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Parental Perspectives on Climate Change and its Impact on Young Children's Emotional Well-Being: Insights from Malta

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Abstract
Parents express concern about climate change, yet there is limited research on their role in helping children navigate climate change and climate anxiety—worry and fear related to the awareness of climate change impacts—especially in early childhood. As the direct and indirect effects of climate change become more evident, understanding this role is crucial. Grounded in theories of hope and self-efficacy, and using semi-structure interviews, this qualitative case study examined the perspectives of 14 Maltese parents on climate change, their understanding of its perceived impact on their children's well-being, and the challenges and opportunities in supporting their children with climate-related issues. Data analysis indicated that parents had a general awareness of climate instability but a limited understanding of its underlying causes. Parents expressed significant concern about the potential impacts of climate change on their children's health and well-being. They identified barriers to discussing the issue while also sharing positive experiences. Findings suggest that parents would benefit from resources to help them support their children's understanding of climate change in ways that nurture emotional well-being, resilience, and hope. These results can help inform researchers, educators and policymakers to find ways to emphasise solutions, and encourage action in the context of a changing climate.

Keywords Climate anxiety · Climate change · Parents · Children · Hope · Self-efficacy

Introduction

Climate change poses a significant threat to early child development, placing cumulative stress on children's well-being both directly and indirectly (Clayton, 2020; Lawrance et al., 2022; Sanson & Masten, 2023; UNHCR, 2024; UNICEF, 2022). As the least responsible for climate change, children will bear its consequences the longest. Research indicates that direct exposure to increasingly frequent climate disasters heightens the risk of adverse psychological outcomes, including fear, distress, post-traumatic stress disorder (PTSD), and anxiety (Clayton, 2020; Lawrance et al., 2021). Indirect exposure can be equally harmful, as chronic stress associated with the impacts of climate change may have long-term effects on children's emotional development (Leger-Goodes et al., 2022).

Parents of young children often struggle to balance their own climate anxiety while supporting their children's climate-related emotional responses. Although research confirms that children express significant concern about climate change (Engdahl, 2015; Spiteri & Pace, 2023), the role of parents in helping their children navigate climate change and climate anxiety—particularly in early childhood—remains underexplored. This study aims to address this gap by examining how Maltese parents perceive climate change, its perceived impact on their children's well-being, and the challenges and opportunities they face in supporting their children with climate-related issues. Using semi-structured interviews, this research seeks to offer insight into the needs of parents in supporting their children's emotional well-being and resilience in the context of a changing climate.

Climate Anxiety

Climate change is a complex topic to discuss with young children, yet research shows that children under eight have both knowledge and concerns about climate change (Engdahl, 2015; Spiteri & Pace, 2023). The connection between

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climate change and mental health has gained attention (Cianconi et al., 2020; Lawrance et al., 2022), with climate anxiety—defined as the real or anticipated fear of climate change impacts—emerging as a global concern, particularly among children who face direct exposure to climate-related events (WHO, 2022; White et al., 2023). Though not yet a diagnosable condition, climate anxiety encompasses a range of emotional responses, including distress, worry, anger, fear, guilt, hopelessness, despair, depression, PTSD, insomnia, and suicidal thoughts (Clayton, 2020; Lawrance et al., 2022; Leger-Goodes et al., 2022). Climate anxiety can drive both proactive engagement and emotional paralysis (Clayton, 2020; Sangervo et al., 2022).

The Role of Parents

One potential avenue for climate action and emotional support is the family (Dayton et al., 2022). As primary socialisation agents, parents play a significant role in supporting their children to develop environmental perceptions and behaviour, particularly by acting as role models for pro-environmental behaviour (Baker et al., 2020; Dayton et al., 2022; Jackson et al., 2024; Lawson et al., 2019). Research confirms that parent-child interactions can shape children's behaviour around environmental and sustainability issues (Dayton et al., 2022; Leger-Goodes et al., 2023; Spiteri, 2020) by either creating space for children's agency, or hindering it (Crandon et al., 2022). Evidence suggests that regular parent-child conversations about climate change, can support children to navigate climate-related emotions (Dayton et al., 2022; Jackson et al., 2024; Leger-Goodes et al., 2023). Specifically, parents can act as catalysts or barriers for their children's environmental engagement, potentially impacting the children's emotional well-being amidst the climate crisis (Dayton et al., 2022; Leger-Goodes et al., 2023; Ojala, 2022; Shrum et al., 2023). Such influences are also bi-directional, with evidence confirming that children too can encourage environmental concern in their parents (Leger-Goodes et al., 2023; Spiteri, 2020; Spiteri & Pace, 2023). While the role of children in influencing pro-environmental behaviour and climate action in parents is somewhat understood (Lawson et al., 2019; Spiteri, 2020; Spiteri & Pace, 2023), the role of parents in contributing to their children's experiences of climate change remains significantly under-researched (Dayton et al., 2022; Jackson et al., 2024; Leger-Goodes et al., 2023).

