APS Australian Psychological Society

Young people's voices in the climate crisis

PSYCHOLOGY WEEK 2019 REPORT

#psychweek psychweek.org.au

Contributors to the report

APS Project Team

Dr Jo Abbott MAPS, Research Officer

Dr Rebecca Mathews MAPS FCCLP, Chief Publications and Professional Advisory Officer

Dr Harriet Radermacher MAPS, Senior Policy Advisor

Livia Caiazzo, Senior Editorial and Content Advisor

Laura Sciacchitano, Senior Project Officer

Leah Williams, Chief Communications Officer

Rebecca Caulfield, Senior Brand and Marketing Advisor

Laila Aznar, Senior Graphic Designer

APS Experts

Prof Ann Sanson, FAPS, FCCOMP, Honorary Professorial Fellow, University of Melbourne

Ms Colleen Turner, FAPS

APS Social Justice Youth Advisory Group

The Australian Psychological Society Ltd
Level 13, 257 Collins Street
Melbourne, VIC 3000

Phone: 03 8662 3300
Email: **contactus@psychology.org.au**
Web: psychology.org.au

ABN 23 000 543 788

We acknowledge the Traditional Custodians of the lands and seas on which we work and live, and pay our respects to Elders, past, present and future, for they hold the dreams of Indigenous Australia.

Table of Contents

Executive Summary

There is global acknowledgement that climate change is an urgent threat to current and future generations, and the planet (United Nations, 2015). Children and young people are among the most vulnerable to its impacts (Sanson, Van Hoorn, & Burke, 2019). They have a right to know about and take action on issues concerning their current and future welfare (United Nations General Assembly, 1989). Yet, little attention has been given to their voices or concerns. Therefore, as part of Psychology Week 2019 the Australian Psychological Society (APS) decided to establish a Social Justice Youth Advisory Group to hear young people's voices about the climate crisis and other social justice issues, and gain insights into how they can be supported. In addition, we reviewed the psychological science literature on understanding and supporting young people in relation to the climate crisis.

Based on the consultations with young people and the literature review a project team, comprising APS staff and experts on the climate crisis, social justice and developmental psychology, developed recommendations for how different sectors of society can support young people around the climate crisis. These constitute a call to action to help address the mental and physical health impacts of the climate crisis on young people, build their capacity to cope with it, and empower them to be effectively engaged in efforts to mitigate climate change.

This report summarises the findings from our consultation with young people and our literature review. Further, it outlines our recommendations for supporting young people in relation to the climate crisis.

Literature review highlights

Australian research[1] indicates that approximately:

- **95%** of Australian youth believe that climate change is a serious problem
- **4 in 5** youth are anxious about climate change
- **4 in 5** youth are concerned that climate change will reduce their quality of life in the future
- **1 in 6** youth have reported losing sleep due to worry about climate change
- **3 in 4** youth feel that young people's opinions and concerns are not being taken seriously

Youth Advisory Group consultation highlights

The young people we consulted with:

- identified a range of concerns about social justice but climate change was the most prominent
- felt that we need to develop empathy for 'the people of the future' with respect to climate change
- spoke of their anxiety about the climate crisis and their frustration at the lack of action in Australia to mitigate it
- expressed uncertainty about what they could do at an individual level, a feeling which was at times overwhelming and affected their confidence that they could make a difference
- felt more supported and more hopeful around climate change when they were actively involved in pro-environmental behaviours (e.g., through being part of an environment-focused group), supported by parents, teachers and peers and if they were shown that they could make a difference (e.g., through volunteer work, classroom activities and community role models) and that there was realistic hope that change could occur.

1 Chiw & Ling, 2019; Paroczai, 2019; Plan International, 2015; ReachOut, 2019; WWF, 2018

Section 1:

Listening to young people and the psychological science about the climate crisis

The climate crisis is already affecting children's physical health with increases in child deaths, injuries and diseases, and children in developing countries most affected (McMichael et al., 2004; Sanson, et al., 2019). Physical health can be affected by climate change due to heat stress, injury from severe weather events, food shortages and through increased transmission of vector-borne diseases (Australian Medical Association, 2019; UNICEF, 2015). Indeed, the Australian Medical Association recently declared climate change a health emergency (Australian Medical Association, 2019). These health risks are more pronounced for children due to greater vulnerability to vector-borne diseases, their immature physiological defence systems, the more direct way they interact with the environment, their dependence on adults and their feeling these effects for longer than adults (Sanson, Wachs, Koller, & Salmela-Aro, 2018; UNICEF, 2015).

The climate crisis also impacts on mental health. Even among those who have not yet felt the direct effects of climate change, most children and young people know about, care about and are worried about the climate crisis. They experience anger, frustration, depression, sadness, grief, anxiety and feelings of powerlessness. These mental health effects are expected to escalate because of the increasing risk of extreme weather disasters and other longer-term impacts such as prolonged droughts, loss of liveability and forced migration. Children are particularly vulnerable during and after climate related emergencies (UNICEF, 2015) and their mental health risks are expected to escalate as climate change intensifies (Flannery, 2019; The Climate Institute, 2011).

Children and young people have views that we can all learn from as well as a right to have a say in their future (United Nations General Assembly, 1989). Having the opportunity to share and act on their concerns about climate change can boost young people's self-efficacy, hopefulness and resilience, while dismissing their feelings and denying or ignoring the climate crisis can negatively impact their wellbeing (Hart, Fisher, & Kimiagar, 2014; Ojala, 2012; Sanson, et al., 2019).

Psychological science has much to contribute to understanding and supporting young people around the climate crisis, including understanding the impact of the climate crisis on children and young people's mental health and wellbeing, how their environmental attitudes and behaviour have developed and can be influenced and how they can best be supported.

