Journal of Prevention
https://doi.org/10.1007/s10935-022-00712-0

Family Communication About Climate Change in the United States

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Accepted: 5 October 2022
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Abstract

Family discussions about climate change are a critical factor influencing children's climate change perceptions and behaviors. Yet, there is limited research on family communication about climate change in the US. Drawing from an online longitudinal sample, 214 parents reported on their 336 children. Descriptive statistics examined engagement in family climate change communication. Children's climate change concerns and parents' interest in engaging in conversations about climate change were assessed by the child's age. Logistic models examined how recent family climate change communication was associated with parents' perceived roles and barriers to engaging in conversations. Most parents (68%) were interested in talking to their children about climate change; of those expressing interest, only 46% reported recent communication. Parents reported that older children were more concerned about climate change than younger children (0–5 years: 21%; 6–11 years: 43%; 12–17 years: 56%), but no differences were identified in parents' interest in communicating with their children by the child's age. Recent family climate change communication was significantly associated with not knowing what to say and parents' perception that their role was to support their children in action. Study findings suggest a significant opportunity to involve families in climate change communication. Parents may benefit from training resources, especially those tailored to children's age, to help them communicate with their children about climate change. Strategies that engage parents and children in activism activities together are also needed.

Keywords Climate change · Child well-being · Health communication · Family relations

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Published online: 02 November 2022

It is crucial to engage parents and children in promoting climate change prevention, mitigation, and adaptation as children are the most likely to be affected by the adverse impacts of climate change. Climate change is a global health threat that impacts billions of people's health and well-being (Costello et al., 2009), and it is estimated that approximately 88% of the existing burden of disease due to climate change occurs in children (Sheffield et al., 2011; Zhang et al., 2007). There is an inverse association between children's ages and the lifetime harm they will experience due to climate change, and children in communities with reduced resources and public health capacity face a greater risk of adverse consequences of climate change (Sheffield et al., 2011). The United States is ranked in the 50th percentile for children's climate risk despite being ranked second in countries with the highest CO2 emissions (UNICEF, 2021). Climate change can affect health through multiple mechanisms, including changing patterns of disease, food, water, sanitation, shelter, extreme events, and population migration (Keim, 2008). Immediate action is needed to respond to climate change and mitigate adverse health consequences. However, despite high climate change concerns, there are limited environmental policies promoting climate change mitigation in the United States. To change government policies and perspectives, current voters and youth must mobilize and advocate for environmental policies to promote climate change mitigation (e.g., drastically reducing greenhouse gas emissions). For children, parents play a significant role in developing their environmental perceptions (Lawson et al., 2019). One mechanism by which parents influence their children's climate change beliefs, actions, and coping styles is through discussions about climate change. Family discussions about climate change have been identified as one of the most important factors influencing children's perceptions and behaviors, with family discussions playing a more prominent role than parent climate change behaviors and child climate concerns (Mead et al., 2012). However, there is limited research on factors associated with promoting or inhibiting US parents from engaging in conversations about climate change with their children.

Family Communication About Climate Change

Climate change discussions within family networks can promote child well-being by providing a safe space to discuss and address concerns. Communication is essential as children may feel that adults dismiss their environmental concerns. A study of Australian youth ages 7–25 found that 70% were concerned that people do not or will not take their opinions on climate change seriously (Chiw & Hong, 2019). There is a wealth of guidance on how parents can talk to their children about climate change, but little is known about whether they are doing so, the reasons they do not talk about it, or empirically informed methods.

Child Concern About Climate Change

Climate change can be a complex topic to discuss with children, and some parents may perceive that their children are neither aware of nor concerned about climate change. Yet widespread media coverage of climate change-related environmental issues (e.g., forest fires, extreme weather events, melting glaciers) increases the likelihood that many children are aware of the presence of climate change. Additionally, many young people are exposed to climate change messaging and its negative impact through social media (Parry et al., 2022; Basch et al., 2022). A global study evaluating children from birth to 8 years found that even preschool-aged children have both knowledge and concern about climate change (Engdahl, 2015). Children's concern about climate change has also increased in recent years (Lee et al., 2020). A qualitative study of urban children aged 10–12 in the United States found that 82% of children reported fear, sadness, and anger about environmental problems (Strife, 2015). A study of older children ages 16–25 in 10 countries found that more than 45% of respondents reported that their feelings about climate change negatively affected their daily life and functioning (Hickman et al., 2021). Such findings indicate that it may be valuable to utilize a developmental perspective when evaluating family communication about climate change. A developmental perspective asserts that cognitive, psychological, and socio-emotional development occurs at different stages (Sanson et al., 2018). Therefore, parents may perceive children at different stages of development as having differing concerns about climate change.

