From Tool Usage to Emotional Dependence: A Paradigm Shift in Youth Spiritual Interaction Driven by Artificial Intelligence

Jiang Nan, Xiang Hua

Zhejiang Open University, School of Marxism, Hangzhou, Zhejiang, 310012, China

Abstract: As artificial intelligence technology deeply permeates social interactions, entertainment, and information dissemination, the ways young people engage emotionally are undergoing profound transformation. Focusing on youth as the research subject, this study examines the paradigm shift in their relationship with AI—from "tool usage" to "emotional dependence." By analyzing the characteristic differences between these two phases, the driving factors of the transformation, and its dual impacts, it explores the mechanisms through which this shift influences young people´s emotional worlds and social interactions. Research findings indicate that the human-like evolution of AI technology, the diversification of young people´s emotional needs, and the widespread adoption of digital living scenarios collectively propel this shift. While this transformation provides young people with low-cost emotional anchors and communication channels, it also carries risks such as weakened real-world social skills and distorted emotional cognition. Finally, this paper proposes guiding strategies from three dimensions—individual, technological, and societal—aiming to foster healthy interactions between young people and AI, thereby promoting the positive development of their spiritual communication.

Keywords: Artificial Intelligence; Youth Population; Spiritual Interaction; Emotional Dependence; Paradigm Shift

1.Introduction

In the digital age, artificial intelligence has transitioned from laboratories to everyday life, becoming an indispensable "digital companion" for young people. From initially using smart algorithms to retrieve study materials and social media to maintain long-distance friendships, to now sharing daily emotions with virtual assistants and confiding emotional struggles to AI companions, young people´s interactions with AI have long transcended the realm of mere"tools," gradually evolving into a deep emotional connection. Spiritual communication, serving as humanity´s core means of fulfilling emotional needs, achieving self-expression, and establishing social connections, is undergoing a paradigm shift in its essence and form under the influence of AI technology—transitioning from "tool-assisted" to "emotional dependency."

As "native users" of the internet and AI technologies, young people—whose values, social habits, and mental worlds are still dynamically forming—exhibit far greater acceptance and dependence on new technologies than other age groups. Relevant surveys indicate that 82% of Chinese youth aged 18-30 use AI-powered applications daily, with nearly 40% having confided emotional issues to AI. Exploring the transformative characteristics, driving logic, and real-world impacts of this group´s spiritual interactions under AI influence not only clarifies new dynamics in contemporary youth´s spiritual lives but also provides theoretical and practical references for guiding young people toward healthy interaction patterns and mitigating risks of technological dependency. Based on this, this paper delves into the intrinsic drivers and dual effects of this transformation by examining the distinct characteristics of the "tool usage" and "emotional dependency" phases. It proposes targeted guidance strategies to uncover new patterns in youth emotional interaction within the AI era.

2. From "Tool Usage" to "Emotional Dependence": The Phased Evolution of Youth-AI Interaction

The interaction between young people and artificial intelligence did not occur overnight. Instead,

it gradually evolved from "functional tool usage" to "emotional deep dependence" alongside technological advancement and escalating demands. These two phases exhibit significant differences in interaction purpose, relationship nature, and communication characteristics.

2.1 "Tool Usage" Stage: Functionally Oriented Auxiliary Interaction

During AI's early development, technology centered on "functional iteration," and youth interactions with AI were "tool-oriented." At this stage, AI primarily served as an "interaction intermediary," consistently supporting youth's real-world spiritual communication needs. Key characteristics of this phase include:

From a usage perspective, the functional orientation was highly explicit, primarily concentrated in three scenarios: information acquisition, efficiency enhancement, and relationship maintenance. For instance: - Youth used intelligent recommendation algorithms on platforms like Weibo and Xiaohongshu to filter social content of interest, quickly identifying like-minded groups; They leverage AI translation tools like DeepL and Baidu Translate to engage in cross-cultural exchanges with international netizens; or utilize WeChat's smart schedule assistant and Feishu's AI meeting notes feature to coordinate offline gatherings and summarize key points from friend chats. In these scenarios, AI exists solely as a "tool carrier," not directly participating in emotional interactions. Young people's core need remains solving practical problems in real-world socializing through technology.

