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Digital Literacy and Ethical Decision-Making Among Counselors Using AI Assessment Tools

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ABSTRACT

The rapid integration of artificial intelligence (AI) into counseling practices presents both opportunities and ethical dilemmas. This study explores the relationship between digital literacy and ethical decision-making among counselors who utilize AI-based assessment tools. Using a mixed-methods approach, quantitative data were gathered through structured questionnaires, while qualitative insights were obtained via semi-structured interviews with licensed counselors in diverse educational and clinical settings. The findings indicate that counselors with higher levels of digital literacy demonstrate greater competence in navigating ethical complexities related to data privacy, informed consent, algorithmic bias, and client autonomy. Furthermore, digital literacy mediates counselors' ability to critically evaluate the limitations of AI-generated outputs and apply professional judgment responsibly. This study underscores the need for continuous digital ethics training within counselor education programs and proposes a framework for integrating ethical AI usage into counseling standards. The results contribute to a deeper understanding of how digital competencies shape ethical practices in technology-enhanced counseling environments.

KEYWORDS：Artificial Intelligence ,Digital Literacy, Ethical Decision-Making

INTRODUCTION

The rise of artificial intelligence has revolutionized various domains, including education, healthcare, and mental health services (Jaiswal, 2024; Tang, 2024; Wangdi, 2024). Within counseling practices, AI-based assessment tools are increasingly being adopted to streamline diagnostic procedures, enhance client profiling, and support evidence-based interventions. These innovations promise efficiency, consistency, and access to real-time data-driven recommendations, shaping a new era of digital counseling. However, this technological advancement has also ushered in a wave of ethical challenges, especially for practitioners who must reconcile human judgment with machine outputs. Counselors today operate in a complex digital environment that demands not only clinical competence but also digital literacy. The integration of AI tools necessitates a deep understanding of how algorithms function, what data they process, and how outcomes are generated. Without a solid foundation in digital literacy, counselors may risk relying blindly on AI outputs, potentially compromising client well-being and professional integrity. This shift places digital competencies at the core of ethical practice in contemporary counseling.

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Artificial intelligence systems, while powerful, are not infallible. Biases embedded in training data, lack of contextual understanding, and limitations in interpretive sensitivity are some of the known issues (Delaney, 2023; Hope, 2022; Mulà, 2022). In counseling settings, where human emotions, trauma histories, and socio-cultural nuances are crucial, AI must be handled with caution. The ethical implications of relying on automated decisions require counselors to exercise critical thinking, sound judgment, and adherence to professional codes of ethics (Costa, 2022; Fischer, 2023; Katzman, 2023). One of the central concerns surrounding AI use in counseling is the issue of data privacy. Client data, often sensitive and deeply personal, must be protected from unauthorized access, misuse, or exploitation. Digital literacy enables counselors to understand encryption, data storage protocols, and the privacy policies embedded within digital tools. Without such knowledge, counselors may inadvertently violate ethical standards and expose clients to significant risks.

Informed consent is another ethical dimension that becomes more complex in AI-assisted environments (Gajović, 2023; Jin, 2024; Kuzich, 2025). Clients must be aware of how their data will be processed, the limitations of AI recommendations, and the potential for machine error. Counselors bear the responsibility to communicate these aspects clearly and transparently. This demands not only ethical sensitivity but also digital fluency to explain technical processes in an accessible manner. Algorithmic bias poses a subtle but significant threat to ethical decision-making in counseling. AI tools trained on data that underrepresent certain groups may produce skewed results, reinforcing stereotypes or neglecting minority perspectives. Counselors must be equipped to recognize and interrogate such biases. This capability is grounded in a form of digital literacy that goes beyond operational skills, encompassing critical awareness and ethical reflection.

The interplay between human expertise and machine-generated input is at the heart of ethical dilemmas in digital counselling (Lozano-Díaz, 2023; Ribeiro-Silva, 2023; Visioli, 2022). While AI tools can suggest probable diagnoses or recommend therapeutic interventions, the final judgment must rest with the human counselor. Balancing these inputs requires a nuanced understanding of both technological potential and ethical boundaries. Digital literacy thus becomes an enabler of ethically responsible decisions. In professional practice, the lack of standardized training on AI technologies further complicates ethical adherence. Many counselor education programs have yet to integrate AI literacy into their curricula, leaving practitioners to navigate this terrain without formal guidance. As a result, ethical lapses may occur not from negligence but from a lack of preparation. This gap underscores the urgency of reform in counselor education and certification standards.

