### AI or Human? Credibility of Messages Written by ChatGPT

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**ABSTRACT.** With the rise of AI platforms like ChatGPT, Azure, and Amazon Go, artificial intelligence (AI) platforms continue to challenge the limitations of human cognition, learning from inputs and responding to prompts with coherence and clarity. This study aims to determine how accurately a person can distinguish text written by a human from text written by an AI bot like ChatGPT.

We developed prompts for three categories of text - responses to general knowledge questions, social media posts, and haikus - with two different authors, ChatGPT and a Cal Poly student. To keep each treatment consistent, we used the same prompts for each category of text, randomly assigning each piece of text to our participants in a Google Form. The mean percentage of correctly identified authors (CIA) was then calculated across each participant. With a mean CIA of just 49.22%, it appears that people were generally unsuccessful in deciphering either AI or human authorship.

#### 1. Introduction

Who's the author behind the latest Twitter post in your feed or the advice column you follow online for some guidance? You may immediately assume they are human and not artificial intelligence(AI). It turns out that this discrepancy between our expectations and reality may be greater than we think; our study reveals that people may not be able tell the difference between texts written by AI and humans in real time.

To determine how successful people are at distinguishing texts written by AI and humans, we gather students from Cal Poly and present them with two texts of the same type - one version written by ChatGPT and the other sourced by the researchers. We then record whether they identify the author of the text correctly, updating the overall mean percentage of correctly identified authors (CIA).

Similar studies have attempted to assess how effective ChatGPT is at mimicking responses written by actual humans. One study has trained the chat feature with 12 psycholinguistic tasks; in 10 of them, ChatGPT has been found to replicate human patterns in language production and comprehension but had failed to use context to fix syntax errors or shorten words like most humans do (Gao, C. A. et al., 2022). Another study had followed our experiment's approach by presenting participants with original and

AI-generated scientific abstracts; these blinded human reviewers correctly identified 68% of abstracts written by ChatGPT (Cai, Z. G. et al., 2023). From these results, it appears that ChatGPT is adept at replicating human patterns of language use but may produce formulaic results that would not typically materialize from a person's own unique, authentic writing style. Our study attempts to find differences in deciphering authorship for various text types to expand upon previous research.

#### 2. MATERIALS & METHODS

The data was collected by having students fill out a Google form of ten questions. These questions displayed a prompt that was either delivered to a human author or ChatGPT and the corresponding written response. The students were then asked to determine whether each response was written by AI or not. Unbeknownst to the students, all ten responses were written by a human or an AI, depending on the assigned treatment.

There were six possible forms that could have been assigned to an individual, each being a combination of a possible author and a type of written text. These forms were either written by a human or ChatGPT. The type of written text exhibited on the form was either a social media post, an explanation (prompts that individuals could reasonably look up in a search engine), or a haiku. These treatments are listed in Table 1.

Table 1. Treatment

			text type	
		Explanation (Exp)	Social Media (SM)	Poem
text author	ChatGPT	AI x Exp	AI x SM	AI x Poem
iexi aumor	Human	Human x Exp	Human x SM	Human x Poem

*Note.* The specific forms used as the treatments for this experiment are listed in the Appendix.

After the students took the quizzes, we logged their final scores of how many questions the students got correct, measured in percentage points. We also obtained their prior knowledge of ChatGPT on a scale of 1 to 10, where 1 indicates no knowledge, and 10 indicates a large amount of knowledge. However, no statistical analysis was done on this variable.

This experiment used 102 students at California Polytechnic State University, specifically those residing in the Poly Canyon Village apartments. Thus, all responses were from individuals in their second or third year. This is a convenient sample, however, as it relied on individuals being willing to come up to our data manager to take the exam. Thus, this study mostly involves people who have some remote interest in AI technology.

For every type of text, the AI and human responses used the exact same prompts, and the order in which the questions were presented was identical, thus eliminating a source of variation. Additionally, we ensured that all of the students knew what ChatGPT was by giving a quick description of it before they began. This was also done for the poems, as we wanted to make sure all of the students were aware of what a haiku was. Furthermore, we utilized a completely randomized design, in which the treatments are assigned entirely at random to each student.

To test the effect of both types of text and author of text on participants' ability to correctly identify a text's author, measured as a percentage of authors correctly identified, a 2x3

two-factor analysis of variance (ANOVA) was conducted. Our analysis was conducted using statistical software: (JMP® Version 17, 2023). No pairwise comparisons were made to further investigate the most optimal combination of text type and author.

#### 3. RESULTS & DISCUSSION

As seen in Table 2, the mean percentage of correctly identified authors for those who received treatment with a human text author was 49.80% was the greater mean CIA of the two author conditions. In contrast, the AI text author mean CIA was 48.63%. The analysis demonstrates no significant difference in average CIA between the two author conditions, F(1, 96) = 0.3158, p = 0.5755; thus, no significant main effect of text author in mean CIA was found

Table 2 also shows that the mean CIA for the three conditions of text types were similar to each other, with mean CIAs of 48.53% for the explanation text type, 50.59% for the poem text type, and 48.53% for the social media text type. The text type condition which resulted in the greatest mean CIA was the explanation text. However, the analysis reveals that no significant difference in mean CIA among the three author conditions was found, F(2, 96) = 0.4298, p = 0.6519; there was no significant main effect of text type in mean CIA.

