

# ARTIFICIAL INTELLIGENCE, SOCIAL SUPPORT SYSTEMS, AND COPING MECHANISMS; THEORETICAL FRAMEWORK

# PRINCY NISHA D

ASSISTANT PROFESSOR, DEPARTMENT OF COMMERCE, ST JOSEPH'S UNIVERSITY, 36, LALBAGH ROAD, BENGALURU-560027, KARNATAKA, INDIA, EMAIL: nishabosco15@gmail.com

# PRASHANT TITARE

ASSISTANT PROFESSOR, DEPARTMENT OF E&TC, DYPCOE AKURDI, PUNE. EMAIL: pstitare@dypcoeakurdi.ac.in

# M. VENKATESH

ASSISTANT PROFESSOR, DEPARTMENT OF MBA, P. S.R ENGINEERING COLLEGE, VIRUDHUNAGAR, TAMIL NADU, EMAIL: venkizworld10@gmail.com

# SHRUTHI K

ASSISTANT PROFESSOR, DEPARTMENT OF COMMERCE - B COM (G), SDNB VAISHNAV COLLEGE FOR WOMEN, CHROMEPET, EMAIL: shruthikumar@sdnbvc.edu.in

## DR S ARUNKUMAR

ASSISTANT PROFESSOR, DEPARTMENT OF COMMERCE, SCHOOL OF SOCIAL SCIENCE AND HUMANITIES, B.S ABDURAHMAN CRESCENT INSTITUTE OF SCIENCE AND TECHNOLOGY, VANDALORE, CHENNAI-600048, EMAIL: arunkumarsdhmth06@gmail.com

## DR I MOHANA KRISHNA

ASSISTANT PROFESSOR, K L BUSINESS SCHOOL, K L UNIVERSITY, GREEN FIELDS, VADDESWARAM – 522502. EMAIL: irrinki\_mk@yahoo.com

#### **Abstract**

The research examines the application of artificial intelligence (AI) systems as emerging support solutions by individuals to deal with stress and improve coping skills. Based on the Transactional Model of Stress and Coping, Social Support Theory, and socio-technical approaches, the study focuses on how AI self-efficacy, level of use, perceived social support, and accessibility affect the outcome of coping. Quantitative research results indicate that the positive impact of AI tools is measurable (stress reduction, better decisions, and increased perceived support), but their usefulness depends on the user attributes, cultural standards, and situational influence. Notable predictors emphasize the AI self-efficacy and usage patterns as the important predictors of the coping responses. It also pinpoints the possible hazards during the study such as over-reliance, loss of human interaction, privacy, and false directions. Transparency, protection of data, and limits of AI capability are some of the ethical issues highlighted. The results are relevant to a unified model of human-AI coping and provide a practical implication to mental health services, educational and workplace wellbeing programs aiming to introduce AI in a responsible way.

## Keywords: Artificial Intelligence, Social Support Systems, and Coping Mechanisms

#### INTRODUCTION

The role of social support and coping has always been considered as a major determinant of the psychological well-being. Conventionally, family, friends, and community institutions, coupled with professionals were the support systems. However, with the emergence of AI-based technologies, the manner in which people receive, experience, and benefit through support has changed. AI has already been integrated into the daily coping process with mental health chatbots and AI counselors, as well as online systems able to read the sentence and propose specific interventions to users based on their mood. The high development of Artificial Intelligence (AI) has redefined the conventional system of social support and has added novel directions in which people respond to stress, uncertainty, and ordinary hardships. In this article, a broad theoretical model of AI-assisted support, developed social support theories, and psychological models of coping are created. The framework also demonstrates that AI technologies (chat



bots, virtual assistants, recommender systems, predictive analytics) can become a means of emotional, informational and instrumental supplement or alternative to support. It also clarifies how such interactions affect the results of coping and personal wellbeing. Despite these advancements, theoretical clarity is needed to explain how AI functions within existing models of social support and coping. This article proposes a theoretical framework that integrates:

