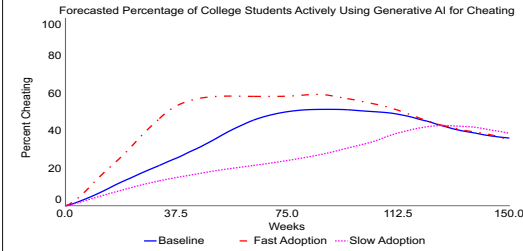


# Threat of Generative AI on Academic Integrity and Possible Policy Implementations

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## Problem and Purpose

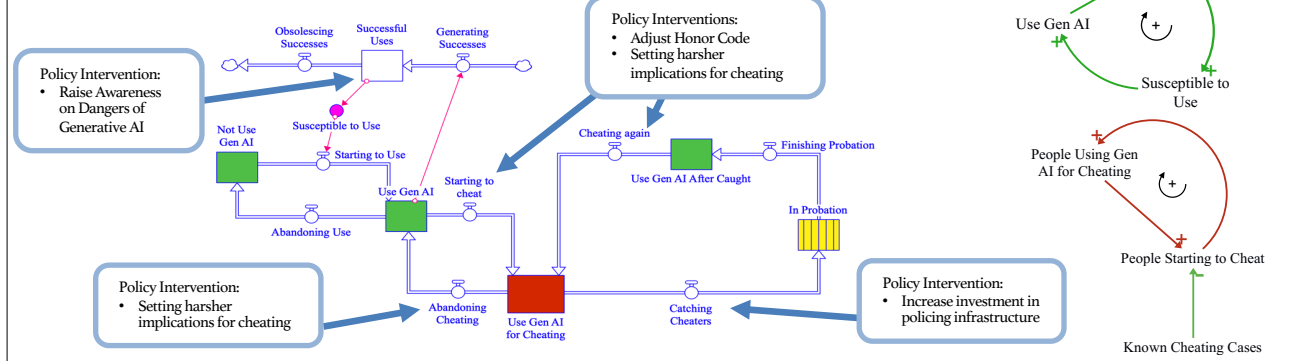
Generative AI is a rapidly growing technology that has come to directly influence our lives. Most recently, the industry has been disrupted by OpenAI's release of ChatGPT, a chatbot that can produce 5-page essays or complex Java programs in seconds. The technology has especially stirred the US college population about cheating implications (McDade).



The goal of this project is to understand how the rising adoption of generative AI might influence cheating and academic dishonesty in the US college population and what some leverage points are for various policy options.

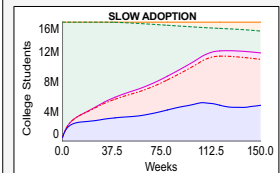
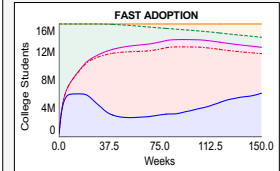
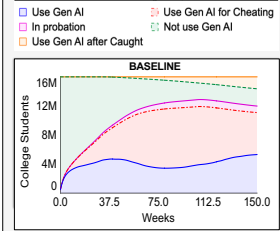
## Approach

The model extends a tipping point dynamic associated with disruptive technologies for 16 million undergraduate students for 150 weeks, only 500,000 of them initially using generative AI. Extensions reflect the adaptation of generative AI use with the feedback structures associated with cheating and possible policy interventions.



