

girls who
CODE

UCLA

Youth & AI:

What Young Women Think About Generative AI



Generative AI (GenAI) has become ubiquitous, yet many students still lack meaningful access to learning about what it is and how it works. With Stuart Foundation funding, Girls Who Code and UCLA's Computer Science Equity Project conducted a study in 2024 to investigate how adolescents are making sense of GenAI and its impacts on their identities, futures, and actions.

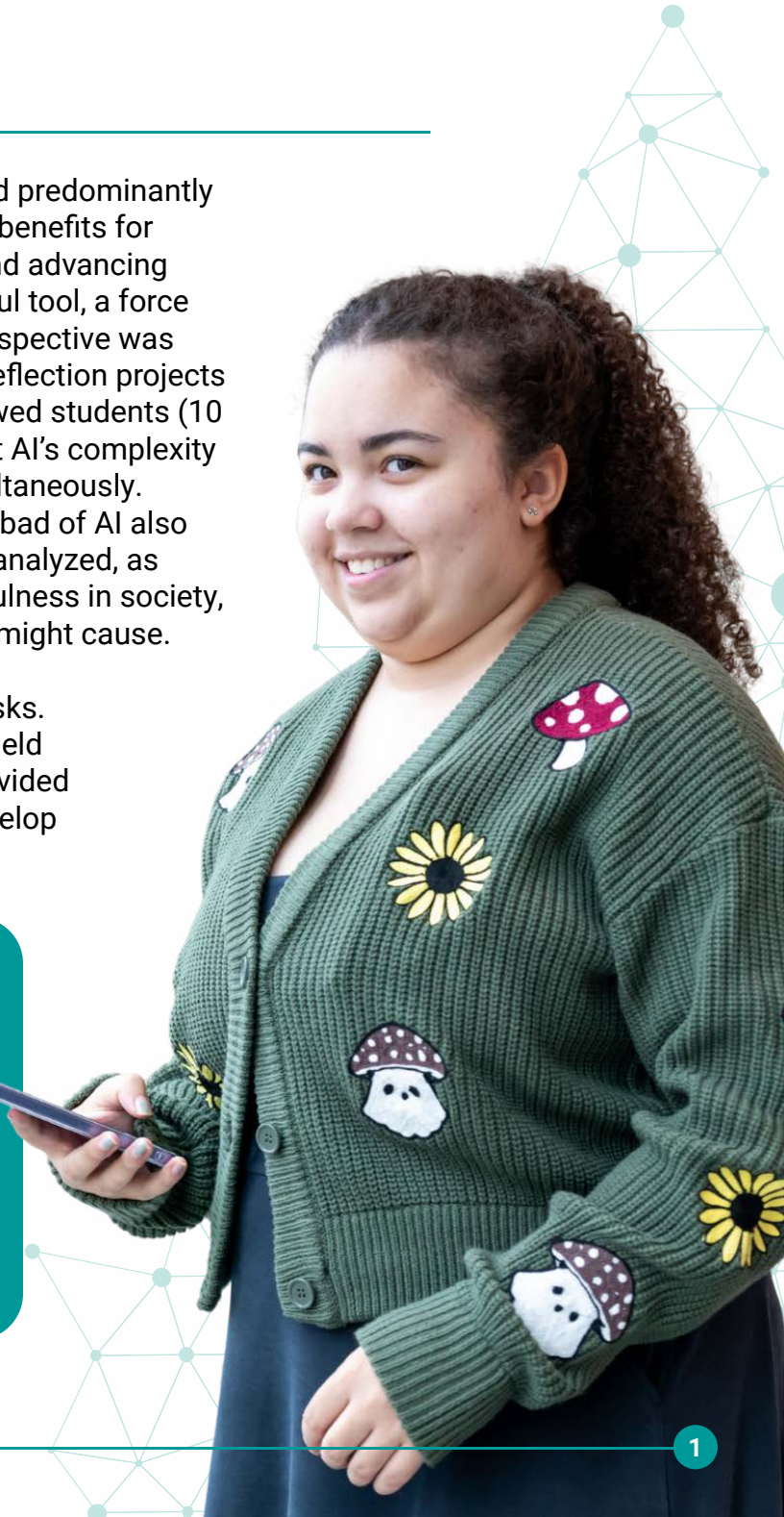
The Girls Who Code Self-Paced Program (which has since evolved into the Pathways Program) introduces GenAI topics and practices to high school students while centering questions of ethics and social impacts. To investigate students' perspectives on AI, we conducted 15 program observations, analyzed 320 students' AI reflection projects, and led in-depth interviews with 25 students from across the state of California.

