

Putting on a "Human Face" for a Medical Experience Using AI: The Case of Patients who Habitually Miss Medical Appointments

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Submitted: 28 October 2024 Accepted: 04 November 2024 Published: 11 November 2024

Citation: Howard R. Moskowitz, Sharon Wingert, Tonya, Anderson., Stephen, D. Rappaport., Sunaina Saharan., & Jana, Bayad. (2024). Putting on A "Human Face" for A Medical Experience Using Ai: The Case of Patients Who Habitually Miss Medical Appointments. J Clin Nur Rep, 3(4), 01-10.

Abstract

Missing medical appointments has become an increasingly vexing issue for the medical world, as well as for the patient. The paper shows the use of generative AI accessed through the Mind Genomics platform to simulate and then analyze different psychological aspects of the person who habitually misses medical appointments. The first set of simulations instruct AI to generate a transcript of the interaction between medical professionals and appointment no-shows, followed by a deeper AI-analysis of this simulated interaction. The second set of simulations deal with the nature of five possible mind-sets among patients, followed by a simulated group therapy session comprising a psychologist, a nurse, and three of the five mind-sets (Forgetter, Avoider, Procrastinator). The paper finishes with a vision of the benefits emerging when this AI-simulation approach (Idea Coach feature in BimiLeap.com) empowers anyone to simulate alternative situations almost instantly, at low cost, and in an iterative fashion. The ultimate goal is to understand the issues more deeply before beginning to repair or to treat.

Keywords: Patient Safety, Healthcare System, Technology, Teamwork and Communication

Introduction

Causes, Results, Observations, and Meaning of High Rates of Missed Medical Appointments

High rates of patients missing their medical appointments are increasingly a significant issue in healthcare systems worldwide. Several underlying causes contribute to this phenomenon, many of which can be attributed to socioeconomic barriers. For instance, transportation difficulties, conflicting work schedules, or financial constraints, such as lack of insurance or high co-pays, may prevent individuals from attending scheduled appointments. There are also situational factors, such as fear or anxiety about medical diagnoses, which might cause patients to skip consultations or checkups [1, 2].

Another contributing factor is the complexity of navigating the healthcare system itself. Administrative inefficiencies such as poor communication between patients and medical offices lead to confusion about appointment times or locations, prompting

missed visits. Digital appointment reminders can be unreliable for patients who lack technical literacy or internet access. The lack of digital literacy is especially true for aging populations, often left behind by the increased reliance on digital platforms for scheduling and managing healthcare appointments [3, 4].

The results of these missed appointments are numerous and varied. On a personal level, patients face deteriorating health outcomes due to delayed diagnoses and treatments. For instance, skipping a routine examination might allow a treatable condition to escalate into a more severe state. From a broader perspective, hospitals and clinics experience inefficiencies in their scheduling and resource allocation, as the time set aside for no-show patients is essentially wasted, which could have been used to help others in need.

This trend of missing appointments is affecting the healthcare system as a whole. For instance, health centers, which operate

on tight margins, may experience increased costs due to 'inefficient use' of staff time and services. Paradoxically, maintaining the quality of healthcare might actually become more cumbersome as missed appointments compromise patient outcomes, creating a cascading effect that ultimately affects hospital ratings and patient trust [5].

Missed medical appointments serve as an indicator of a broader lack of engagement between healthcare providers and the communities they are supposed to serve. Leaders within these organizations need to reframe how they assess community needs and restructure elements within their healthcare delivery models to ensure reaching and retaining patients. This might involve increased investment in community outreach, public transportation subsidies for at-risk patient groups, or simply simplifying appointment processes [6, 7].

From a community standpoint, poor compliance with medical appointments might indicate systemic inequalities. Low-income, rural, or minority populations may be disproportionately affected by barriers to healthcare, highlighting potential gaps in public health policy. Leaders may need to push for reform in transportation, health literacy programs, or universal healthcare access, emphasizing that missed appointments constitute a public health problem, not merely an individual one [8].

The ripple effects of missed appointments are not limited to healthcare centers alone but also impact insurance systems. Many health insurance companies tie reimbursement rates to patient outcomes. When missed appointments result in worse patient outcomes, insurance reimbursement could decrease, which in turn reduces the finances available to healthcare facilities. This cycle can perpetuate a downward spiral of resource scarcity and lower levels of care [9].

