INPSYGHT

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AI and Creativity: A New Era of Learning?

By Nina Ricci

Artificial intelligence (AI) has been advancing at an impressive pace, with recursive AI models leading the charge. These systems continuously refine their responses by learning from previous outputs, enhancing their problem-solving and reasoning abilities. Developers aim to create adaptable tools that support users in areas ranging from creative projects to personalized learning. However, as AI becomes more integrated into everyday life, the question arises: Does AI foster creativity, or does it diminish our ability to think independently?

In education, AI presents both opportunities and challenges. On one hand, AI can serve as a collaborative tool, enhancing critical thinking, idea generation, and the refinement of students' work. For example, AI-powered tools can help students struggling with essays by generating outlines, suggesting structural improvements, or proposing alternative solutions to problems. These capabilities make AI a valuable resource for brainstorming and enhancing creativity.

On the other hand, there are concerns about its impact on cognitive effort and originality. Creativity often emerges through struggle and refinement, and if AI provides well-developed responses too quickly, students may bypass essential cognitive processes that lead to deeper learning.

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Get Psyched About Opportunities *By Ariana Elsden*

The psychology department stands out for its commitment to student success, offering high-quality mentorship from professors that prepares students for post-graduate programs in both research and clinical settings.

Psychology majors can serve as teaching assistants for professors, participate in internships at a wide range of organizations, and become research assistants, directly engaging in all aspects of the research process. As research assistants, students work alongside faculty members in their labs, gaining hands-on experience and skills that are essential for future careers. Emily Krebs, a junior in Dr. Mya Khanna's cognitive psychology lab, spoke to her experience as a research assistant. In her role, she primarily recruits and organizes participants and is involved in data collection for lab projects, which investigate concepts such as the role of emotional variables in memory performance between men and women. Emily states, "My involvement in research, has allowed me to take my classroom knowledge and apply it to real-world contexts, deepening my interest in the field and teaching me a surplus of analytical and critical thinking skills that I will undoubtedly take with me in life beyond Creighton." The teacher-scholar model embraced by Creighton's faculty, as exemplified by Dr. Khanna's collaboration with research assistants such as Emily, further underscores their dedication to fostering student growth, providing opportunities for meaningful research engagement in a supportive, non-exploitative environment that challenges students to reach their fullest potential.

Opportunities in research are made possible by Creighton's tight-knit community and dedicated faculty, as well as through interactive programs such as Creighton University's Center for Undergraduate Research and Scholarship (CURAS). Under the leadership of new director Dr. Ashley Fricks-Gleason, CURAS offers students the resources, opportunities, and support necessary to excel as researchers in any field. The CURAS team encourages students eager to engage in research, regardless of field or level of experience. They work closely with students to identify research opportunities that align with their interests and academic goals.

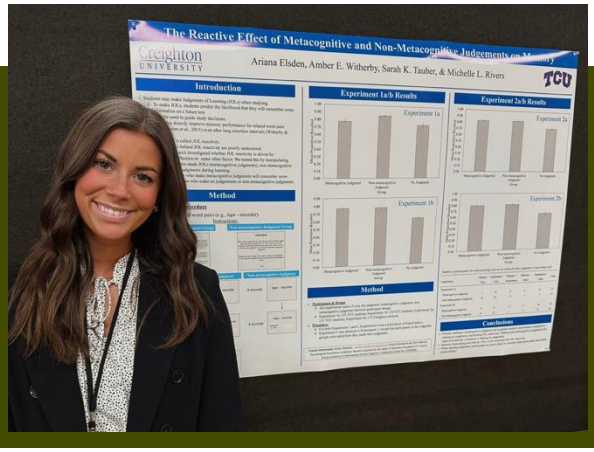
For those seeking to have their research efforts recognized by graduate programs or future employers, CURAS facilitates a Concentration in Undergraduate Research and Scholarship. This distinction provides a formal way to showcase a student's deep commitment to research, highlighting their scholarly contributions on their transcript. CURAS also offers a variety of additional resources, including travel grants to support conference and presentation expenses. For undergraduates, attending conferences to present research is a crucial aspect of professional development, but the associated costs can often be a barrier. CURAS helps alleviate this financial stress by providing admitted students with the necessary financial support, ensuring they can participate in these valuable opportunities without financial worry.

