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Using AI-Supported Supervision in a University Telemental Health Training Clinic

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Abstract

Artificial Intelligence (AI) technologies have the potential of transforming clinical education and supervision in university-based telemental health training clinics. AI can improve the accuracy of diagnoses, automate routine tasks, and personalize treatment plans, potentially enhancing the accessibility and quality of mental health care. In this paper, we describe why training clinics serve as an optimal setting to adopt innovation and share lessons from the field to inform future integrations of AI in clinical supervision. The lessons include support for case conceptualization, feedback on session quality, and automation of routine tasks such as sending standardized assessments and writing progress notes. However, implementing new technology requires careful consideration of ethical and practical issues such as data privacy, algorithmic bias, and transparency. AI-supported supervision can provide valuable support for clinical training, but adequate training and education are necessary for successful integration.

Aim & Scope: Emerging, Experimental and Current Topics Relevant to Technology in Counselor Education, Supervision and Practice

Keywords: artificial intelligence; clinical education; clinical training; mental health services; supervision; university-based settings

Psychotherapy is no longer restricted to traditional brick-and-mortar settings. Telemental health refers to the delivery of mental health services through technology-based platforms such as videoconferencing, text messaging, and phone calls. It provides individuals with access to mental health services from the comfort of their own homes, thereby overcoming geographical and technical barriers to receiving care (Rosen et al., 2021). Artificial Intelligence (AI) technologies, such as natural language processing and machine learning, are being integrated into telemental health to improve the accuracy of diagnoses, automate routine tasks, and personalize treatment plans. These technologies have the potential to greatly enhance the accessibility and quality of mental health care, especially in areas where access to mental health services is limited (Lee & Soon, 2021). The purpose of this paper is to describe the role of AI-supported supervision within a university telemental health training clinic and to share lessons from the field that would inform future integrations of AI in clinical supervision.

Clinical training and supervision are crucial components of telemental health practice, as they ensure that mental health professionals are equipped with the necessary skills, knowledge, and ethical principles to provide ongoing, high-quality care to clients through remote technology (Jordan & Shearer, 2019). Clinical training provides mental health professionals with the necessary knowledge and skills to effectively use technology for therapy, including the use of teleconferencing tools and the interpretation of online communication (Carver, et al., 2020). Supervision, on the other hand, provides a structure for clinicians to receive guidance and feedback on their practice, which is especially important in telemental health where the lack of in-person interaction can make it more challenging to assess the client's emotional and behavioral state (Springer, et al., 2021). By receiving adequate supervision and clinical training, mental health professionals are able to provide safe, effective, and culturally competent telemental health services to clients, ultimately improving access to mental health

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care for people in need (Barnett, 2011). The first place counselors receive that training is in their university training clinics

University training clinics are common models in programs where graduate students are being trained in basic assessment, intervention, therapeutic skills, and clinical documentation under supervision. Often the first chance to practice the skills learned in the classroom, university training clinics provide the essential roles of both allowing the students to develop their skills and ensuring that students are not placed in external clinical sites until they are ready. These clinics often offer free or low-cost services to the university community and the general public in exchange for the opportunity for students to practice under supervision. While the primary purpose is to serve as a training space allowing beginning students to safely practice clinical work and providing gatekeeping opportunities for their graduate programs, the clinic must still function as a client facing clinical mental health setting adhering to all laws and regulations of any mental health agency (Hames et al., 2020). An important part of these training clinics is a robust supervision model.

Supervision in counseling begins in training programs and continues after graduate school ends until that counselor is independently licensed. Additional certifications may also require more supervision. As such, the role of the supervisor is essential in agencies where students and pre-licensed counselors train. Supervision is more than the guidance of a mentor. In a seminal definition for the counseling profession from Bernard and Goodyear (2014) “Supervision is an intervention that is provided by a senior member of a profession to a junior member or members of that same profession. This relationship is evaluative, extends over time, and has the simultaneous purposes of enhancing the professional functioning of the junior member(s), monitoring the quality of professional services offered to the clients she, he, or they see(s), and serving as a gatekeeper of those who are to enter the particular profession” (pg. 59). Because supervision is such an essential role of the university training clinic, the process of supervision must be clear and grounded in models of supervision theory.