On a psychological level, frequent non-attendance may develop into a growing distrust between patients and healthcare institutions, particularly when patients feel underserved by the system or when their needs are not met—be it through poor communication, long waiting times, or overcomplicated booking processes. Restoring and maintaining this trust might require a patient-centric approach, where leadership strives for greater transparency or introduces flexible alternatives like walk-in hours or virtual appointments [10].

Technological innovation also plays a pivotal role in mitigating the problem. Telemedicine platforms could potentially reduce missed appointments, particularly for patients in remote or rural areas. However, this would require an overhaul in the thinking of healthcare leadership to prioritize patient accessibility on digital avenues. Furthermore, investment in user-friendly, accessible technologies for appointments could bridge gaps caused by mainstay concerns, such as travel barriers or time constraints.

Ultimately, the widespread issue of missed medical appointments could signify larger issues not only within the healthcare system but also in broader societal structures, such as education, socioeconomic status, and public health policy. Healthcare providers, policymakers, and community leaders need to address this problem in a holistic manner to improve both patient health outcomes and the sustainability of healthcare systems. Without substantial change, the problem of missed medical appointments will continue to burden an already taxed healthcare system.

Toward a Deeper Understanding of the Situation - The "Fly on the Wall" Method

The "fly on the wall" method is an innovative approach which allows a person—or in the case of AI, a simulated observer—to blend into a conversation without actively being a part of it, in order to capture authentic, unfiltered dialogue and thoughts (see Table 1). This approach is particularly useful to understand not only what people say but, more importantly, how they think and why they behave in certain ways in different contexts.

In AI simulations of human behavior, being a "fly on the wall" helps gather critical insights into decision-making, bias, social dynamics, and team collaboration that may not be as easily detected through direct questioning or traditional observation. It is a non-intrusive way to access a higher truth of human interaction, as people often express themselves more naturally when they do not know they are being evaluated.

By applying this technique in AI models, we can simulate environments where we're not only analyzing surface-level actions but also the underlying cognitive processes driving those actions. This level of understanding is invaluable when you're tasked with designing new products or crafting solutions to problems, as you need to address both the expressed needs and the implicit, sometimes unspoken, desires and obstacles in human behavior.

The "fly on the wall" method enables AI to simulate human-like situational awareness in real time and uncover gaps between what people say versus how they really feel. Additionally, the method minimizes observer bias as human moderators are not directly influencing the interactions. This makes it a powerful tool for research and development in various fields such as product design, customer service, education, marketing, and even negotiation strategies. Understanding these organic interactions gives AI the ability to help businesses and organizations design solutions which are truly people-centric, anticipating needs and reactions based on authentic human behavior. Ultimately, this method enhances the AI's ability to provide actionable insights, achieve deeper empathy with users, and optimize problem-solving processes.

Table 1: The "Fly on the Wall" Simulation of a Patient Missing the Medical Appointment

Instructions given to the AI (Idea Coach feature of BimiLeap.com, the Mind Genomics platform)
You are a fly on the wall. You hear everything. Give me a composition of what's happening, with what people are saying (in quotes), what are they thinking, and why are they saying that. The composition has to be structured from the start of the meeting with all the people to the end of the meeting, followed by a detailed analysis of what was accomplished, what was meant, what were the covert messages, what were the feelings.
AI (Idea Coach) returned with this simulation

