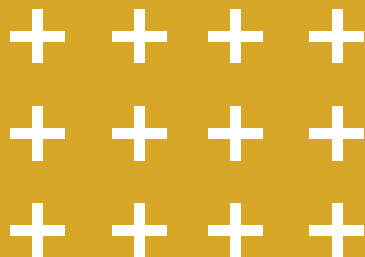


CARNEGIE

AI + Prospective Students Insights Report 2024

A STUDENT SURVEY BROUGHT TO YOU BY **CARNEGIE** AND **CX** college**express**

JANUARY 2024



30%

OF PROSPECTIVE
STUDENTS USE AI
"OCCASIONALLY"
OR MORE, UP FROM
16% AMONG CURRENT
COLLEGE STUDENTS

74%

BELIEVE IT WILL IMPACT
THEIR FUTURE EMPLOYMENT
AND JOB DUTIES, RESULTING
IN THIS AUDIENCE ASKING
FOR TRAINING IN AI FROM
COLLEGES.

about this research

The current trend of public-facing AI programs in the cultural spotlight should not be ignored. Always curious about the human element surrounding industry trends and phenomena, Carnegie researchers set out to understand how the future generation of college-going students feels about this technology and what it means for the future of higher education and marketing.

Industry research is a focus for Carnegie because it arms higher education leaders with data to inform major decisions on important topics. We believe the diffusion of AI as a technology warrants important consideration.

This report looks at the major outcomes of a national **mixed-methods research project**. College prospects from CollegeXpress were surveyed and interviewed in November of 2023. The data in this report is first summarized and then reported across a variety of demographic and behavioral variables. It includes insights from the Carnegie team, as well as an AI that reviewed the student interview content.

Research methodology

Carnegie welcomed several conversations about AI in higher education during its 2023 annual conference in Orlando. As a result, the company began a series of inquiries about the tools for use in the space and near the end of 2023 proposed a research project to learn more about what students think of AI. The study included two portions: a quantitative survey and qualitative online interviews, the latter of which was held using an AI platform.

4,530

COMPLETED
SURVEYS

NATIONAL CX USERS
EMAIL RECRUITMENT
26 DATA BREAKOUTS

434

COMPLETED
INTERVIEWS

KNOWLEDGEABLE OF AI
RECRUITED DURING SURVEY
8 OPEN-ENDED QUESTIONS

3

AI PROGRAMS
UTLIZED

CHATGPT (COPY)
ASKHUMANS (INTERVIEWS)
QUALTRICS AI HUB

This research utilized AI tools for the initial construction of questions, the sampling strategy, statistical analysis, and qualitative theming. While all finalized work was still done by our human researchers, these tools helped to advance our own knowledge of the opportunities already available.

AI PERCEPTIONS

SAMPLE

Who completed the survey?

GENDER

Woman:	59%
Man:	29%
Genderqueer:	1%
Nonbinary:	1%

RACE (ALL THAT APPLY)

American Indian/Alaska Native:	2%
Asian:	14%
Black or African American:	20%
Hispanic or Latinx:	21%
Middle Eastern/North African:	2%
Pacific Islander:	1%
White/Caucasian:	56%
Other:	2%

LGBTQIA+ STATUS

Is LGBTQIA+:	18%
Is Not LGBTQIA+:	82%

SOCIOECONOMIC STATUS

Low Income:	27%
Lower-middle Income:	22%
Upper-middle Income:	30%
High Income:	21%

GRADES

Average GPA (<3.7):	19%
Strong GPA (3.7-4.0):	41%
High Achievers (>4.0):	40%

EXPERIENCE WITH AI PRIOR TO STUDY

No Direct Experience:	30%
Experimental Stage:	40%
Occasional Use Stage:	23%
Regular Use Stage:	7%

LOCATION

East North Central:	15%
(IL, IN, MI, OH, WI)	
East South Central:	5%
(AL, KY, MS, TN)	
Middle Atlantic:	11%
(NJ, NY, PA)	
Mountain:	9%
(AZ, CO, ID, MT, NM, NV, UT, WY)	
New England:	4%
(CT, MA, ME, NH, RI, VT)	
Pacific:	14%
(AK, CA, HI, OR, WA)	
South Atlantic:	19%
(DC, DE, FL, GA, MD, NC, SC, VA, WV)	
West North Central:	9%
(IA, KS, MN, MO, ND, NE, SD)	
West South Central:	14%
(AR, LA, OK, TX)	

AI PERCEPTIONS

AI TOOL USE

Do you use any user-facing Artificial Intelligence tools (e.g., ChatGPT, DALL-E, Midjourney)?

AUDIENCE	NEVER USED TO MY KNOWLEDGE	TRIED OUT OR PLAYED AROUND	USE AI TOOLS OCCASIONALLY	USE AI TOOLS REGULARLY	AVERAGE SCORE*
All Respondents	30%	40%	23%	7%	2.08
Women	34%	41%	21%	5%	1.95 (-)
Men	22%	39%	29%	11%	2.27 (+)
Genderqueer/Nonbinary	28%	51%	17%	5%	1.99
Asian	18%	40%	28%	14%	2.39 (+)
Black/African American	30%	39%	24%	7%	2.07
Hispanic/Latinx	31%	38%	25%	6%	2.05
Mixed Race/Other	29%	44%	21%	6%	2.05
White/Caucasian	32%	41%	22%	6%	2.01
LGBTQIA+	21%	48%	23%	8%	2.18
Not LGBTQIA+	31%	39%	23%	7%	2.05
Low Income	32%	40%	22%	6%	2.02
Lower-middle Income	31%	41%	23%	6%	2.04
Upper-middle Income	29%	41%	22%	8%	2.09
High Income	27%	40%	26%	7%	2.14
Average GPA	35%	38%	21%	5%	1.97 (-)
Strong GPA	28%	41%	24%	7%	2.11
High Achievers	28%	41%	24%	7%	2.10

*Average scores with (+) indicate a statistically significantly higher score than the respondent average. Scores with (-) indicate a statistically lower score.

use and awareness

AI PERCEPTIONS

AI TOOL AWARENESS

How familiar are you with how AI tools (e.g., ChatGPT, DALL-E, Midjourney) can be used?