Many parents find it difficult to talk to children about climate-related issues (Baker et al., 2020; Dayton et al., 2022; Jackson et al., 2024; Perlant, 2023; Spiteri & Pace, 2023). A Canadian study of child-parent dyads, with parents of children aged 8–12 years, shows that while parents showed willingness to discussion climate change and climate emotions with their children, such conversations were hindered by the parents' emotional reaction to climate change (Leger-Goodes et al., 2023). In the United States, research with parents of children aged 6–17 years shows that parents communicated information about climate change with their children using age-appropriate information, but they also experienced some difficulties (Dayton et al., 2022). In the UK, Jackson et al. (2024) report that parents of children aged 5-11years spoke to their children about climate change and engaged in activities to turn climate anxiety into climate action, however, such exercise was not easy for parents. In Australia, Baker et al.'s (2020) study with parents and teacher of children aged 0–17 years demonstrates that children's anxiety and interest in discussing climate change, coupled with parents' challenges and positive experiences in these conversations, underscored the need for resources that support environmental education, emotional well-being, and solution-focused engagement.

More importantly, evidence supporting how parents respond to climate-related emotions in early childhood is limited to only a handful of studies (Baker et al., 2020; Dayton et al., 2022; Jackson et al., 2024; Leger-Goodes et al., 2023; Crandon et al., 2022). The question remains as to how parents can help children under eight build resilience in the face of climate change (Leger-Goodes et al., 2022; Leger-Goodes et al., 2023; Sanson & Masten, 2023). This is an important area of research because emerging evidence suggests that how parents choose to share information about climate change can influence climate anxiety in children (Crandon et al., 2022; Leger-Goodes et al., 2023). Furthermore, we do not yet know (a) whether parenthood is a catalyst for young children's (under eight) environmental engagement, and (b) the impact of parenthood on the development on climate anxiety in early childhood. Article 5 of the United Nations Convention on the Rights of the Child affirms parents' right and responsibility to guide their children, recognising parents' ability to consider long-term impacts (Lundy et al., 2024). Prioritising children's voices at the expense of parental input risks reinforcing an unhelpful adult-child binary (Lundy et al., 2024). This study does not seek to reinforce this divide but rather values parents' expertise and knowledge of their children's needs (Lundy et al., 2024).

Research Contribution

As the direct and indirect effects of climate change become increasingly evident (IPCC, 2023), parents require strategies and resources to support their children's environmental learning in ways that promote emotional well-being and promote hopefulness (Baker et al., 2020; Crandon et al., 2022; Dayton et al., 2022; Jackson et al., 2024). Given the

limited research in this emerging field of early childhood studies, it is crucial to examine parents' roles in supporting their children's emotional responses to climate change using qualitative methodologies (Leger-Goodes et al., 2023). If left unaddressed, this gap in knowledge may contribute to negative outcomes as climate change impacts continue to intensify.

The current study addresses this gap by exploring parenthood as a catalyst for young children's climate engagement, with a particular focus on climate anxiety from the perspectives of Maltese parents. Specifically, it investigates parents' perceptions on climate change, their understanding of its perceived impact on their children's well-being, and the challenges they face in providing support. Employing hope (Snyder, 2002) and self-efficacy (Bandura, 1977) theories, and qualitative case study (Stake, 2006), it captures in-depth insights of how this engagement influences parental emotional well-being within the context of the climate crisis.

A deeper understanding of how parents create climate awareness, their coping mechanisms, and the strategies they use to support young children can inform researchers, educators, and policymakers in designing more effective early childhood policies and programmes. To the best of the author's knowledge, no published research has examined the role of parents in shaping children's (under eight years) emotional responses to climate change, particularly in small island nations.

Theoretical Framing

Climate change is a global challenge that demands collective action and motivation (van Zomeren et al., 2019). However, given the complexity of the crisis, enhancing motivation to address it can be difficult. Emotions such as climate anxiety and hope are interrelated, and play a crucial role in shaping both climate-related distress and action (Sangervo et al., 2022). This study draws on hope theory (Snyder, 2002) and self-efficacy theory (Bandura, 1977) to examine whether parenthood can act as a catalyst for children's climate engagement and how it influences their climate anxiety amid the climate crisis.