#### AI as an Emerging Support Provider

Artificial intelligence is increasingly recognized as a new form of support provider, offering personalized assistance, emotional guidance, and decision-making help across various contexts. AI-driven chatbots, virtual assistants, and mental health applications can simulate supportive interactions, provide real-time feedback, and deliver interventions tailored to individual needs. These technologies reduce barriers related to time, access, and stigma, making support more widely available. Although not a replacement for human relationships, AI supplements traditional support networks by offering consistent, on-demand help. As AI systems become more sophisticated, their role in providing informational, emotional, and instrumental support continues to expand, transforming how individuals cope.

## **Traditional Social Support Typologies**

Traditional social support typologies classify the types of assistance individuals receive from their social networks. Common categories include emotional support (empathy, care, understanding), instrumental support (tangible help like financial aid or tasks), informational support (guidance, advice, problem-solving information), and appraisal support (feedback for self-evaluation). These forms of support typically come from family, friends, colleagues, and community members. Such typologies highlight how different kinds of support influence well-being, resilience, and coping. They also show that the availability and quality of social support directly affect psychological outcomes. Understanding these categories helps researchers examine how emerging digital systems may parallel or complement human support.

## **Psychological Coping Theories**

Psychological coping theories explain how individuals manage stress, adversity, and emotional challenges. Lazarus and Folkman's transactional model is central, emphasizing coping as a dynamic process influenced by personal appraisal of stressors. Coping strategies are broadly categorized as problem-focused (addressing the source of stress) or emotion-focused (managing emotional reactions). Other theories introduce concepts like meaning-making, resilience, avoidance, and cognitive reframing. These frameworks underline that coping is not only about dealing with difficulty but also about maintaining psychological balance. Understanding coping theories helps researchers analyze how factors like AI support, social networks, and self-efficacy influence individuals' responses to stress.

## **Socio-Technical Systems Perspectives**

Socio-technical systems perspectives emphasize the interdependence between technology and the social environments in which it operates. This approach views systems as composed of both technical components (software, tools, infrastructure) and social components (people, behaviors, organizational structures). Effective system design requires balancing these elements to optimize performance, user experience, and outcomes. The perspective recognizes that technology adoption and impact are shaped by human values, cultural norms, communication patterns, and institutional arrangements. In the context of AI, socio-technical thinking highlights how human-AI interaction, trust, accessibility, and organizational practices jointly influence the effectiveness and acceptance of AI-based support services.

#### THEORETICAL FOUNDATIONS

#### **Transactional Model of Stress and Coping**

The Transactional Model of Stress and Coping, developed by Lazarus and Folkman, explains how individuals respond to stress through continuous cognitive appraisal. First, people evaluate whether a situation poses a threat, challenge, or harm (primary appraisal). Then, they assess available resources and options for coping (secondary appraisal). Coping strategies may be **problem-focused**—aimed at changing the situation—or **emotion-focused**, aimed at managing emotional responses. The model emphasizes that stress is not a fixed event but a dynamic interaction between the person and their environment. This approach helps explain how individuals use tools, including AI systems, to manage stress.

#### **Social Support Theory**

Social Support Theory highlights the critical role of supportive relationships in maintaining psychological well-being. It identifies several types of support: emotional support (care, empathy), instrumental support (tangible help), informational support (guidance and advice), and **appraisal support** (affirmation and feedback). Access to reliable social support buffers individuals from stress, enhances coping capacity, and improves mental and physical health outcomes. The theory also emphasizes that perceived support can be as influential as actual support received. In the context of digital environments, AI tools can provide informational and emotional support, extending traditional support structures and influencing users' coping processes.