Key Findings

Nearly half of interviewed students (12 of 25) held predominantly positive views of GenAI, focusing on its potential benefits for education, addressing global ethical problems, and advancing their careers. These students viewed AI as a useful tool, a force for good, and even as "magical." This positive perspective was also reflected across nearly all 320 students' AI reflection projects as well. However, a significant portion of interviewed students (10 of 25) demonstrated sophisticated thinking about AI's complexity by holding both positive and negative views simultaneously. These critical perspectives on both the good and bad of AI also surfaced across 197 of the 320 student projects analyzed, as students described an idea they had for AI's usefulness in society, as well as the ethical issues that such a creation might cause. These students appreciated AI's potential, while remaining critically aware of its limitations and risks. Notably, very few students (3 of 25 interviewed) held entirely negative views, suggesting that when provided with comprehensive education, young people develop balanced perspectives on AI technology.

"I am really optimistic about where AI is heading...[as a] woman in tech, I want to also be part of that change... not only contribute to it, but also help. The other aspects of AI that aren't always talked about are the ethical implications and concerns, and also the security aspects [and] data privacy issues."

—Girls Who Code student



Primary Concerns

Students demonstrated remarkable awareness of GenAI's potential downsides across multiple dimensions in both interviews and projects. They expressed deep concern about bias in AI creation and deployment, as well as potential negative applications of the technology. Many worried about AI's effects on human capabilities, particularly its impact on creativity, critical thinking, and learning processes. Students also voiced concerns about how AI might negatively disrupt their school experiences and learning journey. Some students considered broader social and environmental implications, including the possibility of reduced communication skills, decreased empathy, and environmental damage from AI systems.

"I'm worried about the decreasing creativity or originality in human ideas, and I think sometimes we might get too dependent on AI and not try to use our own efforts or hard work...I think that hinders creativity and original thought."

—Girls Who Code student

Visions for GenAI Applications

When imagining future uses for GenAI in both reflection projects and interviews, students consistently prioritized human-centered applications that would benefit society. Healthcare and medicine emerged as the most popular application areas, reflecting students' desire to use technology for direct human benefit. Students also saw significant potential for AI to enhance learning and teaching in educational settings. Many envisioned AI helping address climate and environmental challenges, while others imagined AI supporting artistic endeavors, mental health initiatives, and personal assistance. These applications reveal students' orientation toward using technology to solve meaningful problems and support human flourishing.

Ethical Awareness

Students demonstrated sophisticated understanding of AI ethics across a range of critical issues in their reflection projects. Privacy and security emerged as the most frequently cited concern, showing students' awareness of data protection issues in an increasingly digital world. Students recognized how AI systems can perpetuate and amplify existing inequalities through discrimination and bias. They expressed concerns about maintaining authentic human relationships and experiences in an AI-enhanced world. Students also understood that AI benefits may not be equally distributed, raising important questions about accessibility and equity. Additionally, they recognized that AI systems require human supervision and may produce errors, demonstrating awareness of the need for ongoing oversight and accountability.

"I wonder how many [people] know that AI can be a major energy depletion source or it harms people in different parts of the world?...when we train people to go into AI fields... it's important that we also train them to understand that there are problems with the tool that they're using. And maybe they could help figure out ways we could get rid of those problems."

—Girls Who Code student





Impact of Girls Who Code Experience

Students praised the Girls Who Code Self-Paced Program for its unique approach to AI education that went far beyond technical instruction. The program succeeded in demystifying AI by making it understandable and accessible rather than mysterious or intimidating, helping students feel confident in their ability to engage critically with these technologies. For example, while many students were already engaged with AI prior to the program, one third of the 25 students interviewed described an increase in using GenAI after the program. Even more striking—nearly three quarters viewed GenAI in a more positive way as a result of the program in ways that centered the larger ethical and social impacts of this technological tool.

