

Assent Form

5%

Time spent on Assent Form

Please enter your unique ID provided to you for this survey:

(Note: Make sure this matches the Study ID number given to you)

Please re-enter your unique ID provided to you for this survey:

(Note: Make sure this matches the Study ID number given to you)

ERROR: Please be sure you entered the same Study ID in both fields above, and try again!

Please read the following assent form carefully.

**ASSENT FORM - Children Ages 10 - 17 Years**

Protocol Title: PROACT Longitudinal Study

Protocol #: (Protocol # PROACT02-24-25)

Sponsors: Amazon Future Engineer, Siegel Family Endowment, Microsoft, Google

Principal Investigator: Dr. Joseph C. Tise

Institution: Institute for Advancing Computing Education

Address: 3809 W Anchor Drive, Peoria, IL 61615

Telephone: (773) 231-0600

- You are being asked to be in a research study to complete a short survey because you are enrolled in a middle or high school that is participating in the study.
- You can say "Yes" or "No" to being in this study.
- You can ask as many questions as you like before you decide.

Why is the study being done?

The study will help scientists learn more about students' feelings about computer science. The scientists are interested in how students' feelings about computer science change over time (multiple years).

About 1500 other students will be in this study around the U.S.

What will happen if I am in this study?

- You will take a survey once per year while enrolled in your current school.
- The yearly survey will take about 20 minutes to complete.
- You will answer several questions about how you feel about computer science.
- You will answer questions about yourself that may feel sensitive in nature. For example, we will ask about your gender, ethnicity, and proficiency with the English language.

Can I get hurt in the study?

Participating in this study should not put you at any physical risk.

Will I get paid for participating in this study?

There is no direct payment to you for your participation in this study.

Will this study help me?

Being in this study might not help you directly. But the researchers hope to learn more about how you feel about computer science so that it might help other students in the future.

Do I have to be in this study?

- You do not have to be in this study, even if your parent or guardian wants you to be.
- You can say "No." No one will be mad at you.
- If you say "Yes" now, you can change your mind at any time. You just have to tell your teacher or a parent or guardian that you want to stop. You don't have to say why.

You can talk to your parents and the teacher about the study at any time and ask them questions at any time.

Click "Next" to take the survey and give your assent.

Administrative Questions

10%

Please select your AGE

- 9 or younger
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19 or older
- I don't want to say

What is your gender?

What is your race/ethnicity? Choose all that apply.

- African-American/Black
- Asian - Central (e.g., Kazakhstan, Afghanistan, Turkmenistan)
- Asian - East (e.g., China, Japan, Korea)
- Asian - South (e.g., India, Sri Lanka, Nepal)
- Asian - Southeast (e.g., Thailand, Vietnam, Singapore, Indonesia)
- Hawaiian/Pacific Islander
- Hispanic/Latino(a)
- Middle Eastern/North African
- Native American/Native Alaskan
- White
- Another race/ethnicity (please specify): _____
- I'm not sure
- I don't want to say

At home, do you speak English or a different language?

- All or Mostly English
- All or Mostly a different language
- I don't want to say

Do you have an individual education plan (IEP), 504 plan, or other official accommodations given by your school?

- Yes, I have some sort of accommodations
- No, I do not have accommodations
- I'm not sure
- I don't want to say

Do you need an accessibility or assistive tool (like a screen reader, talk-to-text, etc.) to use a computer due to your disability?

- Yes
- No
- I'm not sure
- I don't want to say

When you needed an accessibility or assistive tool (like a screen reader, talk-to-text, etc.) to use a computer due to your disability, how often were you able to use one?

- Always
- Almost always
- Sometimes
- Rarely
- Never
- I don't want to say

Academics & Intentions

15%

Great job so far, keep it up!

What grade are you in?

- 6th grade
- 7th grade
- 8th grade
- 9th grade
- 10th grade
- 11th grade
- 12th grade
- Other
- I don't want to say

Do you know (approximately) your high school GPA?

- Yes
- No
- I don't want to say

What's your estimated overall high school GPA?

(Note: Report two decimal places (e.g. 2.68))

Is your GPA weighted or unweighted?