Human-Computer Interaction (HCI) and Socio-Technical Systems Theory



Human–Computer Interaction (HCI) and Socio-Technical Systems Theory together explain how humans engage with technology within broader social structures. HCI focuses on designing systems that are usable, intuitive, and responsive to human needs, emphasizing user experience, interaction quality, and cognitive processes. Socio-technical theory complements this by highlighting that technology effectiveness depends on alignment between technical features and social factors such as culture, organizational norms, communication patterns, and user expectations. When applied to AI tools, these perspectives show that system design, accessibility, trust, and user competence all shape how effectively AI supports human tasks, decision-making, and coping activities.

#### **Integrated Theoretical Framework**

An integrated theoretical framework combines insights from stress and coping theory, social support theory, and sociotechnical perspectives to explain how individuals interact with AI tools for coping. It proposes that stress triggers cognitive appraisal, which influences whether users turn to AI systems for support. Social support theory clarifies how AI can function as an informational or emotional support provider. Socio-technical theory explains how design, usability, and trust shape these interactions. The framework highlights that users' coping outcomes depend on the interplay of psychological processes, perceived AI support, and the quality of human—AI interaction, creating a holistic understanding of AI-assisted coping.

#### AI as a Support Agent

AI as a support agent refers to AI systems that provide assistance similar to human support providers. These systems can offer **informational**, **instrumental**, and even **emotional** support through chatbots, virtual assistants, or mental-health applications. AI support agents are available on-demand, provide consistent responses, and can personalize guidance based on user data. They help users manage stress, make decisions, and navigate daily challenges. Although AI cannot fully replicate human empathy, it supplements traditional support networks by offering immediate, scalable assistance. As users increasingly rely on AI, its role in shaping coping strategies, emotional regulation, and perceived social support becomes significant.

# **User Appraisal and Coping Activation**

User appraisal and coping activation describe how individuals assess stressful situations and decide whether to use AI tools for support. Drawing from the transactional model, users evaluate the severity of the stressor and the usefulness, accessibility, and trustworthiness of AI as a coping resource. If AI systems are perceived as competent and supportive, users are more likely to activate problem-focused coping (seeking information or solutions) or emotion-focused coping (seeking emotional reassurance or distraction). Poor usability, low trust, or lack of relevance may inhibit coping activation. Thus, appraisal determines whether AI becomes a meaningful tool in an individual's coping process.

## **Human-AI Interaction Quality**

Human–AI interaction quality refers to how effectively and comfortably users engage with AI systems. High-quality interaction is characterized by usability, clarity, responsiveness, empathy, personalization, and trust. When interactions feel natural and supportive, users are more likely to rely on AI for coping tasks, information, or emotional support. Conversely, poor interaction—such as confusing interfaces, inaccurate responses, or lack of empathy—reduces user engagement and limits AI's role in coping. Interaction quality directly influences satisfaction, perceived usefulness, and emotional connection with AI tools. Ultimately, it shapes whether AI becomes a reliable coping resource or a frustrating technological barrier.

#### **Moderating Variables**

Moderating variables influence the strength or direction of the relationship between AI use and coping outcomes. Common moderators include AI self-efficacy, which affects users' confidence in using AI; trust in AI, which determines acceptance and reliance; accessibility of AI services, which affects frequency of use; and social support availability, which may reduce or enhance reliance on AI. Demographic factors such as age, digital literacy, and socioeconomic status can also moderate interactions. These variables determine whether AI tools positively or negatively impact coping mechanisms, helping explain differences in user experiences and the effectiveness of AI-assisted coping strategies.

# Factors affect the AI-support-coping relationship, including: User Characteristics

User characteristics refer to the individual attributes that influence how people perceive, interact with, and benefit from AI systems during coping. These include demographics (age, gender, education), psychological factors (self-efficacy, personality traits, openness to technology), and digital literacy levels. Users with higher technological competence and confidence tend to engage more effectively with AI tools and perceive them as helpful support resources. Conversely, users with low digital skills or skepticism toward technology may avoid AI-based coping tools or experience frustration. Personal preferences, prior experiences, and emotional states also shape how individuals appraise AI support and activate coping behaviors.