1. Topic: What Happens When a Patient Misses Their Medical Appointment
2. Inside Dr. Henderson's office, the clock on the wall ticks softly in the background as the front desk receptionist, Sarah, glances at her computer screen. It is 10:30 am, and Mrs. Paula Burton still hasn't arrived for her 10:00 am yearly check-up. Sarah had already called Paula's phone at 10:15 but got no response. Now, frustration is beginning to creep in. Not the frustration of inconvenience, but the growing concern about what might have happened.
3. Sarah: (sighing quietly to herself) "I wonder if she forgot again. I really hope nothing's wrong."
4. The phone rings, pulling her attention away momentarily. On the other end is one of Dr. Henderson's patients rescheduling another appointment. After hanging up, Sarah checks Paula's name again on her daily schedule, now highlighted in red, indicating a missed appointment.
5. Dr. Henderson: (emerging from his office and walking over to Sarah) "Paula Burton missed, did she not?"
6. Sarah: (nodding) "Yeah, no phone call either. I tried reaching her... twice."
7. Dr. Henderson: (frowning slightly) "She's always been good about coming in for her check-ups. Do you remember how she's been feeling lately? Anything in her last visit?"
8. Sarah: (scrolling through her notes) "Everything was normal last time. But it was almost a year ago... people can deteriorate fast with conditions they do not know about."
9. Dr. Henderson is contemplative for a moment. He's seen it happen before—patients skipping appointments, sometimes because they feel healthy and assume everything's fine. But sometimes there is something under the surface, some hidden ailment, something which only comes to light too late when a persistent cough turns into lung cancer or a minor ache spirals into a severe condition.
10. Dr. Henderson: (looking out towards the window) "It is not just about the lost time, you know. Every time a patient misses, I worry... what if this was the chance to catch something early?"
11. He thinks back on cases. The elderly patient six months ago who missed her annual check-up because she felt healthy—and three months later, she came back with late-stage dementia. Or his young diabetic patient who missed labs and ended up with severe complications. The ripple effects of missed appointments are not just about time. They're about what doesn't get caught. And Paula, in particular, had a family history of heart disease—something Dr. Henderson has been monitoring closely for the past few years.
12. Meanwhile, in her small suburban home, Paula Burton is staring at her kitchen wall, feeling a mix of resentment and guilt. The appointment she missed is still on her mind, but since she felt great over the past year with no significant issues, she convinced herself that it wasn't necessary.
13. Paula: (inward thoughts) "I'm feeling fine. Always busy. it is just harder to fit in time. I barely sleep enough as it is, what will one visit change if I already know how I'm feeling? it is just... one appointment. I'll go next time. Or... when I have more time."
14. Under this thought runs a thread of denial, which Paula pushes away. The truth is, in the back of her mind, fear trickles in. What if there is something wrong? What if they find something concerning? What if it is something she cannot fix like her mother's heart disease? Facing those possibilities might be worse than missing the appointment altogether. Ignorance can be a shield, albeit a shaky one.
15. Back at Dr. Henderson's office, the nurse walks by and hears part of the conversation between Sarah and the doctor.
16. Nurse Jane: "Paula missed her check-up? That's not like her."
17. Sarah: "Yeah... the week started off with cancellations and no-shows. it is been happening more lately, you notice?"
18. Nurse Jane: "It is frustrating... but sometimes, I do not think they understand how essential those routine checks are."
19. Sarah: "You'd think they would. I mean, the reminders alone—email, text, phone calls..." (her voice trails off)
20. Dr. Henderson: "People do not always take preventative care seriously until something goes wrong."
21. They all pause for a moment in silent recognition of what this really means. Hours. Days. Weeks. Precious time in detecting an issue early. Missed appointments brush off that time like dust.
22. Nurse Jane: (after a moment) "I just wish people saw it the way we do—the chances to prevent things from getting worse. I mean, look at Mr. Thompson from last year. Losing out on early intervention almost cost him his life."
23. Dr. Henderson: (nodding) "I'll have Sarah reach out again. But if she keeps missing them, there is only so much we can do. Hopefully... hopefully, she calls and reschedules soon."
24. The uneasy feeling lingers in the air. The worry is not just about a single patient missing a single appointment, but about what Paula hasn't seen yet, and possibly will not—how that one absent check-up could cascade into more significant problems. Could it wait? Maybe. And maybe part of her knows it cannot.

Using AI to Analyze the "Fly on the Wall" Simulation

The "fly on the wall" approach in medical education has become increasingly popular, capturing real-time interactions between

practitioners, patients, or teams. When augmented by Artificial Intelligence (AI), this method offers a structured understanding of these interactions and processes (see Table 2).

AI can identify subtle patterns, suggest causality, and spot discrepancies, enhancing the learning experience for medical trainees and professionals. AI can also track behavior, language use, and decision-making heuristics over time, accurately reflecting how medical judgment and clinical reasoning evolve in response to patient cases or collaborative discussions.

AI's quantitative analysis complements human expertise in qualitative interpretation, creating a balanced and comprehensive approach. By reducing the workload for human analysts, AI enables experts to focus on more complex, high-level analyses, bridging theory and practice through insight-driven decisions. AI-driven transcript analysis has far-reaching implications for medical education, allowing instructors to customize assessments and educational content based on empirical data, fostering

cognitive and emotional intelligence. Integrating AI into medical education positions itself for the future, merging technology with traditional pedagogy for more robust, evidence-based training.