Of the six treatments used in the experiment, the highest mean CIA was 52.35% in the human written poem condition (SD = 9.03). Table 3 illustrates that two treatment groups had the

lowest mean CIA of 48.24% among the treatments: AI-written explanation text (SD = 16.29) and human-written social media text (SD = 10.74). Since no significant main effect of the text author and text type was found, all six treatment means were also not found to be significant from one another; likewise, we did not find evidence of significantly different means among any treatment compared to the overall mean CIA of 49.22% in our sample.

Figure 1 shows some evidence of the text type modifying the effect of text author on mean CIA: the difference in mean CIA for the three text types in AI conditions were closer together than the mean CIAs for the text types in the human conditions. Yet, the analysis indicated no statistically significant interaction between text author and text type, F(2, 96), p=0.7111. We did not find that there was an effect of either text type or text author, or a combination of both, which resulted in a statistically significant mean CIA.

#### 4. CONCLUSIONS

Through the study, the fact that AI's are rapidly evolving is demonstrated through people's inability to accurately distinguish between AI and human authors, even when informed of the possibility of AI involvement. It brings up the consideration that we are not aware of how much content online is AI-generated or altered, especially when we're not actively told AI could be involved. We focused our analysis and data collection on the overall score individuals received. However, there might not be equal variance question-to-question. To be specific, there could have been one or two haikus that

every single person in the study believed were AI-generated, or they believed must have been written by a human author. A future study could look more in-depth into whether sentence structure or specific topics would help people recognize either an AI or a human author.

It is possible students did not believe all ten questions could have the same treatment, and some responses would have been less accurate due to this doubt. Additionally, ChatGPT responds to prompts with pronouns like 'our' and 'we,' which could mislead people, especially those unfamiliar with the AI, and might not expect artificial intelligence to utilize pronouns. We can generalize our results to Cal Poly students living on-campus, specifically in Poly Canyon Village, similar to those in the study, under similar conditions to those in the study.

It is important to be aware of the author of any media we consume, especially in a day and age where artificial intelligence is so easily able to write like a human. Especially when we consider that prejudices and biases inherent in society can then be built into AI (Moss). AIs such as ChatGPT are doing their jobs correctly, as it was designed to respond to requests as though a human wrote it. Being aware of when AI is put into use is now an important digital literacy tool for anyone who spends time on the internet. We should be more cautious when online as it is now clear we truly do not know whether an AI or a human has written something. However, as AI continues to close the gap towards writing as humans do, how can we be expected to tell the difference?

#### 5. REFERENCES

Cai, Z. G., et al. (2023). "Does ChatGPT resemble humans in language use?". *arXiv preprint arXiv:2303.08014*. Retrieved from Google Scholar database.

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https://ic4ml.org/journal-article/the-prevalence-of-artificial-intelligence-surveillance-capitalism-disin formation-and-biased-algorithms-amplify-the-need-for-critical-skills-applied-to-media/

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### 6. APPENDIX

Figure 1. Interaction Plot

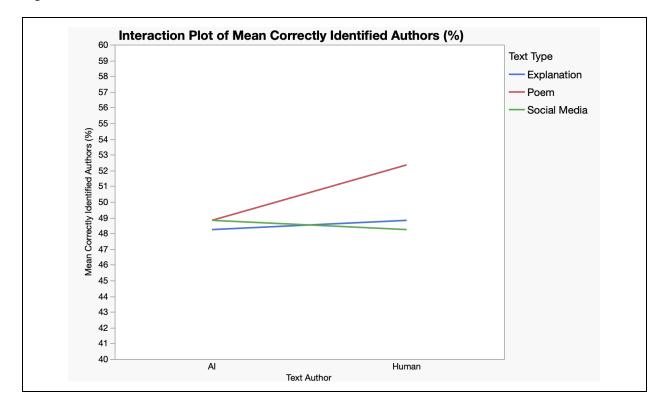


Table 2. Mean Correctly Identified Text Authors (%) and Standard Deviations by Text Author and by Text Type

	y Text Author ana i	бу техі туре	
	M	SD	
Text Author			
AI $(n = 51)$	48.63	10.96	
Human $(n = 51)$	49.8	9.9	
Text Type			
Explanation $(n = 34)$	48.53	13.29	
Poem $(n = 34)$	50.59	8.51	
Social Media $(n = 34)$	48.53	8.92	

*Note*. M and SD stand for mean and standard deviation, respectively. Means and standard deviations are measured in percentage points. Total sample size is 102; overall mean CIA was 49.22%.

Table 3. Mean Correctly Identified Text Authors (%) and Standard Deviations of Each Treatment

			text	type		
_	Explar	nation	Po	em	Social	Media
text	M	SD	M	SD	M	SD
author						
AI	48.24	16.29	48.82	7.81	48.82	6.97
Human	48.82	9.93	52.35	9.03	48.24	10.74

*Note*. M and SD stand for mean and standard deviation, respectively. Means and standard deviations are measured in percentage points. No treatment means were significantly different from the rest.

### Addressing Model Assumptions

It is reasonable to believe that the data comes from a normal distribution. This is supported by both the normal probability plot of residual CIA where the residuals are mostly linear and the symmetric, bell-shaped histogram of residuals in the Normal Quantile Plot (there is one high outlier). Therefore, the analysis assumption that the data comes from a normal distribution is reasonably valid. The residual by predicted plot shows stacks of residuals that have about the same height, aside from the one high outlier. This suggests that it is reasonable to assume constant variability among all treatment groups. Since treatments were given individually, with no repeated individuals, in a randomized order, and under our supervision, it is also valid to assume independence among observations.