As part of Psychology Week, the Australian Psychological Society (APS) undertook a review of the research literature on the climate crisis in relation to children and youth, and formed a Social Justice Youth Advisory Group in order to hear young people's voices directly. A total of 60 young people were part of this group. A closed Facebook group was formed and contained 34 active members who engaged in discussion facilitated by APS staff and two peer facilitators. In addition, 14 young people, aged 16 to 24 years, participated in up to two 2-hour workshops at the APS National Office, and 12 young people in secondary school grades 8 through to 11 with a refugee background discussed the issues at their schools with project members. Seven young people who took part in face-to-face discussion also volunteered to take part in filming short video messages about their views on social justice.

Based on the consultations with young people and the literature review a project team, comprising APS staff and experts on the climate crisis, social justice and developmental psychology, developed

recommendations for how different sectors of society can support young people around the climate crisis. These constitute a call to action to help address the mental and physical health impacts of the climate crisis on young people, to build their capacity to cope with it, and to empower them to be effectively engaged in efforts to mitigate climate change.

In this report we summarise the literature on what psychological science tells us about children and young people's emotional reactions, attitudes and beliefs about climate change, and their support needs. We summarise the findings from our consultations with young people about their experiences with, feelings about and views on social justice issues and what we can learn from these. Finally, we outline our recommendations for how different groups in society can support young people in coping with the climate crisis.

Literature review on supporting and learning from young people around the climate crisis

This review focuses on literature on the knowledge, attitudes and feelings of children and young people, and their support needs, in relation to the climate crisis, with an emphasis on Australian research. Despite the significance of the climate crisis for the next generation, surprisingly little research has been conducted on these issues.

Impact of the climate crisis on young people

Reviews of the international research on the psychological effects of climate change on children and youth (Burke, Sanson, & Van Hoorn, 2018; Sanson, Burke, & Van Hoorn, 2018; Sanson, et al., 2019; Sanson, Wachs, et al., 2018) highlight evidence that children and young people are among the most vulnerable to the negative effects of climate change and that the majority of young people are worried about it (Sanson, Burke, et al., 2018). Although there has not yet been enough research on mental health impacts, research on reactions to exposure to climate-related extreme weather events shows increases in post-traumatic stress disorder, depression, sleep and anxiety disorders, learning problems and cognitive deficits (Garcia & Sheehan, 2016). In addition, youth around the world express feelings of anger, fear and sadness and some believe that the world may end during their lifetime due to climate change and other global threats (Albert, 2010; Strife, 2012; UNICEF, 2011).

Australian youth's knowledge, concerns and attitudes about climate change

A number of surveys of Australian youth's views on the climate crisis have been conducted over the past decade (Chiw & Ling, 2019; Fielding, 2009; Merzian, Bennett, Campbell, & Swann, 2019; Paroczai, 2019; Plan International, 2015; ReachOut, 2019; Tranter & Skrbis, 2014; WWF Australia, 2018), with these indicating that concern about climate change is rapidly rising among youth, with the more recent surveys suggesting that about 95 per cent of young Australians believe that climate change is a serious problem (Chiw & Ling, 2019; Plan International, 2015; WWF Australia, 2018). About 60 per cent of young people believe that climate change is due to human activity producing greenhouse gases (Tranter & Skrbis, 2014), while about 95 per cent believe that climate change will remain a problem in the future in the absence of any intervention (Chiw & Ling, 2019).

Young Australian adults have also reported greater concern about climate change than older adults (Merzian, et al., 2019; WWF Australia, 2018). In addition, Australian adolescent girls are more likely to believe that climate change is real than adolescent boys and they show greater concern about climate change and the risks of global warming (Fielding, 2009; Tranter & Skrbis, 2014). Education also has an influence, with Australian university students being more likely than non-university students to report

that climate change and global warming is the issue of most importance to them (Fielding & Head, 2012; WWF Australia, 2018).

Surveys have reported that between 80 to 89 per cent of youth are anxious about climate change (Chiw & Ling, 2019; Paroczai, 2019; ReachOut, 2019). In a survey conducted by ReachOut and Student Edge of more than 15,000 Australian students aged 14 to 23 years, the majority (82%) of students were concerned that climate change will diminish their quality of life in the future (Paroczai, 2019; ReachOut, 2019). About 1 in 6 youth reported losing sleep due to worry about climate change, while 1 in 5 youth reported planning either not to have children or have fewer children because of their concerns about climate change (Paroczai, 2019; ReachOut, 2019).

Many Australian youth (70–77%) feel that young people's concerns and opinions about climate change are not being taken seriously (Chiw & Ling, 2019; Paroczai, 2019; ReachOut, 2019). Australian youth (60–91%) have also expressed a belief that the Australian Government is not doing enough to address climate change (Chiw & Ling, 2019; Plan International, 2015). In one of these surveys, children and youth reported that they wanted the government to take the lead in protecting the environment for future generations. They believed the government needed to promote and support use of renewable energy technology, to take the lead on an international stage by setting ambitious greenhouse gas emission targets for Australia, and to put the environment before profits. They also wanted the government to help poorer countries mitigate and adapt to climate change (Plan International, 2015).

To our knowledge no published Australian research has examined the views and feelings about climate change of specific groups of youth in marginalised communities, including Indigenous youth, migrant communities, and youth living in rural and remote regions. However, in 2014, the first Indigenous youth-led climate network (SEED) was launched in 2014 in Australia, in association with the Australian Youth Climate Coalition (Australian Geographic, 2015; Dickie, 2019) with the aim to give a voice to Indigenous youth on climate change and other environmental issues.