Overview of Telemental Health and AI Technologies

Telemental health refers to the provision of mental health services through technology, such as videoconferencing or telephone (Appleton, et al., 2021.) One of the biggest advantages of telemental health is increased accessibility. With telemental health, clients can receive treatment from a location of their choosing, without the need to travel to see a therapist in-person. This can be particularly beneficial for those who live in rural or remote areas, have mobility issues, are concerned by mental health stigma, or who are unable to take time off work for appointments. Telemental health also offers greater flexibility in terms of scheduling sessions, as patients can access services outside of traditional office hours (Augusterfer, et al., 2020).

However, there are also several disadvantages of telemental health. One issue is the lack of in-person contact, which can be a barrier to forming a strong therapeutic relationship. Additionally, there may be technical difficulties, such as poor Internet connection or issues with videoconferencing software, that can negatively impact the quality of the session. Therapists may also have limited data on their clients’ without being in their physical presence, such as client hygiene or smell. There may also be privacy and security concerns with regards to the protection of sensitive information transmitted electronically. Furthermore, telemental health may not be suitable for everyone, as some clients may require more intensive or hands-on treatment that cannot be provided remotely (Breton, et al., 2021; Sadeh-Sharvit, 2019).

Videoconferencing can be a valuable tool for providing psychotherapy in a training clinic. Researchers have found that telemental and in-person psychotherapy have similar efficacy among seasoned and novice therapists (Giovanetti et al., 2022; Rowen & Demos, 2022). Therapists and clients perceive both modalities as equivalent but also appreciate the how flexible telemental health is in terms of managing time as well as the location of the services (Hall et al., 2023; Leuchtenberg, Gromer, & Käthner, 2022).

In addition to more typical telemental health practice, counseling agencies are exploring the use of AI

technology to augment the work that they do. AI in telehealth and telemental health is considered both essential and a part of what is known as the fourth industrial revolution in health care, i.e. the way that telemental health practices and AI are blurring the boundaries between the physical and virtual worlds in client care (El-Sherif, et al., 2022; Kim & Han, 2020).

