

Navigating Generative AI: Opportunities, Limitations, and Ethical Considerations in Massage Therapy and Beyond

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Generative artificial intelligence (AI) has become a hot topic, particularly ChatGPT's quick adoption and popularity, prompting discussions about its disruptive potential in health care, education, and creative sectors. The author, an early adopter, shares personal insights on leveraging generative AI for creative tasks and communication challenges, while also exploring its role as a tool rather than an author. Opportunities and limitations of integrating generative AI in the massage therapy field are explored, reflecting on the profession's reluctance to embrace technology and the potential efficiency gains. While acknowledging generative AI's creative promise, the importance of ethical and regulated utilization, highlighting data biases and limitations, is underscored. Overall, a balanced and responsible approach to incorporating generative AI into various domains is recommended.

KEYWORDS: massage therapy; generative artificial intelligence; ChatGPT; disruption; ethical utilization

Everyone seems to be talking about generative artificial intelligence (AI).⁽¹⁾ ChatGPT was released in November 2022 and had 100 million users in two months.⁽²⁾ Discussion regarding the impact of this new technology on health care, the world of work, education, and creative industries is ongoing. The discourse seems to centre on the disruption the introduction of this technology is causing.⁽¹⁾

I must admit that I am an early adopter of generative AI. While this certainly doesn't make me an expert, I have seen several uses that have helped me to spark my own creativity, overcome writer's block, and

frame challenging emails or presentations. As an editor, I have also seen discussions about whether ChatGPT can be an author. Spoiler alert—most do not believe it can, but do recognize it as a tool that can be referenced. As an educator, I am questioning how to approach learning and evaluation, given the new AI tools that are emerging.

In the past, it seems to me that the profession of massage therapy (MT) sees itself as immune to technological advances. We pride ourselves as being “natural” and a profession that cannot be replaced by robots. But, I wonder, is this mindset limiting our evolution by failing to recognize where technology can provide support or efficiencies to the administrative elements of our work and lives? In this editorial, I explore the opportunities within research, practice, and education that might be of interest to the profession of MT, while also identifying some of the cautions and limitations.

A Primer on Generative AI (written by ChatGPT)

Generative AI refers to a branch of artificial intelligence technology that involves the creation of new and original content, such as text, images, or even music, using algorithms and large datasets. Unlike traditional software that follows pre-defined instructions, generative AI models have the ability to generate content autonomously.

These models are trained on vast amounts of existing data, learning patterns, styles, and structures from this data. Once trained, they can then generate content that is in line with the data they've been exposed to. For instance, a generative AI language model can

construct coherent paragraphs of text in a particular writing style or on a specific topic.

The process of generating content involves the model predicting the next piece of data based on the patterns it has learned. This prediction is based on probabilities and is influenced by the context provided. In essence, the model is making educated guesses about what comes next in a sequence, whether it's words in a sentence or pixels in an image.

Generative AI has shown remarkable potential in various creative and analytical applications. It can be used to draft text, compose music, create artwork, and even simulate realistic scenarios. It's important to note that, while generative AI can produce impressive outputs, it's reliant on the data it was trained on and doesn't possess consciousness or creativity in the human sense. It's a tool that augments human creativity and aids in tasks requiring content generation.⁽³⁾

If you are looking for a reference or further reading on generative AI, consider this article from Rudolph, Tan, and Tan.⁽⁴⁾ It is from the perspective of higher education, but has basic information about generative AI, too.

Opportunities for Generative AI in MT Research, Practice, & Education

A primary function of generative AI (GenAI) is to create written text from the datasets to which it has access. As such, some of the opportunities to integrate GenAI into massage therapy research, practice, and education relate to creating articles, essays, summaries, and explanations.⁽⁵⁾ Whether it is professional, research or academic writing, GenAI can improve writing style, grammar, and tone.⁽²⁾ In my personal experience, I have discovered the advantages of employing ChatGPT to initiate a piece of writing or to navigate through challenges in wording. For example, I have given ChatGPT a policy and asked it to create an email to students making them aware of the policy. It wasn't perfect, but it gave me ideas for how to structure the message.

When I think about how this tool would create efficiencies for massage therapists in practice, it could be used to write emails to clients, letters to other health-care professionals, and content for websites or other marketing materials. Mesko and

Topol share many future applications in health care, including creating clinical documentation and personalized health plans.⁽²⁾ While we might not be there today, it is interesting to think about how that would create time for practitioners to focus on other responsibilities.