## ADOPTION SCENARIOS

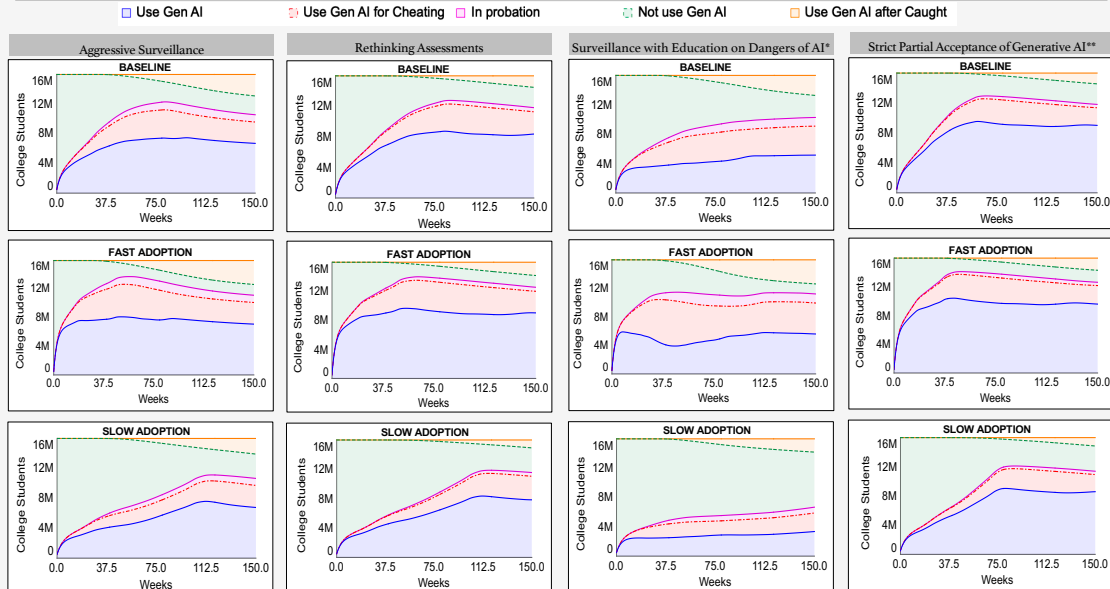
How baseline, fast and slow adoption assumptions affect academic dishonesty without policy



The model is run for 150 weeks to ensure that a long enough time frame is presented without a loss in credibility of different assumptions. Key differences between baseline, fast and slow adoption scenarios are the total fraction of college students that are susceptible of using generative AI as a function of successful uses and the time it takes them to start using.

## COMBINING POLICIES AND ADOPTION SCENARIOS

Tested strategies are aggressive surveillance (harsher implications + heavy policing), rethinking assessments (raise awareness + heavily adjust honor code), surveillance with education on dangers of AI (raise awareness + heavy policing), and strict partial acceptance of generative AI (slightly adjust honor code + harsher implications).



These strategies reflect differences in the levers used to intervene in the system, each producing different behavior. The following assumptions were used for modeling the policies:

- Setting harsher implications for cheating: 30% decrease in cheating inflows, 30% increase in cheating outflows (catching flow not included)
- Heavy policing: %100 increase in investments in policing infrastructure
- Raising awareness: %25 increase in obsolescing successes, 20% decrease in generating successes
- Heavily adjusting honor code: 60% decrease in cheating inflows
- Slightly adjusting honor code: 40% decrease in cheating inflows

## Conclusions and Implications

- Tipping point dynamics capture the currently observed fast spread of ChatGPT
- Under all adoption scenarios, generative AI rapidly gains relevance in college education
- Cheating with generative AI is a reality: without extreme interventions, it cannot be fully eliminated
- The flows into using generative AI for cheating are key leverage points in the system: collectively limiting these inflows through strict partial acceptance\*\* significantly reduces academic dishonesty
- Surveillance with education on dangers of AI\* limits generative AI use along with cheating; strict partial acceptance achieves better cheating results without this (unintended) consequence except in slow adoption

## Future Opportunities

- Evaluating policy implementations beyond the cheating numbers with mental health and motivation considerations
- Furthering the current evidence for specific assumptions for the model through additional primary and secondary research
- Extend the spatial and temporal scope of the study to a larger timeline and international boundaries
- Extend the main chain of using and cheating with generative AI to include students who are "considering" using the technology
- Explore additional policies and combinations to optimize intervention approaches

## Resources

1. McDade, Aaron. "Studies Show ChatGPT Cheating Is on the Rise Among Students - Young and Old - As Teachers Remain Divided on Bans." *Business Insider*, 8 Feb. 2023. <https://www.businessinsider.com/teachers-caught-student-cheating-chatgpt-survey-2023-2>
2. Roose, Kevin. "Don't Ban ChatGPT in Schools. Teach with It." *The New York Times*, 12 Jan. 2023. <https://www.nytimes.com/2023/01/12/technology/chatgpt-schools-teachers.html>

## Acknowledgements

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