Hope is commonly understood as an emotional experience tied to the possibility of change or a desirable outcome, which may contribute to collective action (van Zomeren et al., 2019). Snyder (2002) describes hope as "a personal rainbow of the mind" (p. 269). Within positive psychology, hope is recognised as a measurable and malleable construct that enhances resilience and provides psychological benefits across various contexts and life stages (Gallagher & Lopez, 2017). Snyder (2002) conceptualises hope through three key components: goal identification (the process of setting and striving for a goal), pathways thinking (the identification of multiple routes to achieve that goal), and agency (the perceived capacity to pursue those pathways). Snyder (2002) further defines agency as "the perceived capacity to use one's pathways to reach desired goals" (p. 251). Essential elements for promoting hope include positive future expectations, agency, and trust.

Hope can function as either a problem-focused or emotion-focused coping mechanism. In a problem-focused context, hope facilitates collective motivation, driving collective action. Conversely, in an emotion-focused context, hope serves primarily as an individual emotion-regulation tool, helping individuals counteract despair and feelings of helplessness (van Zomeren et al., 2019). The problem-focused function of hope aligns with Snyder's (2002) metaphor of hope as a "rainbow of the mind," emphasising agency and pathways toward achieving goals (van Zomeren et al., 2019). The application of hope theory to environmental psychology has demonstrated strong correlations between hope and action competence, particularly among older children and youth (Finnegan, 2022). In studies focusing on adults, van Zomeren et al. (2019) found that hope primarily functions as an emotion-regulation strategy, enabling individuals to cope with climate anxiety, but not necessarily motivating collective action. However, while hope can serve as an emotion-focused coping mechanism, it does not necessarily enhance the collective motivation required for climate action (van Zomeren et al., 2019).

Snyder's (2002) theory of hope shares conceptual commonalities with Bandura's (1977) self-efficacy theory, as both emphasise individual agency, motivation, and the belief in one's capacity to achieve goals. Both theories highlight the role of resilience, motivation, and goal-directed behaviour in empowering individuals—particularly parents—by encouraging a sense of control and perseverance in addressing the climate crisis. While self-efficacy specifically focuses on an individual's ability to cope with challenges—including climate change, also referred to as "climate self-efficacy" (Clayton, 2020), hope is a broader construct centred on determination and goal pursuit. Although self-efficacy is a well-established predictor of behaviour (Bandura, 1977), its influence on emotional expression and problem-solving in the context of climate emotions remains underexplored (Clayton, 2020). Indeed, to date, the relationship between hope, climate action, and climate self-efficacy remains an evolving area of research (Clayton, 2020; van Zomeren et al., 2019).

Study Context

The study was conducted in Malta, a small Mediterranean island increasingly affected by climate change. Malta was chosen as the study context for several reasons. First, small

island states are disproportionately impacted by climate change compared to larger countries (IPCC, 2023), yet significant knowledge gaps remain regarding their most pressing climate challenges (Aucan et al., 2024). Second, Malta's Mediterranean climate—characterised by hot, dry summers and mild, wet winters—features some of the highest sea temperatures in Europe (Met Office, n.d.). Third, the country has recently experienced rising temperatures and more frequent and intense heatwaves, prompting regular health warnings from national authorities (Department of Information [DoI], 2024). Given the increasing effects of climate change on small island states, a growing number of people, including parents of young children, will likely need support in coping and adapting, making Malta a highly relevant setting for this study.

Method

Study Design

The present study used a qualitative case study methodology to address the paucity in research on parents' perspectives of climate change, their understanding of its impacts on their children's well-being, and the challenges and opportunities in supporting their children with climate-related issues, through semi-structured interviews. Qualitative case studies are preferred to gain in-depth understanding of emerging topics (Stake, 2006). Furthermore, since climate change is a subjective topic, an interpretive approach was employed to understand the participants' personal experiences of the phenomenon.

Recruitment and Participants

This study was conducted according to the guidelines for ethical research and approved by educational authorities in Malta. The selection criteria for inclusion in the study was based on the children's attendance in early childhood settings. Therefore, accessibility was the initial selection criterion. Ten early childhood settings were approached. To be eligible, parents had to have children aged between 4 and 7 years. This age range corresponds with early childhood education in Malta. Participants were recruited using a convenience sampling technique (Akka & Meydan, 2024). Initial contact was made via email with different schools. Specific schools that catered for early childhood education and care (ECEC) were contacted to approach parents from various ethnic, socio-economic and religious background. The sample size was influenced by access into schools and participants' willingness to participate (Stake, 2006). The final sample size was composed of 14 Maltese parents.