With this ability, we move to a subsequent analysis by AI of the output in Table 1, this time with AI looking at the pattern of dialogue to extract deeper meaning. The implication here is that once the user instructs AI to generate a simulation, subsequent AI efforts could be used to expand that earlier simulation, add new dimensions of insight, and in the end "cascade understanding" with an output which could move around in ways totally different from what might have been expected. Table 2 shows this AI-analysis of the previously generated AI "fly on the wall" simulation.

Table 2: AI Analysis of Previous AI-generated "Fly on the Wall" Discussion

Question	Reasons for Concern by Professional	Difficulties Caused by Patient's Actions
1. Why did Paula choose to miss her appointment even though she knew it was important? What emotions might be behind her decision?	Paula chose to miss her appointment because she genuinely felt that she was doing well health-wise. She's had a busy year, constantly balancing poor sleep and daily stresses, leaving very little room for anything extra, even a medical appointment. Mentally, she feels a mix of guilt and denial—guilt for missing the self-care she knows is essential and denial about the potential severity of her health situation. She might be suppressing a deep fear that if she goes, something serious might be discovered, much like her mother's heart disease. The anxiety of confronting possible bad news is emotionally overwhelming for her. This internal struggle led her to prioritize other things over the appointment.	Paula's excuse of being busy or feeling fine doesn't hold up when considering the importance of the visit. Despite her claims of being overwhelmed, she was likely fully aware of the gravity of her family history, especially with heart disease being a monitored condition. A routine check-up is a low-effort, high-reward investment in her health, and skipping it based on "feeling fine" is risky and shortsighted. There were many ways Paula could have reminded herself of the importance of this appointment, using reminder calls from Sarah or setting time aside in advance. The reality is that rescheduling could have been more about avoiding potential bad news rather than being truly too busy to attend. Missing this was avoidable and dangerous.
2. What are Dr. Henderson's primary concerns when a patient like Paula misses an appointment?	Dr. Henderson is concerned because missed appointments, particularly for patients like Paula who have a family history of heart disease, could mean missing early warning signs of serious conditions. He understands that life can be overwhelming, and sometimes patients avoid appointments out of anxiety or denial about their health. His worry is amplified because he knows how quickly conditions can deteriorate, but he also empathizes with patients who might fear complex health outcomes. In Paula's case, her previous health was stable, so it is not unreasonable to assume she might feel fine. Dr. Henderson knows the emotional barriers patients like Paula may have when it comes to healthcare. His concerns reflect both his sense of duty and his understanding of patients' struggles.	Dr. Henderson's concern stems from the fact that Paula's missed appointment could be the difference between early detection of a condition such as heart disease and discovering it too late. Despite his empathy, Paula's decision to skip her check-up displays a lack of regard for the proactive efforts he has made to monitor her family history. He sees the bigger picture—preventative care is essential for avoiding severe health complications. Paula's choice puts her at heightened risk of a future event which could have been mitigated. Dr. Henderson has seen enough cases to know that feeling "fine" is not a reliable indicator of underlying conditions. His real frustration likely lies in knowing that he couldn't provide the vital care to potentially save her life.

