in the intervention varied from six weeks to six months.

Table 5. General characteristics of studies

Study	Intervention	Location	Setting	Design	Intervention duration
Howard et al. (2020)	*Preschool Situational Self-Regulation Toolkit (PRSIST) Program*	Metropolitan and regional areas across NSW	Preschool service	Cluster randomised-controlled trial	Six months
Muir et al. (2024)	*SOWATT (Self-regulation, Organisation, Working memory, Attention, Thinking Flexibly and Thinking about thinking)* program	Melbourne, VIC	Early childhood centre	Quasi-experimental mixed methods design	Six months
Piek et al. (2015)	*Animal Fun* program	Metropolitan and regional areas across WA	Pre-primary class	Randomised-controlled trial	10 weeks
Sexton et al. (2022)	*Early Minds* program	Melbourne, VIC	Early learning centre	Pilot cluster-randomised-controlled trial	Eight weeks
Soliman et al. (2021)	*COPE-Resilience* program*	Melbourne, VIC	Preschool	Non-randomised-controlled trial	Six weeks
Swalwell & McLean (2021)	*Pyramid Model (PM) framework*	Melbourne, VIC	Preschool and childcare centre	Pilot concurrent quasi-experimental mixed methods study design	Six months

*COPE-Resilience is the title of the intervention, not an acronym

5.3. Participant demographics and intervention context

Table 6 summarises the demographic characteristics of the educators who participated in the studies, with two studies not reporting any demographic data. Three studies reported educator gender, with the vast majority being female. Educator qualifications were only explicitly reported in half of the studies, with marked variability noted. Similarly, four studies documented educators' years of experience in the ECEC sector which ranged from zero to 36 years. It is important to note that the scoping review did not find any studies on BS interventions specifically designed for First Nations children in Australian ECEC settings. This may relate to the emphasis on pre-post study designs within our search criteria; however, this will be explored later in the '6.2.3. Missing piece #3: Limitations of BS interventions' section.

Table 6. Demographics of educators from studies

Authors	Gender	Qualifications	Years of experience
Howard et al. (2020)	98.8% female	36.7% university degree, 34.8% diploma, 25.9% certificate, 2.5% no formal qualification	Mean = 10.48 years (Range = 0-36 years)
Muir et al. (2024)	100% female	At least one degree, two diploma qualified educators per classroom	Lead educators: Mean = 24 years (Range = 18-30 years) Co-educators: All four years
Sexton et al. (2022)	96% female	40% degree-qualified *(remaining 60% not specified)*	40% less than five years 36% five to nine years 24% 10+ years
Swalwell & McLean (2021)	Not reported	Not reported	87.5% 10+ years 12.5% two years
Piek et al. (2015)	Not reported	Not reported	Not reported
Soliman et al. (2021)	Not reported	Not reported	Not reported

As presented in Table 7, all studies provided some information on the demographics of the children in the ECEC settings. Most studies (n = 5) reported the genders of the children. Language and cultural characteristics were not consistently documented across the studies; one study reported the primary language of children's families, two documented children's main language, and one study reported their ethnic background. Only one study reported that children of Aboriginal or Torres Strait Islander descent were included in the intervention group. Family demographics were reported in three studies (see Table 7). These studies provided details on the socio-economic background of the children's home environment, with two studies reporting on parental education level (one focussing exclusively on mothers), and one on household income level.

Table 7. Demographics of children and families from studies

Authors	Children	Families (when involved as participants)
Howard et al. (2020)	- 48.2% girls, 51.8% boys - 7.2% Aboriginal and Torres Strait Islander	*Income level* - 11.9% low-income - 65.5% low-middle to middle-high income - 22.7% high income *Maternal education* - 9.5% did not complete high school - 9.3% completed only high school - 30.6% had completed a diploma, trade, certificate - 34.6% completed a tertiary degree - 16.0% postgraduate qualification
Muir et al. (2024)	- 44.4% girls, 55.6% boys - 40.4% of children spoke a language other than English at home, most commonly Asian languages	Not reported
Piek et al. (2015)	- 49.7% girls, 50.3% boys	Not reported
Sexton et al. (2022)	- 48.6% girls, 51.4% boys	- 93% respondent: mother - 91.7% main language: English - 91.9% education: university degree or above

Authors	Children	Families (when involved as participants)
Soliman et al. (2021)	- 43.5% girls, 56.5% boys - 74% European background, 12% Asian, 14% Australian/Asian	- Generally of a professional cohort (no further information reported)
Swalwell & McLean (2021)	- 36.9% English as a second language	Not reported

5.4. Intervention procedures and methods of delivery

As summarised in Table 8, two interventions were delivered online and four were in-person. Only one intervention was delivered by an educator trained in and experienced in using the program, whereas the others were delivered by members of the respective research teams. In all studies, participants accessed the intervention based on the centre where they were employed as the centres had agreed to participate in the research studies. Four interventions were developed by the researchers alone. The other two interventions were noted to have been developed in consultation with early childhood educators with the aim of supporting acceptability, flexibility and compatibility with ECEC room routines, and thus increase the likelihood that educators would continue to implement the program after the study. Most interventions (n = 4) supported educators to embed the program into their routine. All interventions targeted 'process' factors, as they focussed on educator-child relationships and interactions by emphasising responsive relationship building approaches (Swalwell & McLean, 2021) and strategies to support socio-emotional development, such as by teaching mindfulness practices (Sexton et al., 2022) and promoting empathy (Muir et al., 2024; Soliman et al., 2021).

One intervention included a group-based workshop for educators, two had training courses for educators, and the remaining three had educators complete self-administered modules. Each intervention was comprised of two phases: the first focussed on providing specific instructions and information to up-skill educators (or 'training' in Table 8), and the second related to the application

of these learnings in the ECEC environment (or 'application' in Table 8). In relation to the latter, most studies (n = 4) provided educators with information about specific activities to do with the children. A small number of interventions (n = 2) included coaching for educators, and one study offered additional optional components for educators (i.e., online training and 1-hour teleconferences).

Table 8. Summary of intervention aims, methods, and outcomes

Study	Primary aim(s)	Intervention procedures and methods		Outcome measures
		Training	**Application**	
Howard et al. (2020)	**Children:** Increase self-regulation, executive function and school readiness **Educators:** None **Intervention:** Intervention fidelity	• 9 online videos • A practice manual to support children's self-regulation • Optional online training for the Preschool Situational Self-Regulation Toolkit (PRSIST) formative assessment tool to be used while observing children • Optional 1-hour monthly teleconferences about the program and to discuss educators' experiences and challenges	• 28 play-based activities provided for the classroom • Educators choose a minimum of three activities per week	**Children:** Head-Toes-Knees-Shoulders (HTKS), PRSIST* Assessment, Child Self-Regulation and Behaviour Questionnaire, Early Years Toolbox, Bracken School Readiness Assessment **Educators:** N/A **Intervention:** Tracking educators' completion of online program modules, implementation of minimum three activities a week, and engagement in optional program components
Muir et al. (2024)	**Children:** Increase self-regulation and executive function **Educators:** Improve knowledge and understanding of	• 1-day workshop for educators (90-minute online overview for educators unable to attend workshop)	• 1-hour in situ coaching for 8 weeks • 3.5 months of email-based support	**Children:** HTKS, PRSIST Curiosity Box, PRSIST Memory Game, Behaviour Rating Inventory of Executive Function – Preschool version

Study	Primary aim(s)	Intervention procedures and methods		Outcome measures
		Training	**Application**	
	self-regulation and executive function and strategies to support these skills in practice **Intervention:** None			**Educators:** Weekly checklist recording SOWATT** activities, 15-item questionnaire rating understanding of self-regulation and executive function, semi-structured interviews, qualitative questionnaire, focus group **Intervention:** N/A
Piek et al. (2015)	**Children:** Promote social-emotional skills and prosocial behaviour **Educators:** None **Intervention:** None	• One-day intensive training course	• Program embedded into normal curriculum for 30 minutes a day, four days a week for minimum of 10 weeks • Implement motor development activities • Program trainers visited classrooms multiple times to observe activities in progress and offer support for educators if necessary	**Children:** Bruininks-Oseretsky Test for motor proficiency-version 2 short form, Teacher version of the Strengths and Difficulties Questionnaire (SDQ) **Educators:** Weekly dosage report explaining what modules/activities they implemented in class and monitor progress across modules **Intervention:** N/A
Sexton et al. (2022)	**Children:** Promote social, emotional and cognitive development **Educators:** None **Intervention:** Educator- and parent-reported feasibility	• Two one-hour online learning modules	• Implement modules (activities and meditations) with children	**Children:** SDQ, Childhood Executive Functioning Inventory, Affective Reactivity Index, seven items from the Gray and Sanson's Longitudinal Study of Australian Children (2005), one item from Pediatric Sleep Questionnaire, Peds-QL Family Impact Module, Family Functioning Summary Score

