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Transforming Mental Health Care: An Integrative Review on Integrating Psychotherapy, Artificial Intelligence, and Kinesiology

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Abstract

This integrative review explores the emerging interdisciplinary approach of combining psychotherapy, artificial intelligence (AI), and kinesiology in the field of mental health care. The convergence of these domains presents transformative opportunities to improve diagnostic accuracy, enhance therapeutic precision, and personalize mental health interventions. AI contributes advanced data processing and real-time emotional analysis capabilities; kinesiology provides insight into the physiological manifestations of psychological states; and psychotherapy offers a human-centered framework for addressing emotional and cognitive well-being. Together, these elements support a more holistic and responsive model of care. Through an extensive literature review of peer-reviewed articles, theoretical papers, and clinical studies from 2010 to 2024, this paper synthesizes key findings and identifies practical, ethical, and methodological implications of this integration. Key themes emerging from the literature include the enhancement of emotion recognition, the role of biofeedback in somatic regulation, the predictive power of AI in therapy, and the potential of integrated models to bridge gaps in telehealth delivery. The review also highlights critical challenges such as data privacy, informed consent, algorithmic bias, equitable access to emerging technologies, and clinician readiness. It argues that addressing these challenges requires robust ethical governance, interdisciplinary collaboration, and inclusive innovation to ensure that the integration enhances rather than detracts from therapeutic relationships. Overall, the paper emphasizes the need for further empirical research, standardized clinical protocols, and inclusive implementation strate-

gies. It concludes that the integration of AI, kinesiology, and psychotherapy holds significant promise for redefining the future of mental health care by making it more intelligent, embodied, and patient-centered.

Keywords

Mental Health, Psychotherapy, Artificial Intelligence, Kinesiology, Emotion Regulation, Integrative Review

1. Introduction

Mental health challenges are a pervasive global concern, significantly impacting individuals' quality of life, productivity, and overall well-being. Traditional psychotherapy has been instrumental in addressing these concerns; however, despite its effectiveness, it often falls short of fully capturing the complexity and diversity of emotional, cognitive, and physical symptoms experienced by individuals [1]. As such, there is a compelling need for innovative approaches that enhance therapeutic effectiveness, improve diagnostic precision, and enable personalized care [2].

Recent advancements in technology, particularly artificial intelligence (AI), have introduced transformative possibilities in numerous healthcare fields, including psychotherapy [3]. AI's potential lies in its extraordinary capacity to analyze extensive datasets rapidly and accurately, identifying complex patterns and subtle emotional nuances that might elude human perception [4]. AI's capabilities include predictive analytics, emotion recognition, and real-time therapeutic feedback mechanisms, significantly enhancing the accuracy and responsiveness of psychotherapeutic interventions [5]. The integration of AI into psychotherapy practices promises improved outcomes by enabling therapists to make more informed decisions, provide tailored treatments, and better monitor patient progress [6].

Simultaneously, kinesiology—an established discipline examining human movement, muscle function, and physical expression—offers critical insights into the somatic manifestations of psychological states [7]. Increasingly, psychotherapy recognizes the importance of mind-body interconnectedness, acknowledging that emotional and psychological experiences are often mirrored in physical states [8]. Techniques such as biofeedback, somatic experiencing, and various body-oriented therapies leverage kinesiology to address psychological distress through physical interventions [9]. These approaches have demonstrated significant therapeutic value, particularly in managing stress, trauma, anxiety, and related disorders [10].

The integration of kinesiology into psychotherapy is particularly promising because it enables therapists to address not just emotional and cognitive dimensions but also the physical aspects of mental health. By interpreting subtle physical signals such as muscle tension, posture, and movement patterns, therapists gain deeper insights into patients' emotional and psychological states, often uncovering subconscious emotional conflicts or suppressed emotions [11]. This enhanced

understanding facilitates more targeted and effective interventions, promoting emotional release, greater self-awareness, and improved overall mental health outcomes [12].

Combining AI with kinesiology represents a powerful synergy, harnessing the strengths of both disciplines to enhance psychotherapy profoundly. AI-powered technologies can analyze kinesiology-derived data in real-time, translating complex physical signals into meaningful emotional insights [13]. This capability significantly surpasses traditional therapeutic methods in terms of precision, immediacy, and personalization. For instance, AI-driven analytics can instantly detect shifts in muscle tension and movement patterns indicative of emerging emotional distress, allowing therapists to intervene proactively [14]. Such interventions might involve immediate therapeutic adjustments, personalized coping strategies, or biofeedback exercises, thereby significantly improving therapeutic responsiveness and patient outcomes [15].

Furthermore, the inclusion of facial recognition technology amplifies the benefits of integrating AI and kinesiology in psychotherapy. Facial expressions provide rich, immediate, and nuanced indicators of emotional states, often revealing feelings and emotional dynamics that individuals may consciously or unconsciously conceal [16]. Advanced facial recognition algorithms, especially those employing deep learning methodologies, can detect and interpreting microexpressions, subtle facial movements, and other non-verbal emotional cues with remarkable accuracy [17]. By incorporating facial recognition into therapeutic practices, therapists gain access to an additional layer of emotional data, further enhancing diagnostic accuracy, emotional tracking, and therapeutic effectiveness [18].

This integrative approach not only has profound clinical implications but also significant theoretical and ethical considerations. From a theoretical standpoint, the integration of AI, kinesiology, and psychotherapy aligns with emerging conceptualizations of mental health as a complex interplay of cognitive, emotional, physical, and environmental factors [19]. This holistic view challenges reductionist approaches, advocating for comprehensive interventions that simultaneously address multiple interconnected dimensions of mental health [20].

Ethically, the integration of these technologies into psychotherapy raises important considerations regarding patient privacy, informed consent, and algorithmic bias [21]. The sensitive nature of emotional and biometric data collected during therapy necessitates stringent measures to protect patient confidentiality and data security [22]. Additionally, the potential for algorithmic bias underscores the need for inclusive and diverse training datasets to ensure equitable and culturally sensitive therapeutic applications [23].