In education, the emergence of generative AI scholarly writing is compelling educators to rethink their approach to evaluation.⁽⁵⁻⁷⁾ I hope this is a sign of a return to learning through application rather than memorization. Baidoo-Anu and Ahsah suggest that educators may use GenAI themselves to design personalized and interactive learning or to generate prompts and ideas for learning activities and assessment.⁽⁵⁾ We are very early in the possibilities. GenAI may lead to personalized tutoring, automated essay grading, and language translation, as the use of this technology matures.⁽⁵⁾

With Microsoft exploring whether to embed ChatGPT holistically into their products,⁽⁸⁾ it is likely we have only seen the surface of GenAI integration into software we use every day. Before transitioning into some of the other considerations of generative AI, ChatGPT has fun and frivolous everyday uses, too. My first foray into generative AI was to ask ChatGPT where to go to on vacation. It returned the top ten places to go in the summer. I further refined my search and it shared things to do in various places. It was a great place to start. My colleagues and I have also used it to name our office plants.

Cautions and Limitations to Using Generative AI

These opportunities for creativity and efficiencies come with cautions and limitations. Because generative AI, such as ChatGPT, relies on existing datasets, any errors, biases, or historical content (in other words, information that has been revised or debunked in present day) is the information that is generated in ChatGPT's responses.⁽²⁾ Holden Thorp, amongst others, shares that "ChatGPT sometimes writes plausible-sounding but incorrect or nonsensical answers."⁽⁹⁾

ChatGPT does not reference the information that it generates unless specifically asked. Even then, ChatGPT may not have used specific sources or has been created using fictitious sources. Not only are references made up, but sometimes ChatGPT is

known to “hallucinate” results⁽²⁾—creating outputs not based on any factual information.⁽⁵⁾ This can have serious consequences when unchecked in the health field (and others, of course).

When I asked ChatGPT for a reference for a statement it made in the writing of the generative AI primer above, this is what it ‘said’:

I apologize for any confusion, but the statement “artificial intelligence (AI) has emerged as a powerful tool that has the potential to reshape various industries, including academia” was provided as a general introduction to set the tone for the editorial. It doesn’t refer to a specific source or reference. As of my last knowledge update in September 2021, the idea that AI is transforming various industries, including academia, was a widely acknowledged trend based on numerous news articles, research reports, and discussions within the technology and academic communities. If you’re looking for specific references, I recommend searching academic databases, technology news sources, and reports from organizations like AI research institutions or educational technology associations.⁽³⁾

The use of ChatGPT in the creation of written works has raised the question as to whether ChatGPT can be an author.^(1,9) Some journals, such as *Science*, have statements that manuscripts must contain original work—which is intended to signal to authors that AI-generated text is not acceptable.⁽⁹⁾ *Science* is updating its editorial policies to specify that work, including figures, images, and graphics cannot be AI-generated in the submitted manuscript. The *International Journal of Therapeutic Massage and Bodywork* has not updated its policies yet. We are reviewing decisions made by other publications and the emerging discussions. The American Psychological Association has recommended referencing ChatGPT and other generative AI as a tool—similar to the approach one would take with a statistical software package.⁽¹⁰⁾

In research publication and education, some editors and educators have turned to AI-generated text detectors. Unfortunately, in part due to the pervasive use of GenAI in word processors, email programs, and grammar support programs, these

detectors are not effective or accurate at this time.⁽⁵⁾

There are also cautions related to GenAI in clinical practice. Like any technology, it cannot replace professional judgment. Some are piloting the use of GenAI to diagnose patients’ medical conditions and recommend treatment options.⁽¹¹⁾ There is a risk that practitioners will trust information generated by artificial intelligence despite well-documented evidence that there is limited current scientific data available to GenAI on which to base their recommendations. Practitioners remain solely responsible for ethical and appropriate care of patients.

A final area of caution is around the regulation of GenAI technology. Until now, the technology has progressed so rapidly that there has been limited-to-no regulation or government oversight.⁽²⁾ As generative AI continues to develop and be more broadly used, regulation will be instrumental in maintaining individual privacy and security of information. Mesko and Topol suggest that, due to the complexity and span of usage, a one-size-fits-all approach to regulation will not work, and regulation should take into account specific industry concerns.⁽²⁾ They further provide a list of regulatory challenges that need to be addressed, including data privacy, intellectual property, data ownership, and monitoring and validation.

SUMMARY

It is crucial to approach the utilization of ChatGPT and similar technologies with thoughtful consideration rather than hasty enthusiasm. While the potential applications are fascinating, a tempered approach acknowledges both the evolving capabilities and current limitations. The technology’s ongoing learning process holds promise for more accurate and contextually relevant responses, yet it is essential to recognize that its full potential is a journey that lies ahead.

As we navigate this era of generative AI, a shift in skill requirements becomes apparent. The landscape demands a fusion of traditional expertise and proficiency in AI interaction. While roles in fields like clinical practice might not be wholly replaced by AI, those who embrace and adapt to generative AI stand to position themselves favourably in clinics, educational institutions, and beyond.

The key lies in harnessing this technology's power to augment efficiency while adhering to a strong ethical framework. Transparency, accountability, and adherence to regulations or professional guidelines, will serve as the guideposts in this evolving landscape. In this way, as generative AI continues to establish its presence, it is our responsibility to tread mindfully, balancing innovation with integrity.

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