



Systematic Review

Inside Out: A Scoping Review on Optimism, Growth Mindsets, and Positive Psychology for Child Well-Being in ECEC

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Abstract: Early social and emotional development is foundational for children's health, education, well-being, and later adjustment in society. It is also a cornerstone of positive psychology—the exploration of human flourishing at an individual, community, and societal level. Habitual explanatory styles (e.g., mindsets and optimistic thinking) have an impact on human well-being and development and are often acquired during early childhood. These explanatory styles may be influenced by regular interactions with significant adults outside of the family setting. However, few studies have focused on the relationship between optimism, mindsets, and well-being of children in Early Childhood Education and Care (ECEC) contexts. This scoping review systematically explores and maps out the literature on optimism, growth mindsets, and positive psychology with young children in ECEC. It identifies literature reporting qualitatively or quantitatively on theory or programs and interventions including optimism, growth mindset, and positive psychology in young children, reporting or implying a mechanism of change for the well-being of young children, and published between 1995 and 2021.

Keywords: optimism; growth mindset; explanatory styles; well-being; Early Childhood Education and Care (ECEC)



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1. Introduction

Early childhood social and emotional development is foundational for children's health, education, well-being, and adjustment in society, both now and into the future [1,2]. Helpless motivational patterns can emerge in early childhood [3,4] and habitual explanatory styles (for example, fixed or growth mindsets [5], optimistic or pessimistic thinking [6]) acquired during early childhood may endure and result in individual differences in how older children and adults respond to successes and challenges in life [6,7]. The causal attributions that children use to explain early life events may have an impact on their development, and a combination of parenting and early schooling may influence the formation of these explanatory styles [4–8].

Raising happy, social, and resilient children is a goal for most societies, families, and Early Childhood Education and Care (ECEC) organisations, and is a central tenet of positive psychology. Positive psychology was introduced during the 1990s and has gained increasing recognition, due to accumulating evidence of its power to positively influence adults' and adolescents' habitual ways of thinking [4,6,9,10]. The early years are foundational for the forming of these skills for positive development, a process described by Lottman and colleagues [11] as forming skills "from the inside out":

True social and emotional learning for children, parents, and teachers is not a process of bringing something from the outside in, but rather bringing something from the inside out. It is not just learning prescribed social skill sets, but more importantly tapping into strength-based mindsets . . . The early childhood years are the incubator (p. 29).

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These skills for life mastery, and for well-being in general, are themes in many ECEC framework plans; however, outside of such curriculum frameworks, they are often alluded to but rarely explicitly studied. Few evidence-based guidelines for teaching and nourishing these skills in ECEC exist, and positive psychology programs and interventions appear to have had limited reach into ECEC settings [12–14].

A preliminary search of the literature, conducted during the design stage of a program (and its corresponding RCT) for social-emotional learning and life mastery in Norwegian kindergartens, found few published accounts of programs or interventions focusing on positive psychology and positive explanatory styles with young children in ECEC settings. An additional search of the Cochrane, Campbell, and JBI databases of systematic reviews found no current or ongoing reviews on the topic. Therefore, to support this project and other future programs and interventions in this field, we designed and conducted the systematic scoping review described in this article, with the objective of exploring and mapping the breadth and depth of the literature on optimism, growth mindset, and positive psychology with young children in ECEC contexts.

1.1. Well-Being in ECEC

The focus on social and emotional well-being in early childhood is well established across Europe, the UK, and Australasia (and not uncommon in many other countries). The positive social and emotional development of young children is at the centre of many pedagogical approaches [14] and incorporated into the ECEC learning frameworks in many countries [15–17]. Well-being for very young children, however, is rarely concretely defined, often encompasses many different concepts and constructs, and is difficult to reliably measure (see, for example, [7,8,10]). In addition, the mechanisms for promoting social and emotional well-being in young children, and the well-being of the educators and staff charged with ensuring the well-being of children, seem to be frequently overlooked [14]. The Organisation for Economic Co-operation and Development (OECD) emphasizes that ECEC teachers and educators are one of the most influential factors in children's development and learning [18] and there is evidence that shows that positive psychology in education is most effective when teachers learn and live the principles themselves, before teaching and embedding them in their practice [14,19]. However, these areas still appear to be understudied within the early childhood context.

Positive emotions, engagement, caring relationships, and accomplishment all generate well-being, and are all characteristics of positive psychology [10]. Optimism and growth mindsets, with their associated positive, motivating emotions, work to counteract hopelessness and helplessness and are therefore also facets of positive psychology. This study was designed to specifically gather literature on optimism and growth mindsets in young children in ECEC, but also includes positive psychology, to ensure that no literature on this focus was missed.

1.2. Positive Psychology

Positive psychology is a branch of psychology that promotes flourishing within individuals, communities, and societies. It is a tool to support the healthy development of children within families, employees within workplaces, and citizens within communities [20]. Despite little connection between positive psychology and ECEC in the field's early literature, possibly due to "political, cultural, and educational perceptions of 'real' education beginning only at school, and the years before being the realm of play only" [14] (p. 2), children and educators in early childhood settings make up the communities where positive psychology theories and initiatives can have an early impact. Studies with older children have shown that positive psychology interventions and programs positively impact on children's cognitive performance, creativity, problem solving, and self-regulation, reduce problem behaviours, and enhance children's resilience [21]. Positive affect in infants has been shown to predict adult life satisfaction and educational attainment [2,22] and in one of the few implementations (to date) of positive psychology in the education of

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preschool children, significant increases in well-being, positive emotions, and pro-learning behaviours were observed [12]. An objective of this scoping review is to explore and map the existing literature suggesting an association between positive psychology programs in ECEC settings and well-being outcomes, including, improved cognitive performance, creativity, resilience, self-regulation, pro-social and pro-learning behaviour.

Seligman and colleagues [23] have defined positive psychology for education as "education for both traditional skills and for happiness" (p. 293) that is focused on the formation of resilience, positive emotions, engagement, and meaning in school children. It requires that the principles of positive psychology are embedded and experienced by students, staff, and school communities [14,23], and is "the application of well-being science into an educational setting aimed at increasing the resilience and well-being of students, staff, and the whole-school community" [24] (p. 402).