This integrative review aims to comprehensively examine the current state of research and theoretical developments regarding the intersection of psychotherapy, AI, and kinesiology. Specifically, the review addresses how these disciplines complement and enhance each other to create a more effective and responsive mental health care model [24]. It also explores the practical and ethical challenges of implementing these technologies, providing recommendations for future re-

search directions and guidelines for clinical practice [25]. Ultimately, this review seeks to illuminate the significant potential of this interdisciplinary approach to transform mental health care, offering insights that could lead to substantial improvements in psychotherapeutic practice and patient outcomes [26].

2. Methodology

An integrative review methodology was employed to ensure comprehensive and rigorous coverage of relevant literature, following established guidelines and best practices. This methodology is particularly suitable for synthesizing diverse forms of evidence, including theoretical insights, empirical studies, clinical trials, and practical case studies, thus providing a holistic understanding of complex interdisciplinary topics [27].

2.1. Search Strategy

A systematic search was conducted across several major electronic databases, including PubMed, PsycINFO, IEEE Xplore, Web of Science, and Google Scholar. The search strategy involved combining specific keywords to ensure coverage of the interdisciplinary nature of the review topic. Keywords included "psychotherapy," "artificial intelligence", "AI", "kinesiology", "mental health", "emotion regulation", "somatic therapy", "biofeedback", and "facial recognition". Boolean operators (AND, OR) were strategically used to combine keywords and maximize relevant results. Additionally, references of retrieved articles were manually searched to identify further pertinent studies not initially captured by electronic databases [28].

2.2. Inclusion and Exclusion Criteria

Clear inclusion and exclusion criteria were established to guide the selection of relevant literature. Inclusion criteria encompassed peer-reviewed empirical studies, theoretical papers, systematic and integrative reviews, and clinical trials published from January 2010 to December 2024, written in English. The selected articles needed to explicitly address or significantly involve the integration or application of psychotherapy, AI, and kinesiology. Exclusion criteria involved non-peer-reviewed materials, articles published before 2010, studies not available in English, and those unrelated to psychotherapy or integrative mental health interventions. Most studies (approximately 67%) originated from Western countries (USA, UK, Australia, Canada), while about 33% were from non-Western regions (India, China, Middle East, Southeast Asia). Regarding demographics:

- Adult populations were the focus in about 70% of the studies.
- Adolescent-specific studies constituted around 20%, while geriatric or mixed-age group studies made up the remaining 10%.

2.3. Data Extraction and Synthesis

Given this review's narrative and integrative nature, formal data extraction pro-

cedures commonly associated with systematic reviews were not performed. Instead, a thematic integrative analysis approach was used, wherein each article was thoroughly reviewed and critically appraised by the researchers to identify key themes, concepts, theoretical frameworks, and practical implications. This method allowed for an integrative synthesis of qualitative insights and quantitative evidence without the structured data extraction typically associated with systematic reviews.

2.4. Quality Assessment

Given the diverse nature of the included studies, a broad approach to quality assessment was adopted. Methodological rigor, validity, reliability, transparency, and ethical considerations were critically evaluated for each article. Studies were qualitatively assessed based on criteria adapted from established appraisal tools suitable for integrative reviews, including clarity of research objectives, appropriateness of methodologies, robustness of analytical techniques, and comprehensiveness of reported results. This qualitative appraisal ensured that conclusions and recommendations drawn from the review were grounded in high-quality evidence and credible theoretical frameworks [29].

Through this structured and systematic methodology, the review aims to provide reliable and comprehensive insights into the integrative potential of psychotherapy, AI, and kinesiology in transforming mental health care practices.

3. Psychotherapy and Kinesiology: An Integrated Perspective

Kinesiology, the study of human movement and muscular activity, offers valuable insights into the profound connections between physical and emotional health [30]. Psychotherapeutic approaches traditionally focus primarily on cognitive and emotional dimensions, often overlooking the body's significant role in manifesting and processing psychological distress. Integrating kinesiology into psychotherapy addresses this oversight by explicitly incorporating bodily signals into therapeutic assessments and interventions [31].

This integration acknowledges that psychological states such as anxiety, trauma, stress, and depression frequently manifest physically through symptoms such as muscle tension, altered posture, restricted movement, and chronic pain. By evaluating these somatic indicators, therapists can better understand patients' underlying emotional issues. Techniques derived from kinesiology, including biofeedback and somatic experiencing, allow therapists to target the physical manifestations directly, thereby addressing emotional disturbances more holistically and effectively [32].

Empirical studies indicate that patients undergoing integrated psychotherapeutic-kinesiological treatments demonstrate significant reductions in psychological symptoms and improved emotional regulation [33]. Therapists utilize interventions that encourage patients to develop increased bodily awareness, aiding in recognizing and releasing subconscious emotional tensions stored physically [34].

For instance, biofeedback therapy provides patients with real-time physiological data, facilitating immediate adjustments in muscular tension and promoting relaxation responses. Similarly, somatic experiencing methods guide patients through controlled physical experiences to gradually release trauma-related physical tension and emotional distress. Ultimately, the integration of psychotherapy and kinesiology supports a comprehensive therapeutic model that effectively addresses both mind and body, promoting improved overall mental health and well-being [35].

4. Artificial Intelligence in Psychotherapy

Artificial intelligence (AI) has emerged as a powerful tool in the evolution of mental health care, offering innovative approaches to diagnosing, monitoring, and treating psychological conditions. In psychotherapy, AI technologies are increasingly being leveraged to augment traditional practices and address limitations inherent in human-based assessments and interventions. One of the key advantages of AI lies in its ability to process large volumes of complex, multidimensional data, which can provide deeper insights into patterns of emotional and cognitive behavior [36].

Among the most impactful applications of AI in psychotherapy is the use of natural language processing (NLP) to analyze patient speech and written text [37]. NLP algorithms can detect subtle cues related to mood, cognitive distortions, and emotional dysregulation that might not be immediately evident to therapists. For example, patterns in word usage, sentence structure, and emotional tone can indicate depression, anxiety, or risk of self-harm. These insights can be used to tailor interventions and track progress over time [38].

Machine learning (ML) algorithms also play a vital role in predictive modeling. By analyzing historical patient data and treatment outcomes, ML can help identify the most effective therapeutic approaches for individual clients [39]. These personalized treatment plans improve efficiency and outcomes by aligning therapeutic techniques with patients' specific needs and preferences. AI-driven platforms have also been developed to deliver digital cognitive behavioral therapy (CBT), guiding users through structured interventions with high fidelity and consistency [40].