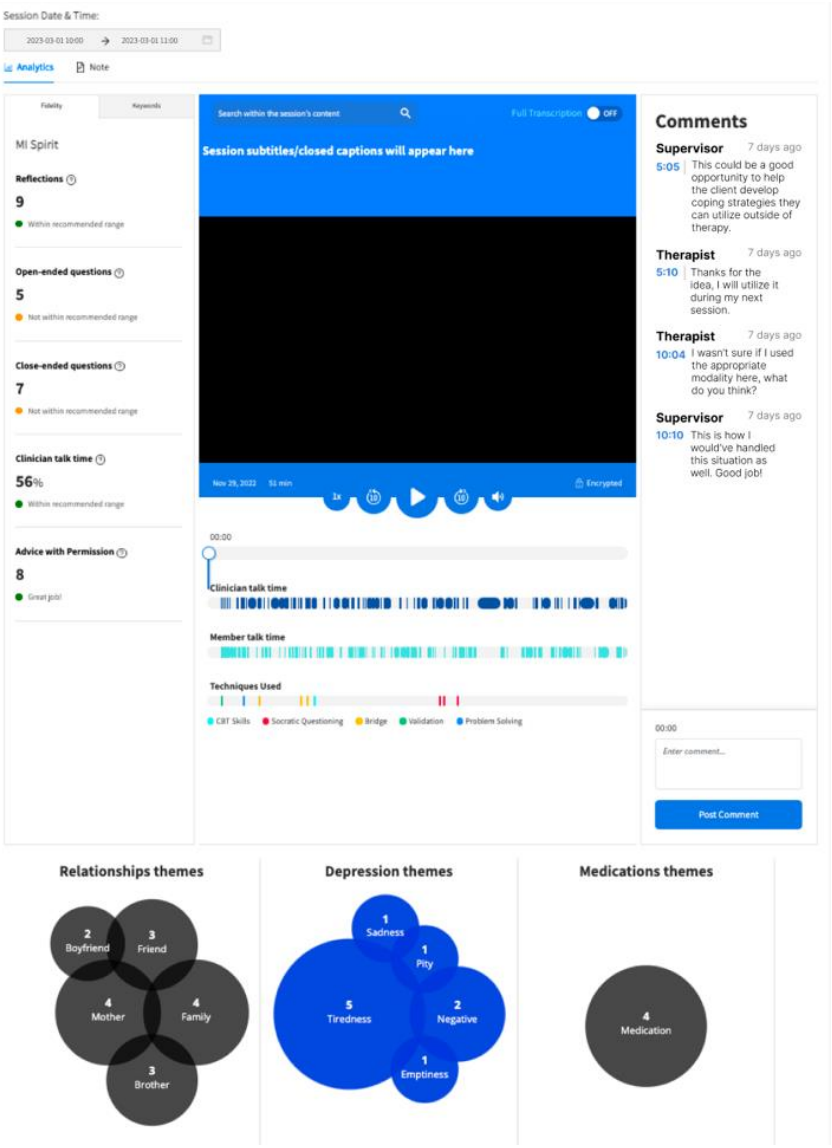
Various AI technologies are being used in telemental health to help deliver more efficient and effective care. Chatbots and virtual assistants are becoming increasingly popular in telemental health, providing clients with 24/7 access to mental health resources and support (Battineni, et al, 2020). Clients can schedule appointments using a chat function on an agency website or locate psychoeducational materials using AI. Another AI technology used in telemental health is machine learning algorithms, which can help analyze patterns and predict client outcomes in real-time. For example, machine learning algorithms can be used to identify clients who may be at a higher risk of suicide and allow counselors to provide early interventions or a higher level of care (Kirtley et al., 2022). When machine learning runs in the background of telemental health sessions, clinicians, supervisors, and clinic managers have near-instant data on themes in sessions, responses to assessments, and clinical interventions employed during the session (Kellogg & Sadeh-Sharvit, 2022). These AI technologies are helping to revolutionize the way mental health services are delivered and making it easier for people to access the help they need.

Using AI Technologies in Telemental Health

AI technologies have shown promise in improving many domains of healthcare services, generating insights from clinical data and improving client outcomes (Feng et al., 2022), but they have yet to be implemented systematically in the mental health field (Bickman, 2020). AI-based supervision and clinical training clinics can and should model early adoption of technological innovation to advance the professional development of the next generation of providers and help them better adapt to an ever-changing field (Sheperis & Nazzal, 2022). Platforms using artificial intelligence and machine learning techniques are poised to provide clinicians with an interactive and immersive experience in the telemental health setting. For example, these platforms can improve training by simulating real-life clinical scenarios, enabling counselors to practice and improve their skills in a safe and controlled environment (Flaherty, 2022). They use sophisticated algorithms to analyze and evaluate performance and provide feedback, allowing counselors and supervisors to identify areas for improvement and refine their techniques. This type of training can be especially beneficial for university training clinics that are helping counselors deepen their clinical skills (Fazlollahi et al., 2022).

In addition to simulation opportunities, AI can support supervisors in training facilities which is particularly valuable for students who may not have had extensive exposure to clients or who are still in the early stages of their training. AI-supported supervision platforms can help bridge the gap between the classroom and the clinical setting and provide a more comprehensive and well-rounded education for counselors in training (Ruzek et al., under review). How does this work? A clinical supervisor can use AI technologies to enhance feedback and assessment by incorporating machine learning algorithms to analyze data, identify patterns and provide personalized recommendations (see Figure 1). For example, speech recognition technology can transcribe and analyze the speech of trainees during simulations or actual sessions, providing detailed feedback, thematic analysis, and identifying specific interventions used (Sadeh-Sharvit et al., 2023). Further, session data can be used for assessing and improving the therapeutic alliance: the AI platform can analyze transcripts of therapy sessions, which can help supervisees improve their relational skills.