AUDIENCE	NOT AT ALL FAMILIAR	SLIGHTLY FAMILIAR	MODERATELY FAMILIAR	HIGHLY FAMILIAR	COMPLETELY FAMILIAR	AVERAGE SCORE*
All Respondents	14%	33%	35%	15%	3%	2.60
Women	17%	38%	33%	10%	2%	2.42 (-)
Men	9%	27%	37%	21%	5%	2.87 (+)
Genderqueer/Nonbinary	6%	33%	39%	17%	6%	2.84 (+)
Asian	9%	30%	39%	18%	5%	2.79 (+)
Black/African American	13%	33%	36%	15%	3%	2.63
Hispanic/Latinx	18%	33%	32%	13%	4%	2.51
Mixed Race/Other	13%	34%	32%	17%	4%	2.65
White/Caucasian	14%	34%	35%	14%	3%	2.57
LGBTQIA+	10%	27%	40%	19%	4%	2.81 (+)
Not LGBTQIA+	15%	35%	34%	14%	3%	2.56
Low Income	16%	35%	33%	12%	4%	2.53
Lower-middle Income	15%	35%	35%	13%	3%	2.54
Upper-middle Income	14%	32%	35%	16%	4%	2.64
High Income	11%	33%	37%	16%	3%	2.68
Average GPA	18%	36%	32%	12%	3%	2.48 (-)
Strong GPA	14%	32%	34%	16%	4%	2.64
High Achievers	12%	33%	38%	14%	3%	2.62
No Direct Experience	35%	38%	21%	5%	1%	1.98 (-)
Experimental Stage	8%	43%	38%	10%	2%	2.56
Occasional Use Stage	1%	21%	49%	25%	4%	3.10 (+)
Regular Use Stage	1%	6%	25%	47%	21%	3.81 (+)

*Average scores with (+) indicate a statistically significantly higher score than the respondent average. Scores with (-) indicate a statistically lower score.

USE OF AI IN COLLEGE SEARCH

How will students use AI for college search?

THE AI-GENERATED ANSWER

Students will use AI tools for general and specific information about the colleges they plan to attend. AI will be an extremely useful tool in their college searching and decision process. They will use AI-powered search engines and databases to find relevant and reliable sources, narrow down college choices based on preferences, and gather information regarding colleges.

PLANNING

Several respondents felt the best way AI could help was the ability to quickly focus their college search journey by giving them a roadmap. In theory, the AI would lay out what is important to look for and offer suggestions, but that after this initial help the student would take over, especially concerning anything with application materials or final notes. As one respondent noted, an "AI is a more accessible and knowledgeable guidance counselor who isn't always busy with other students or needs to know me personally."

SAVING TIME/EFFORT

A large group of respondents noted that saving time was the key opportunity for AI, and in the college search that was done through filtering and searching more efficiently than a traditional Google search. In addition, some students went so far as to say it would help them create admissions materials such as their essay, though it was modified with the idea that it would not write the essays completely, but rather help with researching topics and reviewing their work for voice and grammar.

AN ISSUE OF TRUST

Those respondents with a more negative sentiment often noted that they wouldn't want to use the tools because they don't generally trust AI. Some of this concerned privacy, but most were focused on the idea that AI can't do the work for them as well and might miss the right college or opportunity. Interestingly, even some people who were positive about using the tools noted some anxiety about "double-checking" what the AI might have missed.

REPRESENTATIVE QUOTES

"I'm going to use AI to help me find colleges that fit my preferences, help me narrow down my college list, and just research things."

"Well, I can maybe use AI to like, search, quickly search through the best colleges that fit my description of the colleges that I'm looking for instead of having to go college by college by college maybe searching for best engineering colleges, cheaper colleges. I could just use AI to filter that stuff out for me and then I can look at those colleges individually and see which ones the best match for me."

"I'm definitely going to use AI to help guide me throughout my decision process. I think it's a wonderful idea. AI can expedite the research process and I believe that it will provide you with the specifics of a college's research programs or even potential scholarships that will cater towards you in your major."

"I would use AI tools to help me with my college search and decision process by letting it search the schools that have my major, which is computer science, and then allowing it to find scholarships. Like it's helped me find some scholarships for African American students, first generation students, things that just correlate to me. AI can do far more faster than I can do the Google search."

"Simple. I wouldn't. I don't trust it."

Quotes are presented as close to verbatim as possible based on transcription.

TOPIC CALLOUT

The ideal AI tool for college
search for students.

A SIMPLE TIME-SAVER

The ideal AI tool for students is simple and effective. For respondents, saving time was most important, but this need was couched in a reality that some platforms and tools were too difficult to use. Making a tool that is simple and doesn't require many inputs (or a broad range of input levels that still work) is important.

THE "ME" ALGORITHM AND HYPER INDIVIDUALIZATION

Beyond just making lists, the ideal AI tool for college search is powerful because it's hyper-custom. A student provides inputs custom to them and the recommendations are fit as a result. One student gave the example "I enter my GPA and SAT scores and interests and extracurriculars and it shows me places I would do well at and what I can do to help bolster my application materials before I try to apply." Some students called this a "fit score" or the "college algorithm" and wanted something that not only gathered detailed information but showed how individualized the results actually were.

AN EDUCATIONAL PLATFORM FOR STUDENTS AND PARENTS

For many respondents, an AI giving a list only goes so far. Much like wanting to know why a school was recommended in the "college algorithm" they also wanted information about what they should be looking for. In effect, what factors may actually be more important to consider? This opinion often came with people noting they are first-generation or "my parents don't know much about colleges so I wanted something to tell me what to pay attention to when picking a college."

REDUCING PRESSURE MAKES FOR BETTER DECISIONS

The overall goal of the ideal AI tool for college search is to take pressure off students who are already feeling the weight of the decision, allowing them to make choices based not on their skills of searching and more on what will fit them properly. Indeed, there could be an impact on retention if the right school is matched with the right student earlier. Many respondents simply wanted something to assure them that their very expensive decision will have positive outcomes.

SCHOOL POLICIES

Have teachers or administration at your high school spoken about or created rules regarding AI?