A weighted GPA means that a more difficult course (like an Advanced Placement [AP] course) is graded on a different scale compared to a standard course (for example, an "A" in an AP course would be 5.0 instead of 4.0).

- Unweighted
- Weighted
- I'm not sure
- I don't want to say

17%

Computer science includes learning about or doing things like:

Designing or developing hardware and software for computers Writing and running computer code Robotics Cybersecurity Machine learning and artificial intelligence Creating websites Designing games Understanding how computers affect us, and what's right or wrong when using computers Computer science doesn't include things like:

Playing a game on your computer, tablet, iPad or smartphone Searching the internet or using social media Making documents or presentations Creating content for social media Using ChatGPT

Based on what you just read, did you ever learn about computer science in school (this year or any year before)?

- Yes
- No
- I'm not sure
- I don't want to say

Did you have a class that was all about computer science (for example, a 9-week or 16-week class that only focused on computer science)?

- Yes
- No
- I'm not sure
- I don't want to say

How many computer science classes have you ever taken in school (including all previous school years)?

- None
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8+
- I don't want to say

What kinds of computer science classes have you taken? Choose all that fit.

(A computer science class lasts at least 9 weeks and mainly talks about computer science.)

- Computer science course without coding
- Coding course (like Java, C++)
- Web design
- Game design
- Robotics
- Cybersecurity
- Physical computing (like E-textiles, Raspberry Pi, micro:bit, Arduino)
- Artificial Intelligence and Machine Learning
- Data Science
- Other type of course: _____
- I don't want to say

Please indicate where you have done each of the following (if at all).

	In class	Extracurricular club (after school)	On my own	Never done this
Designed projects combining hardware and software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identified and fixed computer hardware problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learned about networking (like the Internet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learned about cybersecurity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learned about data storage and data privacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Created interactive data visualizations and flowcharts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Created and used variables, loops, and if statements in programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate where you have done each of the following (if at all).

	In class	Extracurricular club (after school)	On my own	Never done this
Learned how to break a problem apart to solve it through algorithms or programming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used procedures or functions to organize code	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collaborated with peers to write programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tested and fixed programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explored how computers and technologies impact individuals and society	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learned about microcontrollers (e.g., micro:bits, Raspberry Pi)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learned about robotics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Who helped teach or provide resources for your computer science classes? Pick all that fit.

- Microsoft TEALS
- Amazon Future Engineer
- Code.org
- BootUp Curriculum
- Google CS First
- Scratch
- Raspberry Pi (Experience CS)
- Another organization: _____
- None of these
- I'm not sure
- I don't want to say

Were any of your computer science courses an advanced placement (AP) course (such as AP CS A or AP CS Principles)?

- Yes
- No
- I'm not sure
- I don't want to say

Which advanced placement (AP) course(s) have you taken? (select all that apply)

- AP CS A
- AP CS Principles
- I don't want to say

20%

In how many non-computer science classes have you learned about computer science?

For example, if you learned about computer science in a Math class, that would count as one.

- None
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8+
- I'm not sure
- I don't want to say

Select all the subjects where you learned about computer science in class. Choose all that fit.

- Math
- English/Language Arts
- Science
- Arts (e.g., Music, Dance)
- Physical Education
- Social Studies/History
- Other subject/class (please specify): _____

In many schools, camps, and organizations, there are clubs and activities for learning about computer science. This could include programming, games, hardware, robotics, and more.

Some of these clubs and activities meet only once, while others meet for a whole year or even longer. Some might be part of other clubs, like Girl Scouts or Boy Scouts (Scouts). They can also happen after school, or during summer or winter breaks, and even at special camps.

Think for a moment about any of these kinds of activities you might have joined. This section will ask you a few questions about those activities.

Which of these computer science activities outside of school have you done before this school year? Choose all that fit.