Facial recognition is another area where AI is making significant contributions. Advanced image processing technologies can analyze facial expressions in real time to detect microexpressions and emotional shifts during therapy sessions [41]. These emotional insights offer therapists a valuable, nonintrusive means of monitoring client affect and engagement, especially in virtual or teletherapy settings [42].

In addition, AI-powered sentiment analysis can assess real-time emotional responses and engagement levels during therapy [43]. This data can be used to dynamically adjust therapeutic content or techniques, making therapy sessions more responsive and adaptive [44]. Virtual agents or AI-powered chatbots, designed to

simulate therapeutic dialogue, have also been shown to increase access to care, reduce stigma, and support individuals in between therapy sessions [45].

However, the implementation of AI in psychotherapy is not without challenges. Issues such as algorithmic bias, data privacy, interpretability of AI decisions, and the potential reduction in human empathy must be carefully managed [46]. Ensuring ethical AI design, transparency in algorithmic processes, and clinician oversight is essential to maintaining trust and effectiveness [47].

Overall, AI holds immense promise in transforming psychotherapy by enhancing precision, personalization, and accessibility [48]. When thoughtfully integrated, it complements human therapists rather than replacing them, offering a hybrid model of care that addresses the complexities of mental health in the digital age [49].

5. The Intersection of AI, Kinesiology, and Psychotherapy

The intersection of Artificial Intelligence (AI), kinesiology, and psychotherapy represents an emergent frontier in mental health care that aims to enhance therapeutic outcomes through multidimensional, data-driven, and embodied insights [50]. While AI and kinesiology offer individual benefits when applied separately in psychotherapy, their combined use presents a novel, integrative approach capable of capturing a fuller picture of patient experiences. This section explores the theoretical and practical implications of this convergence [51].

The synthesis of AI and kinesiology in psychotherapy facilitates a shift from traditional, subjective assessments to real-time, objective, and physiological indicators of mental states [52]. For instance, wearable sensors and electromyography (EMG) tools can track muscle tension, respiration, and heart rate—biomarkers often associated with anxiety, stress, or emotional dysregulation. When analyzed by AI algorithms, these physiological cues can offer clinicians real-time insights into a patient's emotional and physical responses during therapy sessions [53].

In addition, AI can enhance the interpretation of kinesiology data by identifying subtle trends or correlations that may not be immediately visible to therapists [54]. Machine learning models, trained on large datasets of physiological and emotional responses, can detect early warning signs of mental health deterioration or relapse, thus supporting preventative care. By alerting therapists to these shifts, AI enables more timely and targeted interventions [55].

This triadic integration also supports a more dynamic therapeutic process. For example, real-time data from kinesiological sensors can be analyzed by AI to adjust therapeutic strategies mid-session, prompting the therapist to shift tone, pacing, or topic in response to detected stress or disengagement [56]. This adaptability can significantly enhance the patient's sense of safety, presence, and engagement in therapy, thereby improving therapeutic alliance and outcomes [57].

Moreover, the integration holds promise for developing more personalized treatment plans. Every individual exhibit unique pattern of emotional expression and regulation [58]. By aggregating and analyzing longitudinal data from multiple therapy sessions, AI can create personalized emotion-response profiles that incor-

porate both verbal and non-verbal data, such as muscle response, posture, and facial expressions [59]. These profiles enable therapists to understand patient-specific triggers and tailor interventions more precisely [60].

Virtual and telehealth applications particularly benefit from this integration. Remote therapy settings often lack the non-verbal data available in face-to-face sessions. However, AI-enhanced kinesiology tools can bridge this gap by analyzing video feeds for muscle tension, posture shifts, or facial microexpressions, offering remote therapists a continuous stream of bio-emotional data to guide their interventions [61].

Despite its potential, this integrative model is still in its infancy and must overcome several hurdles before widespread adoption. Technical challenges such as the reliability of wearable devices, accuracy of emotion detection, and integration with therapeutic software need to be addressed [62]. Additionally, clinicians must be trained to interpret and utilize AI-generated feedback effectively.

Nevertheless, the convergence of AI, kinesiology, and psychotherapy offers a transformative approach to mental health care [63]. It represents a shift toward precision therapy—where treatment is informed by continuous, individualized data—and holds the potential to radically improve emotional insight, therapeutic engagement, and clinical outcomes in diverse mental health contexts [64].

6. Ethical and Practical Considerations

As the integration of artificial intelligence (AI), kinesiology, and psychotherapy advances, it is essential to address the ethical and practical concerns that arise from this convergence. While these innovations promise improved diagnostics and treatment personalization, they also introduce complex issues related to privacy, consent, accessibility, data ownership, and clinician training. Failure to proactively engage with these concerns may limit adoption, exacerbate health disparities, or compromise patient trust [65].

6.1. Data Privacy and Security

One of the most significant ethical challenges is the protection of sensitive patient data. Integrated systems that rely on AI-driven analysis of physiological signals, facial recognition, and movement tracking generate vast amounts of biometric and emotional data. Ensuring that such data is securely stored, anonymized, and accessed only by authorized personnel is critical. Adherence to international standards such as the General Data Protection Regulation (GDPR) and Health Insurance Portability and Accountability Act (HIPAA) is non-negotiable in safeguarding users' rights [66].

6.2. Informed Consent

Ethical deployment requires that patients be fully informed about how their data will be collected, processed, and used. Given the complexity of AI systems, obtaining truly informed consent can be challenging. is important to use transparent

and accessible language when explaining the implications of these technologies to clients, including any potential risks and limitations [67].

6.3. Algorithmic Bias and Fairness

AI systems are only as unbiased as the data on which they are trained. There is a significant risk of perpetuating existing inequalities if algorithms reflect societal biases related to race, gender, or socioeconomic status. For instance, facial recognition technologies have historically underperformed in recognizing the emotions of individuals from minority groups. It is imperative to diversify training datasets and continuously audit AI systems for bias and inequity [68].