Before the study, parents attended an information session explaining the research process and their rights, emphasising that participation was voluntary and that they could withdraw at any time without explanation. Recruitment materials, including information sheets, consent forms, details on data access, and the option to withdraw at any point, were then distributed via email. Informed written consent was obtained from all participants before their involvement in the study.

Data Collection

Data were collected through individual semi-structured interviews with 14 parents of children aged 4 to 7 years, corresponding to the second year of kindergarten and the first two years of primary school in Malta. The participants, aged 25 to 42 years, included 13 individuals who identified as female and one as non-binary. All families lived near the school and had at least one child within the targeted age range. The study adhered to the British Educational Research Association [BERA] (2024) ethical guidelines for educational research.

Following an extensive literature review, a semi-structured interview guide was created. A senior scholar examined the interview questions to check for validity and clarity. Interviews were conducted in person at family homes over a ten-week period. Each interview began with participants sharing information about themselves. The interview questions were categorised into six areas:

1. Education– Parents shared their beliefs about the purpose of ECEC, revealing their educational values and priorities.
2. Knowledge– Parents defined key climate-related terms and discussed their understanding of climate change causes, effects, and mitigation strategies.
3. Experience– Parents described how they first learned about climate change, shedding light on their sources of information and awareness levels.
4. Opinion– Parents reflected on their children's understanding of climate change, home discussions, influencing factors, and the role of school-based learning.
5. Resources and Policy Awareness– Parents identified needed resources for climate education at home and discussed their awareness of Malta's climate policies and their relevance to ECEC.
6. Behaviour and Actions– Parents detailed their sustainable practices and personal contributions to climate change mitigation.

This structure allowed for in-depth responses while providing flexibility for participants to elaborate on their views.

Each interview lasted 30–50 min, was conducted in Maltese, and recorded digitally. Participants' rights to privacy, confidentiality and anonymity were guaranteed throughout the research process. To ensure anonymity, participants were asked to select pseudonyms. To ensure confidentiality, participants only had a right to their own data, and data were not shared amongst participants. Data were filed in a password-protected computer.

Data Analysis

Interviews were conducted in Maltese (the participants' first language), transcribed verbatim and later translated into English by myself as a bilingual individual, maintaining the exact meaning to the wording and expressions used by the participants as much as possible. To enhance the credibility and trustworthiness of the study, data were collected over a ten-week period, allowing for prolonged engagement with participants, the establishment of rapport, and the opportunity to observe patterns and inconsistencies in responses (Stake, 2006). The extended timeframe facilitated a more in-depth understanding of the context, and ensured more comprehensive and reliable data (Stake, 2006). Transcripts were checked by a senior scholar to eliminate bias, and ensure clarity and validity of the data. Transcripts were then sent to participants for verification of the accuracy of the translations, member-checking, and to ensure validity. All transcripts were returned unchanged.

Data analyses were done in English, by myself. Data were analysed following the five-phase qualitative analysis process proposed by Bingham and Witkowsky (2022): (1) organising the data; (2) sorting the data: (3) understanding the data; (4) interpreting the data; and (5) explaining the data. Each transcript was read as a whole and a number of emerging themes were identified during this process. The themes that emerged from the data were coded manually, and following several readings, the themes were revised several times. Following an iterative process of data analysis, three independent coders assisted me in checking the codes. To mitigate subjectivity, an analytic and reflective stance was adopted throughout the study drawing on strategies outlined by Miles et al. (2020). I engaged in systematic data reduction, data display, and conclusion verification to ensure a rigorous analytic process. Reflexivity was maintained through memo writing, analytic journaling, and peer debriefing, allowing for critical self-examination of biases and assumptions (Miles et al., 2020).

My positionality was acknowledged through ongoing self-reflection on my role as an external researcher and my potential influence on data interpretation. To further enhance rigor, triangulation techniques—including multiple data sources and member-checking—were employed to validate findings and reduce the risk of bias. The results were sent to the participants for member-checking. Participants could add or amend any information they deemed necessary. No participant added or amended any information. Additionally, an audit trail documenting analytical decisions was maintained to ensure transparency and confirmability. These measures collectively strengthened the trustworthiness and credibility of the study.