AUDIENCE	NEVER MENTIONED	MENTIONED WITH NO POLICIES MADE	POLICIES INDIVIDUAL BY TEACHER	SCHOOL-WIDE POLICIES	AVERAGE SCORE*
All Respondents	14%	26%	33%	27%	2.73
East North Central	20%	24%	35%	22%	2.59 (-)
East South Central	14%	27%	33%	26%	2.71
Middle Atlantic	9%	20%	40%	31%	2.93 (+)
Mountain	10%	22%	33%	34%	2.92 (+)
New England	10%	21%	38%	31%	2.89 (+)
Pacific	16%	24%	32%	28%	2.72
South Atlantic	12%	29%	35%	23%	2.69
West North Central	17%	26%	28%	30%	2.70
West South Central	11%	23%	39%	27%	2.83

Do students at your high school use AI for their classwork?

AUDIENCE	NEVER HEARD OF THIS	A FEW STUDENTS	SEVERAL STUDENTS	MOST STUDENTS	AVERAGE SCORE*
All Respondents	16%	49%	30%	6%	2.25
East North Central	14%	52%	30%	5%	2.25
East South Central	21%	40%	33%	5%	2.23
Middle Atlantic	20%	48%	27%	6%	2.20
Mountain	13%	51%	29%	6%	2.29
New England	14%	52%	32%	3%	2.24
Pacific	13%	48%	31%	8%	2.34 (+)
South Atlantic	15%	50%	29%	6%	2.27
West North Central	18%	52%	26%	5%	2.17 (-)
West South Central	18%	45%	31%	6%	2.26

*Average scores with (+) indicate a statistically significantly higher score than the respondent average. Scores with (-) indicate a statistically lower score.

USE OF AI ON SCHOOLWORK

How will students use AI for schoolwork in their college classes?

THE AI-GENERATED ANSWER

Students will use AI for schoolwork and college classes to assist in learning, creating study plans, finding in-depth topics for research papers, looking up answers and ideas, and providing detailed explanations for questions.

WIDE RANGE OF TOOLS/ASSISTANCE

Typical answers for this question talked through a range of specific tools or use cases for AI in college courses. The most common were to help find and prioritize information, as well as doing bibliography or citation work. Also, many students believe it can review their work for spelling and grammar as well as offer them the best way to project a strong viewpoint. Finally, some do see it as a way to cull through "busywork," but most clarified that it would only ever "assist" in their work rather than doing it for them.

MAKING COLLEGE LESS OVERWHELMING

A common theme among students was using AI to reduce overall workload as many were concerned they would be overwhelmed in college. By reducing the time of researching topics and collating notes into a readable format, AI was seen as a potential hero for these respondents.

LIGHT USE, LITTLE TRUST

The majority of respondents noted they might use AI in small situations or to get ideas moving, but that many do not think it's yet at the point where it could do work without a lot of fact-checking. In addition, many felt that the systems they had used often fell short of their needs in past coursework.

MORALITY AND CHEATING

Several respondents with more negative sentiment about AI noted that using it for schoolwork felt like (and is often punished like) cheating. Indeed, some brought it up as a moral failing or that a person was skipping out on work. Further, respondents believed that this process made the person less likely to absorb materials or learn anything because of perceived shortcuts AI offers.

REPRESENTATIVE QUOTES

"I personally find AI to be useful when learning about certain subjects that are not as well covered online, say with YouTube videos or articles, anything like that, where AI can collect what is available online and summarize it into something that is easily readable."

"I think one way that AI can assist with my schoolwork in college is like, let's say I have a research paper I have to do. I can use AI to help me find more in-depth topics. Instead of researching the whole internet, it can kind of give me a more specific search that I can then research on the internet."

"AI can help with schoolwork and other needs while in college because it can allow you to look up answers and help you get ideas. Or you can also ask AI to, how do I say this? Get a layout for your like speech and stuff like that."

"When it comes to using AI in college, I personally myself would not use it only because I know that there is a consequence when using it and getting caught which could lead up to expulsion. So personally I would say no thank you."

"I would not use AI at all to assist with my school work, as I consider that cheating. I also don't trust it to be completely true, and refuse to use it to even fact check."

Quotes are presented as close to verbatim as possible based on transcription.

MESSAGE IDENTIFICATION

The passages respondents viewed to determine if they could identify the AI message.

Human Message 1: Achievement in the classroom is born of determination. And if you never say no to a challenge, if your only goal tomorrow is to beat today, this is your place to earn it.

AI Message 1: This is a place where ambition thrives and students chase excellence relentlessly, fueled by a culture of achievement, innovation, and unwavering dedication to their academic and personal goals.

Human Message 2: We believe education should be an open invitation. Join us as we grow together, learn together, and build a better world as a community with close-knit bonds and great stories.

AI Message 2: We are a nurturing college where students form close-knit bonds, faculty offer unwavering guidance, and a culture of empathy fosters a supportive community that values everyone's growth and well-being.

Human Message 3: Unfettered by the ideas of old and driven by the possibilities of tomorrow, our transformative ideas inspire us to create a more brilliant future.

AI Message 3: We constantly reimagine the future, pushing boundaries and inspiring change with innovative solutions that revolutionize learning and students' lives.

AI PERCEPTIONS

MESSAGE IDENTIFICATION

Please select the passage you believe was written by AI.

AUDIENCE	PERCENT CORRECT MESSAGE 1*	PERCENT CORRECT MESSAGE 2*	PERCENT CORRECT MESSAGE 3*	OVERALL AVERAGE*
All Respondents	67%	70%	31%	56%
Women	67%	70%	28%	55%
Men	68%	69%	35% (+)	57%
Genderqueer/Nonbinary	62%	70%	31%	54%
Asian	73%	74%	32%	60%
Black/African American	71%	73%	31%	58%
Hispanic/Latinx	70%	68%	33%	57%
Mixed Race/Other	65%	68%	31%	55%
White/Caucasian	64%	69%	30%	54%
LGBTQIA+	64%	69%	32%	55%
Not LGBTQIA+	68%	70%	31%	56%
Low Income	68%	69%	33%	57%
Lower-middle Income	69%	69%	30%	56%
Upper-middle Income	67%	70%	30%	56%
High Income	66%	70%	30%	56%
Average GPA	67%	71%	34%	57%
Strong GPA	68%	69%	31%	56%
High Achievers	67%	70%	30%	55%
No Direct Experience	61% (-)	64% (-)	31%	52% (-)
Experimental Stage	67%	71%	31%	56%
Occasional Use Stage	74% (+)	74%	30%	59%
Regular Use Stage	78% (+)	72%	34%	61% (+)

*Average scores with (+) indicate a statistically significantly higher score than the respondent average. Scores with (-) indicate a statistically lower score.

ai message id

IDENTIFYING AI

How did students decide which message they thought was AI?

