

Sustainable Care: Designing Technologies That Support Children’s Long-Term Engagement with Social Issues

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Children today encounter social issues—climate change, conflict, inequality—through digital technologies, and the design of that encounter shapes whether young people move toward lasting civic engagement or toward anxiety and withdrawal. Much of the content children see is optimized for attention through fear and urgency, with few pathways toward meaningful action—contributing to rising distress and disengagement among young people who care deeply but feel powerless to act. This full-day workshop introduces “sustainable care” as a design lens, asking how technology might support children’s sustained engagement with social causes without contributing to empathic distress or burnout. We invite researchers and practitioners across child-computer interaction, games, education, and youth mental health to map this landscape together and develop a research agenda for the CCI community.

CCS Concepts: • **Human-centered computing** → **Empirical studies in collaborative and social computing**.

Additional Key Words and Phrases: Children, social issues, sustainable care, technology design, well-being, civic engagement

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1 Background

Technology shapes how young people encounter social issues—and whether that encounter leads to lasting engagement or to overwhelm. Children today are more aware of global challenges than any previous generation [14, 19], exposed daily to climate change, political conflict, social inequality, and humanitarian crises through social media, news apps, AI companions, and online communities. This awareness can spark political interest, strengthen civic identity, and motivate collective action [1, 6]—but the platforms mediating these encounters prioritize attention capture over constructive

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engagement, amplifying alarming content [10, 16] with documented consequences for youth mental health [14]: rising anxiety and depression [4, 11], existential distress rooted in feeling betrayed by protective institutions [5, 13], and a growing sense of powerlessness [3, 15]. Marks et al.’s ten-country survey found 59% of young people very or extremely worried about climate change, with 45% reporting that this distress affects their daily functioning [13]. This generation’s awareness, in other words, produces distress rather than agency—a collapse of the conditions for sustained engagement.

This workshop introduces “sustainable care” as a lens for understanding and addressing this challenge. Sustainable care refers to ways of engaging with social causes that children can maintain over time without experiencing burnout or emotional exhaustion. The term carries a dual meaning: it encompasses both children’s care toward societal issues and our care toward children as designers, educators, and researchers. These two dimensions are inseparable. Many young people respond to the issues they encounter online through civic engagement—organizing around causes they care about, raising awareness among peers, and participating in collective action both online and offline [2, 20]. Supporting their wellbeing and supporting that engagement are not competing goals but complementary ones.

This workshop proposes four themes for sustainable care, derived from the US Surgeon General’s advisory on protecting youth mental health [14]. The advisory’s eight recommendations for young people map onto four broader themes that structure our workshop discussion.

- (1) **Bounded responsibility:** understanding one’s role as part of a collective effort rather than carrying the weight of global problems alone. This theme draws on the advisory’s recommendations to “be intentional about your use of social media, video games, and other technologies” and to “take care of your body and mind.”
- (2) **Actionable pathways:** having concrete, age-appropriate ways to contribute that connect awareness to meaningful action. This theme draws on “find ways to serve” and “be a source of support for others.”
- (3) **Resilience through community:** developing capacities to persist through setbacks and uncertainty without losing hope or motivation. This theme draws on “ask for help” and “invest in healthy relationships.”
- (4) **Mental health orientation:** recognizing mental health both as a precondition for and a desired outcome of sustainable care. This theme draws on “remember that mental health challenges are real, common, and treatable” and “learn and practice techniques to manage stress and other difficult emotions.”

These components are not a rigid framework but rather a starting point for discussion—a vocabulary for asking what sustainable care might look like in practice.

For the child-computer interaction community, this framing opens important design questions. Technologies can exacerbate the awareness-agency mismatch through fear-based content, algorithmic amplification of distress, and passive consumption patterns [7, 12, 18]. But technologies can also support sustainable care—through games that model civic engagement, tools that connect children to communities of practice, or platforms that make pathways visible and achievable [8, 9, 17]. The question is not whether children should encounter difficult realities but how technology might mediate that encounter in ways that sustain rather than deplete their capacity to care.

2 Organizers

JaeWon Kim is a PhD candidate at the University of Washington Information School. Her research focuses on understanding, designing, and building social technologies that center on meaningful social connections, especially for youth.

Aayushi Dangol is a PhD candidate at the University of Washington. Her research investigates how to responsibly deploy AI in ways that support children’s learning, development, and interaction.

105 Rotem Landesman is a PhD candidate at the University of Washington Information School. Her research focuses
106 on supporting youth's critical and ethical thinking about emerging technologies.
107

108 Alexis Hiniker is an Associate Professor at the University of Washington Information School. She studies how
109 attention-economy design exploits users of all ages—but particularly children, teens, and families—and she designs
110 more respectful alternatives to help people thrive.