Parents' Perceived Role in Supporting Children

There is a limited body of research on parents' roles in supporting their children through climate change. One study found that among youth who talked with others about climate change, almost half (48%) reported that other people had ignored or dismissed them (Hickman et al., 2021). Although it is not reported who ignored or dismissed them, these findings suggest the importance of training adults, especially parents, on how to talk with their children about climate change (Hickman et al., 2021). Parents have a critical role in providing support, teaching, and modeling how to deal with stressful events. However, helping children deal with climate change is a relatively new phenomenon, and parents' roles are not well established (Sheffield et al., 2011). Role theorists assert that roles are generated by expectations learned through experience (Biddle, 1986). In addition, experiences generate roles by developing norms, preferences, and beliefs (Biddle, 1986). In a study of Australian teachers and parents of children under age 18, parents' perceived roles in supporting children through climate change were examined by Baker and colleagues (2021). Their study found that over 40% of parents reported that their ideal role was educating their children about sustainability and climate change, and over 30% of parents reported their role as supporting their children in action (Baker et al., 2021). Less often endorsed roles were modeling sustainability, supporting feelings, teaching critical thinking, and connecting to nature. Central to each of these roles is parent engagement in communicating with their children about climate change.

Barriers to Engaging in Conversations About Climate Change

Regularly engaging in conversations about climate change with children can feel challenging for many parents. Some parents may not want to discuss climate change with their children because they want to protect them from worry or anxiety about the impact of climate change. Parents' own anxiety about climate change may also inhibit conversations with their children. In the study of Australian teachers and parents of children under 18 by Baker et al., (2021), these two barriers were the most often expressed and endorsed by approximately 50% of respondents. This study also found that about 10% of respondents reported challenges of children not initiating a conversation and not having tried to initiate one themselves. Less often reported challenges were children being resistant to the conversation and not having enough time. Baker and colleagues also found that challenges remained consistent over time. Using questions modified from Baker, Clayton, and Bragg's study of Australian teachers and parents, the present study examines US parents' barriers to engaging their children in conversations about climate change.

Study Aims

The current study aims to understand family communication about climate change in the United States. Identifying barriers and facilitators for parents in engaging with their children about climate change can inform the design of interventions to promote family communication and engagement in climate change activism. The first aim of this study is to describe parents' desire to communicate about climate change with their children and the frequency of these conversations. The second aim assesses age-related differences in climate concern and age-related differences in parents' interest in talking to their children about climate change. The final aim is to describe US parents' perceived role in supporting their children to deal with climate change and barriers to engaging in conversations about climate change as well as examining how perceived barriers and roles are associated with regular climate change communication.

Methods

Study Population

Study participants were drawn from the online longitudinal COVID-19 and Well-Being Study that began in March 2020 (Latkin et al., 2022; Dayton et al., 2022). This study assessed respondents every 3–4 months to examine individual, social, and societal-level fluctuations associated with health and well-being amid the rapidly changing landscape of the pandemic. The initial study waves focused on COVID-19, but as the pandemic continued, other global health issues linked to health and well-being were assessed. Study participants were recruited through Amazon Mechanical Turk (MTurk), an online platform health and social science researchers often use

to study large groups' real-time dynamics (Huff & Tingley, 2015). Prior research suggests that MTurk provides better-quality data than other methods for recruiting convenience samples (Chandler & Shapiro, 2016). Study samples recruited through MTurk are not nationally representative but are often more representative than convenience samples (Chandler & Shapiro, 2016). Study protocols were designed following MTurk's best practices (Young & Young, 2019). Participants were eligible for the initial study if they were 18 years old or above, resided in the US, spoke and read English, and had heard of the coronavirus. Additionally, eligible participants had to pass attention and validity checks embedded in the survey to enhance reliability. The current study utilized survey items from wave eight (April 12th -24th, 2022). Participants were compensated $4.25 for the eighth wave survey plus a $1 bonus if they agreed to complete a child well-being supplement, equivalent to approximately $12 per hour. In wave eight, 701 people completed the survey, and the current study examines 214 parents with a child under 18 years in their household that agreed to participate in the child well-being supplement. These parents were asked to report on each of the children in their household, which totaled 336 children. The Johns Hopkins Bloomberg School of Public Health Institutional Review Board approved the study materials and procedures.