Study	Primary aim(s)	Intervention procedures and methods		Outcome measures
		Training	**Application**	
				Educators: N/A **Intervention:** *Educator feasibility:* The Cognitive and Affective Mindfulness Scale-Revised, The Student-Teacher Relationship Scale, 7/8 domains of Bowen et al.'s (2009) framework for feasibility, daily fidelity record *Parent feasibility:* 6/8 domains of Bowen et al.'s (2009) framework
Soliman et al. (2021)	**Children:** Increase empathy, prosocial behaviour and coping skills **Educators:** None **Intervention:** None	• Manualised, structured lessons, consisting of a foundation topic on Emotions and lesson plans in Caring, Open Communication, Politeness, Empathic Sharing, and Review were given to educators	• Two 30-minute *COPE-Resilience* lessons (e.g., art activities, movement, role-play) were delivered per week	**Children:** The Southhampton Test of Empathy in Preschoolers, Empathy Questionnaire, the SDQ, Children's Coping Scale-Revised, Informal evaluation of qualitative data from children's drawings and their discussions with educators **Educators:** N/A **Intervention:** N/A
Swalwell & McLean (2021)	**Children:** Promote social-emotional-behavioural learning **Educators:** Change classroom behaviour and teaching practices **Intervention:** Intervention fidelity	• Three days of educator-team training	• 16 coaching sessions and email-follow ups • Three tiers of *Pyramid Model (PM)* – <u>Tier One:</u> Educators build responsive relationships with children, families, and colleagues while organising programs and setting up environments to enhance children's social-emotional	**Children:** Social Skills Improvement System Rating Scales **Educators:** Observations by a trained independent assessor **Intervention:** The Teaching Pyramid Observation Tool

Study	Primary aim(s)	Intervention procedures and methods		Outcome measures
		Training	Application	
			understanding, sense of security, and learning opportunities; Tier Two: Educators monitor both individual and group behaviour to guide both spontaneous and planned intentional teaching of social-emotional skills for most young children; Tier Three: For children exhibit challenging behaviour, educators, families, and consultants work together to create and implement positive behaviour support plans.	

*PRSIST = The Preschool Situational Self-Regulation Toolkit

**SOWATT = Self-regulation, Organisation, Working memory, Attention, Thinking Flexibly and Thinking about thinking program

5.5. Outcome measures

As shown in Table 8, all studies measured outcomes for children using quantitative measures, with three also incorporating qualitative measures (e.g., interviews, focus groups, observations). Changes in children's behaviour were assessed using teacher-reported measures in all studies, with parents completing assessment measures in one of those studies. It is important to note that the search criteria used for the scoping review likely identified studies with primarily quantitative approaches to measuring outcomes, emphasising the educator as assessor rather than parents/families or other critical observers.

Educator outcomes were measured in three studies, with two studies assessing outcomes based on participation (e.g., recording activities or program completing modules), and one assessing knowledge gain in relation to behaviours of interest. All studies assessing educator outcomes used qualitative measures, and one study also used quantitative measures.

Intervention feasibility was evaluated in one study using validated quantitative outcome measures. Intervention fidelity (i.e., adherence to and engagement with intervention) was assessed in two studies with one study using a scale (i.e., Teaching Pyramid Observation Tool) and the other through tracking educators' completion of the program's modules. Three studies discussed the acceptability of the interventions, with one of these finding that the intervention was not acceptable to participants. No studies reported on the appropriateness or reach of their interventions.

5.6. Family involvement

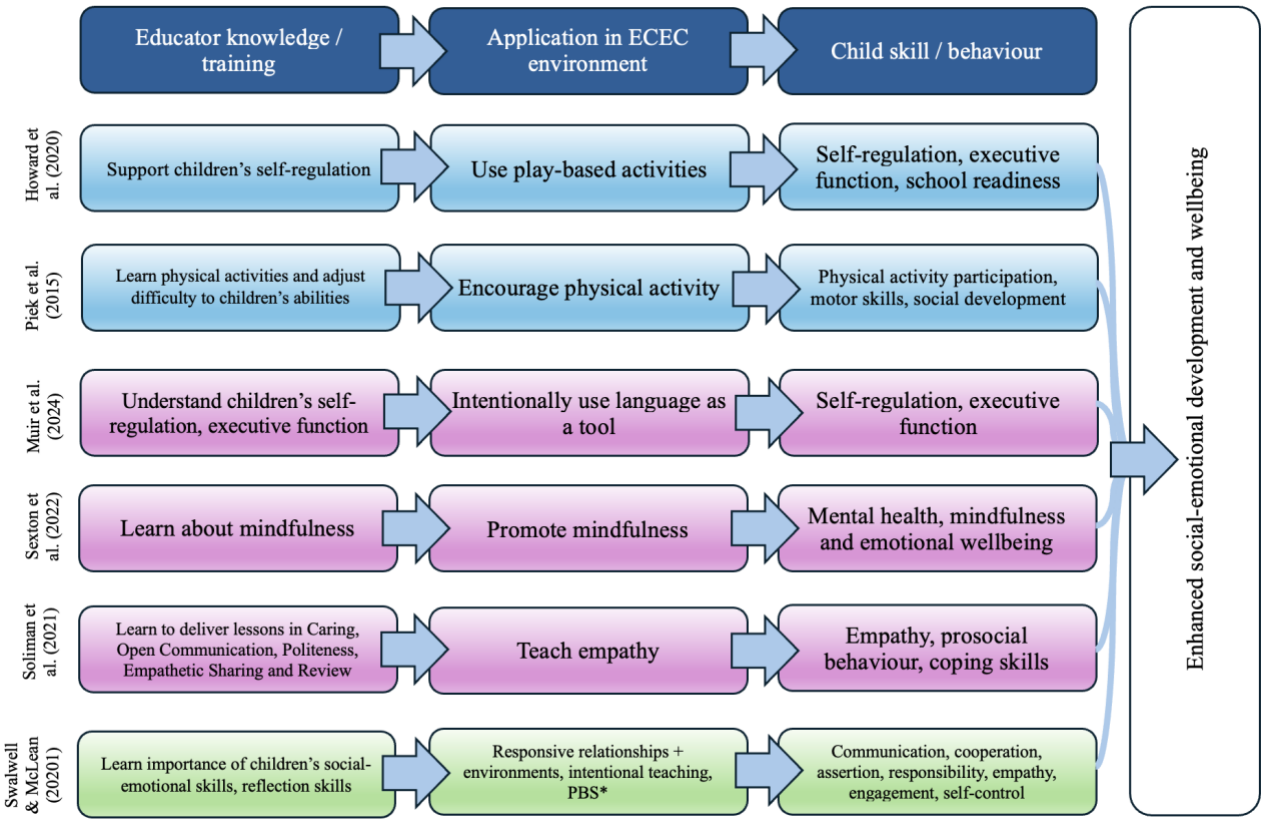
All parents provided consent for their children to participate in the programs. In two studies, parents were included as part of the intervention to varying degrees. Specifically, one study provided parents with monthly newsletters that provided information about self-regulation, why it is important in the early years, and how to observe and support their children's self-regulation at home. The other study provided the parents with an information booklet on the importance and benefits of mindfulness for preschool-aged children, the evidence that supports its use, and advice on how to implement activities at home with children or for themselves. They were also given access to the mindfulness program used in the BS intervention. The aim was to evaluate parent-reported feasibility of their program; however, too few parents participated to be able analyse these outcomes.

5.7. Intervention aims and mechanisms of action that lead to behaviour change

Broadly speaking, each BS intervention aimed to promote children's social-emotional development and wellbeing by helping educators better support children's behaviour. To do so, educators were provided with evidence-based information about behaviour in early childhood and trained to use a range of strategies and activities in the ECEC environment (see Figure 3). More specifically, three interventions provided educators with information to build their understanding of children's behaviours, including self-regulation (n = 2), executive functioning (n = 1), and mindfulness (n = 1), with an additional intervention providing specific instruction about PBS. One intervention focussed on the importance of fostering responsive relationships with children and setting up the ECEC environment to support this process. The remaining two interventions trained educators in concepts specific to the BS program, including how to teach and practice empathy, and to engage children in physical activity.

Importantly, the new knowledge and skills gained by educators through the intervention training process were then translated to and applied within the ECEC environment. As shown in Figure 3, the basic qualitative content analysis identified six different mechanisms of action for behaviour change. In other words, educators used six different strategies to drive changes in young children's skills or behaviours. Three themes were identified and colour coded within the identified mechanisms of action: 1) play-based activities (blue), 2) emotional awareness (purple), and 3) responsive relationship building (green). Importantly, the three themes align with quality areas of the NQS as described in greater detail below.

Figure 3. Mechanisms of action that lead to behaviour change



*PBS = Positive Behaviour Support

5.7.1. Play-based activities

NQS quality area 3.2.3 highlights the importance of promoting play-based approaches to learning in ECEC centres (ACECQA, 2018). Play-based activities involve educators engaging in open-ended, child-focussed activities that are unstructured with children. Howard et al. (2020) asked educators to use play-based activities to promote children's self-regulation, executive functions, and school readiness. These activities ranged from those educators used routinely as well as new options included in the intervention. Activities (e.g., 'Disciplined Dance' taught children to dance to music and freeze when the music stops) were compiled into a children's book from which educators read the instructions. The educators also were provided with instructions on how to deliver these activities, how to adjust the activities based on children's ability levels, how these activities relate to self-regulation, and linked them to the Early Years Learning Framework (EYLF), which is the national ECEC curriculum (Department of Education, 2022). Piek et al. (2015) required educators to

encourage physical activity with the children to promote their motor skills, social development and physical activity participation. Specifically, children were helped to imitate movements of various animals in a fun and non-competitive manner. The program activities were presented in nine modules, each of which focussed on different areas of development (e.g., gross motor skills, fine motor skills, and social-emotional development).