Positive emotions, the mastery of skills, and the formation of positive explanatory styles are crucial for well-being in young children [7]. Positive emotions can generate the courage to attempt challenging activities, and the mastery of those challenges can help children to feel that they have some control over the learning and development outcomes in their lives [4]. Positive feedback can dispel fear and encourage exploration, and can feed an optimistic growth orientation towards learning and life [6]. Young children can learn how to think about and interpret life events in functional, optimistic, and growth-oriented ways, so as to feel empowered to make decisions and act upon everyday events in a masterful manner [7]. Positive explanatory styles are, therefore, the essence of positive psychology in education.

1.3. Explanatory Styles and Young Children's Well-Being

How people think about and cope with successes and challenges in all areas of their daily life is important. The psychology of attributional and explanatory styles has shown that learning to think and communicate in constructive and positive ways results in explanatory styles that support mastery and avoid helplessness [5,6,8]. This, in turn, has a positive impact on social, emotional, academic, and other well-being outcomes. This is important for children and their teachers, and can be strengthened through the knowledge and practice of growth mindset and optimism.

1.3.1. Growth Mindset

Researchers in the field of explanatory styles have shown that the mindsets we adopt can determine the course of our lives, starting at a very young age [5,8,25,26]. Motivation for taking on challenges and learning can be deeply impacted by these mindsets, and understanding and adjusting mindsets can change how a person approaches and understands life.

A growth mindset is a belief that intelligence, ability, and personality can grow through effort, and that setbacks and failure are opportunities to try again, to learn, and to grow. A growth mindset is marked by trying hard and repeatedly, loving challenges, and seeing failure as a stepping stone to success. It is a determination to grow and change, and it cultivates achievement and optimism. In comparison, a fixed mindset is a belief that intelligence, ability, and personality are fixed at birth, and setbacks and failure are therefore evidence of a lack of intelligence or ability. Someone with a fixed mindset believes it is important to look successful without trying too hard. They feel helpless when something is too challenging and prefer to attempt things that are easy and for which they are guaranteed success. To someone with a fixed mindset, trying hard or repeatedly is seen as evidence of low intelligence or ability. A fixed mindset cultivates helplessness and pessimism.

Research on mindsets has primarily focused on older children and on academic outcomes—on how positive change in a young person's mindset is positively related to their academic achievement [27]. There has been less research on the relationship between positive change in mindsets and change in social, less easily measured, outcomes, or on the relationship between teacher's mindsets and student achievement [27].

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Mindsets are not absolute and can be situational—people can feel more or less growth-oriented in different areas, at different times, and in response to different challenges [5]. But, whether conscious or subconscious, a person's predominant mindset is a basic belief about life that strongly affects what is attempted and what is achieved. Mindsets play a significant role in the motivation, self-regulation, achievement, and interpersonal processes of children, and can be taught and learnt, especially through healthy day-to-day interactions and modelling from adults [8]. However, our preliminary searches found limited literature on growth mindsets in young children. Therefore, an objective of this scoping review is to explore and map the existing literature suggesting an association between growth mindset programs in ECEC settings and well-being outcomes, including, academic achievement, pro-learning behaviour, motivation, and self-regulation.

1.3.2. Optimism

Optimism is a set of beliefs that leads people to approach the world in a positive way. Early research in optimism emphasized optimism as trait or personality disposition that was associated with reduced levels of depression, anxiety, and stress [28]. Dispositional optimism argued that having the personality trait of optimism was associated with better life outcomes and increased the chances that positive events would occur. During the 1990s, Seligman and colleagues reframed optimism as an explanatory style that could be learned, termed 'learned optimism,' and that was the opposite of learned helplessness [6].

Both models of optimism are still recognised (and debated) in the literature, but for the purpose of framing this study, we align with optimism as an explanatory style. As such, optimism is the skill of focusing on the positive without denying the realistic existence of the negative [10]. Children develop and learn an optimistic explanatory style through the example of adults, feedback and interaction with teachers and parents, the praise and criticism they receive, and their experiences and memories of life-altering events. Learning optimism is learning to replace a pessimistic explanatory style with a more optimistic one, and has been shown to enable older children to see possibilities and experience mastery even during challenges and adversity, and to approach academic problems in a hopeful, positive, and openminded way [4,6–8,29].

According to Seligman [4,6], people with a pessimistic explanatory style tend to consider negative events to be pervasive (applying to all areas of their life), permanent (they will be this way forever), and personal (their own fault). They consider positive events to be exceptional or unusual, short-lived, and attributed to luck and not to their own effort or ability. On the other hand, people with an optimistic explanatory style consider negative events to be exceptional or unusual, short-lived, and attributed more to bad luck than their own effort or ability, whereas they consider positive events to be pervasive (affecting all areas of their life), permanent, and personal (not just lucky). People are rarely always pessimistic or always optimistic, but a generally more optimistic explanatory style is a positive trait. Learning to interrupt pessimistic thought patterns with optimistic thought patterns significantly reduces feelings of helplessness, and energizes the desire to learn and grow [4,6].

The early school environment plays an important role in predisposing children to adopt either an optimistic or a pessimistic explanatory style [8,29]. Teachers can moderate children's responses to success and challenge, and these response patterns are especially important in forming mastery and developing positive and effective explanatory styles. By challenging negative self-talk and modelling how to replace pessimistic thought patterns with optimistic ones, teachers and children can become more optimistic, more persistent, and less likely to later become helpless or depressed.