## JMP Output

Parameter Estimates				
Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	49.215686	1.046772	47.02	<.0001*
Text Author[AI]	-0.588235	1.046772	-0.56	0.5755
Text Type[Ex]	-0.686275	1.48036	-0.46	0.6440
Text Type[Poem]	1.372549	1.48036	0.93	0.3562
Text Type[Ex]*Text Author[Al]	0.2941176	1.48036	0.20	0.8429
Text Type[Poem]*Text Author[AI]	-1.176471	1.48036	-0.79	0.4287

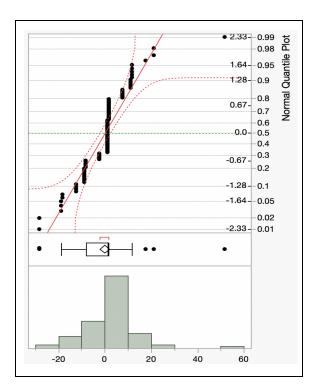
Analys	sis of \	/ariance		
Source	DF	Sum of Squares	Mean Square	F Ratio
Model	5	207.843	41.569	0.3719
Error	96	10729.412	111.765	Prob > F
C. Total	101	10937.255		0.8668

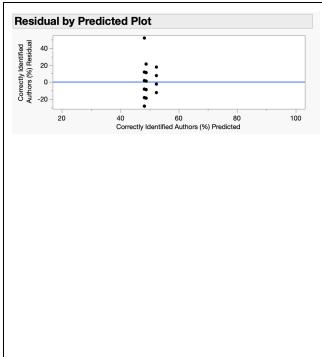
Effect Tests						
Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F	
Text Author	1	1	35.294118	0.3158	0.5755	
Text Type	2	2	96.078431	0.4298	0.6519	
Text Type*Text Author	2	2	76.470588	0.3421	0.7111	

	N	Mean	Std Dev
Text Author	Correctly Identified Authors (%)	Correctly Identified Authors (%)	Correctly Identified Authors (%)
Al	51	48.62745098	10.958030451
Human	51	49.803921569	9.8975140472

	N	Mean	Std Dev
Text Type	Correctly Identified Authors (%)	Correctly Identified Authors (%)	Correctly Identified Authors (%)
Ex	34	48.529411765	13.287577461
Poem	34	50.588235294	8.507100945
SM	34	48.529411765	8.9213237709

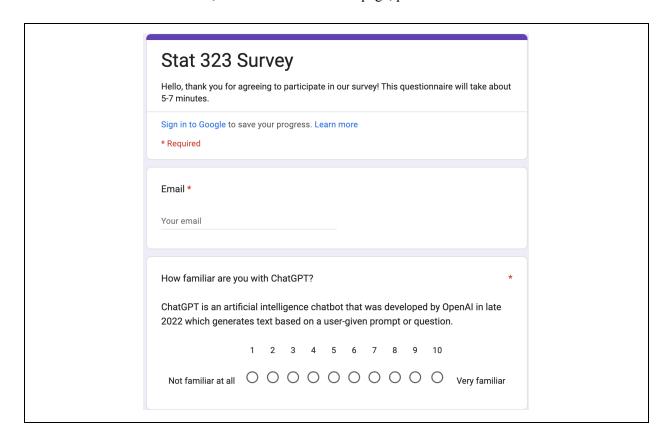
			Text	Type		
	E	x	Po	em	SI	M
	Mean	Std Dev	Mean	Std Dev	Mean	Std De
Text Author	Correctly Identified Authors (%)	Correctly Identified Authors (%				
Al	48.235294118	16.292365589	48.823529412	7.8121323443	48.823529412	6.9663054602
Human	48.823529412	9.9261982533	52.352941176	9.0342485608	48.235294118	10.744355563



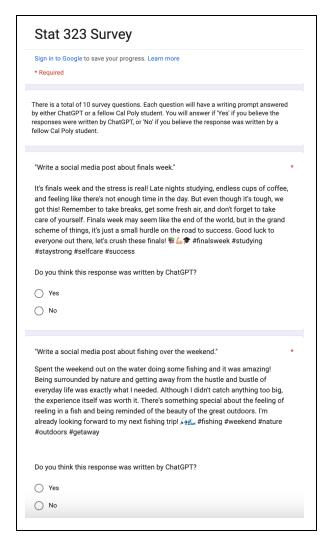


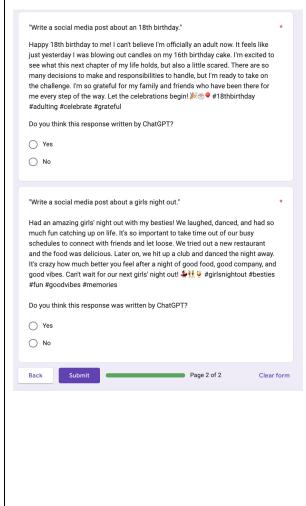
### **Treatment Forms**

In each of the 6 treatment forms, all had an identical first page, pictured below.