- Coding/Computer Science Camp
- Computer Science Club (like Robotics club, Coding club, or LEGO League)
- Learning Computer Science Online (like Code.org)
- Learning Artificial Intelligence Online (like experience-ai.org)
- Teaching Yourself Computer Science
- Computer Science Competitions (like Hackathons or FIRST Robotics)
- Teaching Others about Computer Science
- Learning from Others about Computer Science (like in Scouts or Girl Scouts)
- Other (please write down) _____
- None: I never joined any programs before this year
- I don't want to say

Which of these computer science activities outside of school have you done this school year? Choose all that fit:

- Coding/Computer Science Camp
- Computer Science Club (like Robotics club, Coding club, or LEGO League)
- Learning Computer Science Online (like Code.org)
- Learning Artificial Intelligence Online (like experience-ai.org)
- Teaching Yourself Computer Science
- Computer Science Competitions (like Hackathons or FIRST Robotics)
- Teaching Others about Computer Science
- Learning from Others about Computer Science (like in Scouts or Girl Scouts)
- Other (please write down) _____
- None: I never joined any programs before this year
- I don't want to say

25%**Thank you so much for sticking with the survey, you're making great progress!**

Indicate how likely you are to do each of the following in the future, using this scale:

Take an elective (not required) CS course next year.

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

Take a computer science class before finishing middle school even if I don't have to

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

Take another computer science class before finishing middle school even if I don't have to

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

Take a computer science class before finishing high school even if I don't have to.

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

Take another computer science class before finishing high school even if I don't have to.

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

Attend college/university

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

Take a computer science class in college.

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

Get a college degree in computer science or technology.

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

Have a future job in computer science.

Definitely will not Probably will not Might not Unsure Might Probably will
 Definitely will

CS Identity

35%

Please rate each of the following statements using a scale of 1 (Not at all) to 7 (Very much so).

	1 Not at all	2	3	4 Somewhat	5	6	7 Very much so
I like to read about and/or watch videos about computer science topics	<input type="radio"/>						
I can do well on computer science-related tasks (like programming, designing apps)	<input type="radio"/>						
I see myself as a computer science person.	<input type="radio"/>						
I know the basic ideas of computer science (like algorithms and simple coding).	<input type="radio"/>						
Others ask me for help learning computer science.	<input type="radio"/>						
	1 Not at all	2	3	4 Somewhat	5	6	7 Very much so
My family thinks that I'm good at computer science.	<input type="radio"/>						
Other students think that I'm good at computer science.	<input type="radio"/>						
At least one of my teachers thinks that I'm good at computer science.	<input type="radio"/>						
I am interested in computer science topics.	<input type="radio"/>						
Computer science is interesting to me.	<input type="radio"/>						
I want to learn more about computer science.	<input type="radio"/>						

Goal Affordances Endorsement

40%

Please say how much you agree or disagree with each statement below:

	1Strongly Disagree	2Disagree	3Somewhat Disagree	4 Neutral	5Somewhat Agree	6 Agree	7 Strongly Agree
I think a job in computer science would let me connect with others.	<input type="radio"/>						
I think computer science helps make society better.	<input type="radio"/>						
Computer scientists often get more attention than people in other jobs.	<input type="radio"/>						
I think computer science helps people.	<input type="radio"/>						
Computer scientists often compete with others as part of their job.	<input type="radio"/>						
I think a job in computer science would let me be my own boss.	<input type="radio"/>						
Work that computer scientists do can help meet the needs of the community.	<input type="radio"/>						
I think a job in computer science would let me get really good at what I do.	<input type="radio"/>						

45%

Please say how much you agree or disagree with each statement below:

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Neutral	5 Somewhat Agree	6 Agree	7 Strongly Agree
I want to help people who need it with my work.	<input type="radio"/>						
I want people to notice me because of my future job.	<input type="radio"/>						
I want to help make society better.	<input type="radio"/>						
I want to get really good at what I do in my future job.	<input type="radio"/>						

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Neutral	5 Somewhat Agree	6 Agree	7 Strongly Agree
I like to compete with others.	<input type="radio"/>						
I want to be my own boss in my future job.	<input type="radio"/>						
In my job, I want to connect with others.	<input type="radio"/>						
I want to help people	<input type="radio"/>						

Value For Cs

55%

Please indicate how much you agree or disagree with the following statements.