Supporting young people in relation to the climate crisis

Education

Education is considered critical in informing and supporting children around climate change. Global recommendations, such as those from UNESCO and the Paris Agreement (signed by Australia in 2016), advocate for the inclusion of climate change in primary and secondary school curricula. For example, the Paris Agreement committed countries to develop extensive education programs (Whitehouse & Larri, 2019). However, in Australia this has not happened, and schools and teachers are largely left to decide about coverage themselves, without adequate resources (United Nations, 2015; UNESCO, 2010; Whitehouse & Larri, 2019).

Researchers who have conducted surveys of Australian and other youth have also emphasised the importance of information and education about environmental issues (Fielding & Head, 2012; Fien, Teh-Cheong Poh Al, Yencken, Sykes, & Treagust, 2002). They highlight the need to help youth overcome pessimism and increase their belief in the efficacy of their own actions through stories about past issues where people (including young people) have made a difference; and education about pro-environmental actions that can be undertaken easily by youth (Fielding & Head, 2012; Fien, et al., 2002). Further, they argue that it is important to show youth that society-wide changes are possible, highlighting the role that communities can play, such as by influencing government and businesses (Fielding & Head, 2012; Fien, et al., 2002). They also need to see effective leadership (Fien, et al., 2002).

Stress coping skills

Psychologists recognise that climate change is a stressor and that people, including children, need support in how to cope with it in a way that strengthens both their wellbeing and their ability to engage with climate change effectively (Ojala, 2012). In research with Swedish young people including 12-year-olds (Ojala, 2012), children in late childhood through to young adulthood (Ojala, 2013) and senior high school students (average age 18 years, Ojala, 2015), Ojala found that "constructive hope" motivates young people to engage in pro-environmental behaviours, while hope based on denial of the seriousness of climate change leads to less environmental engagement. Constructive hope, a type of meaning-focused coping, involves being able to positively reappraise a situation and to have trust in the actions of different people in society who are working to mitigate climate change.

Ojala (2013) recommends that teachers talk with young people about their emotions about climate change and the different ways they cope with their feelings about it. Young people can be encouraged to re-evaluate their self-talk (e.g., "It's totally meaningless for me to do anything if not everyone is looking after the environment") and consider alternative ways of thinking, challenging denial-like and catastrophic thinking. Ojala (2015) further recommends that teachers be educated about the different ways that children cope with emotions about societal problems and how their coping strategies influence their learning.

In a book published by UNICEF, Hart and colleagues (2014) advocate for actively involving young people in community efforts to address climate change, as part of their coping with the impact of climate change. They argue that children have both a right and a capacity to be actively involved and "taking action through playing a meaningful role in the face of adversity can offer psychological protection by helping children to feel more in control, more hopeful, and more resilient" (Hart, et al., 2014, p. 93). Hart and colleagues (2014) recommend that schools be actively involved in sustainable development of the local environment, that community organisations who work with children should collaborate within and across communities to work towards sustainable development, and that more opportunities should be created for youth to be involved in local government decision-making.

The importance of listening to young people about climate change is gaining some recognition. The United Nations held its first Youth Climate Summit in New York on 21 September 2019 (Spajic, Behrens, Gralak, Mosely, & Lindolm, 2019; United Nations, 2019). According to a group of Australasian medical students, society can benefit from young people's open-mindedness, willingness to take risks and their ability to innovate (Spajic, et al., 2019). They recommend that youth be involved in discourse about planetary health through systematic consultation with young people, with safe opportunities for young people to be involved. Youth advisory bodies and dedicated youth ambassadors are one way to do so, but require inclusion of a diversity of youth (e.g., age, gender, ethnicity, geographic location; Spajic, et al., 2019).

In sum, young people need to be supported in coping with climate change. They need opportunities to talk about climate change and their feelings about it with family, friends, and at school. Young people need support in developing meaning-focused coping and constructive hope, as distinct from denial of the seriousness of climate change. The community and governments need to actively involve young people in discourse and action on climate change.

Section 2:

Social Justice Youth Advisory Group consultation

The youth advisory group

Young people aged 16-25 years were invited to take part in a Social Justice Youth Advisory Group (SJYAG) to guide the development of this project. In particular, this provided a means to learn more about the experiences and views of young people, their ideas about actions and changes for addressing the climate crisis, and the resources that would be helpful for young people and their parents.

Recruitment into the SJYAG started with publicity through APS channels (e.g., member networks, social media). Interested youth were asked to complete an application form which included questions to help recruit a diverse sample of young people (by age, gender, ethnicity, and whether or not currently or recently involved in social justice activism). A consent form advising that anonymous quotations might be used as part of the project and that additional consent would be sought to link quotations with a specific individual needed to be signed by the young person, and by a parent if they were aged under 18 years. All of the applications received were accepted.

There were two possible modes of participation in the advisory group: participation in face-to-face workshops in Melbourne (for those living in greater Melbourne); and/or participation in an online discussion forum via a closed and moderated Facebook group. Those participating in the online discussion forum needed to be living in Australia and willing to use their own Facebook accounts to participate. They were asked to read group rules before posting and the group was moderated by APS staff. Two peer facilitators among the Facebook group participants were later added to help engage young people in the online discussion.

A total of 60 young people took part in the advisory group, via the online and/or face-to-face modes. Four face-to-face workshops were run with a total of 26 young people. Two 2-hour workshops were run at the APS National Office (Melbourne CBD) with 14 of these youth. Eleven young people attended the first workshop, while twelve attended the second workshop, with a total of fourteen people (i.e. 9 young people attended both workshops). They ranged in age from 16 to 24 years, with two being male and the rest female. Ten of the attendees identified as Australian, while four identified as having Asian or European backgrounds. The young people who attended the second workshop were also invited to be interviewed one-on-one in short videos, and to have a specific quotation linked to a photograph. The purpose of the videos and photographs were to allow young people's voices to be more directly heard and shared, so as to promote greater community awareness about their contribution to social justice dialogue. Additional signed consent from young people and, for those under 18 years, their parents was obtained for these components.