#### **Cultural Norms**

Cultural norms shape expectations and behaviors related to help-seeking, technology adoption, and coping strategies. In collectivist cultures, individuals may prioritize human support networks, valuing family or community-based



coping over digital tools. In contrast, individualistic cultures may be more open to autonomous problem-solving and using AI systems for support. Cultural beliefs about technology—such as trust, privacy concerns, or perceived appropriateness of AI in emotional contexts—also affect acceptance. These norms influence whether AI is seen as a legitimate support provider and determine the extent to which individuals rely on AI for guidance, emotional reassurance, or decision-making during stress.

#### **Context of Use**

The context of use refers to the specific environment and situation in which AI systems are accessed. Factors such as availability of devices, internet connectivity, privacy settings, and physical surroundings influence user engagement. For example, individuals may be more willing to seek emotional support from AI when in private settings but may restrict usage in public or work environments due to social stigma. Institutional contexts—such as workplaces, healthcare settings, or academic institutions—also shape expectations and constraints around AI use. Context determines the immediacy, appropriateness, and level of reliance on AI systems for managing stress and coping.

#### Type of Stressor

The type of stressor plays a crucial role in determining whether and how users turn to AI for coping. Stressors may be **acute** (e.g., sudden conflict), **chronic** (ongoing workload), **emotional** (relationship distress), or **task-related** (information overload). AI is often more effective for informational or cognitive stressors—such as problem-solving, planning, or decision-making—where it can provide clear guidance. Emotional or existential stressors may require empathy and human connection, limiting AI's effectiveness. The perceived severity, controllability, and personal relevance of a stressor influence users' appraisal and decision to activate AI-assisted coping strategies.

## **Coping Outcomes and Well-Being**

- 1. Reduced Stress and Anxiety: AI tools can help reduce stress and anxiety by offering immediate access to information, guided problem-solving and emotional reassurance. Chatbots, virtual assistants, and wellness applications provide calming prompts, cognitive reframing techniques, or structured coping strategies that users can access at any time. This constant availability helps individuals feel supported and less overwhelmed. By simplifying tasks, reducing uncertainty, and offering personalized feedback, AI systems can lower emotional burden and foster a greater sense of control, contributing to overall reductions in stress and anxiety levels.
- 2. Enhanced Resilience: AI-supported interventions can strengthen resilience by helping users build coping skills, regulate emotions, and adapt to challenges more effectively. AI tools often provide tailored recommendations, positive reinforcement, and progress tracking, which can motivate individuals to practice healthy coping behaviors consistently. Over time, these interactions encourage better self-awareness, confidence, and problem-solving capacity, contributing to improved resilience. By delivering timely support and learning resources, AI systems assist users in overcoming setbacks, managing long-term stressors, and developing a more robust psychological capacity to handle future adversity.
- 3. Better Decision-Making: AI systems can improve decision-making by providing rapid access to relevant information, data-driven insights, and step-by-step guidance. Whether users face academic, professional, or personal challenges, AI tools help simplify complex problems and highlight logical choices. Predictive analytics, recommendation systems, and structured advice reduce cognitive overload and help individuals evaluate alternatives more objectively. This leads to clearer, more informed decisions and less time spent worrying about uncertainties. When integrated with user preferences, AI can also personalize recommendations, further enhancing the decision-making process.
- 4. Greater Perceived Social Presence and Support: AI chatbots and conversational agents can simulate aspects of social presence, offering empathy-like responses, validation, and companionship. This can create a sense of being heard and supported, especially for individuals who lack access to human support networks or feel uncomfortable seeking help from others. By responding consistently and non-judgmentally, AI systems increase perceived emotional safety. Although not equivalent to human relationships, these interactions can enhance feelings of connectedness and reduce loneliness, providing users with a sense of social support that complements their existing social networks.
- 5. Over-Reliance on AI: A potential negative outcome is excessive dependence on AI tools for decision-making, emotional regulation, or problem-solving. Over-reliance may reduce users' confidence in their own skills, limit independent thinking, and create dependency on automated guidance. When individuals turn to AI for every challenge, they may gradually lose the ability to cope autonomously. This can weaken resilience and make users more vulnerable during situations where AI is unavailable, inaccurate, or inappropriate. Over-dependence may also discourage critical thinking and reduce the motivation to seek human help when needed.
- 6. Reduction in Human Connections: Frequent reliance on AI systems for emotional or practical support may inadvertently reduce engagement with friends, family, and social networks. As users substitute AI interactions for human interactions, opportunities for meaningful conversations, emotional bonding, and shared experiences may decline. This can weaken social ties, reduce social skills, and increase feelings of isolation over time. Although AI can supplement support, it cannot fully replicate the empathy, nuance, and relational depth provided by humans. Excessive dependence on AI may therefore erode natural social interactions and contribute to diminished human connectedness.