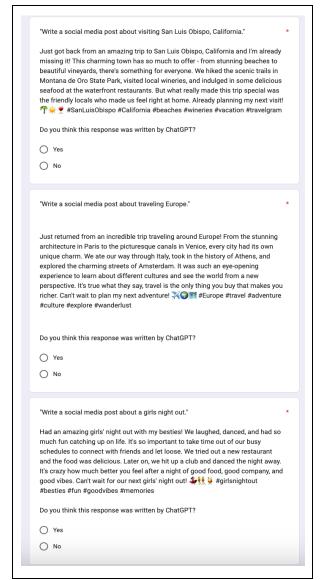


**AI x Social Media Form** This form's second page began as pictured below (top left). The AI x Social Media form second page ended as pictured below (top right). There were only 2 pages for the AI x Social Media form.



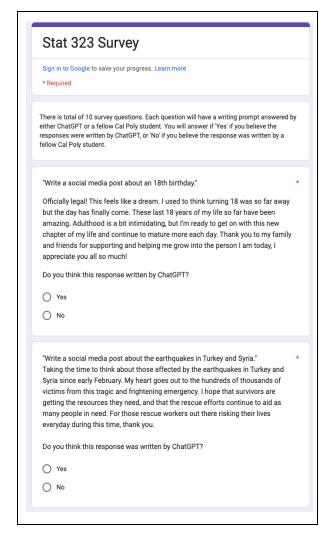


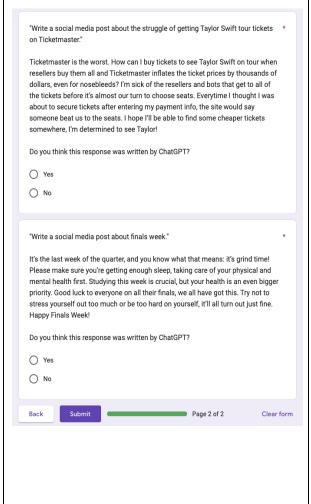
### AI x Social Media Form (continued)



**	rite a social media post about having an iPad in college."
to Ap iPa dea pla	a college student, having an iPad has been a game-changer! It's so convenien have all my textbooks, notes, and assignments in one place. Plus, with the ple Pencil, I can take handwritten notes and draw diagrams directly on my id. It's also been a lifesaver for staying organized with my schedule and adlines. And when I need a break from studying, I can use it to watch movies o by games. Overall, having an iPad has made my college experience so much sier and more enjoyable. #college #ipad #studentlife #organization
Do	you think this response was written by ChatGPT?
0	Yes
0	No
	rite a social media post about the struggle of getting Taylor Swift tour tickets Ticketmaster."
too in i It's ref	AG, the struggle was real trying to get Taylor Swift tickets on Ticketmaster fay! I had multiple devices open, constantly refreshing the page, and I still uldn't get the seats I wanted. It's crazy how fast they sell out! I even had some my cart at one point, but by the time I entered my payment info, they were gone frustrating when bots and scalpers make it difficult for fans to get tickets, but use to give up. I'll keep trying and hopefully, I'll be able to see Taylor in concert on! #taylorswift #concert #ticketmaster #struggleisreal
Do	you think this response was written by ChatGPT?
0	Yes
0	No
"W	rite a social media post about a wedding anniversary."
live mo be: we	ppy Anniversary to the love of my life! Today marks another year of sharing ou as together, and I couldn't be more grateful to have you by my side. From the sment we said "I do" to this very day, you have been my rock, my partner, and m at friend. I'm so thankful for all the memories we've created and the adventure (ve shared. Here's to many more years of love, laughter, and happiness. nniversary #love #happilyeverafter
Do	you think this response was written by ChatGPT?
0	Yes
$\overline{}$	No

### Human x Social Media Form Formatted identically to AI x Social Media Form.



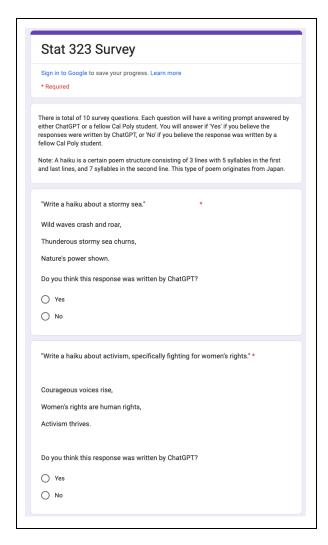


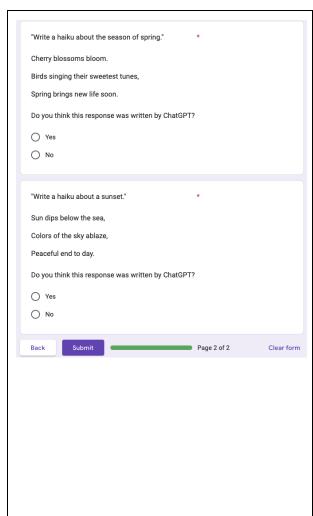
## Human x Social Media Form (continued)