5.7.2. Emotional awareness

The importance of supporting emotional awareness is reflected in NQS quality area 1.2.2, which encourages educators to be responsive to children and extend their learning through open-ended questions, feedback and interactions (ACECQA, 2018). The BS interventions included within the emotional awareness theme involved teaching children to be reflective and engaging them in activities that extended and challenged their thinking. For example, Muir et al. (2024) encouraged educators to intentionally use language as a tool to promote children's self-regulation and executive function. Children were encouraged to reflect on their actions, ask open-ended questions, and think aloud, and educators supported children's thinking skills by extending conversations. Sexton et al. (2022) taught educators to promote children's mindfulness to foster children's mental health, mindfulness and emotional wellbeing. This was accomplished through meditations (e.g., focussing on breathing, the body or senses), mindfulness activities (e.g., mindfully washing hands or mindfully playing with sensory materials) and mindful movements (e.g., doing various fun movements mindfully). Finally, Soliman et al. (2021) instructed educators to teach children the practice of empathy to encourage the development of their empathy, promote their prosocial behaviour, and foster their coping skills. This was facilitated through group discussions, art activities, movement, role-play and the use of Early Years Coping Cards that illustrate difficult situations and require children to verbally describe the coping strategies they would use (Frydenberg & Dean, 2011, as cited

in Frydenberg et al., 2019). Notably, these activities were all infused with ways to foster empathy, such as encouraging children to self-reflect and take other peoples' perspectives.

5.7.3. Responsive relationship building

Multiple NQS quality areas emphasise the importance of responsive relationship building including: 5.1.1, which encourages educators to build positive relationships with children; 4.2.1, which encourages educators to collaborate with their colleagues; and 6, which promotes collaboration between educators, families and the community to support children's holistic development (ACECQA, 2018). Responsive relationship building pertains to activities where educators focus on fostering relationships with stakeholders (e.g., children, families, colleagues) with the aim of supporting children's early social and emotional development. To that end, Swalwell and McLean (2021) provided information to educators to build their knowledge and understanding of children's social-emotional development and encouraged them to reflect on their own behaviour and teaching practices to promote children's social and emotional skills and behaviour. Educators engaged in the three tiers of the program, all of which were underpinned by strategies to help educators build responsive relationships and environments for children as well as their families.

CHAPTER SIX:

Discussion

6. Discussion

6.1. Summary of principal findings

The recent evidence of declining emotional maturity and social competence (Department of Education, 2023), as well as the increasing prevalence of challenging behaviours among young Australians is of particular concern to Australian educators and policymakers (Martin et al., 2023), prompting heightened interest in solutions to stem such trends. This thesis applied Bronfenbrenner's EST to understand why these behavioural challenges develop and persist, and what systems-level changes are needed to address them effectively. While the analysis draws on evidence from ECEC literature, policy documents and standardised scoping review methodology, it is also informed by my own experience of working as an early childhood teacher for over a decade. During my years as an educator, I often witnessed the challenges of translating policy requirements into practice, as well as the ongoing challenges experienced by my fellow educators in attempting to support children's behaviour without adequate preparation or resources.

Examining the current landscape reveals significant challenges across multiple levels of the ECEC system. At the educator training level, the research suggests a fundamental disconnect between what Australian early childhood educators learn and what they need in practice. While all qualification levels include BS content, educators consistently report feeling unprepared to handle challenging behaviour (Quesenberry et al., 2014; Snell et al., 2012; Stein et al., 2022). Critical gaps exist in practical application skills, cultural competence, trauma-informed approaches, and supporting neurodivergent children, suggesting that theoretical knowledge alone is insufficient.

These educator-level challenges are compounded by policy-level limitations. The NQS, which guides ECEC quality across Australia, lacks specific guidance on best practice implementation of evidence-based BS strategies. Educators perceive the quality assessment process as subjective and

disconnected from their daily realities (Jackson, 2015; Phillips & Fenech, 2023), creating missed opportunities to systematically improve BS practices.

At the intervention level, the scoping review of BS interventions revealed promising but limited progress. Only six Australian studies were identified (Howard et al., 2020; Muir et al., 2024; Piek et al., 2015; Sexton et al., 2022; Soliman et al., 2021; Swalwell & McLean, 2021), albeit showing a positive shift towards promoting children's prosocial skills rather than simply managing behavioural problems. However, these interventions primarily focussed on individual educators rather than whole systems, lacked cultural responsiveness particularly for First Nations families, did not systematically include families as part of the intervention, and were typically delivered by researchers rather than embedded within existing structures, limiting their long-term sustainability and scalability.

Collectively, these findings point to the need for a systems-based approach to effectively understand and address children's behaviour in ECEC settings. Such an approach would require simultaneously strengthening educator preparation through enhanced training curricula, reforming quality assessment frameworks like the NQS to better support evidence-based behaviour practices, and ensuring culturally responsive interventions that engage families and communities. However, more fundamental changes are also needed, including restructuring ECEC governance to prioritise genuine community partnerships over regulatory compliance, transforming physical and pedagogical environments to reflect diverse cultural values and practices, and redesigning funding models to support comprehensive professional development and family engagement initiatives. Together, these reforms would create sustainable improvements for both children and educators.

6.2. The missing pieces: Why is Australia falling short when it comes to BS?

The findings of this thesis suggest that Australia is falling short in providing effective, systems-based BS in ECEC settings. To understand why this is occurring, it is crucial to examine what interventions are currently being implemented in Australian ECEC settings and whether they address the systems-

level challenges identified. A comprehensive scoping review of BS interventions was conducted to identify the gaps and limitations in current approaches that may explain why Australia is struggling to effectively support children's behaviour in ECEC contexts.

This analysis reveals three critical missing pieces: 1) significant gaps in educator training that leave educators unprepared for the behavioural challenges they encounter, 2) insufficient policy guidance that fails to translate quality standards into practical implementation strategies, and 3) systems-level limitations in existing BS intervention approaches that restrict their effectiveness and sustainability.

6.2.1. Missing piece #1: Gaps in educator training

While all educators have some preparation in BS, the complexity and theoretical knowledge increases with qualification level (i.e., Certificate III, Diploma, University degree). Overall, each level of training covers important topics including child development, attachment theory, positive guidance strategies, and environmental design to support positive behaviour. Nevertheless, significant gaps remain that help explain why many educators feel unprepared for the behavioural challenges they encounter in their practice (Quesenberry et al., 2014; Snell et al., 2012; Stein et al., 2022). These gaps are evident across several domains:

1. *Behavioural knowledge and understanding:* While the learning content of each level of training covers basic child development principles, it provides insufficient depth in theoretical foundations of behaviour, particularly at Certificate III and Diploma levels. Educators receive limited instruction in Bronfenbrenner's (1979) EST and trauma-informed approaches, despite evidence that adverse childhood experiences negatively impact development (Mortensen & Barnett, 2016; Sciaraffa et al., 2018; Tarullo & Gunnar, 2006). Training also lacks instruction on recognising developmental disorders that may manifest as challenging behaviour (Matson & Nebel-Schwalm, 2007; McDougall et al., 2020), leaving educators unable to differentiate between typical development, trauma responses, and neurodevelopmental differences.

2. *Practical application:* Educators have insufficient opportunities to practice BS skills in real contexts with guided feedback. Research demonstrates that educators consistently report feeling underprepared to translate theoretical knowledge into practice when faced with challenging behaviour (Quesenberry et al., 2014; Stein et al., 2022). This translation difficulty is well-documented across the Australian ECEC sector, where educators report significant gaps between their formal training and the practical skills needed to effectively support children's behaviour in real ECEC classroom situations (Stein et al., 2022). This is particularly problematic for complex situations that may require more nuanced judgement and a uniquely adapted response.
3. *Cultural competence:* Current training places the burden on educators to develop cultural knowledge rather than transforming ECEC systems to be inherently inclusive and work in genuine partnership with diverse communities. This approach fails to establish systems where families are positioned as experts and decision-makers in their children's education, or to address how intergenerational trauma, racism and institutional discrimination influence behaviour (Bellamy et al., 2022; McIntosh et al., 2014; Schimke et al., 2022). This is especially concerning given Australia's multicultural population and the need for ECEC systems designed in partnership with First Nations communities rather than services that merely accommodate cultural differences.
4. *Family partnership:* These qualifications emphasise the importance of family engagement but provide limited practical guidance for building genuine partnerships with families, particularly those from different cultural backgrounds. This gap is particularly concerning given research demonstrating the importance of collaborative approaches with families (Perkes et al., 2022; Smith et al., 2017; Stock et al., 2012).

These gaps create substantial challenges in practice. Educators often have the theoretical knowledge on how to deal with simple behavioural situations but lack deeper theoretical instruction and can struggle to apply this knowledge when faced with complex situations (Quesenberry et al., 2014; Stein et al., 2022). The gap between training and practice requirements may further contribute significantly to educator stress and ultimately turnover, as evidenced by Australia's concerning annual turnover rates of 37-47% within the ECEC sector (Thorpe et al., 2020). Research demonstrates that educators who feel unprepared in supporting children's behaviour experience higher levels of stress and job dissatisfaction, which are key predictors of workforce exit (Friedman-Krauss et al., 2014; Schaak et al., 2022).

6.2.2. Missing Piece #2: Insufficient policy guidance for implementing BS strategies in practice

The NQS provides a comprehensive framework for quality ECEC that includes specific elements relevant to BS (ACECQA, 2018). However, research reveals a fundamental disconnect between what the NQS expects from educators and what it actually provides them with to achieve these expectations (Jackson, 2015; Phillips & Fenech, 2023).