Finally, CURAS offers Summer Undergraduate Research Fellowships (SURF), which provides students with a stipend and budget to support their independent research projects over the summer. This program equips student researchers from all disciplines with valuable workshops, collaborative opportunities, expert faculty guidance, and motivational direction to successfully complete their projects. The SURF experience is transformative, allowing students to immerse themselves in every stage of the research process—an opportunity often unavailable to undergraduates at larger universities—while easing financial concerns. Summers are critical for career-building, yet they are also a time when students need to balance earning money with gaining valuable experience.

Senior Lukas Kosher, an exercise science major on the pre-med track and a 2024 SURF recipient, commented on how his experience in the program enhanced his understanding of the collaborative aspect of research. Lukas said, "The SURF program exposed me to professional collaboration between researchers from all different backgrounds, which helps ensure a holistic approach to medicine that is required to make a genuine differences." Lukas' SURF project involved research with Dr. Kimberley Scott in Creighton's School of Pharmacy and Health Professions studying physical therapy interventions that target pediatric Cerebral Palsy.

As a senior psychology major, I can personally attest to the profound impact CURAS has had on my research journey at Creighton. Thanks to their support, I have received two travel grants and a SURF, which enabled me to present research at psychological conferences in Chicago and carry out my own summer project. For students interested in research or those planning to pursue graduate programs, I highly recommend connecting with CURAS faculty or any of its student ambassadors to learn more about these programs and more. These opportunities have been pivotal to my growth as a researcher, and I am deeply grateful for the support that has shaped both my academic and professional future.

Ariana Elsden presenting at the Midwestern Psychological Association in April 2024, thanks to the help of the CURAS travel grant.



Living with Type One Diabetes: What it's Like and How to Help Those with T1D

By Haley DeGraaff

Type one diabetes is a highly stigmatized disease here in America, with thoughts of diabetes consistently depicting type two diabetes rather than type one. This may be explained by the sheer numbers; according to the American Diabetes Association (2021), 38.4 million Americans had diabetes, with only 2 million having type one. Though, I argue that this is not an excuse to disregard the differences between the two. While to many, this difference of one versus two may seem small, management and treatment of type one versus type two diabetes differs greatly (e.g. continuous insulin dependence versus GLP-1 medications and exercise). I believe education on this matter is only the starting point to understanding what it may be like to live with type one (T1D).

I am type one diabetic and have been for nearly a decade now. I must admit, when I was diagnosed, I was just as guilty of the stigmatization of diabetes. My family and I were left confused, how a healthy twelve-year-old could possibly get this disease, when I didn't eat "a bunch of candy as a kid" (which was commonly asked shortly after diagnosis), I was active in two sports year-round, and I was only twelve?? This was just the beginning of learning: learning how to live with and manage T1D, how every little thing I do each day will affect my blood sugar, becoming overly cognizant of the changes I feel in my body due to high or low blood sugar. What I hope to be taken from this, is when we as pre-medical, nursing, psychology (any many other studies) students, is that this chronic illness encompasses more than we believe it to be. What we aren't taught is how it effects every decision of every day…its more than just giving yourself insulin and carb counting (though, these are definitely important).

Type one diabetes is highly associated with many other physical diseases, due to complications of management, but the focus of this article is the consequences of T1D on mental health. T1D has been found to be highly comorbid with anxiety (Subasinghe et al., 2015). As someone living with T1D, this is understandable. For the readers, I would like to give an example: imagine you are type one, currently in college and have an exam that day at 9:30. You prepare all morning, eat breakfast as usual and make your walk to the exam. Suddenly, after the bitter cold walk, your blood sugar starts falling (e.g. 180 to 150 to 130, etc.). This rapid rate of decline brings great anxiety as if it continues this way, you may lose consciousness and depend on others to deliver emergency glucagon (assuming they would know you needed it AND how to use it). But don't forget, your exam now starts in ten minutes.