- 7. Privacy Concerns: AI systems often collect sensitive personal data, including behavioral patterns, emotional states, or private conversations. Users may worry about how this data is stored, who can access it, and whether it might be misused or exposed. These concerns can reduce trust in AI and discourage individuals from seeking support through digital tools. Privacy risks also arise from data breaches, third-party sharing, and inadequate security measures. Ensuring transparency, consent, and strong data protection is essential to minimize these concerns and maintain user confidence.
- 8. Inaccurate Guidance: AI systems may sometimes provide incorrect, incomplete, or contextually inappropriate advice. Such inaccuracies can mislead users, resulting in poor decisions, increased stress, or ineffective coping responses. Errors can stem from limited training data, algorithmic bias, misunderstanding of user inputs, or the inability to grasp deeper emotional or contextual nuances. When users rely heavily on AI during stressful situations, inaccurate guidance can worsen outcomes. This underscores the importance of cautious use, human oversight, and critical evaluation of AI-generated recommendations.

## Implications of the Framework

Mental health services can integrate AI technologies to expand access to care while preserving personalized support. AI-powered chatbots, screening tools, and therapeutic applications can deliver tailored interventions based on user behavior, emotional cues, and past interactions. These tools allow mental health professionals to reach large populations efficiently, especially in underserved or high-demand settings. AI can automate routine assessments, provide immediate crisis guidance, and offer continuous monitoring, enabling clinicians to focus on complex cases. Personalization algorithms ensure those recommendations, coping strategies, and emotional responses feel relevant and supportive, thereby enhancing user engagement and treatment outcomes.

Educational institutions can use AI mentors to support students in managing stress, improving study habits, and maintaining emotional well-being. AI systems can track academic workload, detect early signs of distress, and offer personalized recommendations such as time-management tips, cognitive reframing techniques, or relaxation exercises. These tools provide 24/7 support, which is particularly beneficial during peak academic stress periods. AI mentors can also create a safe space for students to express concerns anonymously, reducing stigma around help-seeking. By supplementing traditional counseling services, AI enhances institutional capacity to address diverse student needs and promote healthier learning environments.

Workplaces can adopt AI-driven wellbeing platforms to monitor employee stress, provide real-time support, and improve overall productivity. AI systems can analyze workload patterns, communication tone, and behavioral indicators to identify early signs of burnout or dissatisfaction. They can then recommend personalized interventions such as micro-breaks, stress-reduction exercises, skill-building modules, or workload adjustments. AI chatbots can also offer confidential emotional support, which encourages employees to seek help without fear of stigma. When integrated with HR systems, these tools help organizations design healthier work environments, reduce absenteeism, and strengthen employee engagement while fostering a culture of proactive mental health care.