6.4. Therapist-AI Relationship

Another ethical consideration is the potential reshaping of the therapeutic alliance—the foundational relationship between therapist and patient. While AI and kinesiology tools can augment therapeutic insight, they must not replace human empathy and relational dynamics. The therapist must remain central to the process, using technology as a complement rather than a substitute for authentic human connection [69].

6.5. Accessibility and Digital Divide

Practically, the availability and affordability of AI-enhanced kinesiology tools may limit access, particularly in low-resource settings. The digital divide could worsen mental health disparities if only certain populations can benefit from these advancements. Strategies for equitable deployment, including open-source solutions, scalable designs, and public-private partnerships, are essential to ensure broader access [70].

6.6. Clinician Training and Readiness

Effective use of AI and kinesiology tools in psychotherapy also depends on proper training and clinician readiness. Therapists must develop competencies in interpreting AI-generated insights, operating biometric equipment, and integrating technological feedback into treatment plans [71]. Without adequate training, there is a risk of misinterpretation or overreliance on technology.

In summary, the ethical and practical challenges associated with integrating AI, kinesiology, and psychotherapy are multifaceted and must be addressed through transparent design, stakeholder education, robust regulation, and continuous evaluation. Doing so will ensure that these technologies enhance rather than hinder therapeutic effectiveness and uphold the core values of mental health care [72].

7. Future Directions

The integration of artificial intelligence (AI), kinesiology, and psychotherapy is an evolving interdisciplinary field with vast potential for mental health care's future. As technological and scientific advancements continue, future research and de-

velopment should aim to expand empirical validation, standardize clinical protocols, enhance ethical governance, and promote interdisciplinary collaboration [73]. Several key directions can help guide the evolution of this field.

7.1. Empirical Validation and Clinical Trials

Robust empirical research is essential to transition from theoretical promise to clinical reality. Future studies should prioritize randomized controlled trials (RCTs), longitudinal studies, and real-world implementation research to evaluate the efficacy and effectiveness of AI-enhanced kinesiological interventions in psychotherapy. Clinical trials should assess diverse populations to ensure generalizability and examine therapeutic outcomes such as symptom reduction, engagement, satisfaction, and long-term recovery [74].

7.2. Development of Standardized Protocols

There is a pressing need for standardized clinical protocols that detail how AI tools and kinesiology data can be ethically and effectively integrated into psychotherapeutic practice. Guidelines should address workflow integration, physiological and behavioral data interpretation, and procedures for adapting therapeutic techniques based on AI feedback. Establishing best practices will help clinicians navigate the practical complexities of incorporating emerging technologies [75].

7.3. Interdisciplinary Collaboration

The future success of this integrated model depends on sustained collaboration between mental health professionals, computer scientists, biomedical engineers, ethicists, and policy-makers. Interdisciplinary research teams are essential for designing and testing user-friendly, secure, and culturally sensitive tools [76]. Collaborative ecosystems that foster mutual understanding and knowledge exchange can drive responsible innovation and implementation.

7.4. Ethical AI and Regulatory Frameworks

As AI applications in psychotherapy grow, ethical frameworks and regulatory oversight must evolve to keep pace. Future work should explore dynamic consent models, adaptive governance structures, and patient-centered policies prioritizing data transparency, algorithm accountability, and user empowerment. Ethical review mechanisms and stakeholder participation will be critical to maintaining public trust [77].

7.5. Accessibility and Global Reach

Research should also focus on improving accessibility and scalability. Developing low-cost, open-source tools or mobile applications can democratize access to AI-enhanced mental health support, particularly in underserved and low-resource settings. Future work should explore how culturally adaptive AI systems can accommodate linguistic, cultural, and socioeconomic diversity, reducing the digital

divide in mental health services [78].

7.6. Education and Training Programs

Educators and training institutions should integrate AI and kinesiology into psychology and mental health curricula to prepare the next generation of therapists. Continuing education programs should equip current practitioners with the knowledge and skills to responsibly understand and use these tools. Training must emphasize critical thinking, ethical reasoning, and the humanistic principles foundational to therapeutic work. In sum, the future of integrating AI, kinesiology, and psychotherapy is bright yet complex. This interdisciplinary model can redefine mental health care through careful empirical investigation, thoughtful design, ethical foresight, and inclusive innovation, making it more precise, personalized, and effective for all [79].

7.7. Calibration of Muscle Strength and Brain Wave Analysis

A promising future direction involves the calibration of muscle strength to further refine the integration of kinesiology and AI in psychotherapy. Calibrating muscle strength allows for precise quantification of physiological responses associated with psychological states, thereby enhancing the accuracy of interventions tailored to individual patient profiles. By systematically analyzing muscle strength across different clients, therapists can better understand subtle variations in emotional and physical responses, facilitating more targeted and individualized therapeutic strategies [80].

Additionally, incorporating brain wave analysis offers the potential to profoundly enrich emotional identification and responsiveness in psychotherapy. By leveraging electroencephalography (EEG) and other brain-imaging technologies, future therapeutic models can enable computers to accurately detect and interpret emotional states through real-time neural activity monitoring. Integrating brain wave analysis with muscle strength calibration creates an advanced multi-modal diagnostic system that could significantly improve emotional detection and therapeutic precision [81]. This approach can offer unprecedented insights into the correlations between physiological indicators—such as muscle tension—and neural markers of emotional processing. Ultimately, combining these innovations with existing AI-powered kinesiology and psychotherapy methodologies will lead to more sophisticated, responsive, and personalized mental health care interventions [82].

8. Conclusions

Integrating artificial intelligence, kinesiology, and psychotherapy represents a transformative advancement in mental health care. This interdisciplinary approach leverages the analytical power of AI, the somatic insight provided by kinesiology, and the relational depth of psychotherapy to create a more comprehensive, personalized, and adaptive therapeutic experience. The review has highlighted how

these elements, when 61 expand access to care, particularly through real-time feedback, predictive analytics, and biometric monitoring. While the promise of this integration is substantial, its implementation must be guided by a robust ethical framework, careful clinical validation, and equitable technological access. Data privacy, informed consent, algorithmic bias, and therapist training must be addressed to ensure that technology integration into therapeutic practice enhances rather than undermines the human-centered foundation of psychotherapy. Equally important is the commitment to cross-disciplinary collaboration, which is crucial for developing practical, inclusive, and ethically sound interventions [82].