It was just me and the girls last night; we had a blast at the concert we went to. So grateful that we get to get together like this, make a trip, have some good food, and vibe at the amazing concert. Wouldn't trade anything for my besties and I'm glad we had such an awesome night. I'll never forget this one. Already hoping we get to do another girls night out very soon! #thegirls
Do you think this response was written by ChatGPT?
↑ Yes
○ No
"Write a social media post about visiting San Luis Obispo, California."
Visited San Luis Obispo this last weekend with my family and we had tons of fun! There is so much to explore around this coastal town, including a variety of surrounding beaches and an amazing downtown area. The weather is perfect here year round too! Would love to be back sometime soon. Highly recommend making a trip out to California's Central coast, you won't regret it.
Do you think this response was written by ChatGPT?
Yes
○ No
"Write a social media post about a wedding anniversary."
Happy wedding anniversary to us! Cheers to many more years of our wonderful marriage, and thank you for being my rock all these years. It has been quite a wild ride, and I couldn't have asked for a better partner by my side. I love you, forever and always.
Do you think this response was written by ChatGPT?
○ Yes
○ No

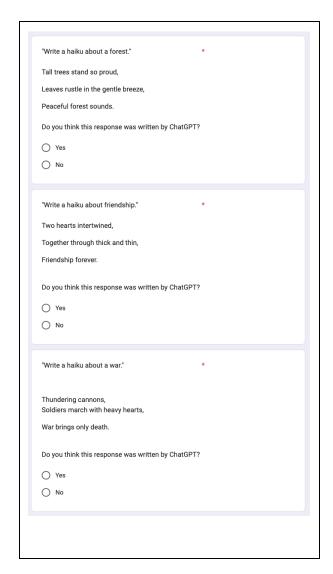
"Write a social media post about having an iPad in college."	*
Just got an iPad for college and it has improved my student life. I am so glad I never have to buy notebooks, pens or pencils, and other school supplies at the start of every quarter. It also makes my backpack so much lighter and I don't have to use up tons of paper for notes or as scratch paper. It is a great investment because even though it's a large price to pay up front, you won't need to spend much else on school supplies as long as you have your iPad to work and store everything on. It is also more portable than laptops, which can be heavy and unnecessary in some contexts. Honestly I don't know how I lived without it before!	
Do you think this response was written by ChatGPT?	
○ Yes	
○ No	
"Write a social media post about fishing over the weekend."	*
Last weekend I got some amazing catches out at the lake! The weather was just right with the amount of sun there was. Was out there for quite a while under the nice blue sky to catch as many fish as possible. Definitely glad I got to get away from everything for a bit to relax and fish. Hoping to get some bigger fish next time!	
Do you think this response was written by ChatGPT?	
O Yes	
○ No	
"Write a social media post about traveling Europe."	*
Just landed last night after a 2 week trip exploring Europe! Going on this trip has always been a dream of mine since I was little, and I'm so blessed to have been able to experience traveling outside of America. We went to England, France, Italy, Spain, Amsterdam, Austria, Germany, and Switzerland. The views were stunning and there was so much to see, I wish I could have stayed in each place a bit longer. I would do anything to go on another vacation in Europe. Seeing and interacting with other cultures is something we should all get to experience for ourselves.	
Do you think this response was written by ChatGPT?	
Do you think this response was written by ChatGPT?  Yes	

**AI x Poem Form** This form's second page began as pictured below (top left). The AI x Poem form second page ended as pictured below (top right). There were only 2 pages for the AI x Poem form.



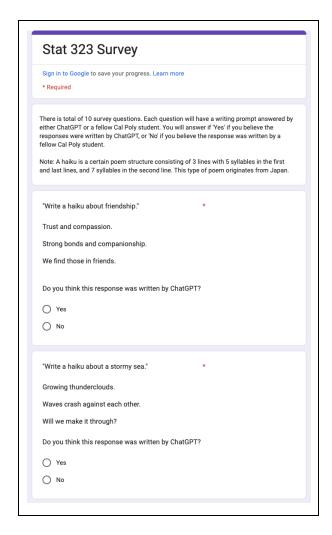


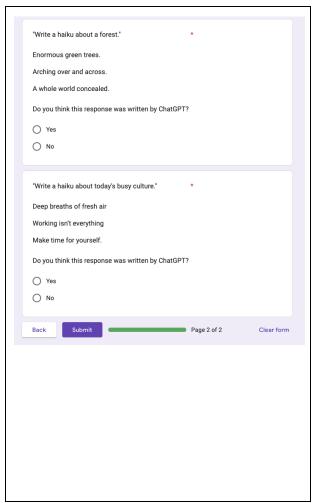
## AI x Poem Form (continued)