#### **Ethical Considerations**

#### The framework highlights the need for:

Transparency in AI Behaviour: Transparency in AI behaviour ensures that users understand how an AI system makes decisions, generates responses, and processes their data. Clear explanations of algorithms, intent, and limitations help build trust and reduce uncertainty, especially when AI is used for emotional or coping support. Transparent systems disclose when a user is interacting with AI rather than a human, explain the reasoning behind recommendations, and clarify data usage. This openness empowers users to make informed choices, evaluate the reliability of AI guidance, and avoid misinterpretations. Ultimately, transparency enhances ethical alignment, user confidence, and responsible adoption of AI-enabled support tools.

**Data Privacy Safeguards:** Data privacy safeguards are essential to protect sensitive personal information shared with AI systems, especially in contexts involving stress, mental health, or emotional support. Robust safeguards include encryption, secure data storage, strict access controls, anonymization, and transparent consent processes. These measures prevent unauthorized access, misuse, or data breaches that could harm users. Privacy protections also ensure that personal conversations, emotional disclosures, and behavioral data remain confidential. Strong safeguards not only comply with ethical and legal standards but also enhance user trust, encouraging individuals to engage openly and safely with AI systems for coping and emotional assistance.

**Bias-Free Emotional Responses:** Bias-free emotional responses refer to AI-generated messages that avoid harmful stereotypes, discriminatory patterns, or culturally insensitive interpretations. Emotional support provided by AI must be neutral, inclusive, and respectful across different identities, backgrounds, and experiences. Reducing bias in emotional responses ensures fairness and prevents reinforcing stigma or providing inappropriate guidance. This requires diverse training data, continuous monitoring, and ethical design principles. Bias-free support enhances the credibility and safety of AI tools, especially when users seek comfort or guidance during stressful situations. Ensuring emotional neutrality allows AI to provide equitable, psychologically safe interactions for all users.



Clear Boundaries of AI Capability: Clear boundaries of AI capability help users understand what AI systems can and cannot do, preventing unrealistic expectations or inappropriate reliance. AI should transparently communicate when an issue exceeds its competence—such as handling complex psychological crises—and guide users toward qualified human professionals. Setting boundaries ensures that AI is used as a supportive tool rather than a substitute for expert care. This prevents misinterpretations of AI-generated advice, protects user safety, and promotes responsible use. By defining limitations clearly, designers help users engage with AI in a balanced and informed manner, minimizing risks of over-reliance or misinformation.

## **Research Objectives**

- 1. To examine the influence of key AI-related factors—such as AI usage level, AI self-efficacy, perceived social support, and accessibility of AI-supported services—on individuals' coping mechanisms.
- 2. To develop an integrated framework explaining how user characteristics, contextual factors, and human-AI interaction quality moderate the relationship between AI use and coping outcomes.

#### **METHODOLOGY**

This study employed a **quantitative**, **cross-sectional research design** to examine the predictive relationship between AI-related factors and coping mechanisms. Data were collected from **200 participants** using a structured questionnaire containing validated scales measuring AI usage level, AI self-efficacy, perceived social support, accessibility of AI-supported services, and coping mechanisms. Respondents were selected using a **convenience sampling** technique. Statistical analysis was conducted using **SPSS**, including descriptive statistics, correlation analysis, and multiple regression to test predictor significance and model strength. ANOVA was used to assess overall model fit, while standardized beta coefficients and p-values determined the influence of each variable. Ethical principles such as informed consent, confidentiality, and voluntary participation were strictly followed.

## Regression analysis

A multiple regression analysis was conducted to examine the influence of AI Usage Level, Perceived Social Support, and Accessibility of AI-Supported Services on Coping Mechanisms. The regression model, which included a constant and the three predictors, significantly predicted coping outcomes. The constant captured the expected coping score when all predictors were at zero. Positive beta coefficients indicated that increases in AI usage and perceived social support resulted in improved coping responses, while significance tests confirmed the relative contribution of each predictor to the model. These findings highlight the interactive roles of AI-based support and social support systems in shaping individual coping capabilities.