Two additional 30-minute workshops were run with young people in outer south-western Melbourne. These young people were participating in a school-based Refugee Student Engagement and Support program administered by the Victorian Cooperative on Children's Services for Ethnic Groups (VICSEG) and New Futures Training (VICSEG New Futures). Project staff attended the students' weekly group meetings as part of their VICSEG program participation (for which schools had obtained parental consent). A total of 12 students (including 1 male and 11 females) in secondary school grades 8-11 took

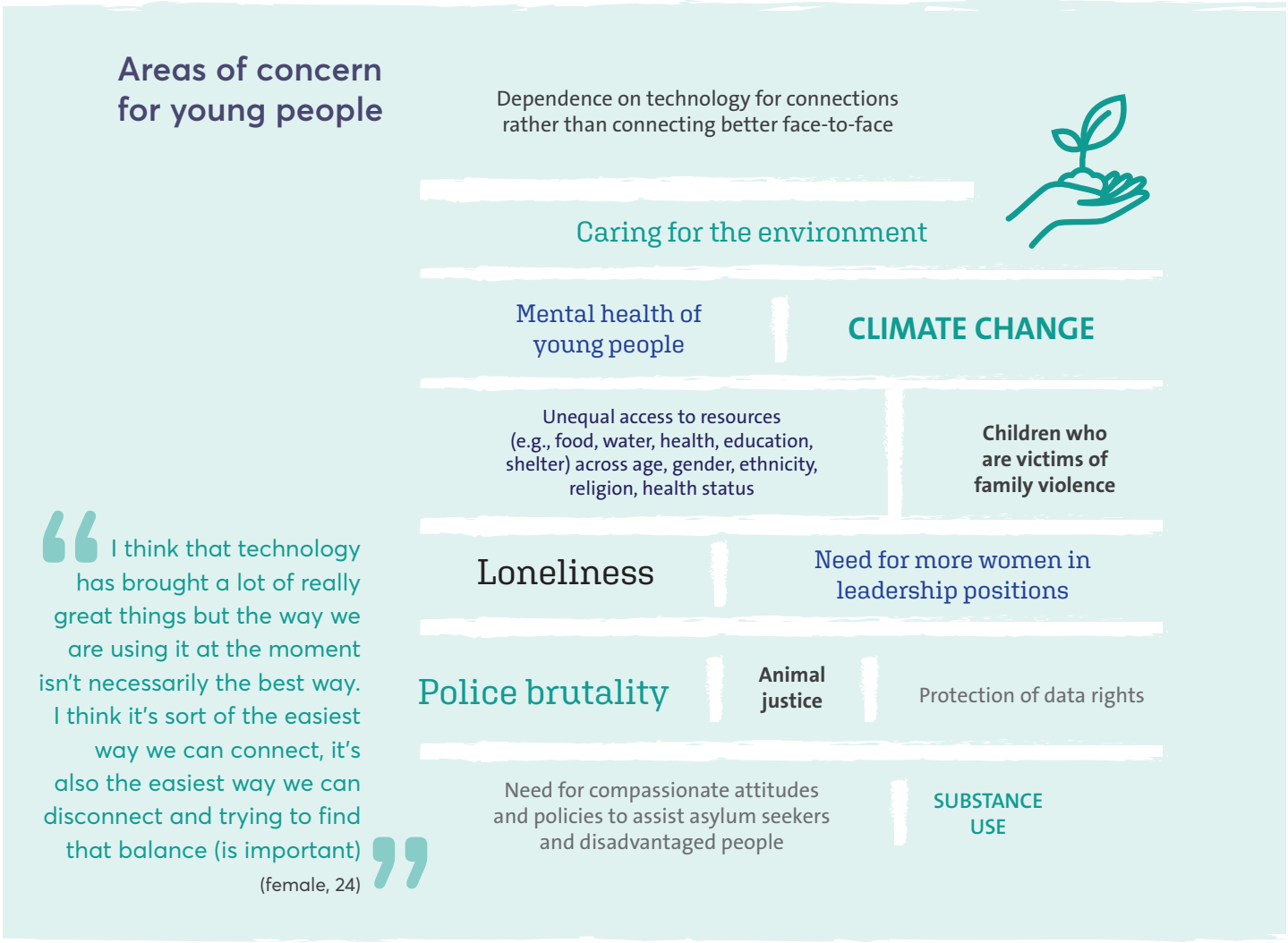
part in these workshops; all had an African background and their parents had arrived in Australia as refugees.

A total of 34 young people participated in the Facebook group, ranging from 16 to 25 years of age. They included eight males, 16 females and two people identifying as non-binary and gender-fluid respectively. Twenty-two of the Facebook participants identified as Australian, while 7 had a European background and the remaining 5 identified as African, Middle-Eastern or did not specify. An additional 11 young people registered for the Facebook group but did not participate in it.

Advisory group feedback

What social justice issues are of concern to young people?

The members of the Social Justice Youth Advisory Group identified a range of concerns about social justice (refer to infographic below). Climate change was the most prominent issue. Others included inequality, both globally (between nations) and within Australia, including the increasing gap between the rich and the poor, and unequal access to other resources. Issues related to gender, disability, race and refugee status were also mentioned. The young people thought that many of these other concerns were related to climate change (e.g., climate change is increasing the number of refugees, Indigenous Australians are being disproportionally affected by climate change).