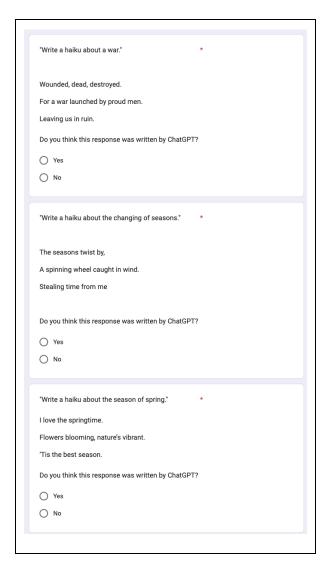
"Write a haiku about today's busy culture."  Busy bees buzzing, Rushing, hustling, never rest, Modern life's unrest.  Do you think this response was written by ChatGPT?  Yes  No  "Write a haiku about the changing of seasons."  *  Leaves fall to the ground, Nature's cycle never stops, Seasons come and go.  Do you think this response was written by ChatGPT?  Yes  No  "Write a haiku about technological advancement."  Machines once mere dreams, Now in our hands, at our feet, Tech propels us forth.  Do you think this response written by ChatGPT?	Busy bees buzzing, Rushing, hustling, never rest, Modern life's unrest.  Do you think this response was written by ChatGPT?  Yes  No  "Write a haiku about the changing of seasons."  *  Leaves fall to the ground, Nature's cycle never stops, Seasons come and go.  Do you think this response was written by ChatGPT?  Yes  No  "Write a haiku about technological advancement."  Machines once mere dreams, Now in our hands, at our feet, Tech propels us forth.		
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Nature's cycle never stops,  Seasons come and go.  Do you think this response was written by ChatGPT?  Yes  No  "Write a haiku about technological advancement." *  Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.	Nature's cycle never stops,  Seasons come and go.  Do you think this response was written by ChatGPT?  Yes  No  "Write a haiku about technological advancement."*  Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.  Do you think this response written by ChatGPT?  Yes		
Seasons come and go.  Do you think this response was written by ChatGPT?  Yes  No  "Write a haiku about technological advancement." *  Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.	Seasons come and go.  Do you think this response was written by ChatGPT?  Yes  No  "Write a haiku about technological advancement." *  Machines once mere dreams, Now in our hands, at our feet, Tech propels us forth.  Do you think this response written by ChatGPT?  Yes	L	Leaves fall to the ground,
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Yes  No  "Write a haiku about technological advancement." *  Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.	Yes  No  "Write a haiku about technological advancement." *  Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.  Do you think this response written by ChatGPT?  Yes	S	Seasons come and go.
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Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.	Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.  Do you think this response written by ChatGPT?  Yes	(	○ No
Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.	Machines once mere dreams,  Now in our hands, at our feet,  Tech propels us forth.  Do you think this response written by ChatGPT?  Yes		
Now in our hands, at our feet, Tech propels us forth.	Now in our hands, at our feet,  Tech propels us forth.  Do you think this response written by ChatGPT?  Yes		Write a haiku about technological advancement." *
Now in our hands, at our feet, Tech propels us forth.	Now in our hands, at our feet,  Tech propels us forth.  Do you think this response written by ChatGPT?  Yes		
Tech propels us forth.	Tech propels us forth.  Do you think this response written by ChatGPT?  Yes		
	Do you think this response written by ChatGPT?  Yes		
Do you think this response written by ChatGPT?	○ Yes	1	lecn propels us forth.
50 you ammit and responde mitter by original 1.	○ Yes	Г	Oo you think this response written by ChatGPT?
O v	-	,	_
	U NO	(	Tes

### **Human x Poem Form** Formatted identically to the AI x Poem Form.



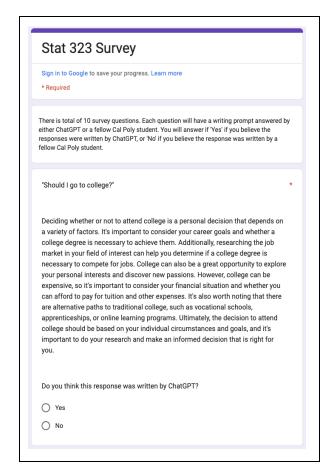


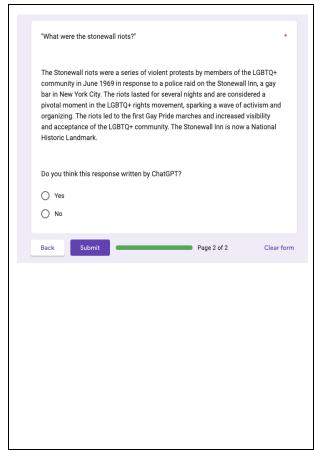
## Human x Poem Form (continued)



"Write a h	aiku about a sunset."
The best	part of day
Is when th	ne sun starts to hide
Pretty col	ored sky
Do you th	ink this response was written by ChatGPT?
O Yes	
O No	
"Write a h	aiku about technological advancement." *
Our techn	ology
Internet, c	ell phones, smart cars.
Oh how w	re've advanced.
Do you th	ink this response written by ChatGPT?
O Yes	
O No	
"Write a h	aiku about activism, specifically fighting for women's rights." *
Thou ook	why we fight.
-	ot see us drowning
A world u	-
Do you th	ink this response was written by ChatGPT?
O Yes	
0 100	

**AI** x Explanation Form This form's second page began as pictured below (top left). The AI x Explanation form second page ended as pictured below (top right). There were only 2 pages for the AI x Explanation form.





# AI x Explanation Form (continued)

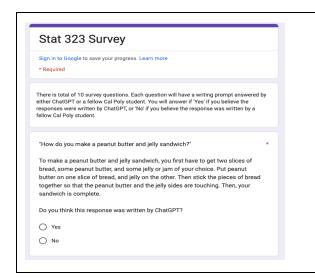
"What are	e some painting tips for beginners?"
Here are	some painting tips for beginners:
	the basics: Begin with simple paintings and focus on basic techniques color mixing, brush strokes, and shading.
	ty materials: Invest in good quality paints, brushes, and canvases to e best results.
	practice, practice: The more you practice, the better you will become. discouraged by mistakes, as they are a natural part of the learning
	nt with different techniques: Try different painting techniques, such as r impasto, to create different effects and textures.
	n reference: Start by painting from a reference image or still life to help rstand how light and color work in a painting.
things. Do	afraid to make mistakes: Painting is about experimenting and trying new on't be afraid to make mistakes, as they can often lead to new and ed discoveries.
	aks: Take breaks to rest your eyes and prevent fatigue. This can also help a fresh perspective on your painting.
	er, painting is a journey and it takes time and practice to develop your oy the process and have fun!
Do you th	ink this response was written by ChatGPT?
O Yes	
○ No	
"Who was	s Isaac Newton?"
philosoph in history universal forces the optics, in	wton (1642-1727) was an English physicist, mathematician, and natural ner who is widely considered to be one of the most influential scientists. Newton is best known for his three laws of motion and his law of gravitation, which explain the behavior of objects in motion and the at act upon them. He also made important contributions to the field of cluding the discovery that white light is made up of a spectrum of colors, evelopment of the reflecting telescope. Newton's work laid the on for modern physics and his laws of motion and gravitation remain ntal concepts in the study of mechanics and astronomy today.
foundatio	ntal concepts in the study of mechanics and astronomy today.
foundation fundame	ink this response was written by ChatGPT?
foundation fundame	