This disconnect can have serious consequences that extend beyond individual educators' uncertainty to the broader quality assessment system itself. Rather than being a tool for continuous improvement in BS practices, the NQS assessment process often becomes a document that educators are required to comply with, without necessarily enhancing their capacity to support children effectively (Jackson, 2015). Educators report feeling that the quality assessment process focusses on documentation and broad compliance rather than providing meaningful support for their professional development in areas like BS (Phillips & Fenech, 2023). This can create additional stress for educators who understand what they should do (i.e., respond to children's behaviour with respect and dignity) but lack the confidence in their ability to implement these ideals consistently, especially in more challenging situations. When educators feel underprepared to handle difficult behaviour, this lack of

preparation can contribute to the high stress levels and turnover rates in the ECEC sector (Thorpe et al., 2020).

A more effective approach would bridge this macro-microsystem gap by providing educators with specific, actionable feedback on their BS practices during assessments, coupled with dedicated time and funding for targeted professional development to address identified gaps. This could include access to mentoring from experienced practitioners, regular coaching sessions on evidence-based strategies, and structured opportunities for reflective practice. Given that educators consistently report feeling underprepared to handle challenging behaviour (Quesenberry et al., 2014; Snell et al., 2012; Stein et al., 2022), there is a clear need for ongoing support that extends beyond initial training. Furthermore, the assessment process could identify and share best-practice examples across services, creating a genuine learning network that builds educator capacity rather than simply measuring compliance with broad standards.

This transformation would require reconceptualising the quality assessment process from a compliance-focussed model to a professional development-centred approach that provides practical pathways for implementing the NQS's valuable, but abstract, principles in real-world ECEC settings.

6.2.3. Missing piece #3: Limitations of BS interventions

This thesis reports on the first comprehensive scoping review of BS interventions specifically in Australian ECEC settings and revealed a surprisingly limited research base, with only six studies meeting the inclusion criteria. This represents a stark contrast to the extensive literature available from other countries, where many studies have been conducted and evaluated (Obee et al., 2023; Skinner et al., 2024). BS interventions are designed to meet the needs of educators struggling to support children's behaviour in ECEC settings; however, the review identified several concerning limitations in current BS interventions that hinder their potential for creating lasting change in Australian ECEC settings. While the six identified interventions provide educators with practical

skills and strategies, they primarily function as temporary measures that fail to address the broader ecological factors influencing children's behaviour. To understand why these interventions fall short of creating sustainable change, it is important to examine their design and implementation approaches. Analysis of the intervention characteristics, delivery methods, and underlying assumptions revealed three key limitations that restrict their effectiveness: 1) their narrow focus on process factors, 2) their reliance on linear rather than holistic approaches to behaviour change, and 3) their concerning lack of cultural responsiveness, particularly for First Nations children and families.

Each of these limitations demonstrates how current BS interventions fail to address the complex ecological factors that influence children's behaviour, as outlined in Bronfenbrenner's (1979) EST. The following analysis examines how these intervention characteristics limit their effectiveness and prevent the comprehensive, systems-level change required for sustainable improvement in children's behavioural outcomes.

Limitation #1: Narrow focus on process factors

A notable finding from the scoping review was that all six identified interventions focussed primarily on process factors (i.e., the day-to-day interactions, teaching strategies, and practices that educators use when working directly with children) (Howard et al., 2020; Muir et al., 2024; Piek et al., 2015; Sexton et al., 2022; Soliman et al., 2021; Swalwell & McLean, 2021). This emphasis reflects an understanding that the quality of educator-child interactions plays an essential role in the effectiveness of BS. As previously touched on, process factors are undeniably critical for supporting children's behaviour, with research consistently demonstrating their importance for positive developmental outcomes (Cassidy et al., 2011; Kwon et al., 2020). The interventions provided educators with practical skills that could improve their daily practice as well as enhance their confidence when supporting children's behaviour.

However, while these process-focussed interventions provide important building blocks, they represent only one component of comprehensive BS. Process factors operate within, and are influenced by, broader structural and systemic elements (Bronfenbrenner, 1979). High-quality educator-child interactions are more likely to occur consistently when educators have received adequate preparation in their initial training (Quesenberry et al., 2014; Stein et al., 2022) and operate under supportive policy frameworks (Jackson, 2015; Phillips & Fenech, 2023). The challenge is not that interventions focus on process factors, but rather that they focus solely on this one level without addressing the broader system.

Limitation #2: Reliance on linear rather than holistic approaches

All interventions included in the scoping review adopted linear change models that focus on individual-level factors rather than systems-level influences. These interventions typically followed a similar pattern, which consisted of identifying problematic behaviour, training educators in specific strategies, implementing those strategies with children, and measuring children's behaviour change. While this approach may produce short-term improvements, it fails to address the complex ecological factors that influence behaviour development (Bronfenbrenner, 1979). Linear approaches assume that behaviour change occurs through direct cause-and-effect relationships; if educators learn better strategies, children's behaviour will improve. However, Bronfenbrenner's EST suggests that behaviour emerges from complex interactions across multiple system levels, from microsystems (such as the immediate classroom environment and educator-child relationships) to macrosystems (including cultural values and policy frameworks) (Bronfenbrenner, 1979). Sustainable change in ECEC requires a systems-based approach that recognises the interconnected nature of these ecological influences (The Front Project, n.d.). This means addressing factors at individual, relationship, organisational, community, and policy levels simultaneously, moving beyond isolated interventions to comprehensive system-level transformation.

Limitation #3: Lack of cultural responsiveness

ECEC educators work with children from culturally diverse backgrounds (McIntosh et al., 2014), yet the scoping review revealed that while some interventions collected demographic information about participating children, they rarely examined how intervention effectiveness varied based on children's different characteristics and needs or across more diverse contexts. This signals a failure to consider the broader context in which a child is operating and raises significant concerns about cultural responsiveness in BS approaches.

Perhaps the most concerning finding of this research is the complete absence of BS interventions specifically designed for First Nations children in Australian ECEC settings. The absence of First Nations-specific research likely reflects broader issues with research methodologies that privilege Western scientific approaches over First Nations ways of knowing (Elliott & Davis, 2020). This disconnect is particularly problematic from a systems-based perspective, as effective BS for First Nations children requires understanding and working within their cultural systems, family structures, and community contexts rather than imposing external frameworks that may conflict with Indigenous values and practices. However, it should be noted that the scoping review's focus on quantitative, controlled trial designs may have excluded important community-based research using participatory methodologies preferred by many First Nations communities (Perkes et al., 2022; Smith et al., 2017).

The scoping review also found that most interventions were designed using Western frameworks and delivered without apparent consideration of how they might need adaptation for children and families from different cultural backgrounds. This lack of cultural responsiveness is problematic because behavioural expectations and child-rearing practices vary significantly across cultures (Bellamy et al., 2022; McIntosh et al., 2014; Schimke et al., 2022). Australian ECEC settings serve children from diverse cultural backgrounds, yet BS approaches often assume universal standards for appropriate

behaviour. Children whose cultural behavioural expectations differ from ECEC norms may be inappropriately labelled as having behavioural problems, leading to unnecessary stress and potential damage to their cultural identity and sense of belonging. Without considering cultural background, family circumstances, or individual experiences, BS approaches may inadvertently overlook the complex ecological factors that influence children's behavioural development.

At both the macro- and microlevel of Bronfenbrenner's EST (1979), effective BS should recognise and value children's cultural contexts and engage families as partners and experts in their children's development (Perkes et al., 2022; Smith et al., 2017; Stock et al., 2012). This approach aligns with the foundational principle that accounting for children's culture is essential to quality education (ACECQA, 2018), and acknowledges that children's cultural identity and connection to their heritage are important aspects of their development that must be honoured rather than overlooked (Elliott & Davis, 2020).

6.3. The need for systems-level understanding

The challenges outlined above – from gaps in educator preparation and policy-practice disconnections to the limitations of current interventions – reveal a fundamental issue with the current approach to supporting children's behaviour in Australian ECEC settings. Each system component (i.e., training, policy, interventions) attempts to address children's behaviour in isolation, without adequately considering how children's behaviour is influenced and sustained by complex interactions across multiple systems. This disconnected approach emphasises why individual solutions, while well-intentioned, have failed to create lasting change.

This creates a harmful cycle where challenging behaviour, now the most common health concern amongst preschool-age children (Egger & Angold, 2006; Stein et al., 2022), drives educator stress and turnover, which in turn disrupts the consistent, responsive relationships fundamental to supporting children's behavioural development (Cassidy et al., 2011; Kwon et al., 2020). These

serious consequences demonstrate that supporting children's behaviour requires more than individual-level interventions, and it demands systems-level change that supports both children's developmental needs and educator wellbeing simultaneously.

Bronfenbrenner's EST (1979) provides a valuable framework for understanding behaviour as emerging from dynamic interactions between children and their multiple environmental contexts. Rather than simply managing behaviour in a specific context, a systems-based approach takes into account root causes, potentially creating the foundation for more sustainable outcomes. As discussed previously, challenging behaviour emerges from complex interactions between context, temperament, and parental influences (Carneiro et al., 2016; Clay et al., 1996; Jamnik & DiLalla, 2019).

Effective BS requires coordination between multiple systems: Educator training programs that provide in-depth theoretical foundations and offer practical application opportunities, families who bring cultural knowledge and understanding of their children's unique needs, and policy frameworks that support the implementation of evidence-based practices. Research with diverse communities has demonstrated the value and effectiveness of co-design approaches that engage families as partners and experts in their children's development (Perkes et al., 2022; Smith et al., 2017; Stock et al., 2012).