Findings

Four overarching themes that emerged from the thematic analysis of the parents' interviews are discussed below: (1) Parents' knowledge of climate change; (2) Parental concern over the potential impact of climate change on their children's health and wellbeing; (3) Obstacles that hinder parents' ability to address climate-related issues with their children; and (4) Positive parenting experiences in addressing climate-related issues with children.

Theme 1: Parents' Knowledge of Climate Change

When asked about their understanding of climate change, most parents associated it with shifts in weather patterns over time.

Rita said: *Climate change is the change in the weather*, *this crazy weather that we have*. *We (*humans*) are going against nature in the sense that we do not respect nature… we destroy it. I cannot understand why people do this [destroy nature]. It is like they do not care. If we destroy nature*, *we get climate change.*

Others described noticeable changes in seasonal conditions, often recalling how weather patterns today differ from their childhood experiences.

Roberta: *The weather that is changing every season*, *Summer*, *Winter*, *Autumn*, *Spring and so on, is different every year. Summer is not always the same. You know what I mean? Every year the weather is getting hotter and hotter. And Winter is not the same either. It [Winter] is not like it is supposed to be, with rain and all.*

Laura: *It seems like every summer is getting hotter.*

Lisa: *It is the changes in the weather. The seasons are not what they used to be any more.*

Lucia: *The seasons have changed and they are not anything like when I was little.*

Some also noted abrupt daily weather fluctuations, such as sudden shifts between sunshine and rain.

Gwen: *Climate change for me means when for example it is sunny in the morning and then it rains, and then it is sunny again. I mean all in one day.*

A few parents provided more specific interpretations. One parent likened climate change to being trapped in a heated room with no escape, emphasising the intensifying warmth of the environment.

Dorothy: *It is like when you have a room and in Summer you go into this room. You close the room and you turn the heater on, and you wear a coat and a hat, and so on. You get really warm and then you cannot help but leave the room. That is what climate change is… I think.*

Another parent, uniquely, linked climate change to greenhouse gas emissions, describing it as a buildup of heat-trapping gases similar to the effect of a greenhouse.

Kate: *The earth is covered with greenhouse gases*, *like when you have a greenhouse*, *and everything is trapped in there*, *and there is no place to release the hot air. The more greenhouse gases in the air*, *the hotter our climate becomes.*

Overall, while these parents recognised climate change as a disruption in weather patterns, only one explicitly connected it to broader scientific concepts– greenhouse gas accumulation. This suggests a general awareness of climate instability but a limited understanding of its underlying causes.

Theme 2: Parental Concern Over the Potential Impact of Climate Change on Their Children's Health and Wellbeing

When asked about the potential impact of climate change on their families, most parents expressed deep concern, with emotions ranging from fear and anger, to a sense of doom and hopelessness.

Rita: *Because if we build houses in all the valleys*, *like we are doing now*, *one day our children will not have anything good on this planet. We are doomed. Let's not forget this because our children are the next generation.*

Catherine: *Our children will have to pay a higher price because in the future I think climate change will increase, and I am so angry about it all but I do not know what to do.*

Some worried that continued environmental destruction would leave future generations with an uninhabitable planet, while others feared their children would suffer the long-term consequences of climate change.

River: *I pray to God that we can do something about it because I don't want my children to suffer.*

Several parents also voiced frustration at what they perceived as inadequate action from authorities. Some explicitly blamed the Prime Minister, arguing that the Government should take stronger measures to address climate change for the sake of their children's future.

Michelle: *This Government is not doing anything about climate change. He [the Prime Minister] does not know what he's doing. We*, *and our children*, *are suffering because of him.*

Concerns about air pollution, particularly from traffic and industrial emissions, were linked to serious health risks such as asthma and cancer.

Roberta: *Hmm… the black smoke and traffic*, *we all see it*, *don't you? They [car exhaust and power stations] cause cancer and asthma, and lots of other illnesses. The Government should do something about this*.

Interviewer: *What do you think authorities should do to mitigate climate change?*

Roberta: *I don't know! That is up to him [the Prime Minister] to find out, but I know that I want the best for my children*.

However, while some parents expected policymakers to lead climate action, others admitted uncertainty about specific solutions.

Gwen: *Whoever is ruling the country at the time should teach us what to do. We need to take action for our children. I do not want them to suffer because of climate change.*

One parent, however, believed that Malta would remain largely unaffected, viewing climate change as a problem primarily affecting developing countries.

Catherine: *It [climate change] will never affect Malta too much. It [climate change] only affects Third World countries in Africa*.