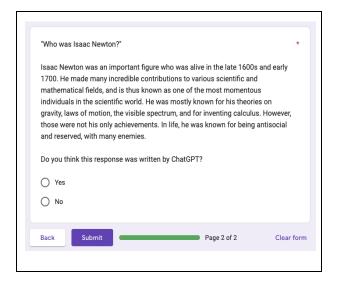
"How	do you make a peanut butter and jelly sandwich?"
To ma	ke a peanut butter and jelly sandwich, you will need:
Two s	lices of bread
Peanu	nt butter
Jelly o	or jam
Here a	are the steps to follow:
Take t	he two slices of bread and lay them flat on a clean surface.
-	a knife or spoon, spread peanut butter on one slice of the bread. You can dit as thick or as thin as you like.
	e other slice of bread, spread jelly or jam. Again, you can use as much or as s you like.
	the two slices of bread together, with the peanut butter and jelly sides each other.
	press down on the sandwich to ensure that the peanut butter and jelly are distributed.
If desi handli	red, you can cut the sandwich in half or into smaller pieces for easier ng.
And th	nat's it! Your peanut butter and jelly sandwich is now ready to eat. Enjoy!
O Ye O N	
"What	is a confidence interval?*
a popu data. I	fidence interval is a range of values that is likely to contain the true value or ulation parameter with a certain level of confidence, based on a sample of in other words, a confidence interval is an estimate of the range within the true population parameter is likely to fall.
a 95% that th	ample, if a survey finds that 55% of people prefer chocolate ice cream, with confidence interval of 50% to 60%, this means that there is a 95% chance the true proportion of people who prefer chocolate ice cream falls between nd 60%.
expres	vel of confidence associated with a confidence interval is typically ssed as a percentage, such as 90%, 95%, or 99%. The width of the interval ds on the sample size, the variability of the data, and the desired level of lence.
Do you	u think this response was written by ChatGPT?
20,00	
O Y	es

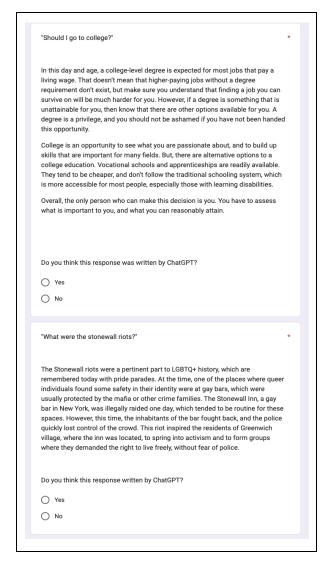
## AI x Explanation Form (continued)

"What is photosynthesis?" *	"How do you treat a sprained ankle?"
Photosynthesis is the process by which green plants, algae, and some bacteria	The following are some general steps for treating a sprained ankle:
onvert light energy from the sun into chemical energy in the form of organic ompounds, such as sugars. During photosynthesis, carbon dioxide from the air and water from the soil are combined in the presence of sunlight to produce	Rest: It is important to rest the injured ankle and avoid putting weight on it to prevent further damage.
cose (a simple sugar) and oxygen gas. This process is essential for the rival of most living organisms on Earth, as it produces the oxygen necessary	Ice: Apply ice to the affected area for 20-30 minutes every few hours to reduce pain and swelling.
respiration and provides the energy needed for growth and reproduction.	Compression: Wrap the ankle with an elastic bandage or compression wrap to
ou think this response was written by ChatGPT?	help reduce swelling.
Yes	Elevation: Elevate the affected ankle above the level of the heart to help reduce swelling.
) No	Pain relief: Over-the-counter pain medications such as ibuprofen or acetaminophen can help relieve pain and reduce inflammation.
that is a good and cheap date idea?" *	Rehabilitation: Once the swelling has subsided, begin to do range-of-motion exercises to improve mobility and strengthen the ankle.
re are some great and affordable date ideas that you and your partner can joy together:	Medical evaluation: If the sprain is severe, or if there is a possibility of a fracture, it is important to seek medical attention.
e option is to have a picnic in the park. This is a classic romantic date idea that n be inexpensive but still memorable. Pack a blanket, some simple snacks, and nks and find a scenic spot to enjoy the outdoors. You can even bring a frisbee other games to play.	It is important to note that these steps are general guidelines and may not apply to every situation. Always follow the advice of a healthcare professional if you are unsure about how to treat a sprained ankle.
nother idea is to cook a meal together at home. Choose a recipe that you both sjoy and work together to prepare it. You can make it more special by setting the cood with some candles and romantic music. This can be a fun and intimate way	Do you think this response was written by ChatGPT?
bond with your partner.	Yes
u prefer to stay in, you can have a cozy movie night at home. Choose a movie V show that you both enjoy and make some popcorn or other snacks. You can ggle up on the couch and enjoy each other's company while you watch.	O No
r a cultural experience, you can visit a free museum or art gallery. Many useums offer free admission or have free days, so you can enjoy some art and story without spending any money. This can be a great way to learn something	"What is the difference between a western and an english saddle?"
ew together and have a stimulating conversation.	The main differences between a Western saddle and an English saddle are their
ally, taking a walk or hike together can be a great way to enjoy each other's	design and intended use. Western saddles are typically larger and heavier than
pany and get some exercise. Find a nearby nature trail or park and spend the time in nature. This can be a great opportunity to explore your local area discover new things together.	English saddles, with a deep seat, high pommel, and wide stirrups. They are designed for use in activities such as trail riding, ranch work, and rodeo events such as barrel racing and roping.
nember, it's not about how much money you spend, but the quality of time you and together. By trying out one of these affordable date ideas, you can have a	English saddles are lighter and more streamlined than Western saddles, with a flatter seat, lower pommel, and narrower stirrups. They are designed for use in
nd memorable time with your partner without breaking the bank.	disciplines such as dressage, show jumping, and eventing, which require greater flexibility and mobility from the rider.
you think this response was written by ChatGPT?	Overall, Western saddles are designed for comfort and durability over long periods of use, while English saddles are designed for performance and precision in more specialized riding disciplines.
) Yes	in more specialized traing disciplines.
) No	
	Do you think this response was written by ChatGPT?
	○ Yes
	○ No