Additionally, a systems-based approach creates opportunities for prevention rather than requiring reactive responses to problems. The early childhood period represents a time for critical development when children have an enhanced ability to gain and sustain new learning (Knudsen, 2004; Thomas & Knowland, 2009). This makes early childhood the optimal time for preventive interventions that address behaviour proactively (Papachristou & Flouri, 2020; Plath et al., 2016; Riggleman, 2021). Indeed, evidence consistently shows that early, comprehensive interventions can prevent the development of externalising behaviour while promoting positive developmental trajectories (Blewitt et al., 2021; Bornstein et al., 2013; Britto et al., 2017; Powell et al., 2007).

Systems-based approaches also tend to be more culturally responsive because they recognise that behaviour occurs within cultural contexts and must be understood and supported in ways that honour and match children's cultural identities. Research demonstrates that what is deemed socially acceptable and unacceptable behaviour can vary greatly across cultures, potentially creating discrepancies between expectations at home and in educational environments (McIntosh et al., 2014). When educators lack knowledge of crucial cultural factors that can influence behaviour (e.g., intergenerational trauma, racism and institutional discrimination), they may inaccurately assign intent to children's behaviour (e.g., disrespect), leading to inadequate or inappropriate BS (Bellamy et al., 2022; McIntosh et al., 2014; Schimke et al., 2022; Utley et al., 2002; West et al., 2007). This cultural responsiveness is particularly important in Australia's diverse society, where ECEC settings serve children from many different cultural backgrounds with varying expectations and norms around behaviour. Indeed, accounting for children's culture is considered a foundational principle of quality education under the NQS (ACECQA, 2018).

The evidence presented throughout this thesis demonstrates that while systems-based approaches offer clear advantages over individual-focussed BS interventions, implementing such comprehensive change requires careful consideration of both immediate practice needs and longer-term structural reform. Current educators cannot wait for systems-level transformation while children in their care continue to experience behavioural challenges, yet temporary solutions alone will not address the root causes of the problem. Therefore, a strategic approach is needed that can deliver both short-term support for practitioners and sustainable long-term change across the ECEC system.

6.4. Moving forward: A three-pronged approach

Addressing the challenges identified in this thesis requires a comprehensive three-pronged approach that simultaneously targets both immediate practice needs and more longer-term systems-level

change. The first prong targets immediate gaps in educator preparation through enhanced training curricula; the second prong embeds practical skill development within authentic ECEC contexts; and the third prong outlines a reformed quality assessment process that more authentically assesses educators' ability to support children's behaviour and offers further professional development and support. Together, these complementary strategies recognise that while BS interventions can provide short-term improvements in children's behaviour and educators' skills, sustainable improvement requires fundamental reform of the systems that prepare and train early childhood educators.

6.4.1. Prong one: Enhanced evidence-based information in ECEC training coursework

The first prong focusses on addressing the individual level of the EST by fundamentally improving how educators are prepared to understand and support children's behaviour. Rather than treating BS as a topic covered in single units, evidence-based information about children's behaviour should be woven throughout all aspects of ECEC educators' training. This includes understanding typical and atypical behavioural development, recognising the impact of trauma and adverse experiences, implementing culturally responsive practices, and supporting children with diverse needs.

Qualification training, particularly Certificate III and Diploma, should also provide comprehensive grounding in EST, attachment theory, and trauma-informed practice, helping educators understand behaviour as emerging from complex interactions between children and their environments rather than individual problems requiring management.

Furthermore, all levels of ECEC training should include preparation for working with children and families from diverse cultural backgrounds, with particular emphasis on understanding First Nations perspectives on child development and behaviour. It is important to note that this should ideally be developed in genuine partnership with First Nations educators and communities since Aboriginal and

Torres Strait Islander people are “empowered when ideas, strategies and projects are developed by and with them” (Milgate, n.p., 2017).

Lastly, the training should include rigorous assessment of teachers’ understanding of BS principles and their ability to apply this knowledge in both mock situations in their training as well as real practice contexts, such as work placements.

6.4.2. Prong two: Practical training and practice opportunities in ECEC environments

The second prong addresses the microsystem level where children and educators interact daily, providing opportunities for educators to develop and refine BS skills within authentic ECEC contexts. This practical experience should be adapted to work effectively with children and families from diverse backgrounds. All ECEC training should also include substantial supervised practice in real ECEC settings, with specific focus on observing, analysing, and responding to challenging behavioural situations. These experiences should be guided by mentor educators with demonstrated knowledge of and expertise in BS.

The training should also develop educators’ capacity for critical reflection on their BS practices, including analysis of what worked well, what could be improved, and how cultural factors may have influenced the situation and their response. Developing educators’ critical reflection skills is essential as it helps educators identify what works best for each child, adapt their teaching to meet diverse needs, create safer and more supportive learning environments, and continuously refine their practices to better serve all children (Machost & Stains, 2023). This sentiment is also echoed by documents such as the EYLF in ‘Principle 5: Ongoing learning and reflective practice’ (ACECQA, 2022) and the NQS in ‘Element 1.3.2: Critical reflection’ (ACECQA, 2018), which emphasise the important role that critical reflection plays in the quality of education and care that children receive.

Additionally, practical training should emphasise team-based approaches to BS, helping educators learn to work collaboratively with colleagues, families, and various specialists (e.g., psychologists or occupational therapists) to develop effective support strategies. If possible, practical experiences should ideally include opportunities to work with children and families from diverse cultural backgrounds, so that educators in training have the opportunity to implement culturally responsive strategies that are tailored to specific community needs and contexts. Lastly, these practical experiences should extend beyond initial training to include ongoing professional development opportunities (e.g., webinars or workshops), coaching support, and peer learning networks that continue throughout educators' careers.

6.4.3. Prong three: Reformed quality assessment and ongoing professional support systems

The third prong addresses the need to fundamentally transform how quality is assessed and supported within ECEC settings. Rather than the current compliance-focussed approach that educators find subjective and disconnected from practice (Jackson, 2015; Phillips & Fenech, 2023), reformed quality assessment processes should function as comprehensive professional development systems that support educators throughout their careers.

This transformation would involve redesigning assessment visits to provide specific, actionable feedback on educators' BS practices rather than merely measuring compliance with broad standards. Assessment protocols would include structured observations of educator-child interactions during challenging behavioural situations – or, where such situations do not arise during the visit, structured discussions with educators about their strategies and approaches to supporting challenging behaviour, including specific examples from their practice. These conversations would examine not only what strategies educators use, but also their understanding of why particular approaches are effective and how they could adapt their responses based on individual children's needs and cultural contexts.

Following each assessment, educators would receive targeted recommendations for professional development, with clear pathways to access relevant resources, mentoring support, or specialised training opportunities (e.g., webinars or workshops). This could include pairing educators with experienced mentors who have demonstrated knowledge and expertise in BS, or providing access to ongoing coaching sessions on evidence-based strategies. Given that educators consistently report feeling unprepared in handling children's challenging behaviour (Quesenberry et al., 2014; Snell et al., 2012; Stein et al., 2022), there is a clear need for ongoing support that extends beyond their initial training.

Furthermore, this reformed system would create sustainable support structures that extend beyond individual assessment visits. Rather than isolated compliance checks, the process would establish continuous professional learning cycles that help educators build their capacity over time. The assessment process could also identify and share best-practice examples across ECEC centres, creating a genuine learning network that builds educator capacity rather than merely measuring their compliance with the NQS. This approach recognises that effective BS requires ongoing skill development and support, particularly given the complex nature of children's behavioural needs in contemporary ECEC settings.

6.4.4. Supporting implementation of the three-pronged approach

Although this three-pronged approach is a potential solution, the successful implementation of this approach requires several supporting elements:

1. *Policy alignment:* Training standards and accreditation requirements must be reformed to mandate both enhanced theoretical preparation and extensive practical experience in BS.

2. *Funding support:* Additional funding is required to support extended practical placements for ECEC educators in training, mentor preparation programs, and ongoing professional development systems.
3. *Quality assurance:* Training assessments must evaluate both trainee educators' theoretical knowledge and practical competence in BS, ensuring that the graduates are genuinely prepared for the challenges they will face in practice.
4. *Research and evaluation:* Ongoing research should examine the effectiveness of this suggested three-pronged approach in improving educator preparedness, job satisfaction, workforce retention, and ultimately, children's behavioural outcomes.
5. *Institutional capacity building:* Collaboration between training institutions, ECEC services, and regulatory bodies is required to support this integrated approach. This could include ensuring work placements by training institutions align with enhanced BS curricula, developing local networks for sharing resources, and creating mechanisms for translating research into practice. Training institutions must also develop expertise to deliver comprehensive BS preparation; ECEC services need structures supporting reflective practice; and regulatory bodies need systems to deliver reformed assessment processes with consistent, actionable feedback for educators.

This three-pronged approach acknowledges that sustainable improvement in BS requires enhanced individual educator preparation alongside systems-level changes to how professional learning is structured within the ECEC sector and how the quality of ECEC centres is assessed. By addressing both immediate practice needs and longer-term systems-level issues, this approach offers the potential for more meaningful, lasting improvement in how Australian ECEC settings support all children's behavioural development.

6.5. Limitations

The search criteria for the scoping review excluded qualitative study designs. As a result, it may have failed to capture literature that explored the feasibility and impact of BS interventions using more flexible research methodologies that are often preferred among culturally diverse communities, such as co-design or participatory action research (Perkes et al., 2022; Smith et al., 2017). Additionally, some relevant search terms may have unintentionally been overlooked. Furthermore, only peer-reviewed research was included in the search criteria, which does not account for any informal BS interventions introduced in ECEC settings or any unpublished research currently in progress. Lastly, it should be acknowledged that there was no hands-on research conducted with educators; however, this study was informed through the experience of the Masters candidate who has a variety of ECEC training and over a decade of practical experience working in ECEC settings.