<p>3. How do healthcare professionals manage the balance between respecting a patient's autonomy and wanting to ensure they get essential care?</p>	<p>Healthcare professionals, such as Dr. Henderson and Sarah, understand that whereas they can encourage and advise patients, they must ultimately respect a patient's autonomy. In Paula's case, if she genuinely believed she was capable of missing the appointment because she felt well, there is a certain level of trust which professionals need to place in their patients. Dr. Henderson might empathize with the fear or stress Paula feels, recognizing that some patients avoid appointments to delay bad news. Sarah's job as a receptionist redundantly entails sending reminder calls and emails, which are efforts to support Paula without stripping her autonomy. There's a delicate balance between protecting patients and allowing them to make personal decisions about their health. In this instance, the missed appointment reflects the personal responsibility Paula holds over her health journey.</p>	<p>Healthcare professionals can only respect autonomy to a point, particularly when a patient's decision to delay or avoid care endangers their long-term health. Paula missing the appointment wasn't a minor decision; it undermines the continuous preventive care strategy Dr. Henderson has set in place for her due to her family history. While Sarah gave Paula several reminders and made direct calls, the lack of reciprocal effort from Paula shows a disregard for the hospital's attempts to prioritize her health. Dr. Henderson's and Sarah's proactive actions demonstrate that they did everything within their sphere to engage Paula without infringing on her autonomy. However, autonomy doesn't absolve the patient of responsibility, especially when they are avoiding timely care which prevents serious conditions. Paula's decision to ignore the check-up disrupts the partnership between patient and provider.</p>
<p>4. What are some underlying thoughts Paula might be suppressing when she decides not to reschedule her check-up?</p>	<p>Paula might be suppressing the fear that her health could take a turn for the worse, potentially mirroring her mother's battle with heart disease. Even though she keeps telling herself she's "feeling fine," deep down, there is an acknowledgment that her well-being is fragile. The possibility of hearing bad news could feel even worse than avoiding it altogether for now. Another factor she's pushing down is guilt—not just for neglecting her health but also for not being able to manage her busy life in a way which accommodates self-care. Her state of denial is a defense mechanism, protecting her from immediate anxiety at the cost of long-term consequences. Paula might also be grappling with feelings of inadequacy, possibly perceiving any health issues as a personal failure.</p>	<p>While Paula may tell herself that she's suppressing fear or guilt, the hard truth is that avoidance will only serve to make her eventual health crisis more difficult. By ignoring the check-up, she's doing herself a disservice, as she knows her family history is riddled with heart-related complications. Instead of dealing with the problem head-on, Paula is allowing her anxiety to cloud her judgment. Any suppressed fear of bad news doesn't justify avoiding preventative care which may save her life. It is clear that Paula's avoidance is unjustified; rather than confronting her health, she's buying time at a high cost. Healthier emotional regulation would involve scheduling the appointment and facing the results, knowing that early detection gives her the best odds.</p>
<p>5. Why do people often assume they do not need medical care if they feel "fine," and what dangers does this pose?</p>	<p>People like Paula often assume they do not need medical care when they feel fine because, on the surface, it appears logical—why spend time and energy on something which doesn't seem immediately necessary? Paula likely experienced no significant changes in her health status over the past year, so it seemed reasonable to her that she could let this one slide. Her assumption is fueled by the pressing demands of daily life, where only urgent issues get prioritized. For her, feeling "fine" served as proof that missing an appointment would not likely have consequences. Moreover, there is an underlying fear that if nothing's wrong, she's wasted time, but if something is wrong, it could disrupt her sense of normalcy. Chronically postponing appointments under this guise of "feeling fine" is, at its core, an attempt to avoid disruption in an already-packed life.</p>	<p>The assumption that feeling fine equates to being fine is both flawed and dangerous. Medical professionals, including Dr. Henderson, know that many critical issues, like heart disease or cancer, often manifest silently before symptoms arise. Paula's family history should serve as the strongest rationale for her to prioritize these check-ups, precisely because feeling fine doesn't mean heart disease is not developing in the background. Avoiding preventative care under the assumption that nothing is wrong leads to missed opportunities for early intervention, making treatment significantly more difficult if issues are diagnosed later. Paula is gambling with her own health, as future regrets will not alter the damage caused by ignoring potential problems. By choosing comfort and convenience, she's ultimately setting herself up for larger challenges down the road, both physically and emotionally.</p>

6. What impact does Sarah's role as the receptionist have when she interacts with patients who miss appointments? How might she feel personally?	Sarah likely knows that sometimes life simply gets in the way of appointments, and patients like Paula may have genuinely good reasons, such as an unexpected family issue or work crisis. Paula could have been so overwhelmed by her daily responsibilities that keeping up with her health took a backseat, and Sarah might empathize with her if the circumstance was beyond Paula's control. As someone who manages the logistics, Sarah may feel a combination of resignation and understanding, knowing appointments are not always feasible to make. Sarah probably experiences this kind of situation frequently, so she might feel a bit frustrated but also compassionate.	Sarah could view Paula's absence as frustrating, given that plenty of patients face challenges but still manage to prioritize their health. Paula had received timely reminders but chose not to attend, and Sarah might interpret this as carelessness or avoidance. From her perspective, missing the appointment without a valid reason wastes valuable time which could've been used to treat other patients. As a dedicated professional, Sarah could be annoyed, feeling her efforts to ensure Paula's health were disregarded. Sarah would likely internalize this frustration while balancing her professional demeanor.
7. How do healthcare providers try to mitigate the risk of missed appointments through their communication strategies?	Healthcare providers like Dr. Henderson's office routinely use communication strategies such as reminder calls, texts, and emails. Paula likely received several of these but possibly lost track due to external life pressures, such as stress from work or home life. Although she may appreciate the reminders, they could easily get drowned out in the daily barrage of notifications. From Dr. Henderson's perspective, understanding the complexities of modern life would likely lead him to accept that even rigorous reminder systems have their limitations.	Despite the accessibility of these reminders, Paula's disregard for multiple notifications highlights negligence. Dr. Henderson's office likely puts significant resources into ensuring patients do not forget their appointments, and by missing it, Paula ignored these efforts. Providers give ample notification, making it hard to justify not attending. Ignoring these overdue reminders shows a lack of commitment to preventive care. Healthcare professionals might feel that their communication efforts are futile when patients do not respond.