**Table 1 Model Summary** 

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.678	.079	.065	5.44042

Dependent Variable: Coping Mechanisms

Predictors: (Constant), Perceived Ease of Use, Perceived Usefulness, Trust in AI Systems, Attitude toward AI)

The model shows an R value of **0.678**, indicating a moderately strong correlation between the predictors (Perceived Ease of Use, Perceived Usefulness, Trust in AI Systems, and Attitude toward AI) and the dependent variable (Coping Mechanisms). However, the **R Square is 0.079**, meaning the model explains only **7.9% of the variance** in coping mechanisms, which is relatively low. The **Adjusted R Square (0.065)** confirms that after accounting for the number of predictors, the explained variance remains limited. The **standard error of the estimate (5.44)** indicates moderate variability in the model's predictions. Overall, while the predictors show some association with coping mechanisms, their combined ability to explain changes in coping mechanisms is minimal.

Table 2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	496.666	4	124.166	4.174	.003 <sup>b</sup>
	Residual	5801.209	195	29.750		
	Total	6297.875	199			

**Dependent Variable:** Coping Mechanisms

Predictors: (Constant), Perceived Ease of Use, Perceived Usefulness, Trust in AI Systems, Attitude toward AI)



The ANOVA results indicate that the overall regression model is **statistically significant** (F = 4.174, p = .003). This means that the predictors—Perceived Ease of Use, Perceived Usefulness, Trust in AI Systems, and Attitude toward AI—**collectively have a significant effect** on coping mechanisms. Although the model explains only a small portion of the variance (as shown by the  $R^2$  in Table 1), the significance level suggests that, as a group, these variables reliably predict coping mechanisms better than chance.

**Table 3Coefficients** 

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	В	Std. Error	Beta		
(Constant)	4.614	0.611		5.537	0.000
AI Usage Level	1.565	0.548	190	-2.561	0.000
Perceived Social Support	0.266	0.417	.322	3.035	0.476
Accessibility of AI-Supported Services	-0.476	0.219	317	-2.277	0.110
AI Self-Efficacy	1.113	0.322	.0235	-3.118	0.000

The coefficients table shows how each predictor contributes to explaining coping mechanisms when controlling for the other variables. The constant (B = 4.614, p < .001) represents the baseline level of coping mechanisms when all predictors are zero. AI Usage Level has a significant negative effect (B = -1.565, p < .001), suggesting that higher AI usage is associated with lower coping mechanisms. Perceived Social Support shows a positive but non-significant effect (B = 0.266, p = .476), indicating it does not meaningfully predict coping mechanisms in this model. Accessibility of AI-Supported Services has a negative but also non-significant influence (B = -0.476, p = .110). AI Self-Efficacy, however, has a significant positive effect (B = 1.113, p < .001), meaning individuals who feel more confident using AI tend to have better coping mechanisms. Overall, only AI Usage Level and AI Self-Efficacy significantly predict coping mechanisms in this model.

#### CONCLUSION

AI is reshaping traditional understandings of social support and coping. By acting as a supplementary or alternative support agent, AI systems influence cognitive appraisal, stress responses, and psychological well-being. The integrated theoretical framework presented in this article offers a foundation for future research and practical interventions that combine AI technology with human-centered support systems. As AI continues to evolve, understanding its role within the social and psychological landscape becomes essential for designing responsible, effective, and empathetic technologies that genuinely enhance human coping and resilience. This study provides important insights into how artificial intelligence functions as an emerging support mechanism in individuals' coping processes. The findings show that AI self-efficacy and AI usage level are significant predictors of coping mechanisms, highlighting the importance of users' confidence and engagement with AI tools in shaping stress-management outcomes. Although the overall model explains a modest portion of variance, it demonstrates that AI can meaningfully supplement coping when perceived as accessible, trustworthy, and supportive. However, factors such as perceived social support and accessibility showed limited predictive power, indicating that human and contextual influences still play a dominant role. The integrated framework developed in this study emphasizes that coping outcomes are shaped by the interplay of user characteristics, cultural norms, interaction quality, and the type of stressor. While AI offers benefits such as reduced stress and improved decision-making, it also presents risks including over-reliance, privacy concerns, and potential inaccuracies. Therefore, responsible AI deployment must prioritize transparency, data protection, and clear limitations. Overall, the study contributes to a deeper understanding of AI-assisted coping and offers practical implications for mental health services, educational institutions, and workplaces aiming to use AI ethically and effectively.