6.6. Future directions

The findings of this thesis highlight several important areas for future research that could advance understanding and practice in BS in ECEC settings.

Developing and evaluating culturally responsive interventions

The complete absence of First Nations-specific BS interventions represents a critical research priority. Future research must partner with First Nations communities to co-design and evaluate culturally responsive interventions that honour Indigenous ways of knowing and expertise. Such research should use participatory methodologies that position communities as leaders rather than subjects of research, consistent with principles of self-determination and cultural responsiveness. Similar partnerships should be established with other cultural communities to develop interventions that are meaningful and effective across Australia's diverse population. This work is essential not

only for addressing the research gap identified in this thesis but also for ensuring that BS approaches genuinely reflect the cultural contexts in which children develop.

Systems-based intervention research

There is a clear need to move beyond individual-level interventions to develop and evaluate comprehensive systems-based approaches to BS. Future research could examine multi-level interventions that simultaneously address educator preparation, family support, organisational policies, and community engagement. Longitudinal research designs would be particularly valuable for understanding how systems-level changes translate into improved outcomes for children and educators over a longer period of time.

Policy research and development

Future research should examine how quality frameworks like the NQS could be reformed to better support evidence-based BS practices. This includes developing specific guidance documents, assessment tools, and professional development resources that help connect policy guidelines and practice. Research should also examine how policy changes in one area, such as revised training requirements, influence other areas like workforce retention and child outcomes. Understanding the interconnections across these systems is critical for implementing the kind of comprehensive reform needed to address the challenges identified in this research.

6.7. Concluding remarks

This thesis has revealed that addressing challenging behaviour in Australian ECEC settings requires fundamental systems-based change rather than specific individual-level interventions. While current approaches often focus on training individual educators or implementing specific BS strategies, the findings demonstrate that sustainable improvement requires comprehensive reform across multiple

levels of the ECEC system. The application of Bronfenbrenner's EST has highlighted how behaviour emerges from complex interactions between children, families, educators, communities, and broader policy contexts. This systems perspective emphasises that the current challenges in BS stem not from individual deficits but rather from disconnections between systems, specifically: 1) between what educators learn and what they need in practice; 2) between policy intentions and implementation realities; and 3) between intervention approaches and the cultural contexts in which children develop. The proposed three-pronged approach to reform (i.e., enhancing evidence-based preparation in training coursework, providing enhanced practical training opportunities, and improving the quality assessment process) offers a pathway towards more sustainable improvement. However, this approach recognises that meaningful change requires more than merely changing educator training curricula; it demands fundamental shifts in how the ECEC sector understands and responds to children's behaviour.

Perhaps most significantly, this research has highlighted the critical need for culturally responsive approaches to BS, particularly the concerning absence of interventions designed for First Nations children. This finding underscores the importance of moving beyond a one-size-fits-all approach to develop interventions that honour and build upon the diverse cultural strengths that children bring to their ECEC settings.

The urgency of addressing these systems-level challenges cannot be overstated. With evidence of declining social-emotional competence among young Australians and persistent workforce challenges in the ECEC sector, small and incremental changes are not enough. The interconnected nature of these challenges requires comprehensive reform that positions ECEC as a critical foundation for children's lifelong wellbeing and success.

This thesis also demonstrates that supporting children's behaviour effectively requires supporting the entire system in which they develop. By strengthening educator preparation, enhancing cultural responsiveness, reforming policy frameworks, and fostering genuine partnerships with families and

communities, the Australian ECEC sector can become a system that truly supports all children to thrive. Children, families, and educators deserve a better system that is committed to both excellence and equity.

The journey towards systems-level reform will require sustained effort, significant investment, and genuine collaboration across all levels of the ECEC system. However, the potential benefits, such as improved outcomes for children, enhanced job satisfaction and retention for ECEC educators, and stronger foundations for Australia's future, make this investment not just worthwhile, but essential. As this thesis has outlined, the path forward is clear: rather than simply 'managing' challenging behaviour, we must create systems that prevent it, while supporting children's social-emotional development.

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6.9. Conflicts of interest

Professor Hickie is the Co-Director, Health and Policy at the Brain and Mind Centre (BMC) University of Sydney. The BMC operates an early-intervention youth services at Camperdown under contract to headspace. He is the Chief Scientific Advisor to, and a 3.2% equity shareholder in,

InnoWell Pty Ltd which aims to transform mental health services through the use of innovative technologies. No other researchers have potential conflicts to report.

CHAPTER SEVEN:

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APPENDICES

Appendix A: Search terms, limitations and results of search using PsycINFO

Location	(Australia.lo.
Setting	and ("early childhood" or "early education" or "education" or "preschool*" or "child care" or "preservice" or "nurser*" or "day care").af.
Participants	and ("educator*" or "teacher*" or "workforce").af.
Intervention target	and ("behavio* support" or "behavio*" or "behavio* modification" or "behavio* management" or "classroom management" or "challenging behavio*" or "disruptive behavio*" or "externalising behavio*" or "problem behavio*" or "social emotional learning" or "social emotional development" or "socio-emotional learning" or "socio-emotional development" or "prosocial development" or "empathy development" or "prosocial" or "emotional support" or "mindful*").af.
Training	and ("intervention*" or "program*" or "curricul*" or "training" or "professional development" or "teacher development" or "staff development" or "inservice" or "coach*" or "competenc*" or "skill*" or "education" or "support*" or "framework*" or "strateg*").af.
Study design	and ("RCT" or "randomi* control* trial*" or "quasi-experimental" or "pre-post" or "non-randomi*").af.)
Cultural component	or ("cultur*" or "Indigen*" or "First Nation*" or "aborigin*" or "rac*" or "ethnic*").af.
Limitations	limit 1 to (peer reviewed journal and english language and yr="2014 -Current")
Additional limitations	limit 2 to (peer reviewed journal and english language and (120 neonatal <birth to age 1 mo> or 140 infancy <2 to 23 mo> or 160 preschool age <age 2 to 5 yrs>) and ("0110 peer-reviewed journal" or "0120 non-peer-reviewed journal") and english and yr="2014 -Current" and last 10 years)
Results	**1,152**

Appendix B: Search terms, limitations and results of search using ERIC

Setting	((("early childhood" or "early education" or "education" or "preschool*" or "child care" or "preservice" or "nurser*" or "day care")
Participants	and ("educator*" or "teacher*" or "workforce")
Intervention target	and ("behavio* support" or "behavio*" or "behavio* modification" or "behavio* management" or "classroom management" or "challenging behavio*" or "disruptive behavio*" or "externalising behavio*" or "problem behavio*" or "social emotional learning" or "social emotional development" or "socio-emotional learning" or "socio-emotional development" or "prosocial development" or "empathy development" or "prosocial" or "emotional support" or "mindful*")
Training	and ("intervention*" or "program*" or "curricul*" or "training" or "professional development" or "teacher development" or "staff development" or "inservice" or "coach*" or "competenc*" or "skill*" or "education" or "support*" or "framework*" or "strateg*")
Study design	and ("RCT" or "randomi* control* trial*" or "quasi-experimental" or "pre-post" or "non-randomi*"))
Cultural component	or ("cultur*" or "Indigen*" or "First Nation*" or "aborigin*" or "rac*" or "ethnic*")).af.
Limitations	limit 1 to (english language and peer reviewed)
Additional limitations	limit 2 to (english and early childhood education and yr="2014 -Current" and last 10 years)
Results	**3,862**

Appendix C: Poster presentation on scoping review (FMH HDR Conference 2024)

THE UNIVERSITY OF SYDNEY

Supporting Challenging Behaviour in Early Childhood Education for Educator and Child Wellbeing: A Scoping Review

Elena Guenveur Petrou, Brain and Mind Centre, the University of Sydney

Introduction

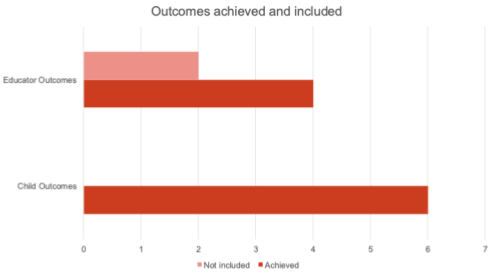
- Young children use behaviour as a means of communication.
- Challenging behaviour (e.g. issues with self-regulation) is an issue that early childhood (EC) educators deal with daily.
- Behaviour support (BS) interventions, particularly when implemented early, are valuable tools for preventing and reducing challenging behaviours in young children.
- This is important for educators' wellbeing and mental health as well as children's academic success and overall health.
- Educators acknowledge that they do not have sufficient knowledge about BS practices.

Materials and methods

- Three databases (*ERIC*, *PsycInfo*, *Scopus*) were searched to examine current BS interventions, including educator training, that have been trialled for effectiveness in Australian ECEC settings.
- Eligible studies included: Randomised, non-randomised, and quasi-experimental research designs.