Well-being is more than the absence of ill health or disappointment, it is also about experiencing positive emotions, being able to enjoy the moment, and feeling the satisfaction of overcoming negative situations and challenges. It can be seen in children who are engaged with the world around them, who retain curiosity to explore their environment, and gain satisfaction when they accomplish a task or face a challenge, be it in a social, academic,

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creative, or any other learning arena. The skills of focusing on the positive without denying the realistic existence of the negative can be taught and modelled by preschool teachers and learned by young children, but evidence of the successful implementation of programs with this objective is scant. Therefore, an objective of this scoping review is to explore and map the existing literature suggesting an association between programs promoting optimism in ECEC settings and well-being outcomes, including the mastery of challenges, reduced helplessness, and increased persistence.

According to researchers in the field [4–8,29], once learned, positive explanatory styles, such as optimism and growth mindsets, can make a permanent and significant difference in children's lives and level of well-being. But more research in this area is warranted, for which this scoping review should provide a good foundation.

1.3.3. The Influence of Parental Explanatory Styles

Prior studies have explored the relationship between the explanatory styles of parents and well-being outcomes in young children. Parental growth mindset has been shown to improve communication with their very young children, which is later associated with better communication skills for the child [30]. It also influences how they respond to success and failure in everyday life, for themselves and their children, which in turn predicts children's mindsets and academic outcomes later in life [26]. Parental use of process praise with their toddlers has been shown to predict children's academic achievement in math and reading up to seven years later, via their incremental motivational frameworks [31]. Process praise has been found to positively impact children's trait beliefs (belief in intelligence as malleable versus fixed, i.e., growth mindset) more than their learning motivations (preference for easy versus challenging tasks) [31,32]. A parental growth mindset intervention was also shown to improve the early gesture and vocabulary development of very young children [30]. Obeldobel and Kerns [33] found that when parents modelled gratitude, children's gratitude was higher, and that more supportive and warm parenting ensured more secure attachment. The importance of mindset and optimism when parenting young children with autism, chronic illness, or developmental delays has also been documented [34–37].

However, whether the explanatory styles of ECEC teachers have an impact on the development of explanatory styles in the young children in their care, or have an impact on other aspects of their well-being, seems to have only been suggested [38] and not systematically explored.

1.4. Criticism towards the Theories of Positive Psychology, Growth Mindsets, and Optimism

As with other major ideas from psychology, especially from the 1980s and 1990s, positive psychology, optimism (as an explanatory style), and mindset research have been criticised in light of current, more rigorous standards of social science [39,40]. Critics claim that foundational research in these fields has overstated and underdelivered, has not been able to be replicated, has shown muted results in subsequent meta-analyses, and has suffered from narrow cultural narratives [39–43]. Yakushko [44] goes so far as to label positive psychology as an "iteration of scientific Pollyannaism" (p. 111). These researchers have called for a new, more rigorous approach to research within the field, emphasising the importance of studying the benefits and contribution of negative emotions, eliminating the artificial dichotomisation of positive versus negative psychology, using more precise language, agreeing on definitions of terms, and exploring the interaction of structural factors (such as SES) with explanatory styles, engagement, and achievement. Before beginning this scoping review, we were unsure whether any of these criticisms would be present within ECEC research of these topics.

1.5. Rationale and Objectives of This Study

The fields of positive psychology and early childhood education have, to date, operated largely independently. There is limited evidence of cross-disciplinary "pollination" in practice and research [14]. However, the opportunity exists to close this gap and support

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rigorous research on the development of positive explanatory styles in young children and their educators, as possible mechanisms for improving child well-being in ECEC. This systematic scoping review of the existing literature on this topic aims, therefore, to lay a foundation for future work in this field. The research question is as follows:

• What is the extent of the existing literature on optimism, growth mindset, and positive psychology for young children's well-being in ECEC settings?

2. Methods

This is a scoping review, conducted in accordance with the JBI methodology for scoping reviews [45] and the Preferred Reporting Items for Systematic Reviews and Meta-analyses with extension for scoping reviews guidelines (PRISMA-ScR) [46]. A scoping review is a "preliminary assessment of potential size and scope of available research literature [that] aims to identify the nature and extent of research evidence" [47] (p. 95). It is a systematic method for mapping the body of existing literature in terms of type, features, and volume, and for identifying existing gaps in the research, without the requirement for assessing the quality of individual studies for the risk of bias [47,48].

The protocol was registered on the Open Science Framework Registry in September 2021 [49]. The criteria for initial selection of items and formation of the search strings included that the item discussed the relationship between child well-being and growth mindset, optimism, or other positive psychology attributes, within ECEC contexts, and that had been published since 1995 (as theories of positive psychology, learned optimism, and growth mindset emerged in the literature during the mid-1990s). Inclusion was not limited by the language of publication; however, the search strings were constructed in English.

2.1. Systematic Review Design and Search Process

So as to identify and map all published material discussing the relationship between child well-being in ECEC and growth mindsets, optimism, and other positive explanatory styles, a multi-step search strategy was employed. An initial limited search of ORIA was undertaken to identify relevant articles on the topic. Keywords contained in the titles and abstracts of those relevant articles, and the index terms used to describe the articles, were used to develop a full search strategy for ERIC, PsycINFO, Academic Search Premier, Scopus, and ProQuest dissertations databases (see Appendix A for digital search strings). The database searches were conducted on 22 September 2021. As the database searches did not consistently return results from some previously identified journals and registries of systematic reviews, The Journal of Positive Psychology, The International Journal of Applied Positive Psychology, The European Journal of Applied Positive Psychology, The Journal of Positive School Psychology, and the Cochrane, Campbell, and JBI registries of systematic reviews, were manually searched for items (see Appendix A for manual search strings). Finally, backward and forward reviews of the reference lists of included studies were checked for items that had not been identified in the formal searches (but no additional items were identified in this final step). The PRISMA-ScR [46] flow diagram, displayed in Figure 1, outlines the identification, screening, and selection of the items in this scoping review.