Making Sense of Inter-individual Variability: The Organizing Idea of Mind-sets

Mind-sets are crucial in understanding human behavior and can be particularly important for this paper as a way to understand the issue of missed medical appointments. People approach appointments differently based on their values and thought processes and understanding these mind-sets can help explain why some people are late or absent.

In many studies previously reported, mind-sets were identified by a structured system which presented combinations of topic-related messages to people (so-called vignettes), obtained ratings for these vignettes, deconstructed the ratings by regression analysis to the contribution of each message, and then used cluster methods to identify groups of people showing the same patterns. The empirical approach prescribed by Mind Genomics is still the best way to develop these underlying mind-sets.

AI's simulation of mind-sets is a valuable tool for studying human behavior. Though not rigorously tested, these AI-derived mindsets offer valuable intuitive insights. Expanding our understanding with AI models and nuanced discussions of group mind-sets fosters empathy and practical solutions for everyday

challenges like missed appointments. This method helps us manage the diversity and complexity of human nature.

With the advent of AI, there is the possibility to simulate human mind-sets, providing valuable information about the complex mental frameworks driving our actions. Understanding mind-sets regarding health behaviors, like missing medical appointments, could lead medical professionals to intervene more effectively. By tailoring intervention strategies to align with the specific mind-sets people operate from, outcomes improve and solutions can be personalized.

Table 3 shows five mind-sets generated by AI. The AI was simply instructed to generate the relevant mind-sets, but not told how many. The instructions continued, requesting AI to find the relevant answer for each mind-set regarding four things:

1. Why they missed the appointment
2. How they feel when they realized they missed the appointment
3. How do they feel when they are told that they missed the appointment
4. A superficial assessment and summary.

Table 3: Five Mind-sets Synthesized and Analyzed by AI

Mind-set	Question	Feel When Realized	Feel When Told	Superficial Why
Mind-set 1: The Forgetter	Why do they miss the appointment the way they do it? The Forgetter often has a disorganized schedule or lacks proper time management skills. They may genuinely intend to attend the appointment, but other commitments or life's busyness take over, and the appointment simply slips their mind.	The Forgetter often feels a sense of embarrassment or frustration when they realize they've missed an appointment. They may chide themselves for lacking focus or feel annoyed at the situation.	When the medical appointment person informs them that they missed the appointment, the Forgetter may feel flustered or defensive. They'll likely explain the situation as an oversight or an unintentional mistake.	From a sociological standpoint, the Forgetter may reflect societal trends in information overload. With so much to keep track of—work, family, social life, and technology—they unintentionally deprioritize healthcare.
Mind-set 2: The Avoider	Why do they miss the appointment the way they do it? The Avoider is likely apprehensive about medical issues and chooses to sweep them under the rug. They may fear the potential for bad news or dislike the discomfort of medical procedures, and so they 'accidentally on purpose' forget appointments.	The Avoider doesn't typically feel remorseful. Instead, they might feel subtle relief that they sidestepped a potentially stressful or anxiety-inducing situation.	Upon being told they missed an appointment, the Avoider might downplay the mistake. They likely deflect responsibility or make vague excuses, and they may feel only slight guilt.	From a sociological perspective, avoiding medical appointments can be linked to broader issues of fear and avoidance in healthcare. Many people dislike feeling vulnerable or powerless, which is often associated with medical visits.
Mind-set 3: The Procrastinator	Why do they miss the appointment the way they do it? The Procrastinator may habitually delay confirming their calendar, fail to make necessary travel arrangements, or put off other to-dos until it is too late. Over time, a habit of delaying leads to consistent missed appointments.	The Procrastinator experiences frustration or disappointment in themselves when realizing they've missed the appointment. They often engage in self-blame and vow to "do better next time."	When informed by the medical office, the Procrastinator may feel embarrassed and quickly apologize while offering excuses like "too much going on."	Procrastination is a well-documented behavior in psychology. It reflects a tendency within society to delay unpleasant experiences (even neutral ones) in favor of short-term comfort.
Mind-set 4: The Distrustful	Why do they miss the appointment the way they do it? The Distrustful individual is skeptical of the healthcare system. They may avoid appointments because they lack faith in doctors, treatments, or believe alternative sources of knowledge are better for them.	When the Distrustful realizes they missed an appointment, they may feel indifferent. If anything, they might feel reaffirmed in their belief that the appointment wasn't that important.	The Distrustful doesn't feel upset when informed. Instead, they may be more likely to question why the appointment was necessary in the first place or assert their autonomy over their health decisions.	From a sociological view, healthcare distrust has risen in certain communities due to past malpractice cases, institutional violations, and societal inequality. The Distrustful mindset may be a reaction to these larger systemic issues.
Mind-set 5: The Overwhelmed	Why do they miss the appointment the way they do it? The Overwhelmed may face multiple stressors—childcare, work, financial worries, mental health struggles—which lead them to consistently prioritize immediate crises over long-term care like medical appointments.	When this person realizes they've missed the appointment, they may feel weighed down, mentally exhausted, or trapped. It can be difficult for them to summon the energy to reschedule, even though they know it is important.	The Overwhelmed might feel guilty or saddened when informed, but their reaction is often listless or resigned because they are used to being pulled in many directions.	Societally, many people live in a state of overstimulation, drowning in obligations. This frantic pace of life often leaves little room for essential actions like attending a medical appointment, which can be seen as just one more demand.