Young people's concerns about climate change

Many of the young people spoke of their anxiety about the climate crisis and their frustration at the lack of action in Australia to mitigate it. When asked to rate their level of worry (from 0 = no worry to 10 = extremely worried), some said '10+' or '12', most gave a rating of 10, and some said it ranged from 6 to 10 depending on whether they saw anything hopeful happening in Australia. Some of the youth expressed uncertainty about what they could do at an individual level, a feeling which was at times overwhelming and affected their confidence that they could make a difference.

> "Around me, I have mates from agriculture and country areas who don't really know what coming decades will look like, and others hesitant to plan families when they're unsure of the situation for future generations"
>
> (male, 25)

What factors hinder and facilitate caring about or acting on social justice issues?

The young people were concerned about the apparent lack of care about social justice issues by many people (e.g., "Everyone has the potential to care a lot, but they just don't"). They felt that the hardest part was getting started with showing an interest or taking action on a social justice issue. At times they felt powerless and uncertain about their capacity to get involved and disempowered by pessimistic messages (e.g., that the world is going to end anyway).

Some young people said that it was easier to be involved with social justice issues if they joined a group or activity on the topic they cared about, if they were part of a committee or if they were involved with volunteer activities. They felt it was important that young people were shown that they could make a difference and that there was realistic hope that change could occur. They suggested that role models might help more people feel inspired to show that they care about social justice. For example, the predominantly female group noted that it was hard to get males involved because it was seen as "not cool" to care about these issues.

Hindering factors

Individual attitudes/capabilities

- Competing priorities
- Feeling powerless
- Lack of empathy for others and for the people of the future
- Lack of hope and optimism
- Difficulty getting started with action

Social factors

- Education on climate change not creating desire to care and take action beyond the session
- Lack of respect for women in leadership positions
- Difficulty meeting basic human needs, so little time or energy for other issues
- Lack of knowledge about health issues

> "I think that a really big issue is the lack of empathy. Most people don't put themselves in the shoes of the people who are struggling in the world…for example people living in extreme poverty…"
>
> (female, 17)

Facilitating factors

Individual attitudes/capabilities

- Joining a group or activity on a topic one cares about
- Having had direct lived experience of an issue (e.g., mental illness)

Social factors

- Opportunities for young people to get involved with volunteer work
- Mentoring and scholarship opportunities
- Helping young people feel that they can make a difference
- Fostering realistic hope
- Information delivered via appropriate communication channels (e.g., via social media and not talking 'at' young people)
- Encourage a belief that we have a moral obligation to act (e.g., on climate crisis)
- Encourage politicians to recognise that social justice issues transcend political boundaries
- People in positions of power demonstrating compassion and kindness
- Make it cool to care (e.g., male role models showing an interest in climate change, countering stigma about becoming involved)
- Greater inclusion of climate crisis and other social justice issues in the education curriculum

What we can learn from young people

Many of the members of the SJYAG were very passionate about action on climate change, demonstrating determination, courage and persistence. They felt that society had much to learn from young people (refer to infographic).

Young people's views on what different groups can do to support children and young people around climate change

We sought feedback from the advisory group members on what they thought different groups in society could be doing to support children and young people around climate change.

Young people

The feedback from young people about their own experiences also gave positive messages about what young people themselves can do to help increase their self-efficacy, realistic hope and pro-environmental behaviours in relation to climate change. For many of the young people a strong motivator for being interested in the environment was being part of a group or activity on a topic they cared about. This helped them see how climate change affects them personally and also feel like they were contributing to climate change mitigation efforts.

> "I want to see us young people have positive opportunities in a sustainable future, and think it's important to have our voices heard so that future generations will have better (not worse) ones, too."
>
> (male, 25)

Parents

The young people recommended that parents empower their children to be involved with climate change discourse and mitigation efforts by:

- being great role models in their own climate change understanding and activism
- listening to their children's concerns and encouraging them to be interested in and active in social justice and climate change issues
- supporting them in the choices they make around their involvement in social justice and climate change issues (e.g., driving them to meetings of a group they are part of, letting children form their own viewpoint).

They thought it was important that parents recognise that it is their children and grandchildren who will inherit the consequences of the climate crisis.

> "(Recognise that) this issue will impact every aspect of our lives as adults"
>
> (male, 17)

Education

The young people spoke about the need for climate change to be more formally part of the school and university curriculum, so that it's normal to care about the environment. They thought it was important that education initiatives went beyond just delivering information and assisted young people to get involved in pro-environmental behaviour, such as by identifying small and large actions students could take themselves as well as through establishing and supporting "climate teams" in schools comprising young people who take a lead in pro-environmental behaviours.

> "I think using a more positive and hopeful approach to educating young people about the climate crisis will help us feel more supported and empowered"
>
> (female, 21)

Community

Common messages from the group for the community in general was to understand that young people can both give an important contribution to discourse and action on the climate crisis and have a good reason to be actively involved because of the impact of the climate crisis on their futures. The young people thought that the community could support them by providing role models within the community for being interested in the climate crisis and taking action to help mitigate it (e.g., football players promoting that it's 'cool to care' about climate change). They could help provide volunteering, mentoring or scholarship opportunities for young people to be involved in social justice and climate change activities.

> "I reckon (the community) should listen to us because at the end of the day it's our future, right? They're going to be going and it's going to be up to us to continue"
>
> (male, year 11)

Psychology profession

The young people thought that there was a role for psychology trained professionals to develop and run workshops for students, teachers and parents about coping with climate change stress. They also thought they could develop curriculum materials for preschool, primary, secondary and tertiary level teaching. Another suggestion was that they could mentor and support "climate teams" in schools, that is, groups of students taking the lead in pro-environmental activities.

> "Provide support services and information for young people to navigate the challenges that might arise from the challenges that we're facing because it can be quite intense and quite stressful"
>
> (female, 23)

Government

The advisory group members wanted to see more action on climate change by governments, such as by declaring a climate emergency and acting on it as an emergency. They were in favour of governments working closely with multinational organisations, not-for profits, other organisations and citizen and to achieve a common goal. They believed that governments should promote positive attitudes towards women and Indigenous people in leadership roles. They were also in favour of governments funding programs to improve the wellbeing of people struggling with climate stress.

