

Generative AI Learners Survey

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The surveys were designed for learners in any health professions program to assess the achievement of genAI-use curricular and extracurricular competencies. Do learners develop appreciation for the ethical use of genAI in academic health settings?

Pilot implementation of this survey received IRB-exempt approval, and sharing of data is encouraged with the survey authors at the Health Professional Student Association.

TIER IRB (IRB00012821, IORG00100811) has reviewed the full survey and declared it exempt (IRB Protocol 424091202).

Pilot survey

This survey helped develop a baseline self-assessment for genAI expertise.

1. Generative AI experience: Which best describes your comfort level using genAI tools. Choose one.
 - a. Novice: have very little experience or familiarity, or I don't notice where it is being used.
 - b. Aware: simple tasks like "set a timer", transcription/dictation, what's the weather forecast)
 - c. Familiar: see how creative it is: "write a story about..." or "modify my photo"
 - d. Advanced: familiar with basic prompt engineering and refining genAI responses
 - e. Expert: my income depends on genAI
2. GenAI refusal: How much does your concern about genAI tools prevent you from using genAI tools? Likert scale. *[Was not included in the original survey, but has been included following survey feedback.]*
 - a. Extremely concerned: I refuse to use all genAI tools under all circumstances.
 - b. Somewhat concerned: I will only use genAI tools that are well-tested and use truthful, accountable sources
 - c. Slightly concerned: I will use genAI tools to perform minor tasks or answer simple prompts when convenient, but remain skeptical.
 - d. Slightly unconcerned: I find genAI tools to be helpful with minor tasks or answering simple prompts.
 - e. Somewhat unconcerned: I am comfortable with genAI tools and their use by peers and the community.
 - f. Extremely unconcerned: I believe genA adds value to all aspects of my education, training, and life.
3. GenAI programs: Which genAI programs are you most comfortable using? Include any AI-built-in features to programs you use for word-processing, spreadsheets, searches, photographs, or other job tasks.
4. Using GenAI tools in classroom/research: How have you used genAI in classroom or research settings? Choose all that apply.
 - a. Discovering new articles or conducting literature searches
 - b. Fine-tuning writing (spelling, grammar, tone, length)
 - c. Improving test-taking skills (quizzing, tutorials)
 - d. Developing a personalized learning/schedule or timeline
 - e. Creating new content (photos, writing, videos, computer code)
 - f. Social connection or networking
 - g. Other, please describe
 - h. I am not currently enrolled in school or working on a research project.
5. Using GenAI tools in classroom/research: How have you used genAI in clinical, volunteer, or employment settings? Choose all that apply.
 - a. Transcribing, translating, or note-taking
 - b. Summarizing meetings, articles, or publications

- c. Practicing hand skills or simulating cases
 - d. Developing communications (letters, emails, voicemails, scripts)
 - e. Avoiding scheduling conflicts
 - f. Data analysis (including images)
 - g. Developing materials for patient/community education
 - h. Other, please describe
 - i. I am not currently enrolled working in a clinical, volunteer, or employment setting.
6. How did you use/have you used genAI in preparing your application (to a professional school)? Choose all that apply.
- a. Seeking guidance about career paths or programs
 - b. Considering extracurricular and clinical options
 - c. Test preparation (developing quizzing/test materials, summarizing passages)
 - d. Clarifying experience descriptions (resume or application)
 - e. Brainstorming topics for application essays or interview responses
 - f. Outlining personal statements or other essays
 - g. Refining application essays (spelling, grammar, tone, length)
 - h. Preparing or evaluating interview responses for situational questions
 - i. Creating a draft for letters of recommendation
 - j. Creating emails to admissions offices for updates, letters of interest/intent
 - k. Other, please describe
 - l. I am not currently applying for a health professional program, but I am considering the options selected.

Preliminary results from the distribution of this survey can be read at <https://www.studentdoctor.net/2024/09/12/how-are-you-using-ai/> .

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Full survey

Introduction

Health Professional Student Association/Student Doctor Network Survey

Thank you for participating in our survey! TIER IRB (IRB00012821, IORG00100811) has reviewed this survey and declared it exempt (IRB Protocol 424091202).