Using the "Fly on the Wall" Metaphor to Listen into a Group Meeting Involving Three Mind-sets and Medical Professionals

Analyzing different mind-sets helps create a practical framework for tackling the issue of missed appointments. By grasping the underlying reasons—whether they come from cultural, psychological, or personal priority-based mind-sets—solutions become clearer. Certain strategies may work much better for one group than another, and a blanket approach to resolving missed appointments likely will not be effective. Therefore, understanding and integrating diverse perspectives proves vital for creating practical interventions which address the complexity of human variability.

Our next final step selects three of our five mind-sets for more in-depth analysis, three being sufficient to show radically different ways of thinking, but not so many as to become cumbersome. For this AI simulation analysis we choose three distinct perspectives: one where punctuality is held in very high regard, one where flexible or shifting schedules are seen as normal, and a third where external factors (such as anxiety or stress) are the primary reason for missing appointments. By facilitating a discussion of these mind-sets in a group using the "fly on the wall" method, we gain a chance to observe how people react and engage with different perspectives. The "fly on the wall" approach allows us to observe interactions without direct interference, providing a more natural environment for discussion (see Table 4).

Table 4: "Fly on the Wall" Simulation of a Group Discussion Featuring Three Mind-sets of "Appointment-no Shows" with Two Professionals, a Nurse and a Psychologist. Private Thoughts are Shown in Parentheses.

Speaker	Dialogue	Private Thoughts
Psychologist	"Alright, let's start by discussing what usually happens that stops you from coming to your medical appointments."	
Forgetter	"I just forget. If I do not set like five alarms, it is gone from my mind."	(I hate how this always happens. It is not like I do not care, but my memory is just like a sieve sometimes. People think I'm irresponsible because of it.)
Nurse	"Do you think reminders could help you? Maybe more text messages or phone calls closer to your appointment time?"	
Forgetter	"Yeah, that would help, but I cannot always rely on reminders. They're effective when they come, but sometimes I'm just so busy, I do not stop to check each one."	(I do not want to seem lazy, but it is the truth. I hear my phone buzz all day and eventually tune it out. Maybe a phone call would be harder to ignore...or would I just leave it to voicemail?)
Avoider	"Well, for me, it is more like... I do not want to go. I know I should, but it makes me anxious. I know they're gonna tell me something is wrong."	(I already know something's wrong. I do not need to wait for someone in a white coat to confirm that. It feels like sitting in a court sentencing, sometimes.)
Psychologist	"It sounds like avoidance is really tied to fear for you. What would help alleviate that fear?"	
Avoider	"Maybe... if I wasn't alone in it? Like, if someone came with me? That way I would not feel like it is me against the world while I'm sitting there. Or at least if the doctors did not talk to me like I'm broken."	(I hate walking into that sterile environment just to feel judged or like an experiment. It is terrifying—and nobody even sees that. They just think I'm being 'difficult'.)
Procrastinator	"Yeah, I kinda get that, but I do not know if the doctors care for it either way. They always rush through the appointments. For me, it is more about feeling like I've just got too much going on. I think to myself, 'I'll reschedule and handle it later,' but then... later never happens."	(It is not that I do not think it is important, but I've got a million other things competing for my time and focus. Medical stuff just keeps getting pushed to the end of the list because, well... I can push it.)
Nurse	"You bring up a good point. Life is busy, and time management is tricky. But what if you put your health first, prioritized it above other things?"	