Most parents expressed a strong sense of anxiety and frustration, with many feeling powerless in the face of climate change. Their concerns underscore the need for clearer governmental action and public guidance on mitigating its effects.

Theme 3: Obstacles that Hinder Parents' Ability To Address Climate-Related Issue with Their Children

Parents acknowledged the importance of educating their children about climate change, but felt unprepared to do so. Many expressed a lack of knowledge on the subject and a sense of uncertainty about where to begin. As a result, they emphasised the need for external support, particularly from educators and public institutions.

Roberta: *Knowledge is power! We need to learn about climate change well, and then, we can teach our children.*

Parents called for educational initiatives tailored to adults, suggesting short courses or public talks on climate change to help them gain the necessary knowledge and confidence to discuss the topic with their children.

Tessa: *I think adults just need to be able to learn about climate change. Then, we need to teach our children about climate change. Can you tell the education authorities to create courses for parents about climate change so that we learn about it and we learn how to teach our children about*

it too? Maybe, there should be talks about the environment and climate change for adults too.

Some specifically requested that the education authorities and local councils provide accessible, one-time learning opportunities rather than ongoing commitments, which they found impractical.

Sarah: *If only I knew what I should do, I would do it! But I feel lost and I have no idea where to start or what to tell my child when she asks me about the hot weather or why she feels sick in the summer heat. Can you tell the Education Department [in Malta] to set up some courses for parents about climate change? Please tell them to make them short, like 2 h and a one-of-activity, not every week because I cannot attend every week. Will you do me another favour please? Ask the local council to organise some courses for us too? And while you are there [at the local council], please tell them to cut down that Acacia tree because it is causing asthma to my sister and her children.*

Others proposed broader public awareness campaigns, drawing parallels to successful initiatives such as anti-drunk driving campaigns.

Laura: *I think of how campaigns against drinking and driving have been very successful over recent years. Something similar might work well with climate change too. As parents, we need campaigns to reach a lot of people and teach them what to do about climate change.*

Parents believed that widespread educational efforts would help parents make informed choices and equip them to guide their children effectively.

Lisa: *Information is what people need to make proper choices and to help their children.*

Diane: *If we know nothing about it [climate change], we cannot do anything about it.*

These parents recognised the need for climate education, but felt limited by their own lack of knowledge. Their responses highlight a demand for structured, accessible learning opportunities that empower them to engage in meaningful conversations about climate change with their children.

Theme 4: Positive Parenting Experiences in Addressing Climate-Related Issues with Their Children

Some parents shared positive experiences of discussing climate change with their children, emphasising the importance of creative and engaging approaches. They believed that children, even at a young age, could grasp key climate concepts when introduced in an age-appropriate manner. Play emerged as a central strategy for climate education at home.

Laura: *I think that children are to be made aware of why it is necessary to learn about climate change, and yes, what climate change is all about. Children can understand in their own childish ways, of course… Maybe not all of it, but most of it, hmm… through play.*

Kate: *Children learn through play, right? And so, we can teach them anything through play. I mean I would rather have my children learning about climate change because it is for their own good and for their future. They have to face it anyway, so I think… hmmm… they would be better off learning about it.*

Parents used storytelling, games, and toys to help their children understand climate-related issues in a way that felt natural and engaging.

Kate: *I am absolutely sure young children can understand it [climate change] but we need to be creative in the way we teach it to children. For example, I use stories, games and toys, not the usual boring stuff they do in schools.*

One parent, who was also a teacher, highlighted the value of role modelling, explaining how she incorporated sustainable practices into daily life by making toys from recyclable materials. She noted that her children, including her two-year-old, had adopted these behaviours automatically.

Enid: *Children need to know how it [climate change] happens and why. I think they definitely need to have a broad understanding of how and why it happens and what they can do to help the planet. I am a teacher, and I know how important it is for parents to be role models for their little ones. I try to create toys from recyclable material as much as possible for my children. Both my children do it automatically now. Even though the little one is only two, she knows how to do it too.*

These experiences suggest that, despite the challenges, some parents found meaningful ways to introduce climate change to their children. Their insights reinforce the potential of play-based learning and parental role modelling as effective methods for encouraging early environmental awareness.

Discussion

This qualitative case study explored the awareness of climate change among 14 Maltese parents of children aged 4–7 years, their understanding of its impact on their children's well-being, and the challenges and opportunities they face in supporting their children with climate-related issues. Using semi-structured interviews, the study offers valuable insights into the intersection of parenthood, early childhood, and climate anxiety. While the focus is on Malta, the findings may have broader relevance to other contexts.