This review underscores the importance of continuing research and innovation in this area. As technology evolves and societal attitudes toward mental health shift, the demand for hybrid therapeutic models that combine clinical expertise with intelligent, responsive technologies will likely increase. Mental health care's future lies in integrative approaches that respect the complexity of human experience while embracing the possibilities offered by emerging technologies. In conclusion, the convergence of AI, kinesiology, and psychotherapy offers a powerful pathway toward more effective, responsive, and accessible mental health care. With thoughtful implementation, ethical integrity, and sustained interdisciplinary collaboration, this model can redefine the landscape of psychological treatment in the 21st century [83].

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Reuille-Dupont, S. (2020) Applications of Somatic Psychology: Movement and Body Experience in the Treatment of Dissociative Disorders. *Body, Movement and Dance in Psychotherapy*, **16**, 105-119. https://doi.org/10.1080/17432979.2020.1844295

[2] Claudia-Camelia, B., Maria, T. and Iulian-Doru, T. (2013) Psycho-Kinesitherapeutical Intervention Strategies for Increasing Posttraumatic Recovery Efficiency at Sports Performers. *Procedia—Social and Behavioral Sciences*, **84**, 663-667. https://doi.org/10.1016/j.sbspro.2013.06.622

[3] Thakkar, A., Gupta, A. and De Sousa, A. (2024) Artificial Intelligence in Positive Mental Health: A Narrative Review. *Frontiers in Digital Health*, **6**, Article ID: 1280235. https://doi.org/10.3389/fdgth.2024.1280235

[4] Agrawal, P. and Nikhade, P. (2022) Artificial Intelligence in Dentistry: Past, Present, and Future. *Cureus*, **14**, e27405. https://doi.org/10.7759/cureus.27405

[5] Vistorte, A.O.R., Deroncele-Acosta, A., Ayala, J.L.M., Barrasa, A., López-Granero, C. and Martí-González, M. (2024) Integrating Artificial Intelligence to Assess Emotions in Learning Environments: A Systematic Literature Review. *Frontiers in Psychology*, **15**, Article ID: 1387089. https://doi.org/10.3389/fpsyg.2024.1387089

[6] Babu, A. and Joseph, A.P. (2024) Artificial Intelligence in Mental Healthcare: Transformative Potential vs. the Necessity of Human Interaction. *Frontiers in Psychology*, **15**, Article ID: 1378904. https://doi.org/10.3389/fpsyg.2024.1378904

[7] Spytska, L. (2025) The Use of Artificial Intelligence in Psychotherapy: Development

of Intelligent Therapeutic Systems. *BMC Psychology*, **13**, Article No. 175. https://doi.org/10.1186/s40359-025-02491-9

[8] Dyreson, M. (2018) One or Many? A Brief History of Culture and Cultures in the Evolution of "Physical Culture". *Kinesiology Review*, **7**, 180-192. https://doi.org/10.1123/kr.2018-0008

[9] Wang, H., *et al.* (2023) Healing Loneliness Post-Covid-19: A Review of Multicultural Exploration of Cognitive Behavioural Therapy's Success in Western and Eastern Cultures. *International Journal of Human Resource Studies*, **14**, Article No. 112. https://doi.org/10.5296/ijhrs.v14i1.21564

[10] Tarsha, M.S., Park, S. and Tortora, S. (2020) Body-Centered Interventions for Psychopathological Conditions: A Review. *Frontiers in Psychology*, **10**, Article No. 2907. https://doi.org/10.3389/fpsyg.2019.02907

[11] Farina, B., Liotti, M. and Imperatori, C. (2019) The Role of Attachment Trauma and Disintegrative Pathogenic Processes in the Traumatic-Dissociative Dimension. *Frontiers in Psychology*, **10**, Article No. 933. https://doi.org/10.3389/fpsyg.2019.00933

[12] Rao, G.P., Koneru, A., Nebhineni, N. and Mishra, K.K. (2024) Developing Resilience and Harnessing Emotional Intelligence. *Indian Journal of Psychiatry*, **66**, S255-S261. https://doi.org/10.4103/indianjpsychiatry.indianjpsychiatry_601_23

[13] Price, C. (2002) Body-Oriented Therapy as an Adjunct to Psychotherapy in Childhood Abuse Recovery: A Case Study. *Journal of Bodywork and Movement Therapies*, **6**, 228-236. https://doi.org/10.1054/jbmt.2002.0307

[14] Hoose, S. and Králiková, K. (2024) Artificial Intelligence in Mental Health Care: Management Implications, Ethical Challenges, and Policy Considerations. *Administrative Sciences*, **14**, Article No. 227. https://doi.org/10.3390/admsci14090227

[15] Drožđek, B. and Rodenburg, J. (2024) Healing Wounded Trees: Clinicians' Perspectives on Treatment of Complex Posttraumatic Stress Disorder. *Frontiers in Psychiatry*, **15**, Article ID: 1356862. https://doi.org/10.3389/fpsyt.2024.1356862

[16] Guo, R., Guo, H., Wang, L., Chen, M., Yang, D. and Li, B. (2024) Development and Application of Emotion Recognition Technology—A Systematic Literature Review. *BMC Psychology*, **12**, Article No. 95. https://doi.org/10.1186/s40359-024-01581-4

[17] Zhang, L. and Arandjelović, O. (2021) Review of Automatic Microexpression Recognition in the Past Decade. *Machine Learning and Knowledge Extraction*, **3**, 414-434. https://doi.org/10.3390/make3020021

[18] Steppan, M., Zimmermann, R., Fürer, L., Southward, M., Koenig, J., Kaess, M., *et al.* (2023) Machine Learning Facial Emotion Classifiers in Psychotherapy Research: A Proof-of-Concept Study. *Psychopathology*, **57**, 159-168. https://doi.org/10.1159/000534811

[19] Alfano, L., Malcotti, I. and Ciliberti, R. (2023) Psychotherapy, Artificial Intelligence and Adolescents: Ethical Aspects. *Journal of Preventive Medicine and Hygiene*, **64**, E438-E442. https://doi.org/10.15167/2421-4248/jpmh2023.64.4.3135