111 McKenna Parnes is an Assistant Professor in the Department of Pediatrics at the University of Washington School
112 of Medicine and an Investigator in the Treuman Katz Center for Pediatric Bioethics and Palliative Care at Seattle
113 Children's Research Institute. She studies how socio-ecological factors play critical roles in youth risk, resilience, and
114 opportunities, and she evaluates the implementation and effectiveness of resilience-building interventions.
115

117 3 Workshop Structure

118 This full-day, in-person workshop brings together CCI researchers, game designers, mental health practitioners, civic
119 technology developers, and educators to examine how technology can support sustainable care for young people
120 engaging with social issues.
121

123 Time	124 Activity
125 09:00–09:10	Welcome, agenda, and goals for the day
126 09:10–09:35	Participant introductions: name, context, and what you hope to take away from today
127 09:35–09:45	Introduction to the workshop theme and four themes of sustainable care
128 09:45–10:05	Individual reflection: recall a moment of “unsustainable care,” either firsthand or observed in close others (write individually, then share briefly in small groups)
129 10:05–10:30	<i>Break</i>
130 10:30–11:15	Roundtable 1 (grouped by thematic interest): identify patterns of unsustainable care within the group’s topic area, how different stakeholders are affected or contribute, and the role of children in particular
131 11:15–11:30	Report-back: each group shares key takeaways with the full workshop
132 11:30–13:30	<i>Lunch</i>
133 13:30–14:00	Nap time, stretch, and individual reflection
134 14:00–14:45	Roundtable 2 (grouped by technology of interest): examine how specific technologies mediate unsus- tainable care, the stakeholders involved, and the implications for children
135 14:45–15:10	<i>Break</i>
136 15:10–16:00	Roundtable 3 (return to Roundtable 1 groups): share insights from Roundtable 2 and map them onto the four themes of sustainable care—bounded responsibility, actionable pathways, resilience through community, and mental health orientation—to develop concrete action plans (e.g., research collaborations, strategies for embedding sustainable care in ongoing work, draft guidelines for the group’s domain)
137 16:00–16:30	Report-back: each group shares action plans with the full workshop
138 16:30–17:00	Closing: feedback, next steps, planned outputs, and follow-up process

147 4 Call for Participation

148 We invite researchers, designers, and practitioners to join a full-day workshop on *sustainable care*—supporting children’s
149 lasting engagement with social causes through technology design. We welcome position papers (2–4 pages, ACM
150 SIGCHI format) addressing empirical findings on how children encounter social issues through technology; design
151 cases of technologies that support or undermine sustained engagement; perspectives from games, education, mental
152 health, or civic technology; and encore submissions of previously published work with a short statement on relevance
153 to sustainable care. Submissions will be reviewed for relevance and diversity of disciplinary background. Submissions
154

157 should not be anonymized, and at least one author of each accepted paper must attend the workshop, and all participants
 158 must register for the workshop.
 159