Objectives

This project will look at the adoption of generative AI tools within higher education (specifically health professions programs). Our project will focus on the following questions, beginning with a short voluntary survey for students, faculty, and staff.

What specific goals and outcomes drive the curriculum adoption of generative AI tools?

How are learners using generative AI tools?

Is the attitude or application of genAI tools different among specific student demographic groups? We will focus on gender identity, non-native English speakers (for US programs), socioeconomic status, and learning community status.

Do academic or social pressures influence the use of genAI tools among students?

We hope to identify trends within institution types and provide benchmarking insights as these tools are further taught and applied.

Your responses are important to us, but you are welcome to decline from this study at any time.

This survey consists of multiple pages. Answer as many questions on all pages as possible. The survey should take you about 5-10 minutes to complete.

Those who complete all survey sections will be asked to participate in a gift card raffle and subscribe to the HPSA or SDN newsletter as appropriate.

To begin the survey, press "Submit" to move to the next form/page.

Demographic questions

1. Gender identity (F, M, LGBTQ+, Other)
 - *Is there a gender difference in usage of AI tools?*
2. What (non-English) language(s) are you most comfortable using? (English, Spanish, Other)
 - *Do non-native English speakers use AI more or less frequently?*
3. Have you been diagnosed with a communication impairment? (Y/N/NR)
 - If yes, do you require accommodations or assistance in any academic settings? (Y/N/NR)
4. Have you been diagnosed with a neurodiverse condition? (Y/N/NR)
 - If yes, do you require accommodations or assistance in any academic settings? (Y/N/NR)
 - *Do those with difficulty communicating use AI more or less frequently?*
5. Do you identify as growing up in a socioeconomically disadvantaged setting? (Y/N/NR)
 - *Is there a difference in AI usage among those who identify as SED?*
6. Do you identify as a marginalized, disadvantaged community member (race, ethnicity, gender identity, military/veteran, rural upbringing)? (Y/N/NR)
 - *Is there a difference in AI usage among those who identify as disadvantaged?*
7. Check any of the following situations that may indicate experiencing systemic challenges that subjected you to risks due to low socioeconomic status. (Modified from PRAPARE assessment.)
 - I/my household has (previously) relied on social/charitable groups/programs for
 - Food.
 - Clothing.
 - Housing, utilities, or rent assistance.
 - Childcare.
 - Healthcare.
 - I/my household has (previously) relied on others/public subsidies for
 - Education (including tutoring/mentoring or technology).
 - Transportation.
 - Communication technology (cell phone or internet).
8. Have you received significant scholarships/grants to defray your education costs?
 - *Demographically, does financial aid associate with low SES for this question?*
 - All of my education costs are covered.
 - Most (80% or better) of my education costs are covered.
 - Much (50% or better) of my education costs are covered.
 - Some (20% or better) of my education costs are covered.
 - Less than 20% of my education costs are covered.

- I have received no scholarships/grants to cover my education costs.
 - I don't know.
9. What is your current status in your program?
- *Are there differences due to student tenure? With faculty?*
 - First-year student
 - Second-year student
 - Third-year student
 - Fourth-year student
 - Fifth-year or more senior student
 - Academic administration
 - Basic science/research faculty
 - Clinical faculty/preceptor
 - Clinical administration
 - Education or curricular faculty
 - Other (please specify)

Policies and Training in AI Usage

1. Describe how your program discusses the use of AI:
 - *What opportunities do students have to learn about AI?*
 - Part of orientation/onboarding to school or clinic
 - One lecture or mandatory meeting
 - Documented as a student conduct/handbook policy
 - Documented in course syllabi or descriptions
 - Discussed socially or in study groups
 - Integrated into several lectures or curricula
 - Integrated into student performance assessment or services
 - Seminar series (may include guest speakers)
 - Student-group-led discussions
 - Case studies, uses, or simulations (summarizing or scribing)
 - Other (please specify)
 -
2. Are any of these topics covered? (Y/N per category) Citation: [How AI is being incorporated into medical school](#)
 - Foundational knowledge (what is it, what can it do, how can it work with other programs?)
 - Critical appraisal (using AI tools to reduce administrative burdens or cognitive overload)
 - Assisting decision-making (appropriate use, when/where AI should be used)
 - Technical considerations (cybersecurity, integrating AI to bedside or clinical care)
 - Oversight and evaluation (bias, clinical ethical issues, continuous assessment and improvement)
 -