Variables

Family Communication About Climate Change

Respondents were asked, "Are you interested in talking to your children about climate change?" Parents who expressed interest were then asked, "When was the last time that you talked to your children about climate change?" Response options included "Past week," "Past month," "Past 2–6 months," "Past 7–12 months," "More than a year ago," and "Never." For statistical modeling, responses within the past month were compared to those who reported more than a month ago.

Concern About Climate Change

In assessing parent perceptions of child concern about climate change, parents were instructed to report on each child under the age of 18 living in their household. They were asked, "For each of the children in your household, how concerned is each child about climate change?" Response options were "Concerned," "Not Concerned," and "Don't know." To assess the impact of any child being concerned about climate change, an additional variable was made if any child in the household was reported to be concerned about climate change. Parents' concern about climate change affecting their children was defined as participants reporting that they were very concerned that climate will impact their children's emotional health, physical health, or economic future.

Parents' Role in Supporting Children Through Climate Change

Parents were asked to report their ideal role in supporting children through climate change using questions adapted from Baker and colleagues (2021). Their ideal role was elicited by asking, "Ideally, what do you see your role and responsibility being in regard to supporting children to deal with climate change?" Response options included "I do not believe in climate change," "Encourage/support them in action," "Educate about sustainability," "Role model healthy sustainable actions," "Help them cope with their feelings," "Inspire hope/positivity," "Teach practical/survival skills," and "Connect them to nature."

Barriers to Family Communication About Climate Change

Barriers to family communication about climate change were assessed with modified measures from Baker and colleagues (2021). Participants who expressed an interest in communicating with their children about climate change were asked, "What challenges have you faced in communicating with your child(ren) about climate change?" with yes/no options of: "I have not tried to communicate about climate change with them," "I do not know what to say," "Children are resistant to the conversation," "Children do not initiate the conversation," "I do not have enough information about climate change," "I myself am anxious/fearful/sad about climate change," "I am worried I will only exasperate their feelings/emotions," "There is not enough time," and "Other." Participants who responded "Other" were asked the open-response question, "What other challenges have you faced when communicating with your child(ren) about climate change?"

Demographics

Parents were also asked to report the age of each child in the household. Using the CDC definitions of childhood and teens, children ages 0–5 years, 6–11 years (middle childhood), and 12–17 years (young teens and teenagers) were grouped (Centers for Disease Control and Prevention, 2021). Parents were asked their age and sex. They were also asked to rate their political ideology on a seven-point Likert scale from "Very liberal" to "Very conservative," with higher scores representing a more conservative orientation. One participant did not endorse an ideology and was coded as moderate. Parent's education was dichotomized at the median. Participants reported their race/ethnicity as "White," "Black," "Hispanic," "Asian," "Mixed," or "Other." Due to the small sample size, participants identifying as "Asian", "Mixed," and "Other" were collapsed into "Other." Participants were also asked the dichotomous question, "Are any of your children (< 18 years old) school-aged?"

Analysis

Descriptive statistics were used to understand family communication about climate change, parents' perception of children's concern about climate change, parents' role in supporting children through climate change, and demographics (N = 214

parents). Each child in the household was assessed to examine age-related differences in concern about climate change (N = 336 children). A multinomial logistic regression model accounting for clustering of children within families assessed age-related differences in children's concern about climate change. To examine differences in parents' interest in discussing climate change by child age, the sample was restricted to parents with only one child, as the question about interest in talking to their children about climate change was general and not specific to each child (N = 117 children). A logistic regression model assessed parents' interest in talking to their children based on their children's age. Descriptive statistics were used to assess parents' perceived roles and barriers to engaging in climate change discussions. For open-ended responses to other barriers to engaging in conversations about climate change, thematic analysis was used to identify patterns in the qualitative data. Two correlation matrices were calculated to assess the relationships between parents' perceived roles and the relationships between barriers to family climate communication. Bivariate logistic models examined the association between recent family communication about climate change (past month) and parents perceived roles in supporting their children through climate change, barriers to communicating with children about climate change, and parent demographics. A backward stepwise logistic regression model controlling for parents' demographics assessed the independent association between recent family communication about climate change with reported roles, barriers, and demographics.