THE AI-GENERATED ANSWER

Students decided which passages were written by AI by looking at the wording, such as flat and repetitive language, lack of understanding of emotion or true purpose, and the use of fancy or unfamiliar words. They also looked for inconsistencies in grammar, punctuation, and tense usage. Some students mentioned that AI passages tend to be more formal and lack personality. However, one student mentioned switching between simple and complex passages and was unsure of their accuracy. Overall, the students used a combination of language style, complexity, and formality to make their guesses.

COMPLEXITY

Further getting into complexity, there was a feeling that sentence structure of AI sentences is basic, while the words used are strange. This may be why so many students struggled with the Message 3 comparison. The word "Unfettered" in the human passage likely triggered many to assume it was an AI because it is a relatively uncommon word.

PERSONALITY

Importantly, each message prompt was built around a stated personality goal. Message 1, for example, was based around the Blue archetype from Carnegie's archotyping system, which is about achievement, confidence, and strength. This came through in both messages, but student respondents felt the human passages had more personality represented.

NO PREVAILING STRATEGY

Several respondents felt they just guessed without a lot of basis for how or why. Many reconciled with this noting that AI is supposed to mirror human writing as much as possible and has trained on it, thus they were not typically bothered that their selection was made on the basis of a guess.

REPRESENTATIVE QUOTES

"When I was deciding which passage was written by AI, I kind of looked at which I had more like fancy or like words that I wasn't really super familiar with and that didn't really sound as simplistic and down to earth and I think I was pretty accurate."

"When I was looking through the passages, I saw specific words that caught my eye and some words that present day people would not use in their, like, in the way they talk or the way they write, which kind of guided me to pick those passages and choose and say that those were the AI passages."

"I chose the passages that seemed more formal, and though this may not be correct, it adds to the idea that AI creates formal paragraphs, essays and writings."

"At first I was looking for the passage that had more words or maybe less common words that people usually use, but then I rethought my process because it could be possible that maybe someone in power, someone who leads this organization wrote that passage and wanted it to sound very important."

"I honestly have no idea. I was guessing, so I probably didn't do very well on it. I think the AI is getting so good now there's no way to know for sure and probably some of it was a trick."

Quotes are presented as close to verbatim as possible based on transcription.



TOPIC CALLOUT

Writing Like a Human

WRITING LIKE A HUMAN (ACCORDING TO AN AI)

A human should write content that doesn't sound like an AI by focusing on adding thought, emotion, and a personal voice to their writing. They should aim to engage the audience, keep them entertained, and ensure that their point gets across without sounding robotic or bland. Using intelligent words is important, but it should be balanced with emotional and impactful writing. Avoiding unnecessary repetition and wordiness is also crucial. By incorporating personal experiences and voice, the writing can have a humanizing angle and stand out from AI-generated content.

AI PERCEPTIONS

CONFIDENCE OF IDENTIFICATION

How confident are you that you correctly identified the AI passages?

AUDIENCE	NOT AT ALL CONFIDENT	SLIGHTLY CONFIDENT	MODERATELY CONFIDENT	HIGHLY CONFIDENT	COMPLETELY CONFIDENT	AVERAGE SCORE*
All Respondents	11%	27%	48%	12%	2%	2.67
Women	12%	29%	47%	11%	2%	2.61
Men	10%	24%	49%	14%	3%	2.76
Genderqueer/Nonbinary	5%	31%	48%	14%	1%	2.76
Asian	10%	29%	44%	14%	3%	2.72
Black/African American	10%	26%	46%	14%	4%	2.76
Hispanic/Latinx	11%	25%	51%	12%	2%	2.71
Mixed Race/Other	9%	32%	45%	12%	3%	2.69
White/Caucasian	12%	28%	49%	11%	1%	2.61
LGBTQIA+	10%	30%	49%	11%	1%	2.63
Not LGBTQIA+	11%	27%	48%	12%	3%	2.68
Low Income	10%	27%	49%	12%	3%	2.72
Lower-middle Income	9%	28%	49%	13%	2%	2.71
Upper-middle Income	11%	26%	48%	13%	2%	2.68
High Income	14%	28%	46%	11%	2%	2.59
Average GPA	9%	26%	50%	13%	2%	2.74
Strong GPA	10%	25%	50%	12%	3%	2.72
High Achievers	13%	30%	45%	11%	2%	2.59
No Direct Experience	15%	29%	44%	9%	2%	2.53 (-)
Experimental Stage	11%	28%	48%	11%	2%	2.64
Occasional Use Stage	7%	26%	50%	15%	2%	2.78 (+)
Regular Use Stage	4%	18%	51%	20%	7%	3.07 (+)

*Average scores with (+) indicate a statistically significantly higher score than the respondent average. Scores with (-) indicate a statistically lower score.



DATA INSIGHT

In a regression model, confidence did positively predict the number of correct responses, though the rate at which this affect was felt indicates many regular users were still somewhat overconfident while those with no experience were less confident than their scores indicate.

CONFIDENCE EXPLORED

Were students confident they correctly identified the AI passages?

THE AI-GENERATED ANSWER

Some did, some did not. (Researcher Note: having an AI respond to a question this way was simultaneously disappointing and amusing because of how actually human it seemed).

THE CONFIDENT STUDENTS

The students with the most confidence were, unsurprisingly, also those who expressed that they use AI most often. This correlates well to the confidence scores and actual performance of the highest level users of AI seen in the quantitative results of this section. The best way to identify AI writing is to experience it regularly.

LESS CONFIDENT STUDENTS

Many respondents added a modifier to their response saying that while they felt good about their responses, the point of AI writing is to mimic a human, so if it turns out they were wrong they would not be surprised.

STUDENTS WITH NO CONFIDENCE

Much like the students that guessed, these respondents felt there was no accuracy to their answers and nothing better than random chance.

REPRESENTATIVE QUOTES

"So I believe that my answers might be accurate, but you know, the whole point of AI is to make it seem as though it's a human behind the screen."

"I don't know how accurate I was, really. I'd say I was somewhat accurate because I know that I was looking at some different things and really looking at the writing pretty well to evaluate it."