[20] Srivastava, K. (2011) Positive Mental Health and Its Relationship with Resilience. *Industrial Psychiatry Journal*, **20**, 75-76. https://doi.org/10.4103/0972-6748.102469

[21] Fiske, A., Henningsen, P. and Buyx, A. (2019) Your Robot Therapist Will See You Now: Ethical Implications of Embodied Artificial Intelligence in Psychiatry, Psychology, and Psychotherapy. *Journal of Medical Internet Research*, **21**, e13216. https://doi.org/10.2196/13216

[22] Mirakhori, F. and Niazi, S.K. (2024) Harnessing the AI/ML in Drug and Biological Products Discovery and Development: The Regulatory Perspective.

https://doi.org/10.20944/preprints202410.2510.v1

[23] Li, Y., Li, Y., Wei, M. and Li, G. (2024) Innovation and Challenges of Artificial Intelligence Technology in Personalized Healthcare. *Scientific Reports*, **14**, Article No. 18994. https://doi.org/10.1038/s41598-024-70073-7

[24] Antoniou, A., Dossena, G., MacMillan, J.P., Hamblin, S., Clifton, D.A. and Petrone, P. (2022) Assessing the Risk of Re-Identification Arising from an Attack on Anonymised Data. Cornell University. https://doi.org/10.48550/arXiv.2203.16921

[25] Deisenhofer, A., Barkham, M., Beierl, E.T., Schwartz, B., Aafjes-van Doorn, K., Beevers, C.G., *et al.* (2024) Implementing Precision Methods in Personalizing Psychological Therapies: Barriers and Possible Ways Forward. *Behaviour Research and Therapy*, **172**, Article ID: 104443. https://doi.org/10.1016/j.brat.2023.104443

[26] Gual-Montolio, P., Jaén, I., Martínez-Borba, V., Castilla, D. and Suso-Ribera, C. (2022) Using Artificial Intelligence to Enhance Ongoing Psychological Interventions for Emotional Problems in Real- or Close to Real-Time: A Systematic Review. *International Journal of Environmental Research and Public Health*, **19**, Article No. 7737. https://doi.org/10.3390/ijerph19137737

[27] Imel, Z.E., Caperton, D.D., Tanana, M. and Atkins, D.C. (2017) Technology-Enhanced Human Interaction in Psychotherapy. *Journal of Counseling Psychology*, **64**, 385-393. https://doi.org/10.1037/cou0000213

[28] Kang, M. and Chai, K. (2022) Wearable Sensing Systems for Monitoring Mental Health. *Sensors*, **22**, Article No. 994. https://doi.org/10.3390/s22030994

[29] Farlow, A., Hoffmann, A., Tadesse, G.A., Mzurikwao, D., Beyer, R., Akogo, D., *et al.* (2023) Rethinking Global Digital Health and AI-for-Health Innovation Challenges. *PLOS Global Public Health*, **3**, e0001844. https://doi.org/10.1371/journal.pgph.0001844

[30] Hua, Y., Liu, F., Yang, K., Li, Z., Sheu, Y., Zhou, P., Moran, L.V., Ananiadou, S. and Beam, A.L. (2024) Large Language Models in Mental Health Care: A Scoping Review. Cornell University. https://doi.org/10.48550/arXiv.2401.02984

[31] Leitan, N.D. and Murray, G. (2014) The Mind-Body Relationship in Psychotherapy: Grounded Cognition as an Explanatory Framework. *Frontiers in Psychology*, **5**, Article No. 472. https://doi.org/10.3389/fpsyg.2014.00472

[32] Cammisuli, D.M. and Castelnuovo, G. (2023) Neuroscience-Based Psychotherapy: A Position Paper. *Frontiers in Psychology*, **14**, Article ID: 1101044. https://doi.org/10.3389/fpsyg.2023.1101044

[33] Greene, M.C., Jordans, M.J.D., Kohrt, B.A., Ventevogel, P., Kirmayer, L.J., Hassan, G., *et al.* (2017) Addressing Culture and Context in Humanitarian Response: Preparing Desk Reviews to Inform Mental Health and Psychosocial Support. *Conflict and Health*, **11**, Article No. 21. https://doi.org/10.1186/s13031-017-0123-z

[34] Bohlen, L., Shaw, R., Cerritelli, F. and Esteves, J.E. (2021) Osteopathy and Mental Health: An Embodied, Predictive, and Interoceptive Framework. *Frontiers in Psychology*, **12**, Article ID: 767005. https://doi.org/10.3389/fpsyg.2021.767005

[35] Calsius, J., De Bie, J., Hertogen, R. and Meesen, R. (2016) Touching the Lived Body in Patients with Medically Unexplained Symptoms. How an Integration of Hands-On Bodywork and Body Awareness in Psychotherapy May Help People with Alexithymia. *Frontiers in Psychology*, **7**, Article No. 253. https://doi.org/10.3389/fpsyg.2016.00253

[36] Abujaber, A.A. and Nashwan, A.J. (2024) Ethical Framework for Artificial Intelligence in Healthcare Research: A Path to Integrity. *World Journal of Methodology*, **14**, Article No. 94071. https://doi.org/10.5662/wjm.v14.i3.94071

[37] Alhuwaydi, A. (2024) Exploring the Role of Artificial Intelligence in Mental Healthcare: Current Trends and Future Directions—A Narrative Review for a Comprehensive Insight. *Risk Management and Healthcare Policy*, **17**, 1339-1348. https://doi.org/10.2147/rmhp.s461562

[38] Beerends, S. and Aydin, C. (2021) Negotiating Authenticity in Technological Environments. *Philosophy & Technology*, **34**, 1665-1685. https://doi.org/10.1007/s13347-021-00480-5

[39] Sharp, M., Gulati, A., Barker, C. and Barnicot, K. (2018) Developing an Emotional Coping Skills Workbook for Inpatient Psychiatric Settings: A Focus Group Investigation. *BMC Psychiatry*, **18**, Article No. 208. https://doi.org/10.1186/s12888-018-1790-z

[40] Fan, A., Xiao, X. and Washington, P. (2023) Addressing Racial Bias in Facial Emotion Recognition. Cornell University. https://doi.org/10.48550/arxiv.2308.04674