The first significant theme that emerged from the data was parents' contextualised understanding of climate change, which was primarily concrete and grounded in their lived experiences. Parents frequently associated climate change with observable shifts in seasonal patterns and weather fluctuations over time, and only one parent explicitly linked it to greenhouse gas emissions. This finding is consistent with previous research indicating that individuals often conceptualise climate change through direct, tangible experiences rather than abstract scientific principles (Clayton, 2020; Jackson et al., 2024). To articulate their understanding, parents relied on personal experiences within the Maltese context, describing how changes in weather and seasons had directly affected them and their children. This localised framing of climate change aligns with previous findings that suggest experiential knowledge plays a significant role in shaping climate perceptions (Dayton et al., 2022; Jackson et al., 2024). While parents demonstrated some awareness of the effects of climate change on them and their children, their understanding remained limited in scope, lacking broader scientific understanding of its underlying causes or global perspectives. Similar findings have been reported in the literature, suggesting that while parents acknowledge the reality of climate change, their understanding is often fragmented, influenced by personal observations rather than scientific literacy (Dayton et al., 2022; Jackson et al., 2024).

Parents also perceived climate change as a source of stress in their daily lives, shaped by their immediate environment. Parents in this sample were worried about climate change and they experienced a certain level of anxiety and hopelessness about the scale and magnitude of the climate crisis. They were also concerned about their ability to handle the issue on their own, indicating a lack of climate self-efficacy (Clayton, 2020), coupled with climate anxiety. This finding contributes to ongoing discussions about the climate-related issues and emotions, climate anxiety, and parenthood. Feelings of worry and hopelessness regarding climate change are not necessarily indicators of dysfunction, and framing such feelings as pathological could be counterproductive. Rather, such feelings may represent rational emotional reactions to an escalating crisis. Indeed, research suggests that climate anxiety is an appropriate response to the existential threat posed by climate change (Clayton, 2020; White et al., 2023; Leger-Goodes et al., 2022; Sangervo et al., 2022). However, in cases where climate-related distress significantly impairs daily functioning, psychological support may be beneficial.

Notably, all parents expressed great concern about climate change and its potential consequences on their children's wellbeing, now and in the future. More importantly, the data confirm prior findings that demonstrate that while parents perceived themselves as responsible for supporting their children with climate-related issues and emotions, they felt inadequately equipped to do so (Baker et al., 2020; Dayton et al., 2022; Jackson et al., 2024; Leger-Goodes et al., 2023). In the current study, most parents reported lack of education about climate change as a key contributor to their growing concerns about climate change. However, such concern can also be tied to the parents' lack of climate self-efficacy (Clayton, 2020). Interestingly, while most parents felt unable to support their children with climate-related issues, they were also hopeful that through education programmes targeting parents, they would be able to support their children more effectively. This finding aligns with Snyder's (2002) hope theory, which suggests that hope consists of goal-directed thinking, where individuals perceive themselves as capable of generating pathways to achieve their objectives and sustaining motivation to pursue them. Parents hoped that they could learn how to cope with the climate crisis, and help their children do the same. This finding suggests that, if adequately supported, parents could develop agency and resilience in addressing climate-related concerns with young children. This finding is consistent with international research on parental involvement in other areas of education, emphasising the importance of providing strategies and resources to enhance environmental literacy and hopefulness in parents (Baker et al., 2020; Crandon et al., 2022; Dayton et al., 2022; Jackson et al., 2024; Leger-Goodes et al., 2023).

Interestingly, those parents who felt helpless, turned to authorities for support, asserting that people in positions of power, such as the Prime Minister, should take responsibility to assist them and their children with climate action. These data indicate that parents were experiencing a wider range of climate emotions, including climate anger and rage towards authority figures. Indeed, climate rage and climate anger are two new emerging topics in the scholarly literature that although they are important, to date, have received little attention (Pihkala, 2024). However, most parents also experienced a sense of hope that people in authority will somehow take appropriate action. This finding suggests that hoping for climate mitigation actions helped these parents to regulate emotion-focussed coping and increase individual wellbeing. If used properly, negative emotions such as climate anger, climate rage, and hope could help individuals deal constructively with climate-related issues, for example by engaging in individual climate action.