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Neutral	5 Somewhat Agree	6 Agree	7 Strongly Agree
I would learn about computer science even if I did not have to.	<input type="radio"/>						
Learning computer science would help me reach my goals.	<input type="radio"/>						
Computer science is important to me.	<input type="radio"/>						
I would enjoy using computer science in my job someday.	<input type="radio"/>						

Cs Selfefficacy

65%

If you were in a computer science class right now, how confident are you that you could...

	1 Definitely could not	2	3	4 Not sure if I could	5	6	7 Definitely could
Get what the teacher says about computer science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do well on a computer science assignment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do well on a computer science test	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use what you learned in a computer science class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sense Of Belonging

74%**Just one more set of questions after this one, great job!**

If I were in a computer science setting (like in a school class, club, or activity), I would...

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Neutral	5 Somewhat Agree	6 Agree	7 Strongly Agree
Feel like I am part of a group of people who like computer science	<input type="radio"/>						
Feel accepted	<input type="radio"/>						
Feel comfortable	<input type="radio"/>						
Trust others around me to help me learn computer science	<input type="radio"/>						
Enjoy participating	<input type="radio"/>						

I see myself as a computer science person.

- Strongly Agree
- Agree
- Somewhat Agree
- Neutral
- Somewhat Disagree
- Disagree
- Strongly Disagree

AI Literacy

AI tools are computer programs that can help people by learning from data. They can:

Find patterns in data-like pictures, words, or numbers.

Help answer questions or solve problems.

Give ideas or make things easier-like showing directions, picking videos to watch, or helping with homework.

AI tools include ChatGPT, Claude, Gemini, and many others.

How often do you usually use Generative AI tools for school?

- Never
- Less than once a month
- Once a month
- A few times a month (2-3 times)
- Once a week
- A few times a week (2-5 times)
- Daily (once a day)
- Multiple times a day
- Prefer not to say

Indicate how much you agree or disagree with the following statement:

Computer science is important to learn because it will help me understand how AI works.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Neither agree nor disagree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Indicate how much you agree or disagree with the following statement:

I think it's important to know how AI works.

- Strongly Agree
- Moderately Agree
- Slightly Agree
- Neither agree nor disagree
- Slightly Disagree
- Moderately Disagree
- Strongly Disagree

Using the scale below, please rate how confident you are that you can:

	1 Definitely could not	2	3	4 Not sure if I could	5	6	7 Definitely could
Check AI content to make sure it's correct and fair before using it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use AI to create and refine ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Break problems into steps and use AI to help with each step.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make decisions about how AI can affect you, other people, and society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do projects or activities with classmates to learn about AI.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work well with people and AI by thinking carefully, asking for help, giving feedback, and using everyone's strengths to solve problems together.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decide when and how to use AI by thinking about what it can do, what could go wrong, and what is the right thing to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Using the scale below, please rate how confident you are that you could explain each of the following:

	1 Definitely could not	2	3	4 Not sure if I could	5	6	7 Definitely could
How AI finds patterns in data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How AI is shaped by the decisions of those who build it and the data it uses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What AI can do (like sorting or recognizing things) and what it cannot do (like having feelings).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How AI is used in real life (like in jobs, hospitals, or transportation).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How AI can be unfair or biased if it is trained with incomplete or unfair data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How AI may impact jobs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rate how much you agree or disagree with these statements:

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
I think about what is right and fair when using AI.	<input type="radio"/>						
I try new ideas or different ways to use AI.	<input type="radio"/>						
I use AI by trying something, looking at the results, telling the AI how to make it better, and repeating the steps.	<input type="radio"/>						
I think about how AI can affect people.	<input type="radio"/>						

Please rate how much you agree or disagree with these statements:

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
I want to learn more about how AI works.	<input type="radio"/>						
I like to read about and/or watch videos about how AI works.	<input type="radio"/>						
I am interested in a future job where I help design or build AI tools.	<input type="radio"/>						

Please rate how much you agree or disagree with these statements:

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
Most jobs will require use of AI.	<input type="radio"/>						
Many jobs will go away because of AI.	<input type="radio"/>						
Many new jobs will be created because of AI.	<input type="radio"/>						
Many computer science jobs will go away because of AI.	<input type="radio"/>						
Many new computer science jobs will be created because of AI.	<input type="radio"/>						