> "Multinational corporations, NFP's etc., and the government must work with citizens to mitigate the impacts of climate change. To solve the climate crisis, a common agenda and shared goal must be developed by all members of society accompanied by a drastic change in individual lifestyles, the way businesses operate, etc."
>
> (female, 19)

Section 3

Recommendations and call to action to support young people

Young people

Climate change is an issue that many young people are worried about and which deeply concerns their future. Denying that climate change is an issue, or ignoring or dismissing their feelings about it, have been found to be unhelpful for young people's wellbeing. On the contrary, sharing their concerns with others and taking action have been found to boost their wellbeing and resilience (Hart, Fisher, & Kimiagar, 2014; Ojala, 2012; Sanson et al., 2019).

In order to help manage their deep feelings about the climate crisis, it is important that young people talk about their concerns with family, friends, teachers and other trusted people in their networks – including what they know about the crisis and how they feel about it.

We also recommend that young people consider what they can do about these issues, because taking action leads to greater self-efficacy, hopefulness and resilience. The following may be helpful actions for young people:

- To build a sense of self-efficacy, realistic hope and to increase the likelihood of environmentally friendly behaviour change:
  - think and talk about how knowledge about climate change and/or experience of its impacts affects them personally and is likely to affect their future lives
  - take action as an individual (e.g., changing their own consumer behaviours, writing about climate change for a newsletter, writing a letter to a politician, attending a rally)
  - think of creative and fun ways to address the issue with friends
  - join a group that is working on the issue
  - celebrate small wins (e.g., reducing waste at school, convincing friends to use keep cups)
  - focus on self-care when needed (e.g., take time out, spend time in nature, switch-off from media).
- To develop empathy, global competencies and motivation towards environmentally friendly behaviour:
  - learn and talk about the impacts of climate change on the natural world
  - learn and talk about the impacts of climate change on young people growing up in the developing (majority) world
  - work with others to take action on these issues.

Parents and other caregivers

Many parents and other caregivers (e.g., grandparents) worry about how the climate crisis will affect their children's future lives and even whether there will be a liveable planet for them. Regardless of their own concerns, their children are likely to be worried about it. Being able to talk about their feelings about climate change and having these feelings acknowledged as being legitimate helps young people to cope with their distress. Conversations about what individuals, families and groups can do about the problem, and making plans together to take action, helps young people to feel more empowered and less helpless. Communication, modelling and action around climate change can make young people feel empowered and help them cope with distressing feelings about climate change (Ojala, 2012; Sanson, et al., 2019).

We recommend the following to parents and other caregivers:

- To build children's self-efficacy and their motivation to engage in positive environmental behaviours:
  - from a young age, encourage children to care about the environment and nature
  - encourage them to be interested in 'bigger than self' issues, including social justice and climate change
  - find out more about the issue as a family
  - be positive role models to children by showing concern about climate change and acting in accordance with their beliefs.
- To help children cope with their concerns about climate change and build young people's sense of efficacy, hopefulness and control:
  - listen to their concerns and acknowledge that they are reasonable and understandable
  - plan and carry out actions to take as a family on the issue; make sure that they are fun for all family members as well as effective in addressing the issue
  - support them if they choose to be actively engaged in addressing social justice and climate change issues.

Education providers

Many young people report that they do not learn about the climate crisis and other social justice issues, nor about how individuals and communities can help address them, in a systematic way at school or in tertiary education. Children have a right to know about their future and a right to be involved in issue that will affect their future lives (United Nations General Assembly, 1989). We recommend that the climate crisis and other social justice issues are included throughout the education curriculum, to build their knowledge about issues that will affect their future lives, build their capacity to cope with and adapt to climate impacts, deal with their feelings of distress about climate change, and to prepare them to be global citizens.

This is consistent with global (e.g., UNESCO, United Nations) and local recommendations (e.g., Australian Institute for Disaster Resilience) that climate change needs to be part of primary and secondary school curricula (United Nations, 2015; UNESCO, 2010; Whitehouse & Larri, 2019). Education is an integral part of being able to develop resilience, adapt to the effects of living in a climate changed world and becoming able to contribute to addressing climate change (Whitehouse & Larri, 2019).

In particular, we recommend:

- To build their knowledge, self-efficacy and pro-environmental attitudes and behaviours as well as their capacity to be global citizens:
  - cover climate change systematically in core subjects, not just optional ones
  - teach the facts about both the causes of and solutions to climate change
  - include education about the impact of the climate crisis on Indigenous Australians
  - match any anxiety-inducing knowledge about the climate crisis with knowledge about solutions to it
  - provide examples of successful efforts to reduce greenhouse gas emissions (such as those shown in the film '2040')
  - incorporate climate change topics in media education programs so young people can become "media savvy" in distinguishing climate science stories from opinions and misinformation.
- To help build their sense of collective efficacy, social responsibility and realistic hope about mitigating the severity of climate change:
  - work with students to design projects of varying scales for them to undertake together to help to mitigate climate change

  - establish, recognise and support school student "climate teams" to take a lead in pro-environmental activities to help mitigate climate change
  - support the notion that it is "cool to care" about the issue with children of all ages, genders and backgrounds by providing information about role models, relevant to young people, who are acting responsibly on the climate crisis.
- To develop empathy and global competency:
  - provide information about the disproportionate impact of the climate crisis on poorer countries and marginalised people
  - work with students to design projects to help those most severely impacted by climate change.
- To build the capacity of the education system to deliver the above recommendations:
  - review teacher training around teaching about the climate crisis and address limitations.