160 References

- [1] Shelley Boulianne. 2015. Social Media Use and Participation: A Meta-analysis of Current Research. *Information, Communication & Society* 18, 5 (2015), 524–538. [doi:10.1080/1369118X.2015.1008542](https://doi.org/10.1080/1369118X.2015.1008542)
- [2] Shelley Boulianne and Yannis Theocharis. 2020. Young People, Digital Media, and Engagement: A Meta-Analysis of Research. *Social Science Computer Review* 38, 2 (2020), 111–127. [doi:10.1177/0894439318814190](https://doi.org/10.1177/0894439318814190)
- [3] Susan Clayton. 2020. Climate Anxiety: Psychological Responses to Climate Change. *Journal of Anxiety Disorders* 74 (2020), 102263. [doi:10.1016/j.janxdis.2020.102263](https://doi.org/10.1016/j.janxdis.2020.102263)
- [4] Katie Davis, Rotem Landesman, Jina Yoon, JaeWon Kim, Daniela Munoz, Lucia Magis-Weinberg, and Alexis Hiniker. 2025. "You Go Through So Many Emotions Scrolling Through Instagram": How Teens Use Instagram To Regulate Their Emotions. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. ACM, New York, NY, USA.
- [5] Caroline Hickman, Elizabeth Marks, Panu Pihkala, Susan Clayton, R. Eric Lewandowski, Elouise E. Mayall, Britt Wray, Catriona Mellor, and Lise van Susteren. 2021. Climate Anxiety in Children and Young People and Their Beliefs about Government Responses to Climate Change: A Global Survey. *The Lancet Planetary Health* 5, 12 (2021), e863–e873. [doi:10.1016/S2542-5196\(21\)00278-3](https://doi.org/10.1016/S2542-5196(21)00278-3)
- [6] Joseph Kahne, Nam-Jin Lee, and Jessica T. Feezell. 2013. The Civic and Political Significance of Online Participatory Cultures among Youth Transitioning to Adulthood. *Journal of Information Technology & Politics* 10, 1 (2013), 1–20. [doi:10.1080/19331681.2012.701109](https://doi.org/10.1080/19331681.2012.701109)
- [7] JaeWon Kim, Soobin Cho, Robert Wolfe, Jishnu Hari Nair, and Alexis Hiniker. 2025. Privacy as Social Norm: Systematically Reducing Dysfunctional Privacy Concerns on Social Media. *Proceedings of the ACM on Human-Computer Interaction* 9, CSCW2 (2025). [doi:10.1145/3711049](https://doi.org/10.1145/3711049)
- [8] JaeWon Kim, Lindsay Popowski, Anna Fang, Cassidy Pyle, Guo Freeman, Ryan M. Kelly, Angela Y. Lee, Fannie Liu, Angela D. R. Smith, Alexandra To, and Amy X. Zhang. 2024. Envisioning New Futures of Positive Social Technology: Beyond Paradigms of Fixing, Protecting, and Preventing. In *Companion Publication of the 2024 Conference on Computer-Supported Cooperative Work and Social Computing (CSCW Companion '24)*. ACM, New York, NY, USA.
- [9] Rotem Landesman, Jenny Radesky, and Alexis Hiniker. 2023. Let Kids Wonder, Question and Make Mistakes: How the Designers of Children's Technology Think about Child Well-being. In *Proceedings of the 22nd Annual ACM Interaction Design and Children Conference (IDC '23)*. ACM, New York, NY, USA, 310–321.
- [10] Rotem Landesman, Jina Yoon, JaeWon Kim, Daniela E. Munoz Lopez, Lucia Magis-Weinberg, Alexis Hiniker, and Katie Davis. 2024. "I Just Don't Care Enough To Be Interested": Teens' Moment-By-Moment Experiences on Instagram. In *Proceedings of the 23rd Annual ACM Interaction Design and Children Conference (IDC '24)*. ACM, New York, NY, USA.
- [11] Rose E. Lewandowski, Susan D. Clayton, Lena Olbrich, Joseph W. Sakshaug, Britt Wray, Sarah E. O. Schwartz, Jura Augustinavicius, Peter D. Howe, McKenna Parnes, Sabrina Wright, Chelsea Carpenter, Arkadiusz Wiśniowski, David Perez Ruiz, and Lise Van Susteren. 2024. Climate emotions, thoughts, and plans among US adolescents and young adults: a cross-sectional descriptive survey and analysis by political party identification and self-reported exposure to severe weather events. *The Lancet Planetary Health* 8, 11 (2024), e879–e893. [doi:10.1016/S2542-5196\(24\)00229-8](https://doi.org/10.1016/S2542-5196(24)00229-8)
- [12] Kai Lukoff, Cissy Yu, Julie A. Kientz, and Alexis Hiniker. 2018. What Makes Smartphone Use Meaningful or Meaningless? *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies* 2, 1 (2018), 1–26. [doi:10.1145/3191754](https://doi.org/10.1145/3191754)
- [13] Elizabeth Marks, Caroline Hickman, Panu Pihkala, Susan Clayton, R. Eric Lewandowski, Elouise E. Mayall, Britt Wray, Catriona Mellor, and Lise van Susteren. 2021. Young People's Voices on Climate Anxiety, Government Betrayal and Moral Injury: A Global Phenomenon. *The Lancet Planetary Health* 5, 12 (2021), e863–e873. [doi:10.1016/S2542-5196\(21\)00278-3](https://doi.org/10.1016/S2542-5196(21)00278-3)
- [14] Office of the Surgeon General. 2021. *Protecting Youth Mental Health: The U.S. Surgeon General's Advisory*. Technical Report. U.S. Department of Health and Human Services, Washington, DC.
- [15] Maria Ojala. 2012. Hope and Climate Change: The Importance of Hope for Environmental Engagement among Young People. *Environmental Education Research* 18, 5 (2012), 625–642. [doi:10.1080/13504622.2011.637157](https://doi.org/10.1080/13504622.2011.637157)
- [16] McKenna F. Parnes, Brendan Amort, Cayetana Calderon-Smith, Earle C. Chambers, and Regina Musicaro. 2024. Child and Adolescent Engagement with Climate Change on Social Media and Impacts on Mental Health: A Narrative Review. *Current Psychiatry Reports* 26, 11 (2024), 654–665. [doi:10.1007/s11920-024-01537-y](https://doi.org/10.1007/s11920-024-01537-y)
- [17] McKenna F. Parnes and Elliott M. Weiss. 2025. Digital Mental Health Innovations in the Face of Climate Change: Navigating a Sustainable Future. *Psychiatric Services* (2025). [doi:10.1176/appi.ps.20240327](https://doi.org/10.1176/appi.ps.20240327)
- [18] Jenny Radesky and Alexis Hiniker. 2022. From Moral Panic to Systemic Change: Making Child-Centered Design the Default. *International Journal of Child-Computer Interaction* 31 (2022), 100351. [doi:10.1016/j.ijcci.2021.100351](https://doi.org/10.1016/j.ijcci.2021.100351)
- [19] Victoria Rideout and Michael B. Robb. 2019. *The Common Sense Census: Media Use by Tweens and Teens, 2019*. Technical Report. Common Sense Media, San Francisco, CA.
- [20] Sarah E. O. Schwartz, Laelia Benoit, Susan Clayton, McKenna F. Parnes, Lance Swenson, and Sarah R. Lowe. 2023. Climate change anxiety and mental health: Environmental activism as buffer. *Current Psychology* 42 (2023), 16708–16721. [doi:10.1007/s12144-022-02735-6](https://doi.org/10.1007/s12144-022-02735-6)