Figure 1

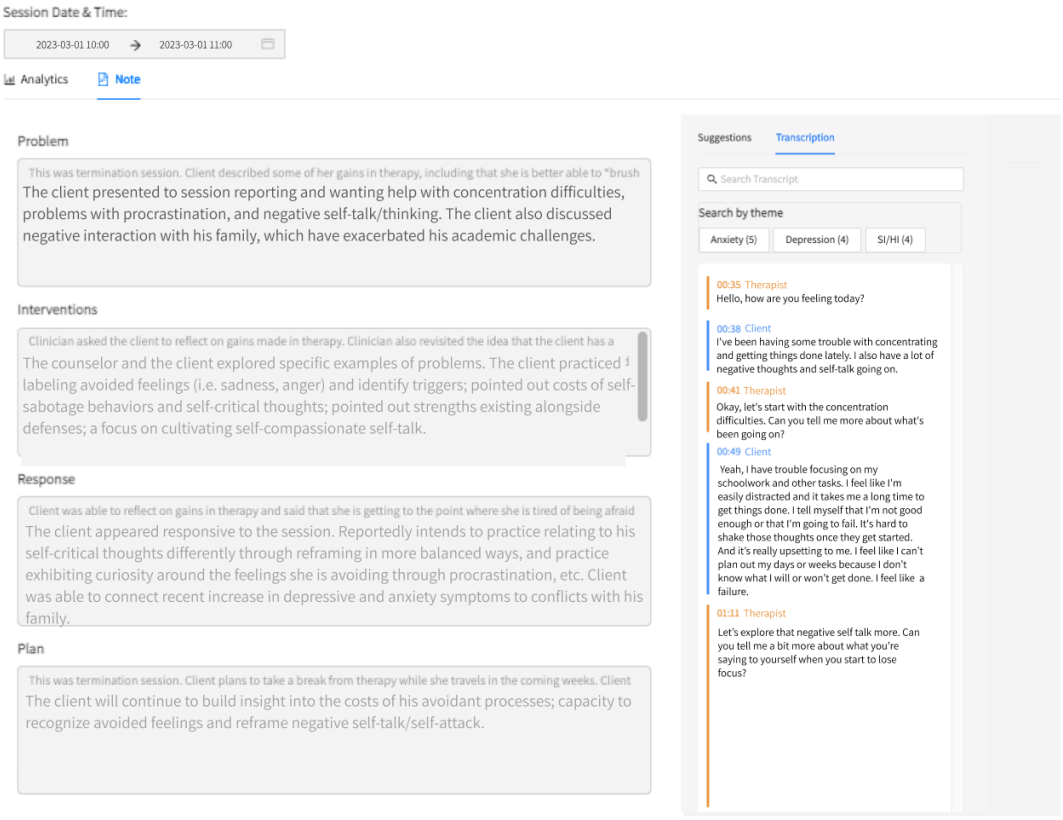


Improving Documentation and Case Management

AI-based tools have also revolutionized the field of clinical documentation. They allow healthcare providers to streamline their documentation processes, saving time and reducing the risk of errors (Wamba-Taguimdje, et al., 2020). AI-based tools can automatically extract information from various sources such as electronic medical records, lab results, and imaging reports and then incorporate this information into a client's medical history. This leads to more accurate and comprehensive medical records, which can help providers make better diagnoses and treatment decisions (see Figure 2). AI has also been shown to have the potential to reduce counselor time on administrative tasks of treatment planning, note writing, and assessment by as much as 42% (Bradshaw & Sadeh-Sharvit, 2022).

In addition to improving documentation, AI-based tools also help with case management. They can help healthcare providers prioritize clients based on their acuity, automate appointment scheduling and follow-up reminders, and even flag potential patient safety issues. With AI-based tools, healthcare providers can also monitor and track patients' progress over time, providing valuable insights into their health status and potential risk factors (Di Carlo, et al., 2021). This information can then be used to create personalized treatment plans, improve care coordination, and reduce costs. Ultimately, AI-based tools are helping

Figure 2



telemental providers deliver more efficient, effective, and safe care to their clients making them an excellent match for university training clinics.

Challenges Using AI in Telemental Health

Overall, the use of AI in mental health care has the potential to significantly improve patient care and outcomes. Like any new opportunity, it is not without its challenges. Ethical concerns are often cited as a challenge to the use of digital platforms in mental health care. One of the main ethical considerations is ensuring patient privacy and confidentiality, as well as ensuring the accuracy and security of the data used by AI systems (Terrasse, et al., 2019). This is particularly important in the context of mental health, as sensitive information is being shared between clients, supervisors, and counselors.

