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Original Article

Beliefs and Intentions of Parents of Young Children Regarding Climate Change: A Cross Sectional Study from Pakistan

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Abstract

This study aimed to learn about the climate change perspectives of parents. Convenience sampling was employed to collect the data from individuals who were attending the climate change and parenting seminar online. This survey was sent as a pre survey questionnaire and the data of the parents who consented were used. There was no significant difference found with respect to gender, age or qualification in the climate belief, whereas significant difference was found in intention with respect to gender, qualification, and socioeconomic status. Furthermore, the findings stipulated the mean of beliefs (μ =1.72 and SD= 0.92) and the average mean of (μ =3.36 and SD= 0.86) in the intentions of people regarding climate change related attitude. Whereas the participants intention towards not investing time in solving the environmental issue shows strong agreement (μ=4.22.). The findings of the study share the insights of providing training to the parents of young children, so that they can have better understanding of the climate responsiveness and can take relevant strategic actions to foster climate safety for their future generations.

Keywords: climate change, cross sectional study, early childhood development, parental perspectives, parenting seminar

INTRODUCTION

Climate change is a major global challenge that is already affecting children across Pakistan and the world and is expected to have increasing impacts on them in the future. Rising temperatures, catastrophic storms, flooding, wildfires, droughts, and air pollution are posing great challenges to the growth and development of children. Children are particularly vulnerable to the negative impacts of climate change because they are still developing physically and are more susceptible to illness and environmental stressors (Thiery, et al., 2021). Children are more susceptible to heat waves and droughts can lead to food shortages, which directly affect the nutrition of the children. Extreme weather events can be frightening and the experience traumatic for young children, which can affect their emotional and mental well-being. Due to the longer duration of heat waves, more young children would not be able to go outside and play, which widens the probability of obesity among them (Pandey, 2021).

Research indicates that parents' intentions and beliefs have a great role in affecting how children scheme their knowledge, actions, and practices (Hoover-Dempsey & Sandler, 1997; Sigel et. al, 2015). Hence, it is essential to understand what the beliefs and intentions of parents regarding the climate are so that relevant interventions can be planned. This phenomenon is not much studied in the literature, particularly in the Pakistani context. As a result, this study was conducted to explore the beliefs and intentions, associated with climate change, of parents of young children.

LITERATURE REVIEW

Climate change can lead to changes in temperature, precipitation, and humidity, which can create conditions that are favourable for the transmission of certain diseases. Extreme weather events such as floods and droughts can disrupt access to clean water, sanitation, and healthcare thus, increasing the risk of communicable diseases. Moreover, as a result of alternating exposure to floods, heat waves, droughts, and other events, infectious disease spread by vectors, food, and water; alternations in the safety and quality of food, water, and air; as well as pressures on mental well-being, climate change has an impact on human health (Tollemache, 2019). As the global temperature rises, coastal ecological communities face a threat due to the rise in water levels. According to UNICEF, climate change effects put nearly every child in danger. The climate change has a fourfold impact and ultimately affect all cadres of life specifically young children. Research suggests children could be impacted by climate change and environmental pollution even before birth (Pacheco, 2020), the recent scare being the detection of micro plastics in the placenta and breast milk (Ragusa, et al., 2022; Liu, et al., 2023).

Due to climate change, children and young people face a greater anxiety, having an impact on daily functionality, and feeling abandoned from the government affects their mental wellbeing. Mental health of children is at a risk of developing PTSD, depression, sleep disorder, anxiety, phobias, and attachment disorders when disasters determined by extreme weather are related to climate change (Sinatra, et al., 2012). Extreme weather conditions also affect mobility and access to school and healthcare, which add to the insecurities and

instability for the well-being of children and adults alike.

The impact of climate change on children is not thoroughly documented or well investigated (Bunyavanich, et al., 2003; Evans, 2019). This is evident in the recent historic hyper-monsoon in Pakistan that multiplied severe cases of dengue, malaria, typhoid, common flu, and other diseases (Shehzad, 2023). There are no statistics available on the number of children affected by these diseases; however, mainstream social media and personal accounts of social workers and volunteers conveyed stories of severe impact on children with limited or no access to quality healthcare. For example, children were more susceptible to flood illnesses during the monsoon, which disrupted access to clean water and nutritious food, leading to malnutrition and other health problems. It is reported that approximately 2 million children were affected (Bhamani, 2022; Abid & Abid 2023; Shehzad, 2023).