Results

- 6 out of 5518 identified studies were included in the final analysis.
- Intervention duration varied from 6 weeks to 6 months.
- Educator training was universally delivered through professional development.
- All interventions aimed to support children's behaviour, either by reducing challenging behaviours or by increasing prosocial behaviours (e.g. empathy).
- 4 interventions aimed to support educators in learning about behaviour, improving their practice and/or engaging in self-reflection.
- All interventions achieved the aimed child outcomes, and 4 interventions achieved the intended educator outcomes; 2 studies did not have educator outcomes.
- While 4 studies reported that children from diverse backgrounds were included in intervention groups, none of the trainings or interventions were adapted to meet the unique needs of these children or their families.



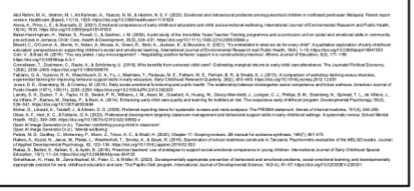
Conclusions

- The results of this scoping review highlight the effectiveness of not only interventions that aim to reduce children's challenging behaviour, but also shifting the narrative and focussing on promoting children's prosocial behaviour.
- It has also demonstrated that professional development is an effective vehicle in promoting early childhood educators' confidence in supporting children's behaviour, improving their practice and engaging in self-reflection.

Recommendations:

- It is highly recommended that future behaviour support interventions include training on cultural responsivity and implicit bias to better understand and respond to the behaviour of children who are from diverse backgrounds.

Literature cited



Acknowledgments

I would like to acknowledge my supervisors Ian Hickie, Haley LaMonica and Victoria Loblay as well as my colleague Gabrielle Hindmarsh for their ongoing support and contributions to this scoping review.

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Appendix D: Poster presentation on scoping review (Brain and Mind Centre Symposium 2023)

THE UNIVERSITY OF SYDNEY

Behaviour support interventions in Australian early childhood settings: Scoping review

Elena G Petrou, Haley M LaMonica, Victoria Loblay, & Ian B Hickie
Brain and Mind Centre, the University of Sydney

Introduction

- Young children use behaviour as a means of communication.
- Early childhood (EC) educators support children's behaviour daily, including both prosocial behaviour (e.g. empathy) and challenging behaviour (e.g. poor self-regulation).
- Behaviour support (BS) interventions, particularly when implemented early, are valuable tools for preventing and reducing challenging and promoting prosocial behaviour in children.
- This is important for educators' wellbeing and mental health as well as children's academic success and overall health.
- EC educators report having insufficient knowledge about BS practices.

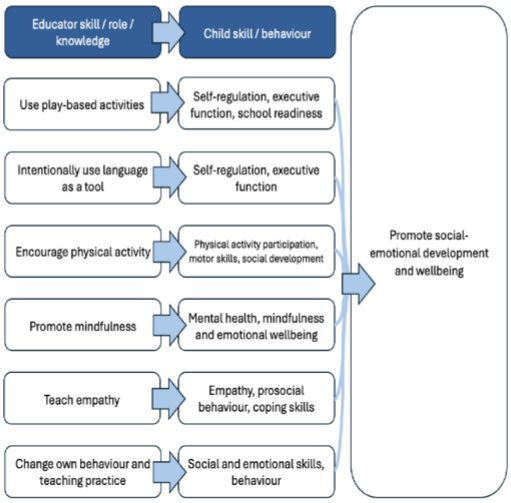
Methods

- Three databases (*ERIC*, *PsycInfo*, *Scopus*) were searched to examine current BS interventions that have been trialled for effectiveness in Australian EC education settings.
- Randomised, non-randomised, and quasi-experimental research designs were included.

Results

- 6 of 5518 studies screened for eligibility were included in the final analysis.
- Educator training was universally delivered through professional development.
- All BS interventions aimed to help educators better support children's behaviour by promoting their social-emotional development and wellbeing.
- Educators were trained to use a range of strategies and activities to target diverse behaviours to enhance one or more areas of development, as depicted in Figure 1.

Figure 1. Mechanisms of behaviour change



- All interventions focused on promoting prosocial behaviours rather than reducing challenging behaviours.
- 4 interventions also specifically aimed to improve educators' knowledge of children's behaviour, enhance classroom practices and/or promoting self-reflection.
- All interventions achieved at least one outcome for children and educators (when included in the study design).

Conclusions

- This is the first scoping review of BS interventions in the Australian EC education context.
- Professional development is an effective vehicle to enhance early childhood educators' knowledge of behaviour support strategies, improve their classroom practices and promote self-reflection.
- The results highlight the effectiveness of BS interventions for promoting a range of prosocial behaviours in early childhood.

Implications

- With the universal aim of better supporting children's behaviour, educators could create a toolbox of BS strategies from which to draw.
- This would enable a personalised approach to behavioural support based on a child's needs.
- Strategies could also be tailored to each educator's skills and qualifications and to the ECEC setting.

Acknowledgments

I would like to acknowledge my supervisors Ian Hickie, Haley LaMonica and Victoria Loblay as well as my colleague Gabrielle Hindmarsh for their ongoing support and contributions to this scoping review.

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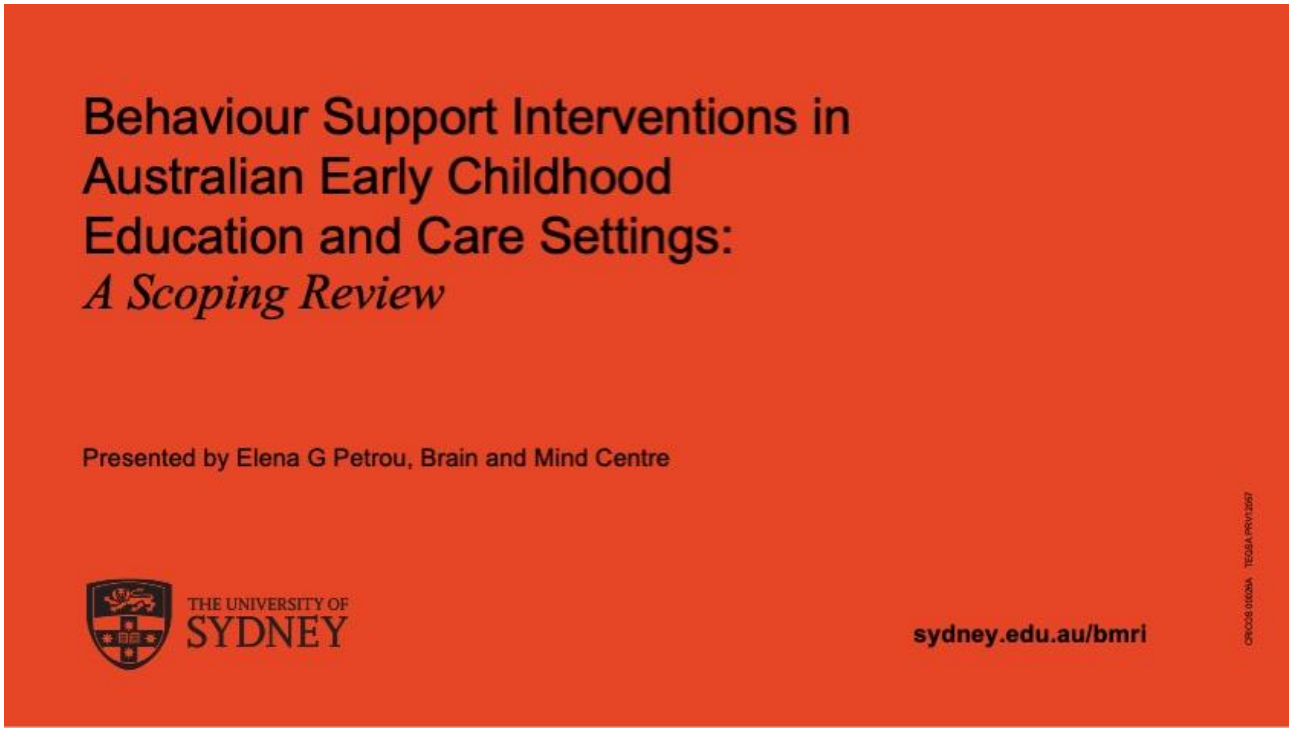
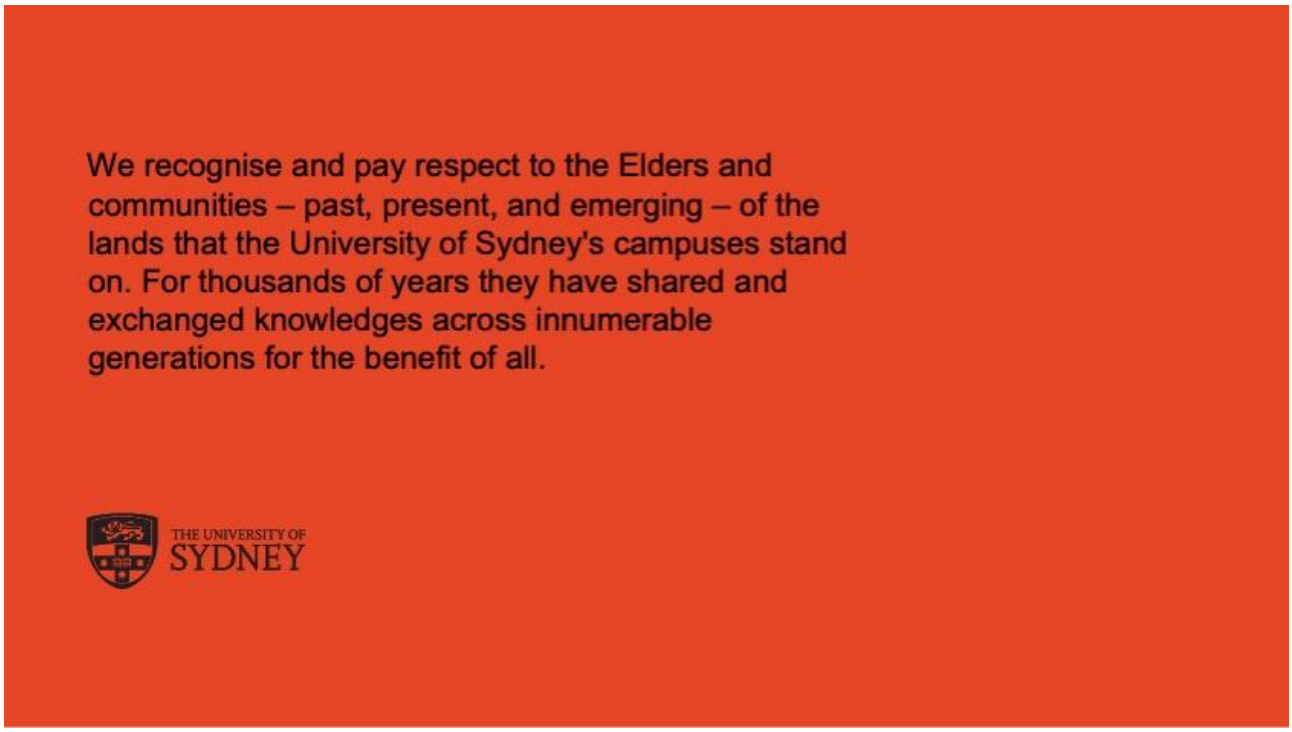
Appendix E: Slides of oral presentation on scoping review (FMH Networks EMCR Symposium 2024)