Results

The mean age of parental study participants was 40 years (SD:8.34), and about half of the sample was female (58.14%; Table 1). 63.08% of participants had completed a bachelor's degree or above. The sample was racially/ethnically diverse, with 60.75% of participants reporting white race, 17.76% Black, 12.15% Hispanic, and 9.35% other. There was a range in political orientation, with 48.13% endorsing a liberal, 19.63% a moderate, and 32.24% a conservative orientation. 74.77% of parents expressed concern that climate change would impact their children emotionally, physically, and economically. Of the 336 children that parents reported, 28.27% were aged 0–5 years, 37.50% were aged 6–11 years, and 34.22% were aged 12–17. The children were equally split in sex, with 47.62% being female. Most parents (67.76%) expressed an interest in talking to their children about climate change; of those expressing interest, only 46% reported talking to their children about climate change in the past month (Fig. 1).

As seen in Fig. 2, 4 in 10 children were concerned about climate change, with 14% of parents reporting not knowing how a given child feels. Child age was significantly associated with parents' perceptions of children's climate change concerns. Parents perceived that teenage children (12–18) and children in middle childhood (6–11) were significantly more concerned about climate change than young children. However, children's age was not associated with parents' interest in communicating with their children about climate change (results not shown).

Table 1 Study demographics

Parent-level variables*	n (%)
Age, mean ± SD	39.71 ± 8.34
Sex (female)	125 (58.14)
Education (Bachelor or above)	135 (63.08)
Race	
White	130 (60.75)
Black	38 (17.76)
Hispanic	26 (12.15)
Other	20 (9.35)
Political orientation	
Liberal	103 (48.13)
Moderate	42 (19.63)
Conservative	69 (32.24)
Concern about climate change affecting children	160 (74.77)
At least one school-aged child	179 (83.64)
At least one child concerned about climate change	103 (48.13)
Child-level variables**	
Age	
0–5 years	95 (28.27)
6–11 years	126 (37.50)
12–17 years	115 (34.22)
Gender (female)	160 (47.62)

*N = 214 parents

**N = 336 children

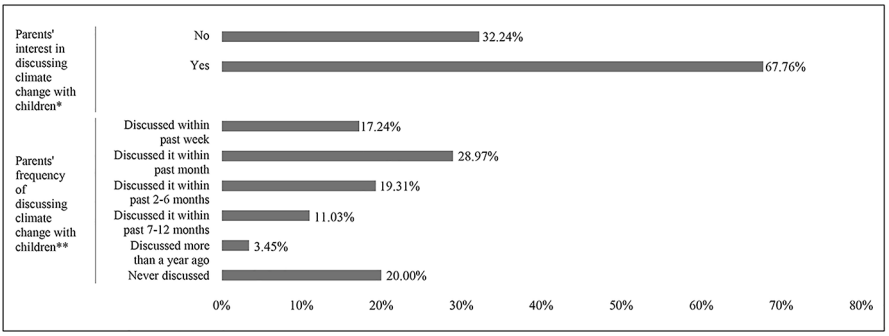
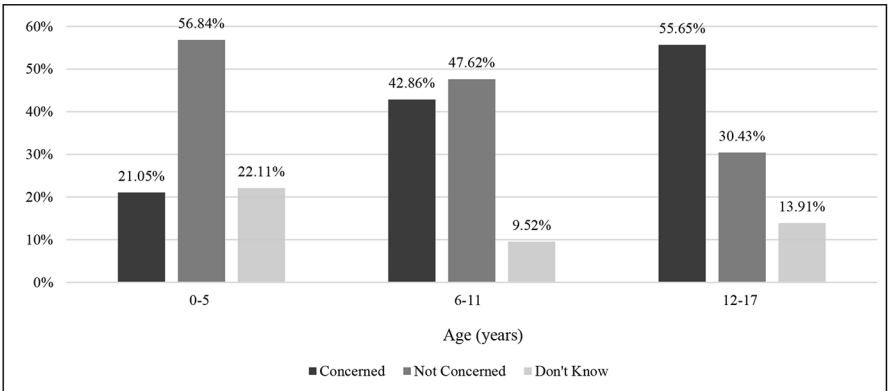


Fig. 1 Frequency of climate change communication between parents and children in the US. (*N = 214 **N = 145).