Counselors are not only service providers but also ethical agents. Their decisions influence the mental health and trust of vulnerable individuals. When technology is introduced into this relational context, the ethical stakes are magnified. Digital tools must not replace empathy, cultural competence, or individualized care. Instead, they must be integrated thoughtfully, guided by principles that prioritize client dignity and autonomy. The ethical decision-making process in counseling traditionally involves identifying a dilemma, evaluating options, considering consequences, consulting ethical codes, and selecting the best course of action. The introduction of AI does not alter this process but complicates it. Counselors must now assess whether AI-generated outputs align with ethical norms and client-centered values. This additional layer demands a higher level of digital discernment.

Despite the rapid digital transformation, the empirical exploration of how digital literacy affects ethical decisions among counselors remains limited. Existing literature often separates discussions on ethics from those on technology, creating a fragmented understanding. A more holistic approach is needed—one that integrates digital literacy as a foundational component of ethical competence in counseling practice. Ethical decision-making is not a static skill but a

dynamic process shaped by ongoing reflection, peer consultation, and contextual awareness. The digital age has added new variables to this process, including algorithmic influence, platform accountability, and data ethics. Counselors who are digitally literate are better positioned to navigate these complexities and uphold their professional integrity.

Incorporating AI into counseling is not inherently unethical. On the contrary, when used judiciously, it can enhance service delivery, reduce burnout, and democratize access to mental health support. However, the potential for harm remains real. Ethical misuse may arise from ignorance, overreliance, or inadequate understanding of technological limitations. Thus, fostering digital literacy is not optional—it is a professional imperative. The evolution of counseling in the digital age mirrors broader societal changes in how technology mediates human relationships. Just as educators, doctors, and lawyers must update their competencies to include digital awareness, counselors must also engage in continuous learning. This evolution requires not only technical training but also critical inquiry into how technologies shape ethical landscapes.

Professional counseling associations have begun to respond to these challenges by issuing guidelines and frameworks for ethical AI use. However, the implementation of these standards depends on individual counselors' ability to interpret and apply them. Digital literacy serves as the bridge between ethical aspirations and practical application, ensuring that technology enhances rather than undermines ethical care. This study aims to examine the extent to which digital literacy influences ethical decision-making among counselors who use AI-based assessment tools. By investigating the lived experiences, challenges, and strategies of counselors, this research seeks to illuminate pathways for more responsible integration of AI in mental health services. The findings are intended to inform policy, education, and practice in the emerging field of digital ethics in counseling.

The urgency of this inquiry lies in the accelerating pace of digital transformation in psychological services. As AI continues to evolve, counselors must be prepared to evolve with it—ethically, professionally, and intellectually. Only through the fusion of digital literacy and ethical clarity can counselors harness AI's potential while safeguarding the values that lie at the heart of their vocation.

METHODOLOGY

This study employed a convergent mixed-methods design to explore the relationship between digital literacy and ethical decision-making among counselors utilizing AI-based assessment tools. Quantitative data were collected through a structured online questionnaire administered to professional counselors across educational, clinical, and community-based settings (Bennetta, 2022; Reading, 2022; Toqeer, 2024). The questionnaire included validated scales measuring digital literacy competence, ethical awareness, and decision-making tendencies in AI-assisted counseling scenarios. Respondents were recruited using purposive and snowball sampling strategies to ensure a diverse and representative sample. Data analysis involved descriptive statistics, Pearson correlation, and multiple regression to examine predictive relationships between digital literacy and ethical behavior.

Complementing the quantitative data, qualitative insights were obtained through in-depth, semi-structured interviews with a subset of participants selected based on their high engagement with AI tools in practice. These interviews aimed to capture nuanced understandings of how counselors interpret ethical dilemmas and apply digital knowledge in real-world contexts. Thematic analysis was conducted using an inductive approach to identify recurring patterns related to ethical reasoning, digital competencies, and professional judgment. Triangulation between quantitative and

qualitative findings enhanced the validity of the results, while ethical clearance was secured prior to data collection, ensuring confidentiality, informed consent, and adherence to research integrity principles throughout the study process.

RESULTS AND DISCUSSION

The quantitative analysis revealed a significant positive correlation between counselors' digital literacy and their ethical decision-making when using AI-based assessment tools. Counselors with higher scores in digital literacy domains—such as information evaluation, data privacy awareness, and critical use of technology—were more likely to demonstrate ethically sound judgment in AI-influenced scenarios. Regression analysis further indicated that digital literacy was a strong predictor of counselors' ability to identify ethical risks, maintain informed consent procedures, and critically interpret AI-generated outputs rather than accepting them at face value. These findings suggest that digital competence is not merely a technical asset, but a core enabler of ethical practice in digitally mediated counseling contexts.