Community and media

We recommend that the community in general listen to children and young people's views on the climate crisis, learn from their example, act as role models to young people and support them in being involved in action on the climate crisis.

Children and young people have both a right and a capacity to be involved in community action around issues they care about (Hart, et al., 2014; United Nations General Assembly, 1989). Enabling children to be involved in community efforts to address climate change also helps them to cope with climate change stress. When young people are shown that community-wide changes are possible, they can overcome pessimism and increase their belief in the efficacy of their own actions.

The community can also learn from involving young people in discourse and actions around climate change.

In particular we recommend the following to community members:

- To build young people's self-efficacy, realistic hope, social responsibility and capacity to be global citizens:
  - encourage volunteer groups to include young people
  - provide mentorship and scholarship opportunities to support young people's active involvement in climate change activities
  - utilise creative arts to communicate about climate change, involving young people in their production
  - support and publicise local businesses that have adopted environmentally friendly practices.
- To develop empathy and social responsibility among all young people:
  - encourage them that it is 'cool to care' and learn how to be actively involved in efforts to mitigate climate change, provide role models relevant to young people of diverse gender and backgrounds (e.g., male role models from the sporting community to encourage young men to care).
- To promote trust in the media by young people and build their knowledge and self-efficacy we recommend that all forms of media (including social media):
  - give more opportunities for representation of young people
  - recognise the legitimacy of young people's concerns
  - treat climate change as a science rather than as a belief or opinion.
  - match anxiety-inducing knowledge about the climate crisis with knowledge about solutions to it.

Psychology research, teaching and practice

Psychologists need to be prepared for helping to prevent and treat climate change distress and related mental health difficulties. Psychology-trained professionals can be playing a role in advocacy and education of decision-makers, colleagues and the public about the magnitude of the threat of climate change and about effective actions.

There are many roles for psychology trained professionals in addressing climate change. They can play an important role in advocating for action on climate change and educating decision-makers, colleagues and the public about the many psychological factors associated with the climate crisis. Further, there is an important role for psychologists in helping people cope with the deep feelings aroused by the climate crisis. More research is needed on the psychosocial benefits of engaging young people with the climate crisis and on how best to support young people who are confronting climate impacts in different contexts.

We make the following recommendations to those involved in psychology research, teaching and/or practice:

Research

- Work with non-government organisations, UN agencies and other national and international bodies on how children and youth in different contexts (e.g., Indigenous Australians) are impacted by climate change and how they can best be supported.
- Collaborate with climate scientists to highlight the role of psychology in the mitigation and adaptation of climate change.
- Develop, test and disseminate programs to support young people, parents, teachers and others in addressing the climate crisis.
- To build self-efficacy and resilience, actively engage young people in research projects on climate impacts (e.g., through youth advisory groups, or as part of project teams).

Practice

- Consider the possibility of climate change being a contributor to symptoms of stress and anxiety in presenting clients, and address this in therapeutic practice.
- Provide information and psychological support/interventions to young people and their parents on climate change (e.g., on climate change distress, coping with extreme weather events, attitude and behaviour change, realistic hope).
- Develop and deliver workshops for teachers, parents and young people about coping with climate change.

Teaching

- Develop, use and share curriculum material on psychological aspects of the climate crisis for inclusion in undergraduate and graduate psychology curricula (in particular but not limited to social, developmental, clinical and community psychology streams).
- Help incorporate psychological aspects of the climate crisis in curriculum materials for preschool, primary and secondary schools.

Governments

To protect the wellbeing of current and future generations of children and young people, as well as the broader community, we recommend that Federal, State and local governments develop and adapt policies that involve:

- taking urgent action to protect the environment for current and future generations
- supporting marginalised groups (e.g., Indigenous Australians, migrant populations) and developing countries to mitigate and adapt to climate change
- funding the development of national curricula on climate change, consistent with the Paris Agreement and other global and local recommendations (United Nations, 2015; Whitehouse & Larri, 2019), as well as the UN Convention on the Rights of Children, which include both the science of climate change and solutions to it
- declaring a climate crisis, which can also help governments in educating the community about the nature of the crisis and the need to move from 'business as usual'.

References

Albert, M., Hurrelmann, K., & Quenzel, G. (2010). Youth 2010: Self-assertion despite uncertainty? In M. Albert, Hurrelmann, K., & Quenzel, G. (Ed.), *Youth 2010. Shell youth study, 16* (pp. 37-51). Frankfurt, Germany: Fischer-Taschenbuch-Verl.

Australian Georgraphic. (2015). Sowing the seed: Amanda Telford. Retrieved from https://www.australiangeographic.com.au/topics/science-environment/2015/10/sowing-the-seed-amelia-telford/

Australian Medical Association. (2019). Climate change is a health emergency, from https://ama.com.au/media/climate-change-health-emergency

Burke, S. E. L., Sanson, A. V., & Van Hoorn, J. (2018). The psychological effects of climate change on children. *Current Psychiatry Reports, 20*(5), 35-35. doi: 10.1007/s11920-018-0896-9

Chiw, A., & Ling, H. S. (2019). *Young people of australia and climate change: Perceptions and concerns.* Western Australia: Millennium Kids Inc

Dickie, M. (2019). Opinion: Indigenous peoples contribute least to global warming - are often first to feed its impacts. *National Indigenous Times, 27 February*

Fielding, K. S. (2009). Youth and the Environment Survey: a report on the environmental attitudes, knowledge and practices of 12 to 24 year old Queenslanders: Institute for Social Science Research, University of Queensland.

Fielding, K. S., & Head, B. W. (2012). Determinants of young Australians' environmental actions: the role of responsibility attributions, locus of control, knowledge and attitudes. *Environmental Education Research, 18*(2), 171-186.