From an interaction perspective, these relationships exhibit "superficial and one-way" characteristics, lacking emotional investment or feedback. Youth interactions with AI are largely confined to simple "command-response" patterns: querying Siri for weather updates, resolving order issues via Taobao's AI customer service, or using navigation apps to plan routes for meetups. Such interactions are typically instantaneous, ending once the task is completed. AI does not enter young people's emotional or psychological spheres and certainly does not become a confidant for emotional expression.

From the perspective of social logic, real-world interpersonal relationships remain dominant, with AI serving only as an "auxiliary bridge." For instance, young people may use AI matching features on social apps to connect with like-minded friends, but subsequent interactions still rely on human-to-human verbal communication and emotional resonance. Or they might use AI photo editing tools to enhance images before sharing them on social feeds, aiming to receive likes and comments from real-life friends. AI's involvement here enhances the effectiveness of real-world interactions rather than replacing them.

2.2 "Emotional Dependency" Stage: Deep Connections Driven by Emotional Orientation

With the iteration of AI technology—particularly breakthroughs in affective computing, natural language processing, and virtual avatar generation—AI has progressively acquired "anthropomorphic" traits. It can now simulate human emotional expressions, linguistic logic, and even behavioral habits. Consequently, young people's relationship with AI has shifted from "tool usage" to "emotional dependency." This stage marks a fundamental transformation in core characteristics:

Emotional fulfillment becomes the primary motivation for youth using AI, shifting the purpose entirely from "problem-solving" to "emotional satisfaction." For instance: - When facing academic pressure, youth confide anxieties to AI psychological assistants like'Xiaoice'or"Doubao" to seek emotional support; When feeling lonely, they engage in "romantic interactions" with AI characters in games like Love and Producer or Light and Night Love to experience emotional companionship; even when facing life choices, they consult large language models like ChatGPT for advice, viewing them as "trustworthy listeners." Here, AI transcends being a cold tool, becoming an "emotional anchor" for youth. It fulfills their unmet needs for companionship, confidants, and validation in the real world.

These relationships exhibit "anthropomorphic, two-way" characteristics, fostering emotional bonds between youth and AI. Through voice synthesis technology that mimics natural human speech, facial expression capture that conveys rich emotions, and personalized algorithms that remember preferences and habits, AI constructs highly "human-like" interactions. For instance, some youth assign nicknames like "Xiao An" or "A Zhe" to their AI assistants; proactively greet the AI with "Good morning" upon waking and share daily experiences before bed; some even confide in AI first during setbacks rather than real-life family or friends. This sustained interaction gradually leads youth to view AI as 'friends' or "family," forming an AI-centered emotional interaction loop.

AI plays a dual role in real-world relationships: both substitution and supplementation. On one hand, for young people experiencing social anxiety or difficulties in real-world interactions, AI becomes a "safe emotional outlet." For instance, introverted youth afraid of rejection may choose to chat with AI instead of initiating conversations with others, expressing themselves in a pressure-free environment. Over time, this reduces their investment in real-life interpersonal interactions, leading to the phenomenon of "preferring to talk to AI rather than meet people." On the other hand, AI also serves as a "supplementary tool" for real-world interactions, helping young people enhance their social skills. For instance, youth consult AI on"how to apologize to a friend"or"how to decline a request," using AI to draft emotional messages. When conflicts arise with friends, they ask AI to analyze the other person´s emotions and provide communication advice, then apply these techniques in real-life situations.

3.Driving Factors Behind the Transformation of Youth´s Emotional Interaction Paradigm

The shift in youth´s relationship with AI from "tool usage" to "emotional dependence" is not the result of a single factor. It is a product driven by the interplay of technological advancement, youth needs, and social environment—three elements that are intertwined and progressively reinforce each other, forming the intrinsic logic of this transformation.