What I hope is gained here is the appreciation of just how much stress someone living with T1D can go through in just 30 minutes of one day (and not to mention feeling completely out of it for a while after recovering from the low…assuming consciousness was never lost, and no ER visit necessary).

I would like to suggest a few pointers to those who (thankfully!!) do not live with type one diabetes and may be looking to go into healthcare, know someone with T1D, or wish to have a greater awareness of T1D:

- Educate yourself on type one diabetes: management, signs of low and high blood sugar, how to treat a low (e.g. using glucagon in forms your friend may use), how it differs from type two diabetes, etc.
- Make a point to ask the individual living with T1D what ways you can help or be prepared in an emergency, what it is like to live with this chronic illness, etc.
- Let them know you are there for them at any time – for physically or mentally demanding times/days (having support in a town where they may not have family possibly for the first time, is a huge help!)

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Comparative Analysis between Social Interaction and Physical Pain

By Karina Quan and Jakob Schmit

Image by Zhang (2022)

Imagine this: a student sits down in their favorite study spot with a sweet treat from their favorite coffee shop, ready to study for their final. They turn on some music and start their long study session in the room. Before long, they start to get annoyed, being locked in a cold room all alone. Suddenly, their leg begins to hurt. They have no idea what to do. Go for a walk? Stretch it out? Forget about it and hope it goes away? What may have caused this? Data has begun to reveal that being alone for long periods of time and feelings of social isolation or exclusion (such as that of a long study session) can lead to manifestations like physical pain such as inflammation, extending past just a mental longing for interaction (Loeffer and Steptoe, 2020). Loneliness has become a very common condition experienced especially by isolated adult populations across the globe. Loneliness is associated with a lot of chronic conditions such as hypertension, cardiovascular disease, strokes, and obesity and psychological conditions such as anxiety and depression (Yanguas et al., 2018). As such, it is a very significant problem and can lead to a lot of other issues.

However, there has not been a lot of research performed on whether loneliness can lead to more direct physical pain. One study suggests that loneliness is strongly correlated to chronic pain and specifically joint inflammation (Loeffer and Steptoe, 2020). This study followed participants across a four-year span to explore the long-term relationships that hold true for the entirety of four years. Additionally, Almeida et al. (2022) reported a positive correlation between social isolation as a result of COVID and chronic pain. From a neuroscience perspective, studies have shown that when placed in situations of social isolation or exclusion, the dorsal anterior cingulate cortex (dACC) is activated, which is the region that is also activated in moments of physical pain (Yamada et al., 2021). This suggests that the neural pathways for these two stimuli overlap, with our brain interpreting social rejection as a form of pain on a neurological level.

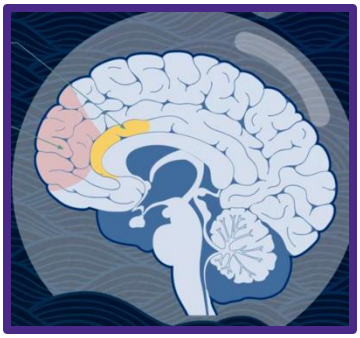

Image by Zhang (2022)

There have not been any significant factors that have led scientists to believe that loneliness can directly cause physical pain, but many studies have established a strong relationship between the two. Loneliness has been associated with anxiety, depression, higher cortisol, and worsened cognitive development. We are no strangers to physical pain–whether it be that pain in your leg, or the urge to get up and walk around, loneliness can often seem to lead to a manifestation of physical pain beyond which current science is able to explain.

So next time you are studying, think about the effects that those prolonged hours of strong social isolation can have on you. Although the discomfort of long, endless hours of studying in the library may seem negligible in comparison to the suffering of chronic illness, there are still significant negative effects that social isolation and loneliness can have on one's physical and mental well-being.

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AI and Creativity: A New Era of Learning? ***continued from cover***

The brain functions much like a muscle—if it isn't actively engaged, its capacity for critical thinking and creativity can deteriorate. A psychology student in the Creativity, Teamwork, and Leadership Lab, who's current project looks at creativity in quality in free responses of students with and without AI, found that "both creativity and quality of response was higher when students were allowed AI, however this was only seen when participants had a conversation with AI instead of copying and pasting responses."