Fien, J., Teh-Cheong Poh Al, I., Yencken, D., Sykes, H., & Treagust, D. (2002). Youth environmental attitudes in Australia and Brunei: Implications for education. *The Environmentalist, 22*(3), 205-216.

Flannery, T. (2019). The gloves are off: 'predatory' climate deniers are a threat to our children. *The Conversation*, https://theconversation.com/the-gloves-are-off-predatory-climate-deniers-are-a-threat-to-our-children-123594.

Garcia, D. M., & Sheehan, M. C. (2016). Extreme weather-driven disasters and children's health. *International Journal of Health Services: Planning, Administration, Evaluation, 46*(1), 79-105. doi: 10.1177/0020731415625254

Hart, R., Fisher, S., & Kimiagar, B. (2014). Beyond projects: Involving children in community governance as a fundamental strategy for facing climate change. In U. O. o. Research (Ed.), *The challenges of climate change: Children on the front line* (pp. 92-97). Florence: UNICEF Office of Research

McMichael, A. J., Campbell-Lendrum, D., Kovats, S., Edwards, S., Wilkinson, P., Wilson, T., . . . Andronova, N. (2004). Global Climate Change. In M. Ezzati, A. Lopez, A. Rodgers & C. Murray (Eds.), *Comparative Quantification of Health Risks, Global and Regional Burden of Disease Attributable to Selected Major Risk Factors* (pp. 1543-1650.). Geneva: World Health Organization.

Merzian, R., Bennett, E., Campbell, R., & Swann, T. (2019). Climate of the nation 2019: Tracking Australia's attitudes towards climate change and energy: The Australia Institute.

Ojala, M. (2012). How do children cope with global climate change? Coping strategies, engagement, and well-being. *Journal of Environmental Psychology, 32*(3), 225-233. doi: 10.1016/j.jenvp.2012.02.004

Ojala, M. (2013). Regulating worry, promoting hope: How do children, adolescents, and young adults cope with climate change? *International Journal of Environmental and Science Education, 8*(1), 537-561.

Ojala, M. (2015). Hope in the face of climate change: Associations with environmental engagement and student perceptions of teachers' emotion communication style and future orientation. *Journal of Environmental Education, 46*(3), 133-148. doi: 10.1080/00958964.2015.1021662

Paroczai, C. (2019). Why young people want adults to join the global climate strike. *Student Edge*. Retrieved from https://studentedge.org/article/why-young-people-want-adults-to-join-the-global-climate-strike

Plan International. (2015). Children, young people and climate change. Retrieved from https://www.srhr-ask-us.org/publication/we-stand-as-one-children-young-people-and-climate-change

ReachOut. (2019). New survey by ReachOut and Student Edge reveals number of students anxious about climate change. Retrieved from https://about.au.reachout.com/new-survey-by-reachout-and-student-edge-reveals-number-of-students-anxious-about-climate-change/

Sanson, A. V., Burke, S. E. L., & Van Hoorn, J. (2018). Climate change: Implications for parents and parenting. *Parenting, 18*(3), 200-217. doi: 10.1080/15295192.2018.1465307

Sanson, A. V., Van Hoorn, J., & Burke, S. E. L. (2019). Responding to the impacts of the climate crisis on children and youth. *Child Development Perspectives*, Advance Online Publication. doi: 10.1111/cdep.12342

Sanson, A. V., Wachs, T. D., Koller, S. H., & Salmela-Aro, K. (2018). Young people and climate change: The role of developmental science. In S. Verma & A. C. Petersen (Eds.), *Developmental science and sustainable development goals for children and youth* (pp. 115-137). Cham: Springer International Publishing.

Spajic, L., Behrens, G., Gralak, S., Mosely, G., & Lindolm, D. (2019). Beyond tokenism: meaningful youth engagement in planetary health. *The Lancet, 3*.

Strife, S. J. (2012). Children's environmental concerns: Expressing ecophobia. *The Journal of Environmental Education, 43*(1), 37-54. doi: 10.1080/00958964.2011.602131

The Climate Institute. (2011). A climate of suffering: The real costs of living with inaction on climate change.

Tranter, B., & Skrbis, Z. (2014). Political and social divisions over climate change among young Queenslanders. *Environment and Planning A: Economy and Space, 46*(7), 1638-1651. doi: 10.1068/a46285

UNICEF. (2011). *Exploring the impact of climate change on children in South Africa.* Pretoria, South Africa: Author. Retrieved from https://www.unicef.org/southafrica/SAF_resources_climatechange.pdf.

UNICEF. (2015). *Unless we act now: The impact of climate change on children*. New York, NY: Author. Retrieved from https://www.unicef.org/publications/index_86337.html.

United Nations. (2015). Paris Agreement. Retrieved from https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

United Nations. (2019). Youth leaders vow continued pressure on governments and businesses for urgent action to address climate emergency at UN Youth Climate Summit. Retrieved from https://www.un.org/en/climatechange/assets/pdf/youth_climate_summit_pr_20190921.pdf

UNESCO (2010). The UNESCO Climate Change Initiative: UNESCO.

United Nations General Assembly. (1989). Convention on the Rights of the Child. Retrieved from http://www.unhcr.org/refworld/docid/3ae6b38f0.html

Whitehouse, H., & Larri, L. J. (2019). Ever wondered what our curriculum teaches kids about climate change? The answer is 'not much'. Retrieved from https://theconversation.com/ever-wondered-what-our-curriculum-teaches-kids-about-climate-change-the-answer-is-not-much-123272

WWF Australia. (2018). Australian attitudes to nature. Retrieved from https://www.wwf.org.au/knowledge-centre/resource-library/resources/backyard-barometer#gs.3tw6e7