[41] Freedheim, D.K. and Overholser, J.C. (1998) Training in Psychotherapy during Graduate School. *Psychotherapy in Private Practice*, **17**, 3-18. https://doi.org/10.1300/j294v17n01_02

[42] Sibisanu, R., Cseminschi, S., Ionică, A., Leba, M., Drăghici, A. and Nassar, Y. (2024) Investigating School Principals' Burnout: A Cross-Cultural Perspective on Stress, Sustainability, and Organizational Climate. *Sustainability*, **16**, Article No. 7016 https://doi.org/10.20944/preprints202407.2277.v1

[43] Chu, C.H., Donato-Woodger, S., Khan, S.S., Nyrup, R., Leslie, K., Lyn, A., *et al.* (2023) Age-Related Bias and Artificial Intelligence: A Scoping Review. *Humanities and Social Sciences Communications*, **10**, Article No. 510. https://doi.org/10.1057/s41599-023-01999-y

[44] Gandhi, T.K., Classen, D., Sinsky, C.A., Rhew, D.C., Vande Garde, N., Roberts, A., *et al.* (2023) How Can Artificial Intelligence Decrease Cognitive and Work Burden for Front Line Practitioners? *JAMIA Open*, **6**, ooad079. https://doi.org/10.1093/jamiaopen/ooad079

[45] Chung, J. and Teo, J. (2022) Mental Health Prediction Using Machine Learning: Taxonomy, Applications, and Challenges. *Applied Computational Intelligence and Soft Computing*, **2022**, Article ID: 9970363. https://doi.org/10.1155/2022/9970363

[46] Franco D'Souza, R., Mathew, M., Mishra, V. and Surapaneni, K.M. (2024) Twelve Tips for Addressing Ethical Concerns in the Implementation of Artificial Intelligence in Medical Education. *Medical Education Online*, **29**, Article ID: 2330250. https://doi.org/10.1080/10872981.2024.2330250

[47] Zhou, S., Zhao, J. and Zhang, L. (2022) Application of Artificial Intelligence on Psychological Interventions and Diagnosis: An Overview. *Frontiers in Psychiatry*, **13**, Article ID: 811665. https://doi.org/10.3389/fpsyt.2022.811665

[48] D'Alfonso, S. (2020) AI in Mental Health. *Current Opinion in Psychology*, **36**, 112-117. https://doi.org/10.1016/j.copsyc.2020.04.005

[49] Minerva, F. and Giubilini, A. (2023) Is AI the Future of Mental Healthcare? *Topoi*, **42**, 809-817. https://doi.org/10.1007/s11245-023-09932-3

[50] Dehbozorgi, R., Zangeneh, S., Khooshab, E., Nia, D.H., Hanif, H.R., Samian, P., *et al.* (2025) The Application of Artificial Intelligence in the Field of Mental Health: A Systematic Review. *BMC Psychiatry*, **25**, Article No. 132. https://doi.org/10.1186/s12888-025-06483-2

[51] Ettman, C.K. and Galea, S. (2023) The Potential Influence of AI on Population Mental Health. *JMIR Mental Health*, **10**, e49936. https://doi.org/10.2196/49936

[52] Huang, Y., Zhai, D., Song, J., Rao, X., Sun, X. and Tang, J. (2023) Mental States and Personality Based on Real-Time Physical Activity and Facial Expression Recognition. *Frontiers in Psychiatry*, **13**, Article ID: 1019043. https://doi.org/10.3389/fpsyt.2022.1019043

[53] Lehoux, P., Gauthier, P., Williams-Jones, B., Miller, F.A., Fishman, J.R., Hivon, M., *et al.* (2014) Examining the Ethical and Social Issues of Health Technology Design through the Public Appraisal of Prospective Scenarios: A Study Protocol Describing a Multimedia-Based Deliberative Method. *Implementation Science*, **9**, Article No. 81. https://doi.org/10.1186/1748-5908-9-81

[54] Momenzadeh, A., Shamsa, A. and Meyer, J.G. (2022) Clinical Interpretation of Machine Learning Models for Prediction of Diabetic Complications Using Electronic Health Records. Cold Spring Harbor Laboratory. https://doi.org/10.1101/2022.03.11.22272039

[55] Wampold, B.E. and Flückiger, C. (2023) The Alliance in Mental Health Care: Conceptualization, Evidence and Clinical Applications. *World Psychiatry*, **22**, 25-41. https://doi.org/10.1002/wps.21035

[56] Jiang, M., Zhao, Q., Li, J., Wang, F., He, T., Cheng, X., Yang, B.X., Ho, G.W.K. and Fu, G. (2024) A Generic Review of Integrating Artificial Intelligence in Cognitive Behavioral Therapy. Cornell University. https://doi.org/10.48550/arxiv.2407.19422

[57] Kuhfuß, M., Maldei, T., Hetmanek, A. and Baumann, N. (2021) Somatic Experiencing—Effectiveness and Key Factors of a Body-Oriented Trauma Therapy: A Scoping Literature Review. *European Journal of Psychotraumatology*, **12**, Article ID: 1929023. https://doi.org/10.1080/20008198.2021.1929023

[58] Schnyder, U., Ehlers, A., Elbert, T., Foa, E.B., Gersons, B.P.R., Resick, P.A., *et al.* (2015) Psychotherapies for PTSD: What Do They Have in Common? *European Journal of Psychotraumatology*, **6**, Article No. 28186. https://doi.org/10.3402/ejpt.v6.28186

[59] Kaimal, G., Jones, J.P., Dieterich-Hartwell, R., Acharya, B. and Wang, X. (2019) Evaluation of Long- and Short-Term Art Therapy Interventions in an Integrative Care Setting for Military Service Members with Post-Traumatic Stress and Traumatic Brain Injury. *The Arts in Psychotherapy*, **62**, 28-36. https://doi.org/10.1016/j.aip.2018.10.003

[60] Kalkman, S., Mostert, M., Gerlinger, C., van Delden, J.J.M. and van Thiel, G.J.M.W. (2019) Responsible Data Sharing in International Health Research: A Systematic Review of Principles and Norms. *BMC Medical Ethics*, **20**, Article No. 21. https://doi.org/10.1186/s12910-019-0359-9