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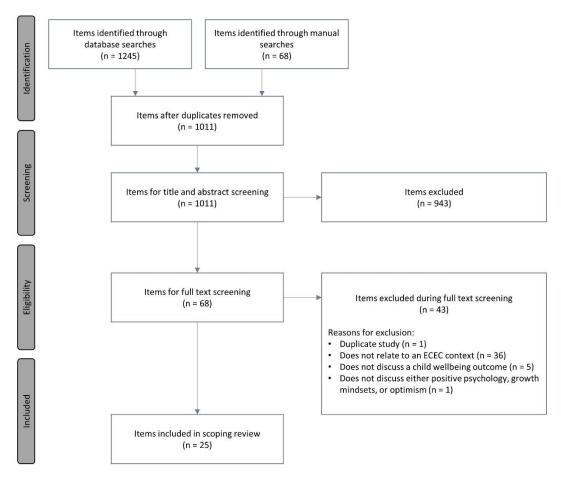


Figure 1. Flow chart for item selection and inclusion.

2.2. Study Screening and Eligibility

Following the systematic search, all identified citations (n = 1313) were collated and uploaded into EndNote 20.1 [50] and duplicates were removed. The resulting database (n = 1011) was uploaded into JBI System for the Unified Management, Assessment, and Review of Information [51] and titles and abstracts were screened independently by both authors against the inclusion criteria for the review. These inclusion criteria were:

- Publication since 1995
- ECEC context
- Outcomes for children up to 7 years old
- At least one child well-being outcome
- Discusses either growth mindsets, optimism, or positive psychology

Items that passed title and abstract screening (n = 68) were retrieved and the full text versions were assessed in detail against the inclusion criteria, once again independently by both authors. Reasons for exclusion of full text sources of evidence were recorded. Disagreements between the reviewers during screening were resolved through discussion until agreement was reached. This multi-stage screening was completed over a period of two months, and resulted in 25 included items (see Figure 1).

2.3. Data Extraction

Data were extracted from the included items using a data extraction template developed by the reviewers (see Appendix B). This was modified slightly from the data extraction template proposed in the protocol [49] so as to best fit the emerging needs of the study. When possible, in vivo coding was used, extracting exact wording, keywords, main ideas, and stated or implied mechanisms for later frequency counting and thematic analysis.

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2.4. Data Analysis

The 25 items in our final sample represented a variety of empirical studies and theoretical papers, published in a broad range of media. We therefore applied the approaches for data analysis and presentation of findings for scoping/mapping reviews described in recently published guides [45,52], and summarized the findings with narrative and tabular syntheses, as well as with visual representations including graphs, maps, and diagrams.

Due to the low number of included studies, data tabulation and analysis were conducted manually in Excel. Where appropriate, we used counting to aggregate the data, producing frequency graphs for the general description of included studies by year of publication, country of study, publication source, and type of study. Main ideas and keywords (extracted from the titles, abstracts, and conclusions of the included items) were counted and tabulated by frequency, and the explicit and implied mechanisms of change were thematically grouped and graphically synthesized.

3. Results

3.1. Characteristics of Included Studies

The twenty-five studies in the final review sample were published across thirteen academic journals, four books (or book chapters), two professional magazines, and one conference proceeding. Of the 25 items, 18 were published in academic journals, with *The Australasian Journal of Early Childhood, The Early Childhood Education Journal, Frontiers in Psychology, The Journal of Positive Psychology*, and *The International Journal of Applied Positive Psychology* each publishing two of the included items. Empirical studies (covering quantitative, qualitative, mixed method, systematic reviews, and meta summaries) made up 52% of the sample, while theoretical papers made up the remaining 48%. The date range for inclusion spanned 1995–2021, however, only one item was published before 2007, and 68% were published since 2015. The studies originated from a range of countries, with the USA as the most represented originating country (seven items), followed by Australia (four items). The characteristics of the included items are graphically represented in Figure 2.

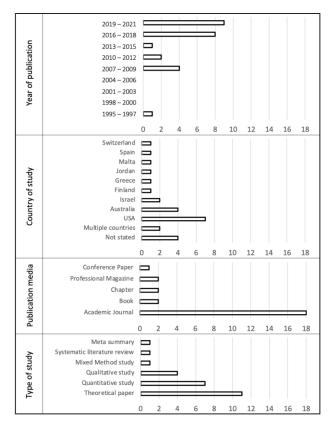


Figure 2. Characteristics of the included items, n = 25.

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The search of the literature focused specifically on identifying items that reported an observed or theoretical relationship between growth mindset, optimism, other positive psychology elements, and child well-being in ECEC settings. There was an overlap of concepts, but the included items were able to be classified broadly according to their main focus and type of paper, as illustrated in Figure 3. Almost half of the items were evenly split across the main focus of growth mindset and optimism, with the remaining items focusing on other aspects of positive psychology, including character strengths, happiness, positive social interaction, emotional education, flow, gratitude, and compassion.

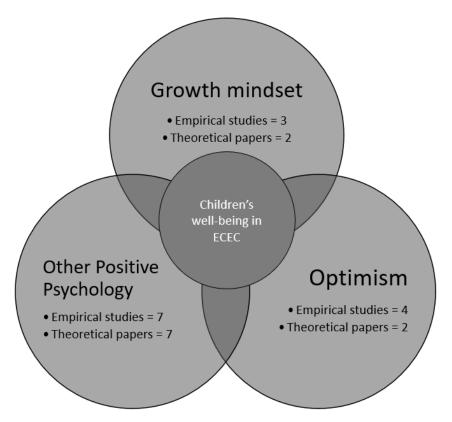


Figure 3. Classification of included items, by focus and type, n = 25.

3.2. Reported Positive Psychology and Child Well-Being Attributes

During data extraction of the included items, the keywords used to describe the attributes of positive psychology programs and the attributes of child well-being as an outcome were identified and tabulated. There was a degree of repetition both within and across these classifications. As displayed in Table 1, the terms that most repeated in the description of elements of positive psychology programs with young children in ECEC settings were as follows: character strengths, growth mindset, optimism, goal orientation, and prosocial behaviour. As displayed in Table 2, the terms that most repeated in the description of child well-being outcomes were as follows: adaptability, happiness, learning, prosocial behaviour, resilience, school readiness, social competency, taking on challenges, academic achievement, flourishing, and mental health. The terms that were used to describe both a positive psychology program and a child well-being outcome were as follows: character strengths, happiness, prosocial behaviour, resilience, positive emotions, communication skills, coping, creativity, empathy, gratitude, kindness, mastery, and self-regulation. Although much previous research on mindsets has focused on academic achievement as the primary outcome (Zhang et al., 2017), in the items included in this review, there were no instances of this being the only outcome or focus. Academic achievement (including school readiness and learning) was one of the outcomes along with social and emotional

well-being outcomes in 14 (56%) of the included items, while the remaining 11 items solely emphasised social and emotional well-being and development.