Another challenge is the integration of AI technologies into existing practices. This requires significant effort in terms of training and support for healthcare professionals, as well as investments in technology and infrastructure. It may also require changes in existing policies and procedures, and the development of new protocols and standards to ensure that AI technologies are used effectively and appropriately (Terrasse, et al., 2019). Supervisors will be expected to familiarize themselves with the new technologies, especially as they support novice, unlicensed, or provisionally-licensed counselors.

Finally, there are limitations to the use of AI technologies in telemental health. One of the main limitations is that AI systems rely on the quality and quantity of data available, and this may not always be sufficient or accurate (Gregory, et al., 2021). Additionally, AI systems should not be expected to replace the human element of care, such as empathy and emotional support, which are critical components of mental health treatment (Montemayor, et al., 2021). Furthermore, AI technologies are still developing and may not be able to fully address complex mental health issues (Alam, 2021).

How Does It Work for a University Training Clinic?

In 2019, the first author was part of an advisory group exploring the development of a telemental health clinic at their university. The group was thoughtful, working from empirical support, and hoping to launch the clinic in 2021 with a mission to become a premier training site for students and supervisors in the many facets of telemental health and digital therapeutics. The advent of the COVID-

19 pandemic accelerated the efforts and the clinic opened earlier to support master's students in counseling who were losing their placements. Because of COVID-19, local community mental health agencies scrambled to offer telehealth with their paid staff and did not have the ability to also do the same with interns. The clinic team created relationships with various client populations (see Sheperis, et al., 2022), opened the clinic, and all students who were impacted were able to graduate on time. During the process, we learned a lot about telemental health practice and supervision.

The clinic employs supervisors who are licensed practitioners as well as faculty from the university to provide the oversight and supervision needed for students in training. In 2022, we were offered the opportunity to use an AI-supported supervision platform to support training. This platform ran in the background of the zoom-based telemental health sessions and provided clinicians and supervisors with the clinical data to help support their work. It delivered reports on measurement-based care analytics, including interventions used and outcome measures. Additionally, the technology allowed for easier documentation through automatic progress notes by capturing suggested themes to discuss and select client quotations from the session that support those themes (Ruzek et al., under review). Bringing this AI platform into the training clinic provided opportunities to leverage its advantages in how we helped counselors develop as well as the improving the quality of care provided clients.

Implementation challenges were naturally part of the process. In addition to the learning curve of adjusting to the new system, we had to address the anxiety an AI supervision platform brought to the clinicians and some supervisors. After thoroughly consenting all clients, and thoroughly training all clinicians and supervisors, we were able to address subsequent concerns. Clinicians initially were worried that the platform, with its session documentation and metrics, would somehow be weaponized against them. They worried that the data would only point to what they were doing wrong, rather than support what they were doing well. Supervisors had their own concerns, primarily that somehow their input would be lessened by the presence of machine learning information. There was definitely a trust issue to deal with. Despite embracing telemental health and technology in general, dealing with these specific, personal, concerns took some time and effort by the university clinic director and advisors.

What Have We Learned?

Looking at the data provided by the platform since it has been fully employed, we are able to capture the main themes of the therapy sessions our clinicians were holding. They include the themes of family, relationships, sleep, work, school, coping with pain, and living situation. Cross checking these with the clinicians allowed us to confirm that the AI was accurately portraying the needs of our clients, many of whom were young adult, first generation college students who went to high school near our university. We discovered that on average, during a 60-minute individual telemental health session, our clinicians talked 43% of the time, which is in alignment with researchers who found that clients whose therapists who talk between 40 to 60% of the sessions report greater improvement in depressive and anxiety symptoms (Eleos Health, 2021).