The vast majority of parents endorsed having a role in supporting their children through climate change, with only 12% of parents reporting that they did not believe in climate change (Fig. 3). Over 8 in 10 parents responded that their role was to encourage and support their children in taking action, educate them about sustainability, role model sustainable actions, help them cope with feelings, inspire hope/positivity, and teach survival skills. Several barriers were identified among parents who expressed interest in talking to their children about climate change. The most endorsed barrier was parents' own fears about climate change, followed by concerns of making their children anxious, not having tried to initiate a conversation, children



Level of child's concern about climate age (ref: Not concerned)	Child's age (years)	RRR (95% CI)
Concerned	0-5	ref
	6-11	**2.43 (1.24, 4.73)**
	12-17	**4.94 (2.33, 10.46)**
Don't know	0-5	ref
	6-11	0.51 (0.21, 1.27)
	12-17	1.18(0.45, 3.07)

Fig. 2 Parent's perception of children's climate change concern by child age (N = 336). (Bold = p ≤ 0.05)

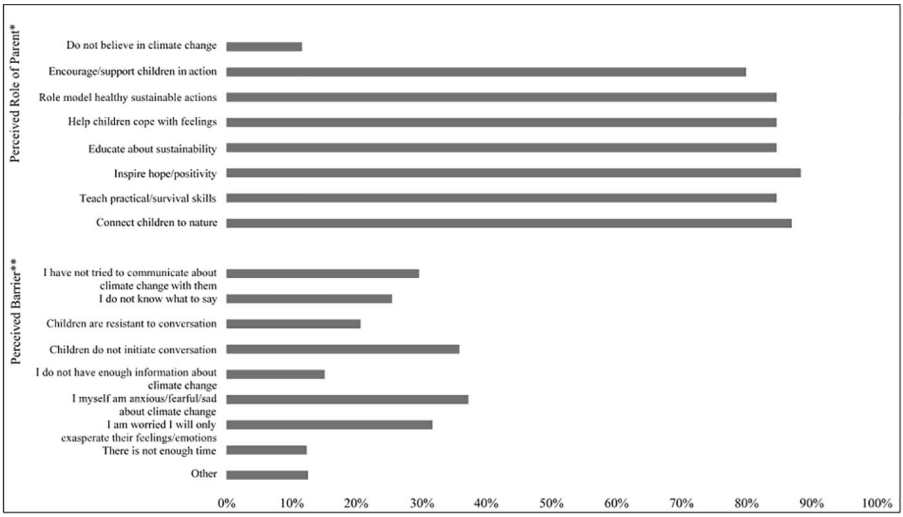


Fig. 3 Parents' perception of their role in supporting children in dealing with climate change and barriers to discussing climate change. (*N = 214 **N = 145)

not starting the conversation, and not knowing what to say. For some, this difference between desired engagement and actually talking with children can be explained by children's ages. The thematic analysis of open-ended responses to the "other" barrier found that the primary theme was that children were too young to engage in conver-

Table 2 Bivariate and backward stepwise logistic regression models of recent climate change communication and parents' perceived roles and barriers in the US (N = 145)

	OR (95%CI)	aOR (95%CI)
Age	1.02 (0.98–1.06)	1.00 (0.95–1.06)
Sex (ref: male)	0.85 (0.44–1.66)	0.81 (0.34–1.91)
Education (Bachelor or above)	0.85 (0.42–1.71)	0.39 (0.14–1.05)
Race (ref: White)		
Black	0.78 (0.32–1.88)	0.91 (0.28–2.95)
Hispanic	1.24 (0.49–3.25)	1.43 (0.37–5.47)
Other	0.88 (0.30–2.59)	0.89 (0.22–3.66)
Political orientation	1.03 (0.86–1.24)	1.02 (0.80–1.31)
Concern about climate change affecting children	1.78 (0.43–7.40)	2.92 (0.33–25.29)
At least one school-aged child	0.49 (0.19–1.29)	1.39 (0.37–5.23)
At least one child concerned about climate change	**5.25 (2.85–13.72)**	**5.98 (2.17–15.43)**
Parents perceived role		
Encourage/support them in action	**4.78 (1.01–22.65)**	**23.10 (1.59-335.87)**
Educate about sustainability	1.00 (0.31–3.14)	--
Role model healthy sustainable actions	1.03 (0.30–3.55)	**0.06 (0.01–0.55)**
Help them cope with their feelings	0.98 (0.34–2.86)	--
Inspire hope/positivity	3.71 (0.76–18.13)	--
Teach practical/survival skills	0.98 (0.33–2.86)	--
Connect them to nature	2.37 (0.21–26.73)	--
I do not believe in climate change	2.36 (0.21–26.72)	--
Barriers		
Not tried to communicate	**0.33 (0.15–0.72)**	--
Don't know what to say	**0.15 (0.06–0.39)**	**0.19 (0.06–0.60)**
Child resistant to conversation	0.86 (00.38–1.94)	--
Child did not initiate conversation	**0.32 (0.15–0.66)**	--
Not enough information about climate change	**0.29 (0.10–0.83)**	0.31 (0.07–1.38)
Feel anxious/sad/angry about climate change	1.13 (0.58–2.22)	--
Worried they will exasperate children's feelings	0.57 (0.28–1.18)	--
Not enough time	0.40 (0.13–1.20)	0.36 (0.08–1.63)
Other	0.40 (0.13–1.20)	0.31 (0.08–1.25)