"I think I was very accurate considering I use AI quite often. I know the content AI generates is very perfect and has a complex vocabulary. Knew from the sentence structure and the words AI uses are very encouraging. It's almost like too perfect of writing I could tell that there was like the proper amount of like capitals, periods and spaces between everything. I think I was correct and I'm fairly good at recognizing AI content."

"It is very clear when I was seeing AI versus the normal text. I know it so well now because I use it all the time. It's a very distinct style."

"I really have no idea. I hope that's okay."

Quotes are presented as close to verbatim as possible based on transcription.

AI TRAINING

How do students feel about AI training on existing human content?

THE AI-GENERATED ANSWER

Students have mixed feelings about AI training on existing human content. Some students feel that it is not fair for AI to use copyrighted protected content without permission, as it infringes on the original author's intellectual property. They believe that AI should not be allowed to generate responses based on someone else's writing. On the other hand, some students feel neutral or even positive about AI training on real articles because it helps AI learn its capabilities and improve its understanding of human-written content. They acknowledge that AI cannot legally use copyrighted documents but appreciate that it trains from human-written articles that make sense.

THE "CREEPINESS" FACTOR

Some students felt the sometimes uncanny AI language and art produced from programs gave a general vibe of creepiness. Moreover, it was a concern to many how the AI got access to certain materials, and felt there was a creepy "big brother" aspect to AI looking for materials to train on.

CONTENT CREATORS

Many respondents felt their own content was at risk of being ripped off or stolen. This was most often related to art, but writing and other forms of expression were also included. Many of these creators felt the process cheapened their work, or that they deserve compensation if an AI trains on their materials.

COMFORTABLE WITH THE PROCESS

Many of the most positive respondents to this question cited the idea that AI needs to be able to train in some way, and that without human training the whole process would fail. Compared to previous inputs, it appears this is a common feeling among common users. Those who were newer to the technology had more worries.

REPRESENTATIVE QUOTES

"I don't feel good that AI trains on copyrighted protected content because when I'm using AI for creative inspiration, I might be accused that I'm plagiarizing or I'm copying off of something. And if this happened to me, I'd easily recognize it and I wouldn't be too happy about it."

"I feel neutral about this. I think it is great that AI is learning its capabilities off of real articles. AI legally cannot use these documents when it rewrites sentences since they are copyrighted, but it is great to know that they train from human-written articles that makes sense."

"It's a bit scary that AI can train on copyright protected content. Especially the fact that they could take your written work and use it however they choose. They could twist your work in any way they could. It also shows how nonoriginal the AI work is."

"I think that's the whole point, though. AI does this from existing work but eventually if becomes self-reliant. It's like what a person does, but faster and better and lets us focus on other things. I think it's the best way to get good content from it."

"I think that it is completely necessary for the AI to train on that material because it is an essential part of human language."

Quotes are presented as close to verbatim as possible based on transcription.

QUALITY OF WRITING

(Once Revealed) Was there a difference in quality of writing between the passages?

AUDIENCE	YES, AI FAR STRONGER	YES, AI SLIGHTLY STRONGER	NO REAL DIFFERENCE	YES, HUMAN SLIGHTLY STRONGER	YES, HUMAN FAR STRONGER	AVERAGE SCORE*
All Respondents	15%	39%	17%	24%	6%	2.66
Women	17%	39%	16%	23%	6%	2.62
Men	13%	39%	18%	24%	6%	2.71
Genderqueer/Nonbinary	14%	39%	17%	19%	11%	2.74
Asian	13%	38%	18%	26%	6%	2.74
Black/African American	19%	35%	17%	23%	7%	2.64
Hispanic/Latinx	18%	40%	13%	23%	6%	2.60
Mixed Race/Other	12%	42%	17%	23%	5%	2.67
White/Caucasian	14%	39%	18%	24%	5%	2.67
LGBTQIA+	14%	38%	17%	26%	5%	2.69
Not LGBTQIA+	16%	39%	17%	23%	6%	2.65
Low Income	19%	36%	15%	22%	8%	2.63
Lower-middle Income	14%	40%	16%	25%	5%	2.66
Upper-middle Income	14%	41%	17%	23%	5%	2.64
High Income	13%	38%	20%	24%	5%	2.70
Average GPA	19%	37%	14%	22%	8%	2.62
Strong GPA	15%	39%	16%	24%	6%	2.66
High Achievers	13%	39%	20%	24%	5%	2.68
No Direct Experience	18%	37%	16%	22%	7%	2.64
Experimental Stage	16%	40%	16%	24%	5%	2.62
Occasional Use Stage	12%	38%	19%	24%	6%	2.74
Regular Use Stage	12%	37%	21%	24%	7%	2.76 (+)

*Average scores with (+) indicate a statistically significantly higher score than the respondent average. Scores with (-) indicate a statistically lower score.

COLLEGE USE FOR MARKETING

How do students feel about colleges using AI for marketing materials?

THE AI-GENERATED ANSWER

Students have mixed feelings about colleges using AI to create marketing materials. Some students feel that it diminishes the college's ranking and value student and school spirit in the marketing process. Others believe that as long as AI is not used exclusively and other aspects of the college are strong, it is acceptable. There are also students who do not feel affected by the use of AI and think it is fine as long as it is not used in a negative light. Overall, opinions vary and depend on the extent of AI usage in marketing materials.

WHY ARE THEY USING IT?

Many of the detractors of the use of AI for college marketing had questions about why a school should need the tool. From assuming that means they have no talent, to the school being less prestigious, or even that there is no budget, the use of AI was seen by many as a shortcut that indicated something negative about the school itself.

ASSUMPTIONS

There were several respondents who said colleges using AI would not surprise them, or that they have already experienced college materials they suspected were written by AI. Many felt the content would be more generic and assumed that colleges would be using the same tools as one another, thus leading to less specificity and personality for the college materials.

ACCURACY AND USE CASE

Among students who were positive about the idea, most focused on a modifier: the information still has to be accurate. As such, having humans to check the outputs and making sure the AI was used in a limited capacity was important for those who were open to it.

REPRESENTATIVE QUOTES

"I wouldn't really feel affected if my college or university of interest use AI to help marketing material because they do want their college or university to be known and AI is getting popular. So as long as they don't use AI in a negative light I think it's fine it's okay".

"When it comes to college marketing, I think finding that it was made through AI would diminish the college's ranking on my personal list. When it comes to college marketing, I believe that student and school spirit should be implemented in that process. AI is common and every college could use the same thing."