Students particularly valued the community-centered learning environment that created supportive spaces uplifting young women and nonbinary perspectives while fostering genuine friendships and collaboration among participants. The program’s commitment to using technology for social impact resonated deeply with students, who appreciated learning not just how AI works but when and why to use it ethically.

Perhaps, most importantly, the program empowered students to see themselves as capable creators and thoughtful users of AI solutions for positive social change. They were able to transform their relationship with technology from acting as passive consumers to active, ethical participants in shaping the future.

Following their Girls Who Code experience, students reported:

-  More positive attitudes toward GenAI
-  Enhanced critical thinking about AI applications
-  Increased engagement with GenAI tools and concepts
-  Greater sense of empowerment to use AI for positive social impact

“I feel like the GWC online community had a really big impact on me...They’re helping me navigate being a woman, a woman in computer science... Because next year my school doesn’t offer any computer science courses. So they tell me stuff about how I can keep up my AI interest in school...how I could start my own club for AI.”

—Girls Who Code student

“After my experiences with AI, I would definitely take...the output with more caution...I’ve learned how it can be biased or how some of its information may not encompass the whole picture. And there’s always additional research that one should do before just taking the information completely at face value.”

—Girls Who Code student

“...in terms of changing my mindset, [Girls Who Code] made me more curious to learn about AI, play around with it, experiment with [it] more, read more news articles about it, so that I’m just aware...”

—Girls Who Code student

Recommendations



Center Community Building:

Educators should create learning environments that prioritize community support and engagement, particularly for young women and nonbinary students, while benefiting all participants.



Embed Ethics Throughout:

Curriculum designers should integrate critical approaches and ethical considerations into all AI education, including when to thoughtfully refuse or limit AI use—emphasizing responsible AI development and deployment.



Encourage Experimentation:

District and school leaders and education policy makers should support curiosity-driven exploration of GenAI tools to address emerging gender gaps in AI engagement and ensure equitable participation in the field.



Continue Research Investment:

Researchers and entities that fund research, such as foundations, should invest in and prioritize the ongoing study of student perspectives as technology rapidly evolves, ensuring educational approaches remain relevant and responsive to young people’s needs and experiences.

Project Background

Methodology

Data sources included: 1) in-depth 1-hour interviews with 25 students from across California, 2) observations of synchronous online meetings throughout the summer, 3) and 320 anonymized student projects from across the globe describing ideas for using GenAI to address a problem in society. The UCLA team analyzed all data sources to surface themes regarding student perspectives about GenAI, personal interests and life/career goals and how these overlapped with their views of AI, projections into the future about the world and GenAI, key experiences with the Girls Who Code program shaping their views, and perspectives on ethics and social impacts related to GenAI.

About Girls Who Code

Girls Who Code is dedicated to closing the gender gap in technology, with the goal of reaching 5 million girls, women, and nonbinary individuals by 2030. Our mission is to inspire, educate, and champion girls, women, and nonbinary people, with a special focus on historically underrepresented groups, to become changemakers in tech. We are committed to increasing access to the technology field for all, equipping the next generation to thrive in emerging fields like artificial intelligence, cybersecurity, and other transformative technologies shaping the 21st century. Since launching in 2012, Girls Who Code has reached over 760,000 students through our in-person and virtual programming. Of these, 330,000 alumni are now college or career-aged, ready to lead in tech.

About UCLA Computer Science Equity Project

The Computer Science Equity Project team at UCLA Center X engages in research, educational projects, and policy efforts that directly address the intersection of structural inequalities (student access to computer science courses, teachers), belief systems (such as stereotypes people have about which students can excel with computing), classroom pedagogy, and larger educational policies impacting who does (or does not) experience meaningful computer science education. The team has been at the forefront of movements ensuring that all students have access to computer science education in ways that uplift who they are, what they care about, and their abilities to critically engage with technology in ways that help and do not harm. The team has authored books such as *Stuck in the Shallow End: Education, Race, and Computing* (MIT Press, 2008/2017), *Power On!* (MIT Press, 2022), and *¡Conectados!* (Spanish version of *Power On!*, MIT Press, 2025). Their work has been funded by organizations such as the National Science Foundation, the Bill & Melinda Gates Foundation, Google, and the Stuart Foundation.

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