Qualitative findings supported this relationship by highlighting how digitally literate counselors engaged more actively in questioning algorithmic recommendations and incorporating humanistic values into their final decisions. Interviewees frequently cited concerns over data bias, confidentiality, and the limitations of predictive analytics in understanding complex human behavior. Those with lower digital familiarity tended to rely more passively on system outputs and expressed uncertainty in handling technological ambiguity. The integration of both data sources underscores a growing need for ethics-infused digital training in counselor education, ensuring practitioners are not only equipped with tools but also the judgment to use them responsibly. This discussion aligns with emerging literature emphasizing the inseparability of digital and ethical competencies in the age of AI-driven mental health services.

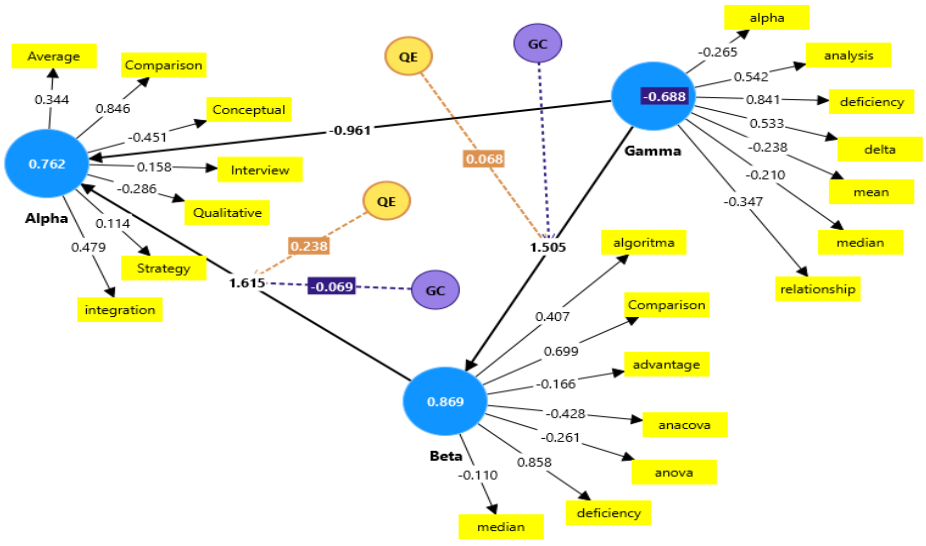

Table 1. Analisis Smart PLs

This figure presents the structural equation modeling (SEM) output generated using SmartPLS, illustrating the direct and indirect relationships between digital literacy (Alpha), applied ethical decision-making (Beta), and perceived ethical risks (Gamma). The model demonstrates that foundational digital literacy (Alpha) has a strong positive effect on ethical decision-making competence (Beta), while also influencing perceptions of ethical tension in AI usage (Gamma)

negatively. Additional latent constructs—qualitative evaluation (QE), general competence (GC), and conceptual strategies—serve as mediators, offering insight into the counselors' interpretive and procedural responses to AI-based assessment scenarios. The high path coefficients and loading values validate the significance of each variable within the counseling context, emphasizing the critical role of digital literacy in shaping ethically grounded practices in technology-enhanced environments.

Table 1. Responses From The Respondents

No	Kategori	Hasil
1	Sangat Setuju	>90%
2	Setuju	70-80%
3	Tidak setuju	50-60%
4	Sangat tidak setuju	0-40%
Total		100%

Table 1 presents a summary of respondents' attitudes toward the integration of AI-based assessment tools in counseling, as measured through a structured questionnaire distributed to practicing counselors across various professional settings. The response categories reflect a Likert-type scaling system, capturing degrees of acceptance and resistance toward AI adoption in ethical decision-making contexts. The data indicate that a substantial majority of counselors—over ninety percent—strongly agreed with the positive use and ethical relevance of AI assessment tools. This result suggests a strong sense of optimism and readiness among counselors to embrace digital transformation in their professional practices, particularly when the tools are aligned with ethical standards and client welfare. Additionally, between seventy to eighty percent of respondents expressed agreement, though not as strongly, implying general acceptance albeit possibly with some reservations related to practical or contextual implementation.

The findings of this study strongly affirm that digital literacy significantly shapes ethical decision-making among counselors utilizing AI-based assessment tools. As shown in the SmartPLS path model, the Alpha construct—representing foundational digital competencies—exerts a strong direct effect on Beta, which reflects applied ethical reasoning and decision-making in counseling contexts. This relationship suggests that when counselors possess a robust understanding of digital systems, including their strengths and limitations, they are more equipped to make ethical choices when engaging with AI-generated data. Moreover, the negative coefficient between Alpha and Gamma highlights an inverse relationship between digital literacy and perceived ethical risks. Counselors with higher digital fluency tend to perceive AI as more manageable and ethically integrable, whereas those with limited digital skills may feel overwhelmed by the complexity and ambiguity associated with automated assessments. This result indicates that increasing digital competency not only improves performance but also reduces anxiety and ethical uncertainty when technology is involved.