Parents play a pivotal role in the overall development of the young children and the actions they take have a long-lasting impact on their children's present and future. According to Hoover-Dempsey and Sandler, (1997), the psychological state of parents or primary caregivers of children, directly influences the experience of a disaster determined by extreme weather. Parents can have a significant impact on their children's knowledge, competence, and pro-environmental orientation throughout childhood and adolescence. It becomes very obvious that parents carrying children must actively engage in climate awareness and climate change for their children as well as for themselves, considering the impact of climate change on a daily basis. Teachers and parents can play a vital role in educating children to focus on the solutions and empowering action, developing knowledge, skills, and values needed to become responsible global citizens and take action to address climate change (Cordero, et al., 2020).

Figure 1 presents the Conceptual framework on parental intention and beliefs on climate change and children.

Conceptual Framework

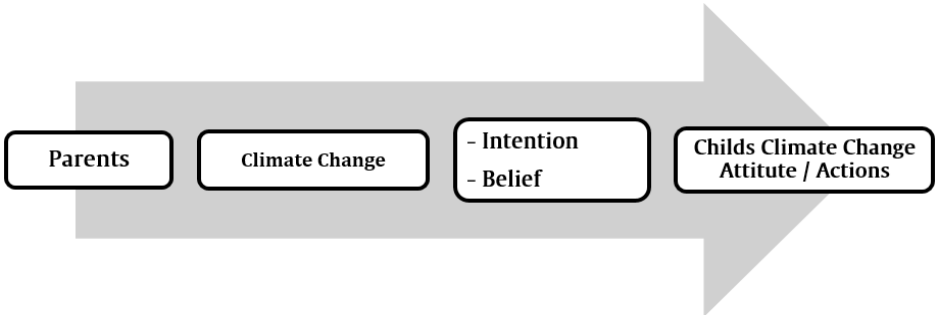

Figure. 1. Conceptual framework on parental intention and beliefs on climate change and children

This study aimed to understand the climate change perspectives of the parents of the young children on climate change.

Research Questions

- What are climate change beliefs and intentions amongst the parents of young children?
- What is the difference between climate change intentions and beliefs with respect to education, gender, and household income and the demographic variables including gender, education level and household income?

METHODOLOGY

The study used a cross-sectional study design, and the data were acquired via an online survey approach. Participants were asked to contribute in the survey when they registered for the online webinar on Climate Change and Parenting. The workshop was conducted online and the population was invited via website, who were mostly parents, educators, teachers and others. Universal sampling with non-probability was used. The climate change and parenting seminar details were sent out to more than 5000 participants. From which more than 500 people registered and submitted the pre survey questionnaire out of which 400 were parents and caregivers from which 347 participants consented to participate. From the 347 parents, 128 were male and 219 female. From which 20 had matric and intermediate education, 50 were undergraduate and 152 were postgraduate. As for the household income the average household income was 31.1% where parents had an average household income below 50 thousand, 30.5% had between 50k and 100k PKR per month, 21.6%

between 100 – 150 PKR, and 16.7% had more than 150k.

The Climate Change Attitude Survey along with consent and demographic indicators like family income, number of children, parents' education background was used for data collection. The survey consisted of 15 Likert-type attitude items chosen to address the beliefs and intentions toward the climate change of parents of young children (Christensen, 2015). The scale was validated as it was used by various researchers (Suryani, at. el., 2021; Reaves & Cozzens, 2018) and the reliability of the scale on the current population was found .84 against each construct. Statistical Package for Social Sciences (SPSS) was used for the analysis. While frequency and proportions explained categorical variables, continuous variables were analysed using mean and standard deviation. Statistical significance was defined as a sig value less than 0.05 at a 95% confidence interval.

The participants were informed of the data's confidentiality and anonymity. Since the method of data collection was an online survey, an exemption from the ethics review committee was requested. In response, the approval number 2021-5887-15504 was generated. There was no literature available addressing the climate change attitude in the lower middle-income country like Pakistan. The survey was quantitative and there is a lack of perceptual understanding on this topic.