sations, a sentiment expressed by 7 of the 17 respondents who expressed an "other" barrier. The correlations between barriers (Range: 0.01–0.52) and the correlations between perceived roles (Range: 0.11–0.62) were mixed, indicating that most barriers may have a unique influence on parents initiating conversations about climate change.

Parents who perceived that at least one child was concerned about climate change had greater odds of engaging in a recent conversation about climate change with their children in bivariate and adjusted models (Table 2; OR: 5.25, 95% CI: 2.85–13.72; aOR: 5.98, 95% CI: 2.17–15.43). The only role significantly associated with recent communication about climate change in the bivariate analysis was encouraging children to engage in climate change activism, and this factor remained significant in adjusted models (OR: 4.78, 95% CI: 1.01–22.65; aOR: 23.10, 95% CI: 1.59-335.87). A number of barriers were associated with reduced odds of recent family commu-

nication about climate change in the bivariate models, including not having tried to initiate a conversation (OR: 0.33, 95% CI: 0.15–0.72), not knowing what to say (OR: 0.15, 95% CI: 0.06–0.39), children not initiating conversation (OR: 0.32, 95% CI:0.15–0.66), and not having enough information about climate change (OR: 0.29, 95% CI: 0.10–0.83). The only barrier that remained significant in the multivariable model was not knowing what to say (aOR: 0.19, 95% CI: 0.06–0.60).

Discussion

This study identified that half of the parents with kids aged 6 or older perceived that their children are concerned about climate change. Yet among the 68% of parents who expressed an interest in talking with their children about climate change, only 46% had engaged in a conversation in the past month. Most parents in this study perceived that their role was to support their children in dealing with climate change by helping them cope, serving as role models, and educating their children about sustainability. These findings suggest a significant opportunity to involve families in climate change communication.

As only half the parents who expressed interest in communicating about climate change talked to their children within the past month, parents may benefit from general communication skills to promote conversations about climate change. However, there is currently little empirical evidence on differentially framed messages and strategies to engage children around climate change. Some researchers suggest that communication strategies to reduce the psychological distance of climate change are likely to be crucial for children, especially those who have not physically experienced the more extreme impacts of climate change (Corner et al., 2015). For example, parents can make climate change more salient by demonstrating how it will affect the things their children love (Corner et al., 2015). One strategy for doing this is connecting children with nature and engaging them in conversation about how the animals and plants they see are affected by climate change (Chawla & Gould, 2020). Most parents in this study expressed wanting to connect their children with nature. These parents may benefit from organized support such as activity guides, conversation starters, or organized groups that include other parents and children.

Another strategy to promote family communication about climate change is to provide guidance on collective action. Climate change mitigation can only occur when governments enact policies to promote climate change mitigation as individual-level behaviors, such as recycling, have a much smaller impact on climate change (Fawzy et al., 2020). When governments are not sufficiently invested, engaged residents can work together to advocate for environmental policies and regulations to reduce greenhouse gas emissions. Training parents to talk with their children about engaging in collective action can increase self-efficacy among children (Corner et al., 2015). Findings from this study suggest that supporting child self-efficacy is a widely endorsed approach, with eight in ten parents reporting their role was to encourage their children to take action, and this role was significantly associated with recent communication about climate change. For example, parents can create a social environment supportive of collective action by modeling and showing that this behavior

is normative by connecting their children with other children who are also engaged in action (Corner et al., 2015). Moreover, such collective action can provide social support and help buffer the stress, fears, and concerns about climate change.