"I would be concerned that a high-level college needs AI tools to help with marketing materials because it's not something they came up with by themselves."

"Colleges already all sound the same. Good luck standing out if you're using an AI tool to write something for you."

"I think that it is not uncommon to use technology and it is what the future is going to look like and it is normalized."

Quotes are presented as close to verbatim as possible based on transcription.

TOPIC CALLOUT

How colleges should use AI in
marketing, according to students.

THE AI OVERVIEW

A college can make effective and acceptable use of AI in its marketing materials by using AI to generate ideas, create drafts, and provide insights, but still involving humans in the final editing and decision-making process. This way, the marketing materials can benefit from AI's efficiency and creativity, while still incorporating the human touch and perspective.

10 RECOMMENDATIONS FROM STUDENTS FOR USING AI

1. Make sure all content is reviewed by a human.
2. Use AI sparingly for low-importance comms.
3. Create your own AI; don't use an existing product; train on existing college materials from your college only.
4. Use AI to personalize to individuals in a way that a human couldn't for mass comms.
5. Use AI to send the comms at the right time.
6. Never use AI to talk about critical topics like financial aid.
7. Never use AI to respond to student questions directly unless it's clear that the student is interacting with an AI (e.g., chatbots)
8. Add a disclaimer to AI ads for visibility.
9. Have an expert at AI on your team; don't rely on people without AI knowledge.
10. Find several other ways/outlets to prove you care enough about students to spend the time to create content for them; don't be lazy.

AI FOR ADMISSIONS

How would students feel if an AI was used in college admissions decisions?

THE AI ANSWER

Students would feel upset and peeved if AI was used in a college admissions decision. They believe that it would be unfair to have something non-human decide their acceptance into a university. They feel that college applications should be reviewed by actual people who can consider individual attributes and personal connections. Some students would still apply to the college but would question if their acceptance was a mistake made by AI. (Researcher note: the fact that the AI used the term "peeved" gave me a chuckle.)

JUST DON'T DO IT

There was almost no positive support for this idea from across the participants. Many would feel undermined and a college would take a huge reputational hit if it was using an AI to make these important decisions. Carnegie strongly recommends against the use of AI in admissions decisions.

THE ONE SILVER LINING

The only positive feedback was that AI might be "more fair" to people because it might not have the same bias humans have (thinking about race, sexuality, ability, etc.). However, this was rebuked by others who note that an AI trained on "years of racism and elitism" will only further the issue. Even with a potential for a more fair process, most respondents were not happy with the idea that a school might use AI for any part of the admissions process.

REPRESENTATIVE QUOTES

"I feel like if a college used AI in admissions decisions, it would be obsolete because it wouldn't take into account students' thoughts, feelings, and emotions, and otherwise. It would go based off of scores and tests alone and that isn't, that's only half of what an admissions decision should be."

"I would be very scared if they were to, universities and colleges were using AI to help its admissions because AI can't feel any personal connection to, say for instance their personal essay or their stories or their resumes they don't feel any personal connections to them so how would they know if this is a good fit for that college they can't really interview us can they?"

"I would be upset because it wouldn't be fair to the people who actually want to get in a certain college and they use AI to determine if they want to accept them or not."

"This is where my love of AI ends. No. That's awful to even think about. My life shouldn't be in the hands of an AI."

"I think it might be more fair to people as there wouldn't be bias, but I don't know how it would its decisions different from a human."

Quotes are presented as close to verbatim as possible based on transcription.

LEARNING INTEREST

How interested are you in learning more about AI tools and how you can use them?

AUDIENCE	NOT AT ALL INTERESTED	SLIGHTLY INTERESTED	MODERATELY INTERESTED	HIGHLY INTERESTED	COMPLETELY INTERESTED	AVERAGE SCORE*
All Respondents	14%	29%	34%	18%	6%	2.73
Women	16%	32%	33%	15%	4%	2.58 (-)
Men	10%	24%	36%	23%	9%	2.98 (+)
Genderqueer/Nonbinary	23%	28%	32%	14%	4%	2.47 (-)
Asian	9%	26%	33%	23%	10%	2.98 (+)
Black/African American	12%	27%	35%	20%	7%	2.82
Hispanic/Latinx	12%	28%	35%	19%	7%	2.81
Mixed Race/Other	15%	28%	36%	16%	6%	2.70
White/Caucasian	17%	31%	32%	16%	4%	2.60 (-)
LGBTQIA+	17%	28%	32%	17%	7%	2.68
Not LGBTQIA+	13%	29%	34%	18%	6%	2.74
Low Income	12%	29%	36%	17%	6%	2.77
Lower-middle Income	16%	27%	34%	17%	6%	2.70
Upper-middle Income	15%	29%	32%	19%	5%	2.71
High Income	13%	30%	33%	18%	6%	2.74
Average GPA	15%	29%	35%	16%	5%	2.68
Strong GPA	13%	29%	35%	17%	6%	2.73
High Achievers	15%	28%	32%	19%	7%	2.75
No Direct Experience	24%	35%	30%	9%	2%	2.30 (-)
Experimental Stage	14%	31%	36%	15%	4%	2.64
Occasional Use Stage	5%	21%	36%	29%	9%	3.16 (+)
Regular Use Stage	4%	12%	27%	30%	27%	3.63 (+)

*Average scores with (+) indicate a statistically significantly higher score than the respondent average. Scores with (-) indicate a statistically lower score.

THE RISE OF AI

How do students feel about AI becoming more mainstream?

THE AI ANSWER

Students have mixed feelings about AI becoming more mainstream. Some believe it is a great innovation and a valuable resource that can expand knowledge and provide access to information. Others express concerns about overreliance on AI, lack of connection with professors, and potential job displacement. Overall, students have a range of opinions, from positive and hopeful to apprehensive.

THE "COOLNESS" FACTOR

Like many other technology revolutions, there are early adopters who see AI as being so blindingly cool that it can do no wrong. Indeed, some students felt that it would completely change the world in a positive way, and as a result, they felt it was the most important thing going on for their generation. In addition, the feeling of seeing everything an AI could do was a moment of awe.

WEIGHING PROS AND CONS

Most respondents had a mixed response even internally. While they see the opportunities of AI, they also think there are dangers. There is a fascination and a hopefulness that pervaded respondents, even when they had real concerns about privacy and knowledge sharing.