RESULTS & FINDINGS

The research intended to explore the parental beliefs and intention regarding the climate change and climate attitude. For the general item wise description on climate intention and beliefs, the results illustrated that the average mean of expectation (μ =1.72 and SD= 0.92) and the average mean of (μ =3.36 and SD= 0.86) in the intentions of people regarding climate change related attitude. Whereas, the participants intention towards not investing time in solving the environmental issues show strong agreement (μ =4.22) (Table 1).

Table 1

Descriptive Statistics of Climate Perception (n=347)

Climate change attitude Questions and Factors	Mean	Std. Deviation
Beliefs	***1.72***	***0.92***
I believe our climate is changing	1.56	1.06
I am concern about global climate change	1.69	1.08
I believe there is evidence of global climate change	1.77	1.12
Global climate change will impact our environment in the next 10 years	1.6	1.06
Global climate change will impact future generations	1.66	1.1
The actions of individuals can make a positive difference in global climate change	1.78	1.07
Human activities cause global climate change	1.76	1.09
Climate change has a negative effect on our lives	1.9	1.17
I can do my part to make the world a better place for future generations	1.78	1.12
Intentions	***3.36***	***0.86***
We cannot do anything to stop global climate change	3.81	1.35
Knowing about environmental problems and issues is important to me	1.7	1.092
I think most of the concerns about environmental problems have been exaggerated	3.26	1.39
Things I do have no effect on the quality of the environment	3.51	1.302

Note: the 5 points of the Likert Scale were distributed as 1 being the least while 5 being the highest level of agreement.

Moreover, the intent was also to explore if the beliefs and intensions have any association with the demographic variables (Table 2). The result reveals that the male have greater mean score towards intention (μ =3.17) as compared to beliefs (μ = 1.76), whereas in female it shows that they have slightly lower believes towards climate change (μ=1.69), but the intentions towards climate change attitude show strong agreement (μ =3.48). The undergraduate (μ =1.85) shows more belief towards climate change attitude as compared with matric/ Intermediates (μ =1.69), graduates (μ =1.73), and postgraduates (M=1.68). The intention towards climate change is higher in undergraduates (μ =3.54). The household income Cat 4 (μ =1.74) shows a slightly

greater belief towards climate change as compared to Cat 1 (μ =1.73), Cat 2 (μ =1.72) and Cat 3 (μ =1.67). Furthermore, Cat 4 shows stronger intention towards climate change.

Table 2

Factors associated with climate perception in term of beliefs and intention factors

Factors	N	Beliefs	Intention
	Gender		
Male	128	1.76±0.97	3.17±0.92
Female	219	1.69±0.88	3.48±0.81
	Qualification		
Matric/Intermediate	20	1.69±0.98	3.40±0.80
Undergraduate	50	1.85±1.11	3.54±0.94
Graduate	125	1.73±0.88	3.19±0.89
Postgraduate	152	1.68±0.87	3.45±0.79
	Household Income		
Cat 1	108	1.73±0.96	3.19±0.92
Cat 2	106	1.72±0.80	3.32±0.85
Cat 3	75	1.67±0.95	3.55±0.76
Cat 4	58	1.74±1.02	3.54±0.81

Cat 1 = <50,000
Cat 2 = 50,000 to 1,00,000
Cat 3 = 1,00,001 to 1,50,000
Cat 4 = 1,50,000

Discussion

The objective of this study was to understand the climate change beliefs and intention of the parents of young children. The first major finding of the study stipulated that there was no significant difference found with respect to gender, age or qualification in the climate change belief. This is in not in line with the studies that are done in different contexts, which talk about the impact of demographic variables on climate intention, beliefs, and attitude (McCright, 2010; Brulle, et al., 2012; Knight, 2016). This could be due to several social factors including a lack of education or awareness in general, a lack of desire for collective action and a commonly found insensitivity to climate change as an alarming factor that is affecting lives. Tollemache (2019) found that a significant number of people deny climate change and its effects on humans and the environment. Many deny the diverse climate change impacts and the need to mitigate, including changing human behaviours towards environment-friendly ways. All participants had complex and ambivalent thoughts and feelings about climate change.