Table 1. Repetition of keyword/main idea from positive psychology in included items.

Number of Included Items Focusing on This Element of Positive Psychology Programs in ECEC					
More than 4	3	2	1		
character strengths	goal orientation	coping	attention		
growth mindset	prosocial behaviour	gratitude	communication skills		
optimism		mastery	compassion		
		positive affect	creativity		
			critical thinking		
			emotional capital		
			emotional intelligence		
			empathy		
			explanatory style		
			forgiveness		
			grit		
			happiness		
			hope		
			intrinsic motivation		
			kindness		
			love		
			mindfulness		
			positive adaptation		
			positive emotions		
			positive interactions		
			positive thinking		
			positivity		
			resilience		
			self-efficacy		
			self-regulation		
			social skills		

Table 2. Repetition of element describing child well-being as an outcome in included items.

Number of Included Items Focusing on This Element of Child Well-Being as an Outcome						
More than 4	3	2	1			
adaptability	academic achievement	healthy life	absence of helplessness			
happiness	flourishing	positive emotions	adjustment			
learning	mental health	positive view of self	agency			
prosocial behaviour		positive interactions	attachment			
resilience		emotional regulation	autonomy			
school readiness		ū	awareness			
social competency			belief in change			
taking on challenges			character strengths			
			communication skills			
			coping			
			creativity			
			curiosity			
			efficacy			
			emotional competency			
			emotional maturity			
			empathy			
			flow			
			gratitude			
			intentional behaviour			

Table 2. Cont.

Number of Included Items Focusing on This Element of Child Well-Being as an Outcome					
More than 4	3	2	1		
			kindness		
			less bullying		
			mastery		
			motivation		
			peer acceptance		
			perseverance		
			positive feelings		
			positive life trajectory		
			positive relationships		
			positive transitions		
			problem solving		
			psychological health		
			self confidence		
			self esteem		
			self-regulation		
			social imagination		
			social intelligence		
			strength		
			thriving		

3.3. Suggested Mechanisms of Change

The proposed mechanism of change in each included item was not always explicitly stated. However, in all items, a mechanism linking one or more characteristics of positive psychology with one or more child well-being outcomes was either stated, implied, or could be inferred. The distribution of these mechanisms is illustrated in Figure 4.

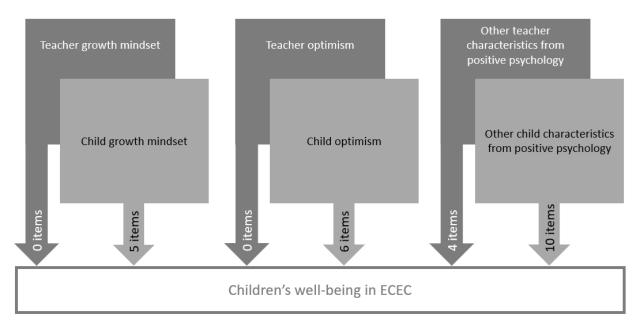


Figure 4. Classification of suggested mechanisms of change, n = 25.

In most cases, the mechanism of change suggested that positive change in children's growth mindset, optimism, or other positive psychology characteristics was (or could be expected to be) associated with positive change in children's well-being. In many instances this change was supported or promoted by teachers, through teaching or modelling, but in very few cases was it suggested that positive change in teachers' own characteristics would be associated with positive change in children's well-being. For example, the five items

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that focused on growth mindset posited that programs, activities, and actions (teacher-led) promoting positive change in children's growth mindset were associated with positive change in children's academic achievement and disposition to learning [25], ability to address challenges, achieve academic success, and develop social and emotional well-being [53–55], and self-regulation and adjustment to the demands of kindergarten and school [56]. However, despite literature indicating that positive change in parents' growth mindset directly impacts children's growth mindset and well-being outcomes [26,30], no similar mechanism linking positive change in teachers' growth mindset with positive child outcomes was suggested.

Similarly, the six items that focused on optimism posited that programs, activities, and actions (such as teacher-led playful activities and novel creative tasks) promoting positive change in children's optimism were associated with positive change in children's academic and social mastery [7,29] and their ability to cope with negative emotions such as anger [57], as well as empowering preschool children for success later in life [58]. However, despite literature supporting the importance of parents' optimism for children's well-being, especially when health or developmental challenges occur [34–37], no mechanism linking teachers' own optimism with positive child outcomes was suggested.

Most of the items that focused on other elements of positive psychology programs also suggested mechanisms for change that emphasised positive programs, activities, and actions (often teacher-led) for promoting children's well-being. However, four items did suggest an association between the positive characteristics of teachers (specifically their emotional capital, character strength spotting, and compassion) and positive outcomes in children's well-being. These articles emphasized the critical relationship between educator and child well-being [14], the role that teacher mindfulness and strength sight has in the development of children's positive characteristics [11], and how teachers' personal positive characteristics enhance the social-emotional learning and character development of children in their care [59]. Vuorinen and colleagues [38] summarise this type of mechanism, stating that

the way adults respond to emotions expressed by each other is a living demonstration for children of how to build caring interactions with other people ... With positive adult role models to follow, children as young as one year of age learn pro-social behaviour . . . Compassionate adults working with children not only model caring behaviour, but they are able to create better functioning organisations in which all members feel included. In such organisations, psychological safety is improved, positive emotions such as gratitude are evoked, [and] anxiety is reduced (p. 164).