DEEPFAKES AND DEEP WORRIES

The most negative respondents felt AI has made the world more confusing, more dangerous, and less free. These respondents noted things like deepfakes (which can range from generally harmless jokes where a person's voice is used to something funny up to very serious image manipulation that could place a person in what appears to be a compromising situation) that can be produced using AI. Further, the idea that the credibility of information may become difficult to discern has these students worried. Some respondents felt AI would just make people lazier until the point that no one could fend for themselves.

REPRESENTATIVE QUOTES

"I feel good and bad about the rise of AI on mainstream use. I feel like it's good because it has stronger, powerful words and it can allow students to expand their vocabulary. I think it's bad because I think students should really use their mind and learn about these different things that AI can help you with, but I feel like AI is also a good way to learn that stuff."

"I think AI is really helpful and I like how it's becoming mainstream and becoming more popular among our generation, but I also think it's developing really rapidly and it's becoming more of a reliance than a fallback."

"I think it's important that AI is in mainstream use and that I think it's very cool that it's being used for multiple things. Between education, science, technology, it's a great resource. I believe that it's going to help expand our knowledge and help people who don't have access to different tons of information be able to get access to that. Yeah."

"I really feel unsure because AI can be used to do a lot of unspeakable things. It can be used for catfishing, it can be used for plagiarism, it can be used for a lot of things, but it also can be used for a lot of good things."

"It seems scary since it's getting hard to know what's real or not."

Quotes are presented as close to verbatim as possible based on transcription.

IMPACT ON COLLEGE AND CAREER

How will AI change the college and career decisions that students make?

THE AI-GENERATED ANSWER

AI will have a significant impact on the college and career decisions that students make. It will change the way students search for colleges, make decisions about majors, and consider future career prospects. AI tools can provide valuable insights and recommendations based on individual interests, goals, and the current job market. Students can use AI to evaluate which colleges offer the best programs for their intended majors and explore suggested career pathways. However, there is also concern that relying too heavily on AI may limit personal growth and the acquisition of knowledge gained through traditional college studies.

JOB SECURITY

Most worry from respondents came about in the idea that AI could ruin the job market for certain positions. Perhaps being overly positive, however, most respondents who had this worry modified it by saying "not MY job" as if there are many careers people want that feel more insulated. Careers most noted as being impacted were writing, transportation, teaching, and coding.

PICKING A MAJOR

Many respondents noted that the rise of AI has made them consider different majors, especially those that might have a use for AI without being replaced. Many others noted that it made the major they were interested in more realistic as they see AI offering tools that could help them attain the career they have wanted. Further, some respondents asked if schools will have a degree in AI.

UNCERTAINTY

There was a large group of respondents who didn't feel AI would impact their college journey or career at all, or that if it does, there is no way to be certain how. Rather, there is still quite a lot of mystery surrounding the topic and what it might mean for certain careers.

REPRESENTATIVE QUOTES

"The rise of AI and capabilities impact plans for major and college and eventual career. I think this mostly applies especially for careers that as we can see are declining in actual assistance with people actually working. I really think this will affect that because eventually down the line it's gonna come to a point where AI is just gonna be a part of everything in now or today lives and we're gonna barely have any jobs. So we have to, what I think is we have to learn how to control AI to the point where it's not gonna leave people out with jobs or anything like that."

"Now when looking at potential careers, you have to look at how likely it is that you will have a career in the future seeing as AI is taking over a lot of manual jobs. In college, there is more access to resources to study and learn from so it would be helpful to use it."

"I want to take some courses in AI in college."

"Well, my original plan for my college major and career has been a little bit impacted by AI because of what I've seen from the strikes. But my new chosen career path, I feel like would not be affected by AI because I don't think that AI can replace the career that I want."

"Will I even need a job? Have a job? It's a little scary."

Quotes are presented as close to verbatim as possible based on transcription.

TOPIC CALLOUT

What support do students want from colleges to help them be successful in the new AI landscape?

EDUCATE AHEAD

The question about AI impacting career and college outcomes was met with some admiration. Many respondents say that they have not yet gotten to have those types of conversations about the technology, and they hope that colleges support the free and open discussion about AI that could round out an education. Also, students believe schools should "educate ahead" for new students about AI tools the college has or uses and the policies it enforces regarding things similar to plagiarism.

OFFER COURSES/DEGREES

Many respondents believe a college that offers either courses or full degrees in AI coding, research, training, and more will stand out in the marketplace. In addition, many students across a variety of majors believe taking a course in AI might be valuable for them regardless of their career path.

SUPPORT USE IN CLASSES

Rather than condemn the use of AI, many students want support in how to best use it and become better learners. Colleges can help students prepare for the use of AI in their careers by inculcating that education into a broad range of classes, including general core classes.

OFFER HUMANITY FIRST

There is a worry from students that AI is going to dehumanize the college experience; from courses taught by AI to a lack of human help and counseling. While AI will likely continue to change the landscape of industry and employment, there is some hopeful thinking from students that colleges can remain a space where AI is used sparingly, and human connections are not lost.

AI PERCEPTIONS

insights

Despite the recent surge in awareness, use, and interest in Artificial Intelligence (AI), the concept is decades old. Many people use AI in their daily lives. If they've ever used the voice-to-text feature on their phone, asked Alexa to turn up the volume, or even done a basic Google search, they've been interacting with AI. AI isn't even new to colleges and universities, many of which already use AI in their communication and data analytics practices as well as their application review process through the use of software that can transcribe transcripts and recalculate GPAs. It's here, and it has been for a while.

What is new is AI's accessibility in spheres that were normally considered only possible for humans, and only humans with a keen awareness and skill for using the technology. Now, AI can "communicate" and produce written and visual content through massive amounts of data mining and processing ("learning"). And, you don't have to be an AI expert to take advantage of this. The implications this has on many different aspects of our lives, including the college search, application, and decision process, have many people - students and professionals alike - concerned. Now that AI can essentially "talk back," people wonder how others may use this to take unnecessary or unethical shortcuts or even how they can trust what they consume. However, just as AI isn't a new concept, neither are concerns that stem from technological advancement. As noted on page 24, the wariness of new technology and the impact it will have on interpersonal relations, work ethic, and even academic integrity are cyclical. In short, this new wave of AI offers some opportunities and risks within the educational landscape; this isn't the first time an advancement has, and it won't be the last.