Behaviour in childhood is a key influence on development

- Behaviour has been defined as "actions, reactions, and interactions in response to external or internal stimuli" (Corsini, 2017)
    - External stimuli: The environment
    - Internal stimuli: Thoughts or feelings

Prosocial vs challenging behaviour

Prosocial

- Seen as socially desirable
- Sharing toys, helping others, comforting peers, cooperating during play
- Promoted through warm, responsive and nurturing care and sensitivity from attachment figures

Challenging

- Seen as socially undesirable
- Internalising behaviour (shyness, social withdrawal, anxiety)
- Externalising behaviour (physical aggression, yelling, poor self-regulation)
- Exacerbated by poor behaviour support strategies

Why is the discussion around challenging behaviour important?

- Most common health issue amongst preschool aged children
- Challenging behaviour is on the rise in Australia (The Senate, 2023)
- Children's emotional maturity and social competence has declined across NSW (Australian Early Development Census, 2021)
- Early Childhood Educators engage with challenging behaviour daily
- Issues underpinning challenging behaviours may be ignored or minimised
- Challenging behaviour can be associated with negative consequences for both educators and children

Impact of challenging behaviour on educators and children

Educators

- Poor mental health
- High levels of stress
- Low levels of work satisfaction and burnout
- Workplace conflict
- High turnover rate (37%-47%)
- High workforce exit from ECEC sector (73%)

Children

- High expulsion rate (3x the rate of schools)
- Feeling ostracised, excluded
- Fraught relationships with educators
- Poor mental health
- Higher rates of criminal activity, substance abuse, school dropouts and poverty later in life

What is behaviour support?

- Strategies that help adults respond to children's behaviour to support development and wellbeing
- Typically, a multi-week program delivered by accredited professionals that aim to:
    - Educate teachers about child development
    - Equip educators with behaviour support strategies to apply in practice
    - Enhance educators' practice through active self-reflection
- Early intervention has been shown to prevent the development of externalising behaviour in young children

Scoping review: Aims

1) What behaviours were targeted by the behaviour support interventions;
2) How the interventions were delivered to educators;
3) What behaviour support strategies were included in the interventions as mechanisms of action for behaviour change;
4) How outcomes for children and educators and in relation to intervention feasibility and fidelity were assessed;
5) The contexts in which the interventions were trialled; and
6) The demographics of educators and children.

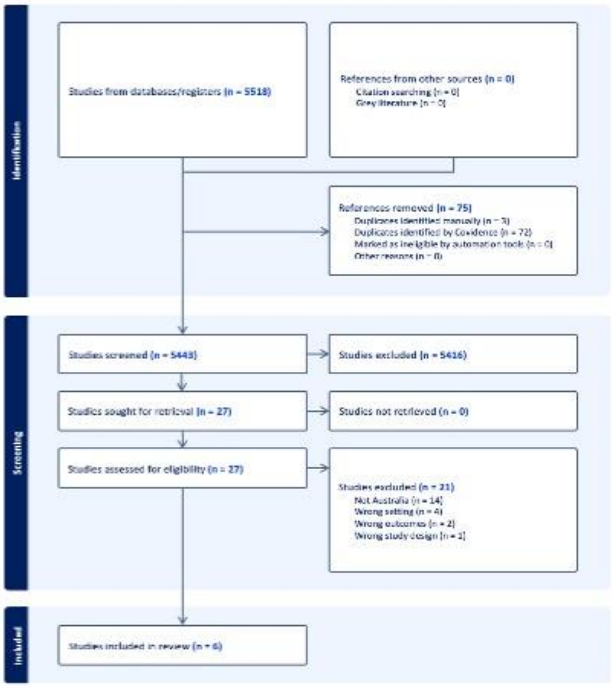
Methods

- Databases searched: *Scopus*, *ERIC*, *PsycInfo*
- Inclusion and exclusion criteria:

	Inclusion	Exclusion
Intervention target	Challenging behaviour , prosocial behaviour	Literacy, mathematics, nature, science, motor skills, eating behaviours, sleep behaviours
Population	Children aged zero to six years	Children older than six years
Participants	Not defined	Special education
Date published	Between 2014-2024	Before 2014
Language	English	All other languages
Location	Australia	All other countries
Target sample	Educators, Early Childhood Education and Care (ECEC) services	Anyone outside of educators and ECEC services (e.g. policymakers, families)
Training	In-service, training, coaching, professional development, instruction	Any other mechanism
Design	Randomised Controlled Trials (RCTs), quasi-experimental designs, non-randomised designs, pre-post designs	Protocols, case studies, observational studies, systematic reviews, meta-analyses

Results

5443 papers were screened and ultimately six were included in this review.



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Results cont.

- 4 studies were conducted in Melbourne; 2 were conducted in metro and regional NSW and WA, respectively
- 4 interventions were delivered in-person; 2 were online
- All behavioural support interventions differed; all focussed on promoting children's prosocial behaviour rather than decreasing children's challenging behaviour
- Each intervention had 2 phases:
  - Training: specific instruction and information to upskill educators
  - Application: active translation of learnings into the classroom
- All interventions shared the same overarching aim (i.e. to enhance children's social-emotional development and wellbeing), but the mechanisms of action for behaviour change varied

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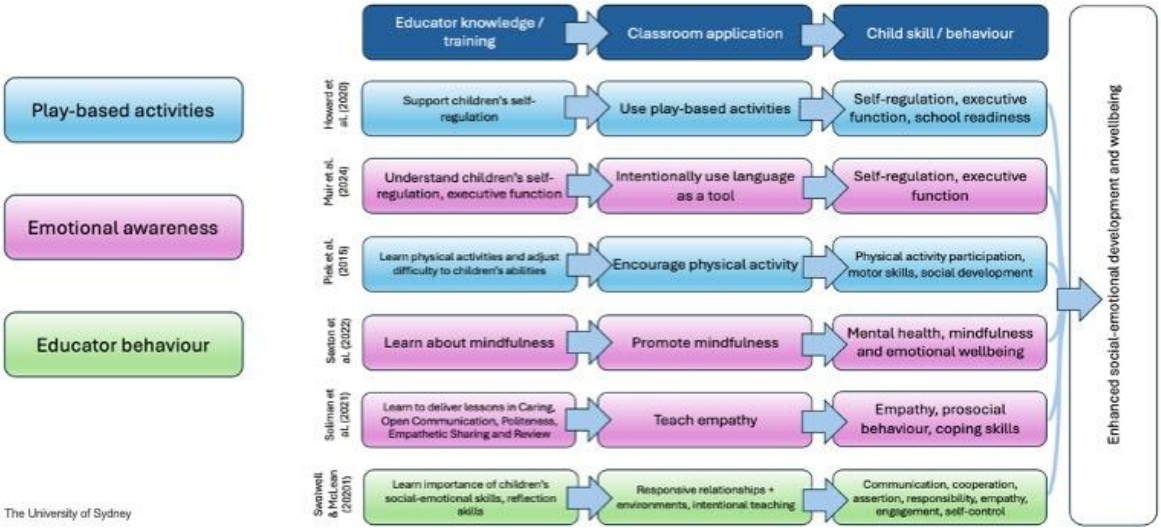
Mechanisms of action that lead to behaviour change



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What does this tell us?

- All interventions aimed to promote prosocial behaviours, reflecting a shift in the narrative of how children's behaviour is framed in interventions and the broader early childhood education literature
- Increasing rates of challenging behaviour amongst children and worsening mental health and wellbeing amongst educators highlights a clear need for behaviour support strategies in Australian classrooms
- To improve outcomes for both children and educators, a 2-pronged approach is suggested:
    1) To include more evidence-based information about behaviour and behaviour support as part of educators' ECEC training coursework; AND
    2) To provide more opportunities for practical training in and practice using behavioural support strategies in the classroom

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Thank you!

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