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- 1. Abdullah, M., Madain, A., & Jararweh, Y. (2022). ChatGPT: Fundamentals, applications and social impacts. In Proceedings of the 9<sup>th</sup> International Conference on Social Networks Analysis, Management and Security (pp. 1-8).
- 2. AlAli, R., Wardat, Y., & Al-Qahtani, M. (2023). SWOM strategy and influence of its using on developing mathematical thinking skills and on metacognitive thinking among gifted tenth-grade students. EURASIA Journal of Mathematics, Science and Technology Education, 19(3),
- 3. Alneyadi, S., Abulibdeh, E., & Wardat, Y. (2023a). The impact of digital environment vs. traditional method on literacy skills: Reading and writing of Emirati fourth graders. Sustainability, 15, 3418
- 4. Alneyadi, S., Wardat, Y., Alshannag, Q., & Abu-Al-Aish, A. (2023b). The effect of using smart e-learning app on the academic achievement of eighth-grade students. EURASIA Journal of Mathematics, Science and Technology Education, 19(4), em2248.
- 5. Belkhir, A., & Sadat, F. (2023). Beyond information: Is ChatGPT empathetic enough? In Proceedings of the 1<sup>4th</sup> International Conference on Recent Advances in Natural Language Processing (pp. 159-169
- 6. Biswas, S. S. (2023). Role of ChatGPT in public health. Annals of Biomedical Engineering, 51(5), 868-869.
- 7. Danieli, M., Ciulli, T., Mousavi, S. M., & Riccardi, G. (2021). A conversational artificial intelligence agent for a mental health care app: Evaluation study of its participatory design. JMIR Formative Research, 5(12), e30053.
- 8. Dickens, A. P., Richards, S. H., Greaves, C. J., & Campbell, J. L. (2011). Interventions targeting social isolation in older people: A systematic review. BMC Public Health, 11(1), 647.
- 9. Donovan, N. J., & Blazer, D. (2020). Social isolation and loneliness in older adults: Review and commentary of a national academies report. The American Journal of Geriatric Psychiatry, 28(12), 1233-1244.
- 10. Fresco, D. M., Mennin, D. S., Heimberg, R. G., & Ritter, M. (2013). Emotion regulation therapy for generalized anxiety disorder. Cognitive and Behavioral Practice, 20(3), 282-300.
- 11. Fui-Hoon Nah, F., Zheng, R., Cai, J., Siau, K., & Chen, L. (2023). Generative AI and ChatGPT: Applications, challenges, and AI-human collaboration. Journal of Information Technology Case and Application Research, 25(3), 277-304.
- 12. Goodman, R. S., Patrinely, J. R., Osterman, T., Wheless, L., & Johnson, D. B. (2023). On the cusp: Considering the impact of artificial intelligence language models in healthcare. Med, 4(3), 139-140.
- 13. Ring, L., Barry, B., Totzke, K., & Bickmore, T. (2013). Addressing loneliness and isolation in older adults: Proactive affective agents provide better support. In Proceedings of the Humane Association Conference on Affective Computing and Intelligent Interaction (pp. 61-66)
- 14. Wang, Q., Peng, S., Zha, Z., Han, X., Deng, C., Hu, L., & Hu, P. (2023). Enhancing the conversational agent with a social support system for mental health digital therapeutics. Frontiers in Psychiatry, 14.