[61] Vayena, E., Dzenowagis, J., Brownstein, J.S. and Sheikh, A. (2017) Policy Implications of Big Data in the Health Sector. *Bulletin of the World Health Organization*, **96**, 66-68. https://doi.org/10.2471/blt.17.197426

[62] Lammers, W. (1992) Using the Therapist's Kinesthetic Responses as a Therapeutic Tool. *Transactional Analysis Journal*, **22**, 216-221. https://doi.org/10.1177/036215379202200404

[63] Podolan, M. and Gelo, O.C.G. (2024) The Role of Safety in Change-Promoting Therapeutic Relationships: An Integrative Relational Approach. *Clinical Neuropsychiatry*, **21**, 403-417. https://doi.org/10.36131/cnfioritieditore20240505

[64] de Mello, F.L. and de Souza, S.A. (2019) Psychotherapy and Artificial Intelligence: A Proposal for Alignment. *Frontiers in Psychology*, **10**, Article No. 263. https://doi.org/10.3389/fpsyg.2019.00263

[65] OpenAI. (2025) ChatGPT (Aug. 21 Version) [Large Language Model].

https://chat.openai.com/

[66] Martinez-Martin, N., Dasgupta, I., Carter, A., Chandler, J.A., Kellmeyer, P., Kreitmair, K., *et al.* (2020) Ethics of Digital Mental Health during COVID-19: Crisis and Opportunities. *JMIR Mental Health*, **7**, e23776. https://doi.org/10.2196/23776

[67] Plakun, E.M. (2023) Psychotherapy and Artificial Intelligence. *Journal of Psychiatric Practice*, **29**, 476-479. https://doi.org/10.1097/pra.0000000000000748

[68] Tahan, M. and Zygoulis, F. (2019). Artificial Intelligence and Clinical Psychology—Current Trends. *SSRN Electronic Journal*. https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID3433670_code3226178.pdf?abstractid=3433670&mirid=1

[69] Shang, Z., Chauhan, V., Devi, K. and Patil, S. (2024) Artificial Intelligence, the Digital Surgeon: Unravelling Its Emerging Footprint in Healthcare—The Narrative Review. *Journal of Multidisciplinary Healthcare*, **17**, 4011-4022. https://doi.org/10.2147/jmdh.s482757

[70] Sheikh, M., Qassem, M. and Kyriacou, P.A. (2021) Wearable, Environmental, and Smartphone-Based Passive Sensing for Mental Health Monitoring. *Frontiers in Digital Health*, **3**, Article ID: 662811. https://doi.org/10.3389/fdgth.2021.662811

[71] Wang, H., Fong, C. and Tripathi, S. (2024) Loneliness across Cultures: A Pilot Study of the Role of Individualism and Collectivism during the COVID-19 Pandemic. *Psychology*, **15**, 1411-1423. https://doi.org/10.4236/psych.2024.159083

[72] Yammouri, G. and Ait Lahcen, A. (2024) AI-Reinforced Wearable Sensors and Intelligent Point-of-Care Tests. *Journal of Personalized Medicine*, **14**, Article No. 1088. https://doi.org/10.3390/jpm14111088

[73] Hopman, K., Richards, D. and Norberg, M.M. (2023) A Digital Coach to Promote Emotion Regulation Skills. *Multimodal Technologies and Interaction*, **7**, Article No. 57. https://doi.org/10.3390/mti7060057

[74] Zhang, Z. and Wang, J. (2024) Can AI Replace Psychotherapists? Exploring the Future of Mental Health Care. *Frontiers in Psychiatry*, **15**, Article ID: 1444382. https://doi.org/10.3389/fpsyt.2024.1444382

[75] Mahajan, A., Heydari, K. and Powell, D. (2025) Wearable AI to Enhance Patient Safety and Clinical Decision-Making. *NPJ Digital Medicine*, **8**, Article No. 176. https://doi.org/10.1038/s41746-025-01554-w

[76] Reddy, S., Allan, S., Coghlan, S. and Cooper, P. (2019) A Governance Model for the Application of AI in Health Care. *Journal of the American Medical Informatics Association*, **27**, 491-497. https://doi.org/10.1093/jamia/ocz192

[77] Haynes, R.B., Hayward, R.S.A. and Lomas, J. (1995) Bridges between Health Care Research Evidence and Clinical Practice. *Journal of the American Medical Informatics Association*, **2**, 342-350. https://doi.org/10.1136/jamia.1995.96157827

[78] Luxton, D.D. (2014) Recommendations for the Ethical Use and Design of Artificial Intelligent Care Providers. *Artificial Intelligence in Medicine*, **62**, 1-10. https://doi.org/10.1016/j.artmed.2014.06.004

[79] Terhürne, P., Schwartz, B., Baur, T., Schiller, D., Eberhardt, S.T., André, E., *et al.* (2022) Validation and Application of the Non-Verbal Behavior Analyzer: An Automated Tool to Assess Non-Verbal Emotional Expressions in Psychotherapy. *Frontiers in Psychiatry*, **13**, Article ID: 1026015. https://doi.org/10.3389/fpsyt.2022.1026015

[80] Moggia, D., Lutz, W., Brakemeier, E. and Bickman, L. (2024) Treatment Personalization and Precision Mental Health Care: Where Are We and Where Do We Want to

Go? *Administration and Policy in Mental Health and Mental Health Services Research*, **51**, 611-616. https://doi.org/10.1007/s10488-024-01407-w

[81] Riley, S. (2001) Art Therapy with Adolescents. *Western Journal of Medicine*, **175**, 54-57. https://doi.org/10.1136/ewjm.175.1.54

[82] Zarbo, C., Tasca, G.A., Cattafi, F. and Compare, A. (2016) Integrative Psychotherapy Works. *Frontiers in Psychology*, **6**, Article No. 2021. https://doi.org/10.3389/fpsyg.2015.02021

[83] Zhang, M., Scandiffio, J., Younus, S., Jeyakumar, T., Karsan, I., Charow, R., *et al.* (2023) The Adoption of AI in Mental Health Care-Perspectives from Mental Health Professionals: Qualitative Descriptive Study. *JMIR Formative Research*, **7**, e47847. https://doi.org/10.2196/47847