In Pakistan, there is a lack of education for climate risk mitigation and challenges at all cadre of population and this is highlighted by several researchers. Therefore, there is a strong indication that climate education among parents should be enhanced to understand the issues that children are facing. However, there were significant differences in intention to address climate change based on gender, qualification, and socioeconomic status. Women seemed more sensitized towards action than men, this could be probably due to women's tendency to be more concerned than men on various matters, resulting in showing stronger pro-environmental opinions and beliefs. Another finding reported significant difference in intention with respect to gender, qualifications and socioeconomic status. This could be due to the women differing from men in several aspects related to the gender gap, including value systems, such as altruism and compassion. Women can also tend to recognize general risk and vulnerability differently and they may have stronger feminist beliefs that emphasize equal opportunities, values of fairness, and social justice. Furthermore, researchers have observed that women show concern about specific environmental issues, particularly local problems that pose health risks.

Climate change can greatly impact public health and effective communication is crucial for making informed decisions and taking action to address the issues. Therefore, awareness and the intention to do something about climate change is required. The study found an observable difference among the more educated and informed families. Mead, et al. (2012) found that parents' awareness, perception and beliefs as well as actions to mitigate climate change were distinctly observable in their adolescent children, indicating that climate discussions and actions at home can significantly influence children and the family as a whole to take action.

The higher income and greater education both seem to have unique, sometimes contradicting consequences on environmental behaviours. More environmentally friendly behaviour is typically associated with higher levels of education, but higher income has more complex impacts (Clark, 2011; Gatersleben, 2019).

Another findings from the study indicated the participant's beliefs related to climate change and that individuals do not have a key role in climate change; however, they would like to take relevant actions to mitigate the climate risks. Due to the fact that it is a global issue involving a public good and there is a significant delay between acts and repercussions, climate change is particularly an intriguing and challenging subject of environmental policy. The popular perceptions of climate change can be compared to a poll of working climate scientists. 97% of the group agreed that human activity is a dominant factor in climate change (Doran & Zimmerman, 2009). The general public is significantly more uncertain than the scientific community, regarding the existence and severity of anthropogenic effect on the climate and there is much less agreement among climate scientists on the fundamental question of whether human activity is altering the global temperature (Corner, 2012). Whereas, the participants intention towards not investing time in solving the environmental issue shows strong agreement (μ =4.22.).

The literature shows that according to Li et al. (2011), attribute substitution occurs in the context of climate change when the complex and subjective attribute of climate change is replaced by one's personal experiences with the local weather and is easier to judge. As a result, personal experience may be utilised to lead one's intention to adopt mitigation steps. Individuals in the majority of the countries examined, favoured generic actions above specialized impact-oriented actions. Samples from Asian countries, on the other hand, tended to demonstrate the opposite pattern, favouring specific activities more than general actions. Climate risk and mitigation is an action approach, whereby from the population level to policy level, interventions are needed. With the recent incidents across globe, the impact of climate change has started to affect the young generation, making it one of the most significant problems the world is facing today. It is necessary to prepare parents of young children to manage the impact and the challenges due to climate change. Parents can significantly impact their children's beliefs, attitudes, and actions. By empowering parents about the impact of climate change on young children and including them in collective action, educators can contribute to the development of a resilient generation (Monroe, et al., 2019).

CONCLUSION & RECOMMENDATIONS

Parents can be active participants in the fight against climate change by advocating for new policies and putting environmentally friendly practices into place in their neighbourhoods, schools, and communities. Educators can help sensitize parents of young children about climate change. They can incorporate climate change education into the daily teaching and learning activities and organize tools and resources to help parents talk to their children about climate change. These in turn can develop resilience and effective habits. Educators can also organize workshops and training sessions for parents to raise awareness about the impact of climate change and encourage them to act. Educators can also collaborate with community organizations, policymakers, and other stakeholders to advocate for policy changes that support sustainable practices and reduce the impact of climate change. Therefore, sensitizing parents of young children about climate change is critical to ensure that the next generation can confront this issue. Educators among other key stakeholders in the community, have a vital role to play in this effort, taking concrete steps to educate and empower parents to act.

Competing Interest

The authors have declared no competing interest.

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