The platform also helped monitor client outcomes by auto deploying two common screening assessments: the Generalized Anxiety Disorder – 7 for anxiety (GAD-7; Spitzer et al., 2006) and the Patient Health Questionnaire-9 for depression (PHQ-9; Kroenke, Spitzer, & Williams, 2001). We were able to see a consistent decline from session one through session five on the GAD-7 and a fluctuation between a high of 11.15 at baseline and a score of 7.93 at session 4 on the PHQ-9. These assessments helped clinicians track individual client progress and helped supervisors see aggregate progress over time by client or clinician they supervise. Additionally, the platform auto deployed client satisfaction surveys. Two items of that survey have proved helpful to our counselors and supervisors. One item, "I am satisfied with my treatment" showed a steady increase from a score of 4 (satisfied) to a score of 5 (highly satisfied). A subsequent item, "Treatment is getting me closer to my goals" showed a similar increase in perceived treatment helpfulness. Knowing these data points regularly from clients has given clinicians the boost to keep working to advance their skills.

Implications for Practice

AI is here to stay. There is no need to hide from it but to find ways to leverage it in agency settings. Based on existing literature and the experience of this university training clinic, a number of implications arise.

Current researchers are finding that the use of AI in mental health settings allows for increased accuracy in diagnosis and assessment (Rajpurkar, et al., 2022), and more individualized treatment planning (Liefaard, et al., 2021). These findings will benefit the efficacy of the counselor and the outcomes for

clients. Also, given that many AI technologies utilize measurement-based care approaches, trainees are then better able to provide these evidence-based approaches to their clients.

Overall, AI is shown to be positively correlated with quality of care (Shaheen, 2021). Of course, the use of AI technologies enhances data acquisition, data management, and reporting capabilities. These advantages benefit the practitioner but also benefit agency managers who need to provide information about care to various stakeholders. AI provides opportunities to automate routine administrative tasks that previously required human effort. Being more efficient and productive is something counselors are constantly concerned with. Saving the time it takes counselors to perform routine tasks has been tied to reduction of burnout (Alabi, et al., 2021) which is suffered by the majority of therapists in practice at some point in their careers (Johnson, et al., 2020). However, not all implications are positive. The limitations include implementation challenges, regulatory considerations, and ethical challenges. AI is limited to what has been inputted into the system. Thus, racial and cultural biases may be perpetuated and even exacerbated (Gupta, et al., 2021). We also need to look at other ethical concerns regarding the use of AI in mental health and in training clinics. For example, data security and client privacy will need to be protected. Also, AI is only as good as the humans who use it. Thus, the potential for human error resulting in misdiagnosis or inaccurate records remains an ethical consideration (Al Kooli & Al Muftah, 2022). Additionally, to increase the credibility, accountability, and trust in the AI-derived insights, the platform developers as well as the clinic's stakeholders must incorporate explainable AI (XAI), i.e. explanatory techniques that clearly state why the AI has made a particular suggestion or indicated a certain metric (Ammar & Shaban-Nejad, 2020).

Finally, the profession of counseling will need to train counseling students, practitioners, and supervisors in the development of AI literacy and technical skills. Most programs have no such training, and the existing as well as proposed CACREP standards (2016; 2024) do not address this concern. Counseling programs with training clinics may be best suited to addressing this curricula deficit by bringing new practitioners into the counseling landscape with a deeper understanding of telemental health technology including AI.

Conclusion

AI-supported supervision can play a valuable role in university telemental health training clinics by providing efficient and effective support for clinical education and supervision. Our lessons from the field can inform future integrations of AI in clinical supervision. They include support for case conceptualization, by helping trainees make sense of the rich client data and providing feedback on diagnosis and treatment planning. The AI platform we implemented in the university training clinic allows greater self-observation in trainees and data-driven supervision with feedback on session quality, such as nonverbal communication, tone, and pacing, which can help supervisees improve their therapeutic skills. Training, education, and ongoing monitoring of the implementation of new tech skills and the use of AI in therapy is essential to ensure that supervisees and supervisors are using the technology effectively and responsibly.

Nevertheless, implementing a new technology into a clinic requires addressing ethical considerations, such as data privacy, algorithmic bias, and transparency. AI-supported supervision can provide valuable support for clinical training in a university telemental health training clinic with high adoption rates. However, careful consideration of ethical and practical issues, as well as providing adequate training and education, are necessary for successful integration.

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