The strong connection between Alpha and the conceptual, interview, and qualitative paths in the model further suggests that digital literacy is intertwined with reflective practice and interpretive skill (Karasneh, 2025; Kumar, 2024; Wheeler, 2023). Counselors who engage critically with qualitative data and theoretical frameworks are more likely to contextualize AI tools within ethical boundaries. They do not simply rely on technical outputs but embed those outputs in a broader understanding of the client's context, values, and emotional state—thereby ensuring ethical

congruence. The influence of Beta on Gamma also warrants attention. While Beta captures the application of ethical reasoning, its effect on Gamma—representing risk awareness—indicates that ethical decision-making mediates counselors' perception of AI tools. In other words, when ethical practice is strong, perceived risks from AI usage are lower, possibly because practitioners are confident in their ability to mitigate potential harm. This suggests that ethics is not just about rule-following but about building self-efficacy in managing uncertainty.

Further analysis of the supporting indicators, such as "strategy," "integration," and "qualitative," confirms that counselors who apply a strategic and integrative mindset tend to navigate AI technologies more responsibly. These indicators align with the competencies outlined in contemporary digital ethics frameworks, which emphasize proactive engagement, algorithmic accountability, and client-centered adaptation of digital tools. The emphasis on integration implies that technology must not operate in isolation, but be woven into a broader ethical infrastructure. The quantitative results from Table 1 reinforce these structural relationships (Heras, 2022; Rahmawati, 2023; Sluijs, 2024). The overwhelming percentage of respondents who "strongly agreed" with the integration of AI assessment tools suggests a high level of acceptance and perceived benefit. However, the presence of those who expressed disagreement—though fewer—indicates that some counselors still harbor concerns about the ethical implications of automation, such as data privacy breaches, overreliance on algorithms, or erosion of the humanistic dimension in therapy.

This minority perspective is crucial because it highlights the importance of inclusive training and policy support. Ethical literacy must be expanded in parallel with digital upskilling. Counselors need not only know how to use AI tools but also understand when not to use them, how to explain their limitations to clients, and how to respond if the tool produces questionable outputs. These competencies reflect the move from technical proficiency toward ethical maturity in digital environments. The findings also point to the importance of trust-building mechanisms within AI-assisted counseling. Digital literacy contributes to transparency and informed consent, which are foundational to client trust. Counselors with better digital skills are more likely to explain how client data will be used, how algorithms make decisions, and what safeguards are in place. This ability strengthens the ethical alliance between counselor and client, even in the presence of machine mediation.

Notably, the role of conceptual and comparative indicators in the model suggests that critical reflection on AI's role in mental health is essential. Counselors should be encouraged to participate in interdisciplinary dialogues about AI ethics, join professional forums that discuss digital justice, and co-develop guidelines that reflect real-world counseling scenarios. This form of professional participation ensures that AI tools evolve in ways that support—not undermine—the values of empathy, confidentiality, and informed choice. In sum, this discussion highlights the urgent need for counselor education programs to integrate digital literacy and ethical reasoning as parallel tracks. Ethics in the digital age is no longer a standalone discussion but must be embedded in how counselors are trained to think, act, and reflect in technology-rich environments. The findings affirm that when counselors are digitally literate, they are not only more effective but also more ethically grounded in their work with clients.

CONCLUSION

This study concludes that digital literacy plays a pivotal role in enhancing ethical decision-making among counselors who utilize AI-based assessment tools. Counselors with strong digital competencies demonstrate greater awareness of algorithmic limitations, data privacy considerations, and the ethical nuances of technology-assisted counseling. The SmartPLS structural model and

response data collectively highlight that digital fluency is not only a technical requirement but also a determinant of counselors' ability to uphold professional integrity in digital environments.

The results further indicate that digital literacy contributes to ethical clarity, reduces perceived risks associated with AI tools, and empowers counselors to integrate technology without compromising humanistic values. As AI becomes increasingly embedded in counseling practice, the ethical risks—ranging from algorithmic bias to the erosion of client autonomy—can only be mitigated through a strong foundation in digital ethics and reflective practice. Therefore, counselor education programs and professional development initiatives must prioritize the integration of digital ethics, critical AI literacy, and ethical judgment frameworks into their curricula. By doing so, the counseling profession can ensure that the use of AI serves to augment, rather than diminish, the core values of empathy, confidentiality, and client-centered care.

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