Full details of the characteristics of the 25 included items [7,8,11,12,14,25,29,38,60-69] are provided in Appendix C.

4. Discussion

In this study we systematically reviewed the literature on growth mindset, optimism, and positive psychology in ECEC settings, and their relationship with child well-being. From an initial pool of 1011 unique items, our final sample of 25 included items were published between 1995 and 2021, and across a range of countries and publication media. The discussion of the findings will cover the implications for programs supporting growth mindset, optimism, and other positive explanatory styles in ECEC settings, as well as the limitations and future research implications from this study.

4.1. Limited Evidence, Broad Theory

Since the emergence of the theories of growth mindset and learned optimism in the 1990s, the relationship between these explanatory styles and child outcomes has been widely studied. These studies have primarily focused on school-age children, and often on academic outcomes [27]. However, there is agreement among the pioneers in the field [4–6] and contemporary researchers and practitioners [8,21,29] that the development of positive

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explanatory styles at a very young age will have a positive impact on child well-being. However, as both previous research and the findings from this study show, there exists a broad range of concepts and constructs associated with child well-being as an outcome in ECEC settings. Future work should therefore clearly present the type of child well-being that is being explored as an outcome, the ways in which it is measured, and whether that measurement is subjective or objective. With the establishment of this theoretical base, it is now necessary to shift the focus onto the building of a body of empirical evidence exploring the effectiveness of interventions and programs in this field.

Theory indicates that programs in ECEC that build young children's growth mindsets will also improve their disposition towards learning [25], their ability to face challenges [55], their later academic success [53], and their social and emotional well-being [8]. Theory also indicates that teaching young children to think optimistically will promote educational and social mastery [7,29], improve their ability to cope with negative emotions [57], and set them up for success in school [58]. However, the empirical evidence supporting these theories is limited, and despite the difficulties inherent in such research (how to measure these phenomena, how to conduct such research with very young children, and the cost of longitudinal research, to name but a few), the existing broad theory needs systematic empirical evidence to support its implementation. The findings from this study emphasize both the scarcity of existing research and the opportunity for ongoing research into the relationship between the early development of positive explanatory styles in children within ECEC settings, and future outcomes in child well-being.

4.2. The Influence of ECEC Teacher's Explanatory Styles

Whereas some literature exists supporting a relationship between parental optimism, growth mindsets, and child well-being outcomes, the findings from this study have confirmed the point made by Zhang and colleagues [27]: that there is limited literature exploring the relationship between teachers' explanatory styles and child outcomes. Among the included items in this study, there was, in fact, no item that discussed a possible relationship between ECEC teachers' own optimism and growth mindset, and child development and well-being. But, as the positive explanatory styles of the parents of young children have been shown to be associated with improved communication skills, early gesturing, and vocabulary development [30], increased motivation for learning [31], and improved academic outcomes in school [26], it is possible that the personal explanatory styles of ECEC teachers will also be associated with positive outcomes in children. There is, therefore, a gap in the current knowledge base, where such a relationship can be theoretically and empirically studied and reported.

4.3. Limitations and Future Research

In alignment with published best practices for systematic scoping reviews [45,46], the question for this review was narrowly defined and clearly stated, and then broadly explored across multiple databases. We can therefore be confident that within the definition of our research question and timing and scope of the study, we have systematically identified the most relevant literature on this topic. However, there are limitations to our study design.

Specifically, there may be search terms, similar in meaning to those employed, that may result in the identification of similar and potentially relevant items, and there may exist additional relevant databases that were not searched. Although the distribution of the publication dates of the included items would suggest that it is unlikely that an earlier start date for inclusion would result in additional included items, the dynamic nature of research in this field would suggest that it is very probable that more relevant research has been published since the cut-off date for inclusion in this study (September 2021). More recent work in the field could also shed light on the impact of COVID-19 on well-being, mindsets, and optimism in ECEC in current times (see, for example, [70–72]). The transparent and full publication of the research design and search strategies employed in this study allows for the replication of this current study and the testing of these limitations. It will be

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both important and interesting to replicate this study in five years' time, and explore how knowledge in the field has advanced.

In addition, and as discussed earlier, there is broad theoretical support for the positive relationship between programs promoting growth mindset, optimism, and other positive explanatory styles in ECEC settings, but to date, less empirical evidence for the effectiveness or best design approaches for such programs. Future research, empirically testing the theory reviewed in this study, with novel, systematic, and rigorous methods, is therefore needed. It should also be noted that none of the included items in this study referred to criticisms about the underlying theories, or possible cultural nuances, and as over 40% of the identified literature came from the USA or Australia, there may be cultural limitations in this field. Future research should address these considerations.

Finally, it is the opinion of the authors of this review, supported, we believe, by the reported findings, that future research into the importance of positive explanatory styles in ECEC teachers and educators is warranted. It is possible that the explanatory styles of teachers and educators are important for the well-being of the children that spend many hours per week in ECEC settings, just as the explanatory styles of parents of young children have been shown to be. This has, to date, been suggested but understudied. As a potential facilitator and moderator of positive outcomes in young children, the study of, and support for, positive explanatory styles in teachers of young children is therefore an important area of future research in child well-being.

5. Conclusions

Well-being in the early years lays the foundation for children's health, academic achievement, and social adjustment in society, both now and into the future. Habitual explanatory styles (such as growth mindsets and optimism thinking) impact the well-being of children, are often acquired during early childhood, and may endure and have an impact throughout the child's life. These explanatory styles have been shown to be influenced by parents, but may also be influenced by regular interactions with other significant adults outside of the family setting, such as in ECEC centres. This scoping review has systematically explored and mapped the literature (published between 1995 and 2021) on optimism, growth mindsets, and positive psychology in young children in ECEC settings, and found that few studies have focused on the relationship between optimism, mindsets, and the well-being of children in ECEC. In the literature that does exist, there is support for the theory of positive associations between optimism, growth mindset, and child wellbeing in ECEC, but limited empirical evidence. The possible relationship between teacher explanatory styles and child outcomes has, to date, been largely overlooked. This scoping review therefore provides a starting point for future research to address these knowledge gaps, and for the advancement towards a better understanding of the mechanisms of well-being for young children in ECEC settings.