Three parents found their own ways of coping with the magnitude of the climate crisis, and spoke about instances of positive experiences related to creative ways of engaging with their children in learning opportunities around climate-related issues. Play, toys and storytelling were identified as effective tools for teaching complex scientific issues in simple, engaging, and non-overwhelming ways. This is a significant finding as it highlights a gap in the literature on

parenthood and climate change, demonstrating how parents and children can actively engage in creative coping strategies to build a sense of self-efficacy and resilience (Bandura, 1977; Clayton, 2020; Crandon et al., 2022; Leger-Goodes et al., 2022; Sanson & Masten, 2023). In this case, the parents' self-efficacy and their belief in their ability to educate their children about climate change could create a sense of hope and action competence. It is highly likely that the social structures and cultural capital available to these parents shaped their ability to cope with climate distress and support their children accordingly (Bourdieu, 1991, 2003). The data also show that parents with higher self-efficacy—stemming from greater environmental knowledge, and access to resources and cultural capital—were more likely to translate concern into action rather than becoming immobilised by anxiety. The data also show that parents with lower self-efficacy experienced heightened stress due to a perceived lack of control over climate outcomes and lack of resources to support their children. This finding highlights how parents can support their children to develop competencies and agency within social contexts. It also underscores the importance of equipping parents with strategies that enable them to nurture their children's understanding of climate change while promoting psychological well-being. Strengthening community engagement and participatory climate initiatives can help build self-efficacy, transforming passive worry into constructive action. Given the scale and urgency of the global climate crisis, an appropriate response includes training for parents to support their children in understanding and coping with the impacts of climate change. Such training could empower parents by enhancing their self-efficacy and equipping them with the necessary knowledge and tools to promote resilience and constructive hope in their children.

Strengths and Limitations

A major strength of this study is its contribution to exploring parental experiences in the context of climate change, using qualitative methods that allowed parents to voice their experiences and concerns. Countries and regions that experience the harshest effects of climate change, like Malta, are where the least climate change and emotional wellbeing research has been done. To date, most research is Western-centric and we know little of the emotional turmoil that heat and erratic weather has created for children and parents living in the Mediterranean basin.We also know little about how context and culture affect parenthood and climate anxiety. Not only does this study present the issue from a parental perspective, but it also presents the issue from the perspective of parents living in the context of a small island state.

Next, as a researcher who is aware of the culture and context of the place in which this study was conducted, I was able to build a trusting relationship with the participants, an important element in qualitative research. The reliability of the analysis was ensured by the independent coders, who verified the conclusions. To promote reflexivity, and to examine how my biases and personal experiences shaped data collection and interpretation, I used a reflective journal, in which I confronted ethical dilemmas, ensuring transparency and ethical consistency throughout the study.

Another major strength of this study is its theoretical contribution. As the first study to apply hope theory (Snyder, 2002) and self-efficacy theory (Bandura, 1977), it contributes to ongoing discussions regarding parenthood, early childhood, and climate anxiety. In doing so, it aims to spark new opportunities for research about climate change within families with young children.

This study also had limitations. One limitation is the small sample size that limits the generalisability of the findings to other geographical areas and cultures. The sample size was based on the availability of participants. Another limitation is that the interviews were carried out in Maltese, and then translated into English. While quotations were left in their original form, there were times when fillers were required to convey the statement's meaning correctly. Certain linguistic expressions might not have been fully preserved in translation. Nevertheless, this study offers new and valuable insights in how parents navigate climate-related issues and emotions with young children.

Conclusions

This study explores the intersection of parenthood and climate change, highlighting the complexities of parental perceptions, emotional responses, and knowledge gaps. While parents expressed significant concern about climate change, their understanding was primarily experiential and localised, with limited awareness of systemic drivers. Most parents lacked sufficient education and resources to support both their own and their children's climate-related emotions—a concern given the disproportionate impact of climate change on children. Bridging this gap requires targeted climate education that validates personal experiences while enhancing scientific literacy. Providing parents with the necessary knowledge and emotional tools is crucial for developing resilience and adaptive coping in young children. Psychological frameworks such as Snyder's (2002) hope theory and Bandura's (1977) self-efficacy theory offer valuable insights into how individuals emotionally and cognitively process climate change. By enhancing both hope and self-efficacy, interventions can move beyond

awareness-raising to actively empowering individuals and communities in climate action.

Finally, research on parenthood and climate change remains an emerging field. More research is needed to examine whether parenthood can serve as a catalyst for climate anxiety or climate action in different geographical locations and cultures. Additionally, lessons from sectors such as mental health—where there is growing recognition of the need for climate-informed practitioners (Pitt & Norris, 2024)—could inform the development of training programmes and policy aimed at empowering parents to deal with the normal, yet difficult, emotions of climate anxiety.

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Declarations

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