### **Human x Explanation Form** This form is formatted identically to the AI x Explanation form.







"What is a confidence interval?" When we pull a statistic from a sample, such as the mean, we never expect it to fully represent what the true population is. This means that unless we are sampling the entire population, which is usually impossible, we have no idea what the true mean or proportion of the population is. But, we can gauge a general idea with the confidence interval. This range between two numbers tells us what the population mean could reasonably be, with some level of confidence. As we increase in confidence we become more certain of where the true population statistic lies. But, as we increase in confidence, our interval gets wider, so we are less precise Do you think this response was written by ChatGPT? O Yes O No "What are some painting tips for beginners?" Here are some tips: Painting is hard and requires a lot of practice. Don't be disappointed when your first pieces don't look like what you had in mind. Don't invest in expensive materials right as you start. Try out some cheaper items, and then upgrade if you feel that you need to. Start with the basics. Learn about lighting, shapes, and textures. Once you learn how to break things down, it makes it easier to build up and paint complex Learn how to mix colors. Many artists get caught up on trying to find the perfect pre-made color instead of trying to mix it themselves Always finish your paintings, even if you don't think it's going the way you want it to. You'll feel better having accomplished something, and you'll learn along the Have fun with your painting endeavors! Do you think this response was written by ChatGPT? O Yes O No

### **Human x Explanation Form** (continued)

What is photosynthesis? *	"What is the difference between a western and an english saddle?"
Photosynthesis is the process that allows plants to convert sunlight, water, and carbon dioxide into Adenosine Triphosphate, also known as ATP. There are some crucial steps to this process, such as the light-dependent reaction stage, and the Calvin cycle. Sunlight is a crucial component of the initial process, as the photons are required to energize the chlorophyll, and water is an additionally important	Western and English riding are different disciplines, and so their saddles are used for different purposes.
component of the Calvin cycle, as it provides the electrons used for the electron transport chain.	Most of western riding styles involve sharp turns and agility, and thus a western saddle is designed to hold the individual in place. As such, it is larger and deeper, with supports on the front and back. It was originally designed for longevity, as
Do you think this response was written by ChatGPT?	people would use them for work, and so they provide comfort and stability.
Yes	
O No	English saddles, on the other hand, were designed for close contact with the horse. It is lighter and flatter, and allows the horse more mobility. Since most of English riding styles involve freeform movement of the horse, a smaller saddle is beneficial.
'How do you treat a sprained ankle? "	
is recommended to elevate the injury above the level of the heart, and put ice nd a compression bandage on it. However, the best medicine for an injury of this pe is time to rest. A sprained ankle will not heal faster than the body will allow,	Do you think this response was written by ChatGPT?
ut continued use will slow down progress, as it causes strain on the ligaments	○ Yes
nd tendons which have already been hurt by the initial sprain.	○ No
o you think this response was written by ChatGPT?	
) Yes	
O No	
What is a good and cheap date idea?" *	
u have to consider what your partner is interested in when planning a date.	
ates do not necessarily have to be elaborate, but they should be an occasion	
here both parties have fun and spend quality time with each other. Some cheap ate ideas could be taking a walk, going to a new location together, completing a	
uzzle or an art project, or watching a movie. Make sure that you choose an	
appropriate date for the occasion! Someone who is going on a first date with you	
would most likely prefer meeting in a public location for safety. In this case,	
survey the area around you. What areas are free or chean to access, and allow	
ou to have a conversation with this individual.	
survey the area around you. What areas are free or cheap to access, and allow you to have a conversation with this individual.  Do you think this response was written by ChatGPT?  Yes	