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Appendix A

Search Strings

ERIC & Academic Search Premier

AB ("optimis*" OR "mindset*" OR "positive psychology" OR "explanatory style*") AND AB child AND TX ("early child*" OR "preschool*" OR "pre-school*" OR "kindergarten*" OR "childcare*")

Limiter—Date Published 19950101—current

PsycINFO & PROQUEST Dissertations and Theses

Optimism or mindset or "positive psychology" or "explanatory style" [abstract] AND

child [abstract]

AND

"early child" or preschool or pre-school or kindergarten or childcare [all fields] Limiter—Publication year 1995—current

SCOPUS

optimism or mindset or {positive psychology} or {explanatory style} [abstract]

AND

child [abstract]

AND

{early child} or preschool or pre-school or kindergarten or childcare [all fields] Limiter—Publication year 1995—current

The Journal of Positive Psychology, The International Journal of Applied Positive Psychology, & Journal of Positive School Psychology

"early child" OR preschool OR pre-school OR kindergarten OR childcare

The European Journal of Applied Positive Psychology

child AND (mindset OR optimism)

The Cochrane database of systematic reviews

KEYWORD: optimism OR mindset OR "positive psychology" OR "explanatory style" AND

KEYWORD: "early child" OR preschool OR pre-school OR kindergarten OR childcare

Campbell Systematic Reviews & JBI Evidence Implementation

(optimism OR mindset OR "positive psychology" OR "explanatory style") AND ("early child" OR preschool OR pre-school OR kindergarten OR childcare)

Appendix B

Data Extraction Template

SCOPING REVIEW DET	AILS
Title	Inside out: A scoping review of optimism, growth mindsets, and wellbeing in ECEC
Question	What is the extent of the existing literature describing the theory of, and programs and interventions for, optimism, growth mindsets, and positive psychology with young children in ECEC settings?
REFERENCE	
Author	
Title	
Journal / Publisher	
Date	
DOI / e-identifier	
Country of study	
Methods for data colle	ction and analysis
Type of study	Qualitative / Quantitative / Mixed / Meta / Theory
Data collection	
Data analysis	
Measure of positive ps	ychology (independent variable)
Positive psychology (independent variable)	
Child wellbeing (dependent variable)	
	tics and sample size (of empirical studies)
Program for	Teachers / children
Number of participants	
Age of participants (if children)	
Description of main res	sults and suggested mechanism for change
Keywords	

Appendix C *Included Items*

Authors (Year)	Type of Study, Publication	Country	Phenomena of Interest	Positive Psychology Keywords	Child Well-Being Outcome Keywords
Al-Mohtadi, Aldarab'h, & Gasaymeh (2015) [60]	Quantitative, Journal Article	Jordan	Programs aimed at increasing optimism in young children, are positively associated with learning, mastery, positive self-concept, happiness, and health.	optimism	learning, mastery, happiness, empathy, psychological health
Alzina & Paniello (2017) [61]	Theory, Journal Article	Spain	Training teachers in emotional education (positive psychology, emotional intelligence, emotional competencies, optimism, drawing attention to positive aspects of human functioning) so they can train children in the same, is associated with improvements in social well-being, personal well-being, and a culture of well-being in children.	emotional intelligence, optimism, mindfulness, character strengths	social competency, emotional competency, flourishing
Armstrong, Missall, Shaffer, & Hojnoski (2009) [62]	Theory, Book chapter	Not stated	Early educator and parent support that promotes positive adaptation, social and individual skills for adapting, interacting, and learning, is associated with happiness, well-being, and better positive adaptation to new scenarios in children. ECEC is particularly important for positive adaptation skills for school readiness.	positive adaptation, social skills, positive interactions, character strengths	happiness, adaptability, school readiness
Baker, Green, & Falecki (2017) [14]	Theory, Journal Article	Multiple countries	How positive psychology (emotional capital) contributes to resilience and well-being in educators, and play, curiosity, learning, happiness, flow, and healthy relationships in children. ECEC professional well-being (organisational) benefits all.	emotional capital	resilience, learning, flourishing, flow, curiosity
Boylan, Barblett, & Knaus (2018) [25]	Mixed method, Journal Article	Australia	Teachers' perspectives on how growth mindset (resilience, critical thinking, creativity, 21st century skills, intrinsic motivational orientations) in children in ECEC are important for children's autonomy, learning, and positive lifelong learning habits.	growth mindset, resilience, creativity, critical thinking, intrinsic motivation	autonomy, learning, agency, taking on challenges
Cefai, Arlove, Duca, Galea, Muscat, & Cavioni (2018) [53]	Quantitative, Journal Article	Malta	Activities developed by teachers in ECEC classrooms to teach and promote growth mindset, strengths, self-determination, and communication skills, and their association with increased resilience, academic success, learning engagement, prosocial behaviour, and social and emotional well-being.	growth mindset, character strengths, communication skills	resilience, academic achievement, learning, prosocial behaviour