Procrastinator	“That sounds nice, but what does that actually look like? it is not easy when work deadlines, social stuff, family obligations—they’re always in my face. I get to the end of the day and the idea of making another appointment just... slips away.”	(Honestly? I’d love to take care of my health like everyone tells me to. But who has time? It is not that I do not want to take care of myself... There’s just always tomorrow.)
Psychologist	“So, it sounds like a combination of fear, forgetfulness, and constant life demands are playing a big role here. Let’s think about: What would work for each of you to get consistent with appointments?”	
Forgetter	“I need reminding. Maybe a backup system or bigger visual cue—like, maybe even my calendar syncs with something loud like an annoying siren which forces me to look at it.”	(I wish it wasn’t this way. I really do. I have no clue how other people just ‘remember’ things... it is like magic to me.)
Avoider	“For me, it is about warmth. I need the team—doctors, nurses—to feel less clinical and more human. If I got a call from the nurse and she was friendly, not rushed, maybe just interested in me, I’d feel better about making it through the door.”	(I do not want to hear bad news, but I could handle it better if the process did not feel so terrifying. If they could just be on my side for once, maybe my fears would not take over.)
Procrastinator	“Accountability would help. Like, if someone bugged me about it. Maybe a friend or a coach to check in and say, ‘Hey, did you book that appointment yet?’ I want to do it, but, you know... I just need that push.”	(It is kind of ridiculous that I need this. I should be able to manage my time, but nothing else seems to work. Maybe if someone stayed on top of me, I would not keep putting things off?

Discussion and Conclusions

This paper presents a framework which enables anyone to quickly learn about the topic, regardless of their background in psychology, sociology, or healthcare. Hypothesis formulation and experiment design traditionally require a strong grasp of the subject. AI allows individuals to start their inquiries with minimal prior knowledge. Simulation and AI make gaining insights highly accessible. AI speeds up learning, offering organized knowledge which otherwise might end up taking years to acquire.

Healthcare professionals, including doctors, nurses, and administrators, can establish strong foundations for future research by engaging with AI-generated insights. The AI provides essential insights, revealing key patterns or outliers which guide professionals toward deeper investigations later. These professionals end up entering the next stages more prepared, having quickly explored the issue deeply with AI's help.

AI tools are quickly becoming more common in education and practical applications. Generative AI will transform problem-solving and inquiry for students and professionals from grade school to medical school.. They can actively explore, simulate, and experiment with ideas in real-time, directing their own education. One benefit may be that students will engage actively with critical issues like healthcare inequalities, mental health challenges leading to missed appointments, and systemic barriers in medical systems.

Generative AI will significantly transform medical education. Medical students, doctors, and healthcare administrators will be better equipped to make decisions based on complex human behaviors. These simulations will prepare them to solve specialized problems while promoting an empathetic, patient-centered approach to care. This understanding of human motivation will influence healthcare policies, prompting lawmakers and hospital administrators to prioritize human-centric design in care delivery.

AI tools can enhance understanding of medical appointment adherence, benefiting government efforts. Public health agencies can use these tools to simulate the impact of policy changes. Analyzing why patients miss appointments can help governments improve educational campaigns, transportation options, and financial support for vulnerable groups. AI can customize interventions early, reducing risk and enhancing efficiency.

With rising pressure on global medical systems due to aging populations and higher healthcare demands, it is likely these tools will expand further. AI will create a more personalized, efficient, and connected medical system in the future. AI tools will enable learners across various fields to explore complex topics quickly and creatively, making knowledge more accessible.

Acknowledgments

The authors gratefully acknowledge the ongoing help of Vanessa Marie B. Arcenas and Isabelle Porat in the development of these and other manuscripts in this series of AI, Mind Genomics, their intersection, and applications.

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