3. Self-describe your competency attainment of these domains. *Seven-point Likert scale from 1-strongly disagree to 7-strongly agree*. Citation: [Defining Medical AI Competencies for Medical School Graduates: Outcomes of a Delphi Survey and Medical Student/Educator Questionnaire of South Korean Medical Schools](#)
- I understand digital health and changes driven by AI.
 - I possess fundamental knowledge and skills in health/medical AI.
 - I can discuss the ethical and legal considerations of using health/medical AI.
 - I can identify how AI is applied to improve clinical practice.
 - I appreciate the power of AI to process, analyze, and evaluate clinical data.
 - I have access to pioneering experts and innovators conducting research with or using AI.
 -
4. Which applications interest you in using genAI assistants (using large language models) for **your pre-clinical activities** (very interested, somewhat interested, not interested):
- Documentation/dictation/scribing (lecture note-taking, progress notes, surgical/procedure summaries)
 - Journal/research review (summarizing research papers and studies)
 - Medical information and education (review concepts, terminology, procedures, and medication/treatment options)
 - Clinical study and research design (assist with literature reviews, IRB applications, drafting research protocols)
 - Case discussion (practice patient counseling skills, obtain differential diagnoses, consider treatment options)
 - Exam preparation (practice questions and explanations)
 - Patient education (obtaining consent, developing patient-friendly communications about conditions and procedures)
 -
5. Which applications interest you in using genAI assistants (using large language models) in **clinical settings** (very interested, somewhat interested, not interested):
- Documentation/dictation/scribing (SOAP note-taking, progress notes and comments, surgical/procedure summaries)
 - Journal/research review (summarizing research papers and studies)
 - Medical information and education (review concepts, terminology, procedures, and medication/treatment options)
 - Clinical study and research design (assist with literature reviews, IRB applications, drafting research protocols)
 - Case discussion (practice patient counseling skills, obtain differential diagnoses, consider treatment options, determine goals)
 - Exam preparation (practice questions and explanations)
 - Patient education (obtaining consent, developing patient-friendly communications about conditions and procedures)

Hidden curriculum: stress tolerance and academic achievement

Is use of AI related to amount of stress experienced by students? What is the source of this stress?

[*Maximizing Academic Integrity While Minimizing Stress in the Virtual Classroom - PMC*](#)

6. Have you ever used genAI to help with academic assignments? clinic-related tasks? extracurricular or personal activities?
 - Never
 - Frequently
 - Most of the time
7. Are you pressured to use generative AI tools to maintain or improve academic performance? Clinic-related performance? Extracurricular or personal activities?
 - Never
 - Frequently
 - Most of the time
8. What are the sources of stress that place pressure on your use of AI (Likert 4-5 points)?
 - Peer pressure
 - Family or pressure from friends outside of your program
 - Faculty incentives or disincentives
 - Standards and expectations of academic integrity or professionalism
 - Performance in your studies (highest quartile)
 - Performance in your studies (midrange)
 - Performance in your studies (lowest quartile)
 - Internet or social media influencers
9. From your experience with these prompts, how much trust do you place in the output from genAI tools?
 - Fully trust
 - Mostly trust (with a superficial review of grammar/spelling/terminology)
 - Somewhat trust (with some minor revisions of details)
 - Somewhat distrust (major revisions, including citation verification)
 - Cannot trust (significant re-working)
10. How do you describe your program's culture regarding academic integrity?
 - I am not aware of any student cheating or academic misconduct.
 - I am aware of borderline behaviors or subjective actions that do not cross the line, such as cheating or academic misconduct (taking advantage of "loopholes").
 - I know that blatant student cheating or academic misconduct appears to be tolerated.
 - I am aware of blatant student cheating or academic misconduct that is punished.

- Our administration and faculty are too aggressive in mitigating or punishing student cheating or academic misconduct.

11. In your own words, what important themes or concerns still need to be addressed?