Authors (Year)	Type of Study, Publication	Country	Phenomena of Interest	Positive Psychology Keywords	Child Well-Being Outcome Keywords
Compagnoni, Karlen, & Maag (2019) [56]	Quantitative, Journal Article	Switzerland	An examination of the structure of children's mindset orientation in ECEC, and how it is related to behavioural self-regulation, successful adaptation, and pre-academic achievement.	growth mindset, goal orientation	self-regulation, adaptability, academic achievement
Diesendruck & Lindenbaum (2009) [63]	Quantitative, Journal Article	Israel	How children's individual stable trait theories of positive attributes are related to prosocial behaviour, social interactions, adaptability, and the absence of helplessness	optimism	prosocial behaviour, positive interactions, absence of helplessness, adaptability
Enriquez, Clark, & Calce (2017) [54]	Theory, Journal Article	Not stated	How growth mindset language employed by teachers within a dynamic learning framework, is related to learning, worldview, broad perspectives, belief in the possibility of positive change, social imagination, and taking on challenges in kindergarten children.	growth mindset	learning, taking on challenges, belief in possible change, social imagination
Frydenberg, Deans, & Liang (2020) [8]	Theory, Book	Multiple countries	How teachers' knowledge of a combination of positive psychology attributes (gratitude, grit, mindsets, meaning, positive affect, mastery, self-efficacy, coping) will help their interactions with children and result in improved physical health, social competence, emotional maturity, communication skills, flourishing, and resilience in children.	gratitude, grit, growth mindset, positive affect, mastery, self-efficacy, coping	healthy life, social competency, emotional maturity, communication skills, flourishing, resilience
Haslip, Allen-Handy, & Donaldson (2019) [59]	Qualitative, Journal Article	USA	How ECEC educators practice the character strengths of love, kindness, forgiveness, and caring behaviour, and how they observe those traits in children, and the relationship this has with children's success in school, social life, and prosocial competency.	character strengths, love, kindness, forgiveness	school readiness, social competency, attachment
Hawkes (1995) [64]	Theory, Conference Paper	USA	How teachers' knowledge of, and modelling of, internal locus of control (belief that effort is a major determinant of success, ability to develop, grow, and work independently) positively impacts on children's self-concept, affective aspects of personality, and positive feeling of self.	locus of control	positive view of self, self esteem
Hopps-Wallis, Fenton, & Dockett (2016) [65]	Qualitative, Journal Article	Australia	How strength-based practices and especially strengths identification by teachers (as communicated from ECEC teachers to primary teachers), contribute to positive transitions and school readiness in children.	character strengths	positive transitions, school readiness

Authors (Year)	Type of Study, Publication	Country	Phenomena of Interest	Positive Psychology Keywords	Child Well-Being Outcome Keywords
Koralek & Colker (2019) [29]	Theory, Book	USA	How teachers can teach optimism to young children, and how that will improve children's healthy lives, school success, resilience, gratitude, happiness, and kindness.	optimism	healthy lives, school readiness, resilience, gratitude, happiness, kindness
Lottman, Zawaly, & Niemiec (2017) [11]	Theory, Book Chapter	USA	How teachers can develop skills in themselves to naturally identify and promote the unique constellation of emergent character strengths in the young child. How that can lead to improvements in prosocial behaviour, social intelligence, positive identity development, and creativity.	character strengths, growth mindset	prosocial behaviour, social intelligence, positive view of self, creativity
Oorloff, Rooney, Baughman, Kane, McDevitt, & Bryant (2021) [57]	Quantitative, Journal Article	Australia	How teachers can teach optimism to children (with the "I Spy Feelings Optimism program"), and how this is associated with improvements in emotion regulation, coping, and mental health in children.	optimism	emotional regulation, coping, character strengths, mental health
Owens & Waters (2020) [66]	Meta summary, Journal Article	Not stated	How early interventions with positive psychology have a positive association with strength, positive life trajectory, positive emotions, and social competence.	character strengths, hope, gratitude	taking on challenges, strength, positive life trajectory, positive emotions, social competency
Pawlina & Stanford (2011) [55]	Theory, Professional Magazine	USA	How teachers' words promoting a growth mindset are associated with children's resiliency and effective problem solving.	growth mindset	resilience, problem solving
Sagor (2008) [58]	Theory, Professional Magazine	USA	How optimism that is nurtured by teachers is associated with positive feelings about the future, perseverance, and efficacy.	optimism	positive feelings about future, perseverance, efficacy
Shin, Vaughn, Akers, Kim, Stevens, Krzysik, et al. (2011) [67]	Quantitative, Journal Article	USA	That children who express and experience positive affect and happiness more frequently, will also experience more peer acceptance, better social interaction, better adjustment, and more emotional regulation.	positive affect, happiness	peer acceptance, positive interactions emotional regulation, adjustment, social competency
Shoshani & Slone (2017) [12]	Quantitative, Journal Article	Israel	How a positive education program in preschool, focusing on positive emotions, regulation, empathy, positive thinking, engagement, social relationships, and goal identification, is positively associated with learning behaviour, mental health, adaptive functioning, and subjective well-being.	positive emotions, self-regulation, empathy, positive thinking, prosocial behaviour, goal orientation	learning, positive emotions, mental health, adaptability, happiness

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Authors (Year)	Type of Study, Publication	Country	Phenomena of Interest	Positive Psychology Keywords	Child Well-Being Outcome Keywords
Vuorinen, Pessi, & Uusitalo (2021) [38]	Theory, Journal Article	Finland	How compassion in ECEC teachers results in better functioning organisations, psychological safety in the workplace, positive emotions in the organisation, less stress and anxiety, and improved attachment and commitment to the work, which in turn is associated with better prosocial behaviour, closer relationships, less bullying, more self-confidence, and better school adaption in children	compassion	prosocial behaviour, positive relationships, less bullying, self-confidence, school readiness
Waters & Loton (2019) [68]	Systematic review, Journal Article	Not stated	How children's strengths, emotional management, gratitude, attention and awareness, mindfulness, relationships, coping, resilience, and self-regulation are positively associated with their mental health, academic performance, motivation	character strengths, emotional management, attention, prosocial behaviour, coping, goal orientation	mental health, academic achievement, motivation
Waters, Dussert, & Loton (2021) [69]	Qualitative, Journal Article	Australia	Children's concepts of their own well-being. How addressing the deficit focus and lack of child voice in ECEC about their own well-being can improve their well-being.	prosocial behaviour	resilience, thriving
Zafiropoulou & Thanou (2007) [7]	Qualitative, Journal Article	Greece	How children's optimism, explanatory styles, mastery, positivity, and lack of helplessness, is positively associated with awareness, ability to identify thought, positive emotions, behaviour management, intentional behaviour towards challenges, and adaptability	optimism, explanatory style, mastery, positivity	awareness, positive emotions, learning, prosocial behaviour, taking on challenges

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