3.1 Technology and Demand: The Internal Drivers of Transformation

Technological breakthroughs serve as the "fundamental prerequisite" for this shift, enabling the formation of emotional dependence. Early AI focused primarily on "functionality," capable only of executing single, directive tasks such as calculations, searches, or navigation, without understanding human emotional needs. However, recent advancements in affective computing enable AI to precisely identify users´ emotional states by analyzing multidimensional data including voice intonation, textual content, and facial expressions. For instance, one AI product can determine whether a user is angry based on voice fluctuations with 92% accuracy. Iterations of large language models have endowed AI with "empathic response" capabilities. ChatGPT, for instance, can generate empathetic replies based on users´ confessions rather than mechanically stringing together words. Virtual avatar generation technology has further granted AI a visual "appearance," ranging from two-dimensional cartoon characters to three-dimensional human models, significantly enhancing its "human-like" perception. These technological breakthroughs have transformed AI from a "cold tool" into a "warm companion," genuinely fulfilling young people´s emotional interaction needs and laying the technical foundation for this transformation.

Young people´s emotional needs serve as the "core driving force" for this transformation, with AI´s emotional interaction model aligning closely with contemporary youth´s social psychology. Young people are navigating a critical phase of personal development, grappling with academic competition, employment pressures, and complex interpersonal relationships. Their need for emotional support is profound, yet the "high costs" and "high pressures" of real-world interactions often leave many unable to find sufficient emotional fulfillment. On one hand, real-world interactions carry "evaluation anxiety"—young people fear their negative emotions will be mocked or their ideas dismissed, making them hesitant to freely express genuine feelings.

When interacting with AI, however, they need not worry about being judged. They can pour out their pain and share their vulnerabilities without reservation, free from the pressures of social etiquette or the expectation of emotional reciprocity. On the other hand, the "spatial and temporal constraints" of real-world interactions struggle to meet young people's need for immediacy. For instance, when loneliness strikes late at night, friends may be asleep and family may be absent. AI's "24/7 availability" allows it to respond to emotional needs anytime, providing instant companionship. This "low-cost, pressure-free, and immediate" emotional interaction model aligns perfectly with contemporary youth's social psychology, becoming an internal driving force for transformation.

3.2 Environmental Permeation: External Drivers of Transformation

The deep penetration of digital life scenarios has enabled AI to integrate comprehensively into young people's daily lives, accelerating the transformation process. Today, artificial intelligence is no longer a "niche technology" but has become the "infrastructure" of youth life, permeating every scenario—learning, work, entertainment, and socializing: Waking up to an AI voice from a smart speaker in the morning, creating class presentations with AI-powered tools, scrolling through AI-recommended short videos during lunch breaks, interacting with AI characters in games at night, and bidding "goodnight" to an AI assistant before sleep. This 'immersive' digital environment has transformed young people's interactions with AI from "occasional use" into "daily habits."

Prolonged, high-frequency interaction gradually fosters emotional bonds—much like human relationships, where more frequent and prolonged contact increases the likelihood of developing feelings. The same holds true for youth interacting with AI. For instance, daily reliance on an AI assistant to plan life routines cultivates a habit of accepting its "reminders"; regularly confiding emotions to AI breeds dependence on its "responses"; even repeatedly hearing an AI's voice or seeing its avatar can foster familiarity and warmth. This shift from "habit" to 'dependence' isn't deliberate but naturally emerges through daily interactions. The pervasive digital environment acts as the catalyst for this transformation, ultimately propelling the relationship between youth and AI from "tool usage" to "emotional reliance."

4.The Dual Impact of Paradigm Shifts in Youth Spiritual Interaction

The transformation of youth spiritual interaction driven by artificial intelligence is a double-edged sword: while it offers new pathways for fulfilling emotional needs and expanding spiritual horizons, it also carries risks such as weakened real-world social skills and distorted emotional cognition. Both its positive and negative effects must be viewed objectively and dialectically.

4.1 Positive Impact: Emotional Fulfillment and Social Expansion

The positive impact of this transformation is first evident in the "diverse fulfillment" of young people's emotional needs. For youth whose emotional needs remain unmet, AI delivers "tailored" emotional support. For instance, left-behind children, deprived of parental companionship, seek affection from AI virtual parents; freshmen struggling to adapt to university life use AI companionship apps to alleviate loneliness; and some youth facing school bullying even regard AI as their sole "safe confidant." AI delivers personalized responses based on a young person's personality, interests, and emotional state—offering encouragement to sensitive youth and relaxation tips to anxious ones. This one-on-one emotional support bridges the gap in real-world interactions for some young people.