Another concern is the potential loss of human collaboration. While AI interaction might offer a psychological safety net, in that students can explore ideas freely without fear of judgment, it also lacks the nuanced feedback and cognitive challenges that emerge in real conversations with peers or instructors. This lack of human connection could hinder the development of essential interpersonal and problem-solving skills that are cultivated in traditional academic settings.

Professors, many of whom remain skeptical about AI's role in education, express concerns about its potential to weaken critical thinking, originality, and academic integrity. If students use AI to generate arguments or draft essays, how much of the final product can truly be credited to them? Ethical concerns further complicate this issue. Should AI-generated work be assessed differently, given its lack of personal insight and depth? And in an AI-assisted world, where does academic dishonesty begin? Many educators argue that AI's involvement in academic tasks raises fairness issues, making evaluation and assessment more challenging.

As AI becomes further embedded in daily life, it's clear that its role in education is only going to increase. Tools like Google's AI overview feature, which automatically provides summaries, or Apple's integration of Apple Intelligence, are just the beginning. AI is integrated into our personal devices, and its presence in educational environments will only grow more pervasive. Educators now face the challenge of adapting to a reality where AI is no longer an optional tool, but a fundamental aspect of learning.

The rapid advancement of AI presents both exciting opportunities and significant challenges for education. While AI tools can enhance creativity, streamline problem-solving, and foster collaboration, they also pose risks to cognitive effort and originality if not used thoughtfully. The key lies in finding a balance where AI supports, rather than replaces, critical thinking. As AI becomes a fixture in academic environments, it is crucial for educators and students to collaborate in developing strategies that preserve the value of independent thought while embracing the benefits AI offers.

I can read your mind. You can read my mind. Are we all telepaths in disguise? The Psychology Behind Telepathy and Non-Verbal Cues

By Karina Quan and Jakob Schmit

"Did you know that I once dated a super famous person's daughter?"

"Yeah, we were together for a while, and I even met their pet penguin!"

You look over at your friend and wonder, *how could any of this be true? Have they lost their mind?* You don't say anything to avoid making it seem like you don't believe them. You just act super surprised. But you're left with curiosity for the rest of your life. Next time, though, you should try being a telepath. Well, not actually, but as close as we can currently get.

Psychology has its own techniques of telepathy, or brain reading. While you may not be able to peer directly into their mind or hear their thoughts, the power of non-verbal cues and micro-expressions are often overlooked. To start, what exactly goes on in our brain when we lie?

Research shows that when we are about to lie and/or are currently lying, neurological mechanisms related to physiological responses such as fear and anxiety become much more prominent due to the liar being concerned that their lie would be caught (Steinhilber, 2018). These are signals that would be detected in a polygraph, such as an increase of heart rate, sweating, micro-tremors, and many more natural physiological responses. In addition, liars were also found to exhibit more intense emotions, specifically nervousness and guilt because of their lie (Brennen and Svein, 2020). So, without a polygraph, how can we detect these lies?

Currently, the most research-supported technique is to watch for a brief, involuntary facial expression (less than half a second) that reveals the true feelings of the person (Ekman, 2024). For example, if your usually happy friend suddenly flashes a quick, sad or faltering expression mid- conversation, it could indicate something more is going on. This is often called a "false expression", where one tries to keep the true emotions concealed.

Nonverbal cues have also shown to have some promise in revealing what one is saying. Common nonverbal cues include rapid eye movements and blinks, hand shrugs, and vocal pitch. These cues can be a little less indicative universally because they differ significantly between culture, gender, and many other indicators (Li et al., 2024), but if you know your friend well, these cues might be insightful!

Lie detectors have sparked significant debate about their accuracy and consistency in trials (Brennen and Svein, 2022). Some studies show strong results, while others suggest it's little more than guessing whether someone is lying. That said, keep an eye on your friends, family, and conversations – you might catch when someone's hiding something. Now that you've got the secrets to mind-reading, just remember...with great power, comes great responsibility. Or, you know, just use it for fun and don't get caught!

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