Parents may also benefit from communication tools that foster communication with children about coping with climate change. Parents frequently reported that a challenge to engaging in climate change communication was their own anxiety about climate change and causing fear or anxiety in their children. These psychological factors can lead to avoidance, minimization, and denial (Sanson et al., 2018). This dynamic may account for limiting the frequency of engaging in conversations about climate change or avoiding it altogether. Parents can support children by acknowledging their children's feelings and provide cognitive restructuring for children who may feel hopeless such as identifying concrete things they can do to address climate change (Sanson et al., 2018). Taking action against climate change can provide psychological protection, help children feel more in control, hopeful, and reduce perceptions of helplessness and fatalism (Hart et al., 2014). Parents may also need support in coping with their own feelings and could benefit from parent-centered climate groups like Sierra Club's Climate Parents (2022) or ClimateMama (2020). Parent groups like these can also help affirm parents' role in supporting their children through climate change. Role theorists assert that roles are developed by expectations and norms (Biddle, 1986), and climate-centered parenting groups can provide a social environment where family communication about climate change is normative.

While this study identified age-related differences in parents' perceptions of their children's concern about climate change, no age-related differences were identified in parents' interest in talking with their children about climate change. This study aligns with previous research that calls for integrating the developmental perspective in climate change research (Pereira & Freire, 2021). Study findings also suggest that families with children of all ages may benefit from communication tools. Parents may be particularly interested in tools that cater to their child's developmental stage. For young children, parents can employ communication strategies such as conscious listening and encouraging them to share their thoughts while being aware of their emotions around climate change (Sanson et al., 2018). Parents can also support their young children by sharing information about climate events such as natural disasters in a way that emotionally prepares children for a potential event while recognizing children's fears and ensuring the parent's commitment to their safety (Sanson et al., 2018). Children's awareness of climate change increases due to the developmental process and exposure to various influences. Therefore, older children can fully understand climate change beyond climate events (Sanson et al., 2018). Parents can support their children by modeling positive behaviors toward the environment (e.g., advocating for green policies), providing clear information about climate-friendly family decisions, and encouraging their children to live an environmentally friendly lifestyle (Sanson et al., 2018; Gronhoj & Thogersen, 2017).

Study limitations should be noted. As this is a cross-sectional study, we do not know if the association between perceiving that a child is concerned about climate change and recent communication with children about climate change is a result of their child's concern or parents' awareness of it as a result of a conversation. This study is not a representative sample of US adults; however, this sample represents

greater political and racial diversity than other convenience samples. This study offers several directions for future research. Studies using representative samples are needed to better understand family communication about climate change in the US and other countries. There is an urgent need for empirical evidence of practical and effective approaches parents can use to support their children through climate change. Research is also needed on compelling message framing for children of different ages. This study focused on engaging in family communication about climate change and not on conversation content. Additional qualitative research is needed on the content of climate conversations between parents and children which considers the developmental perspective . The results from this study suggest that questions modified from Baker and colleagues could identify the significant challenges to engaging in family communication about climate change in the US as only a small percentage of respondents endorsed an "Other" barrier. Most respondents in this small "Other" category said they did not engage in conversations because their children were too young. However, additional qualitative research and the replication of these findings in other samples and countries are needed. Qualitative research is also needed to better understand strategies parents use to role model pro-environmental behavior and encourage children in climate change action such as volunteering for environmental organizations, attending protests, and letter writing. Future studies should also engage children and assess how their concerns about climate change align with their parents' perceptions of their concerns.

Understanding family communication about climate change and the barriers and facilitators for parents when engaging with their children is critical when designing interventions to promote communication and climate change activism among families. Despite parents' endorsement of their vital role in supporting their children through climate change, not knowing what to say was a significant barrier to engaging in climate change conversations within a family. Study findings suggest that parents require additional training and resources to communicate about climate change with their children, address their own fears, and manage their children's climate anxiety. Parents who felt their role was to support their children in climate change action were significantly more likely to engage in recent communication suggesting that parents may benefit from learning strategies to support their children's activism and activities families can do together. Empowering the younger generation with the skills to mitigate and adapt to the negative consequences of climate change is critical to addressing the planetary health and well-being crisis of climate change.

Acknowledgements This study was supported by R01 DA040488 and Alliance for a Healthier World. The authors would like to acknowledge the study participants who shared their time and experiences.

Declarations

Conflict of interest The authors have no conflicts of interest to declare.

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