STUDENT USE, AWARENESS, AND CONCERNS

It's easy to assume that only teachers and school administrators are concerned about things like academic integrity and work ethic, but many students are aware of these risks as well when considering how AI will

impact their education. As noted on page 9, several respondents indicated using AI on schoolwork feels like cheating. Others shared concerns about how accurate the information received from AI might be, sharing that their level of distrust may mean that in almost every case, they'd feel it necessary to check the work AI has done on their behalf.

Despite their concerns, students are willingly and quickly exploring this new technological advancement. Over half of respondents indicated a moderate level of familiarity or higher with new AI tools such as ChatGPT, DALL-E, or similar platforms. Seventy percent of respondents shared that they have at least tried these tools. Men and Asian respondents reported higher levels of familiarity and awareness with these tools. At the same time, a correlation exists between familiarity, awareness, and GPA, with a higher GPA indicating greater familiarity and awareness. Otherwise, all students tend to explore and use these tools in fairly equal measure.

Likely, that's due not only to their curiosity, but their acknowledgement of the many opportunities AI presents. In the college search, it can save time, reduce stress and pressure, and offer hyper-individualized information that may help students build their college short-list. In school work, it can help them organize their thoughts and generate new ideas.

Despite students' willingness to explore, over half of student respondents attend school where there are policies regarding AI. This study did not explore the nature of these policies. However, the existence of such policies highlights an opportunity that AI presents for secondary and higher education institutions to set the tone regarding AI and education. Is it a threat or an opportunity?

AI PERCEPTIONS

AI FOR CONTENT CREATION

A major area of opportunity for higher education professionals responsible for creating written copy, images, or digital assets is to use AI to support the creative process. Similarly to the opportunities students cited in helping them with their college search and school work, content creators working alongside AI may find that these tools can help them generate new ideas, organize their thoughts, and even craft rough drafts of copy for emails or publications.

However, keep in mind that students' impressions of the involvement of AI in colleges' creative processes were not overly favorable. Many respondents indicated this would bring into question the prestige of the institution and the resources available to invest in developing marketing materials. Additionally, copy and images created by AI might make students wonder whether the college cares enough about their relationships with prospective students to put an appropriate amount of work in or if they're simply taking a shortcut. From the students' perspective, content generated using only AI would likely lack individuality, school spirit, and (potentially) accuracy.

This doesn't mean that colleges shouldn't use AI in their processes. However, use the tool for what it does best (e.g., consolidating information, offering new ideas, and quickly producing rough drafts). Then, involve staff, students, faculty, and other community members who can infuse the copy, design, and images with emotion, personality, unique examples, and differentiators to ensure AI-drafted copy becomes copy that could only be created by those who know the institution best.

For written copy, specifically, consider those things that students used most to determine if a piece of copy was generated by AI or by a human: complexity of sentence structure and word choice. More complex sentences and more common word choices tend to be interpreted as human-generated content and will give written copy a more personal feel.

AI FOR THE APPLICATION PROCESS

When considering that one of the things AI can do quickly and effectively is consume, interpret, and offer answers about massive amounts of data, a natural question is, how might AI be used to speed up one of the most time-consuming processes in many admissions offices - application review? Many institutions receive tens of thousands of applications in an often narrow window of time throughout the fall and winter. Even if a school isn't receiving that many applications, staffing and available resources to process the applications they receive can be limited. Additionally, as the popularity of the concept of "holistic" review has grown and reliance on test scores has lessened, many applications come with supporting materials such as essays, letters of recommendation, and resumes. It's a behemoth of a task. So, how can AI help?

Overwhelmingly, students do not think AI should be involved in making admissions decisions. This decision represents (and often is) a pivotal moment in the lives of applicants, and most students believe AI should not be what determines whether they receive this opportunity or not.

Consider AI's proper place in the admissions application review process. It is not advisable to allow AI to make the admission decision. However, AI may be able to reduce the workload elsewhere (e.g., GPA recalculations, reading and summarizing transcripts, identifying information that would be relevant to the decision, and collating that information for faster consumption) so staff have time to consider all the information available to them and make a fair and well-formulated admissions decision. As with content creation, AI should not have the final say but can play a role in easing the burden or freeing staff up for more critical tasks that AI is not suited for.

AI PERCEPTIONS

insights

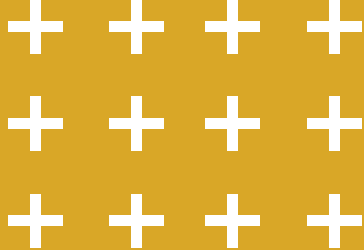
AN OPPORTUNITY TO EDUCATE

When considering how students plan to use AI during their college decision process, a theme emerged that suggested that by using AI, students may have an opportunity to approach the college search process on more equal footing. Instead of being limited by their ability to navigate the process or search for schools of interest, with the support of AI, more students will be given the most relevant and critical information they need to make their college decisions. Even if a student doesn't necessarily have someone in their network to ask, or they don't know exactly where to find the information, if they have access to AI and can ask it for help, they should be able to receive the help they need. While that is good in theory, the possibility still exists that not all students will be critical consumers of the information they receive from AI. Education about this tool, its possible and proper uses, and how to interpret the information that comes from it is still necessary.

High schools and colleges should consider the opportunity and responsibility they have to educate students to use AI effectively and be critical consumers of AI-generated content. Students are interested in this subject, as evidenced by the rate at which they've already adopted the technology. Additionally, they've indicated an interest in taking courses in AI and understanding the impact AI may have on their decisions regarding majors and careers. These are great topics around which educators can craft resources, events, webinars, courses, certificates, or even degrees that can serve students as they begin their college search process and throughout their time in college.

IN SUMMARY

It will be impossible to stop the progression of AI as it continues to impact almost every realm of life, including education. Colleges and school administrators who learn to harness its power and are open to educating their students on its capabilities, limitations, risks, and opportunities will soon become the go-to experts in the minds of college-bound students who are often quick to seek and adopt this technological advancement. In everything, consider AI's proper place. A positive impact is possible when using AI to streamline processes, create efficiencies, and ultimately make room for humans to do the work only they can do - infuse personality, manage sensitive decision-making, and be at the forefront of education about AI.



CARNEGIE



210 Littleton Road, Suite 100, Westford, MA 01886

978-692-5092

info@carnegiehighered.com

CarnegieHigherEd.com