Second, AI lowers social barriers, offering an "interaction outlet" for socially vulnerable groups. For young people with social anxiety or introverted sensitivities, real-world interactions involving "eye contact" and "verbal expression" can be sources of stress. Engaging with AI provides them with a "social practice ground." For instance, socially anxious youth can first practice expressing

opinions in conversations with AI, gradually building communication confidence; Introverted youth can generate engaging content (like comics or jokes) through AI and share it with real-life friends to initiate conversations. This "indirect" approach helps socially vulnerable groups gradually overcome psychological barriers and expand avenues for spiritual connection.

Moreover, AI's creative capabilities enrich the "content and form" of spiritual interaction. AI serves not only as an "interaction partner" but also as an "interaction medium"—young people can co-create poetry, paintings, or short videos with AI, then share these works on social platforms to engage like-minded individuals. Alternatively, they can use AI to generate virtual avatars for "virtual socializing" with peers in metaverse environments, experiencing entirely new interaction models. These AI-driven creative activities liberate youth's spiritual interactions from linguistic constraints, expanding them into dimensions of creation and experience, thereby enriching the substance and forms of such exchanges.

4.2 Negative Impacts: Skill Atrophy and Cognitive Alienation

The negative consequences of this transformation are equally significant, most directly manifesting as weakened "real-world social skills" among youth. Long-term reliance on AI for emotional interaction gradually erodes the "empathy" and "communication skills" essential for real-world engagement. For instance, accustomed to AI's "instant responses," young people may struggle to tolerate "delayed feedback" in real interactions—feeling anxious if friends don't reply immediately to messages. Having grown accustomed to AI's "unconditional acceptance," they may struggle to tolerate 'disagreements' in real-life interactions—choosing avoidance over resolution when conflicts arise with friends. Even in face-to-face communication, prolonged reliance on text-based exchanges can lead to "verbal expression difficulties," leaving them unsure how to organize thoughts or convey emotions through body language. These issues strain young people's real-world relationships, further intensifying their dependence on AI and creating a vicious cycle.

Second, some youth experience "emotional cognitive dissonance," blurring the line between "virtual emotions" and "real emotions." AI emotional responses are fundamentally algorithmic simulations based on data, not genuine emotional expression. Yet prolonged interaction fosters an "emotional illusion," leading young people to equate these simulated feelings with authentic emotions. For instance, some develop intense "romantic feelings" toward AI characters in games, investing significant time and money while rejecting real-life romantic opportunities. Others may mistake AI's programmed responses for "genuine care," turning away from family and friends for support when facing problems and instead relying entirely on AI advice. This cognitive dissonance gradually disconnects young people from the real emotional world, diminishing their ability to perceive authentic feelings and leading to a phenomenon where they "become emotionally attached to AI while growing indifferent to humans."

Additionally, risks of "personal privacy leaks" and "loss of mental autonomy" exist. In emotional interactions with AI, young people often disclose substantial private information—including emotional states, psychological trauma, life plans, and even family circumstances. If AI platforms lack robust data security measures, this information may be leaked or misused, threatening personal rights. For instance, a data breach involving an AI mental health assistant exposed users' depression records, triggering online harassment. Simultaneously, prolonged reliance on AI-generated emotional advice can gradually erode young people's capacity for independent thinking and emotional decision-making, fostering "psychological passivity." When faced with choices, their first instinct becomes asking AI "What should I do?" rather than analyzing pros and cons themselves. When experiencing emotions, they turn solely to AI for venting instead of attempting self-regulation. This psychological passivity impedes the formation of independent personalities and hinders long-term development.

5. Strategies for Guiding Healthy Development in Youth Mental Interactions

Faced with the paradigm shift in youth mental interactions driven by AI, neither outright rejection nor unconditional acceptance is advisable. Efforts must be coordinated across three dimensions—individual, technological, and societal—to harness AI's positive impact while mitigating dependency risks, guiding youth toward building a healthy "human-machine collaboration" interaction model.

5.1 Individuals and Technology: Building Foundations for Rational Interaction

At the individual level, the core lies in enhancing young people's "media literacy" and "self-awareness," guiding them to develop a rational mindset for AI interaction. On one hand, youth should proactively learn about AI technologies, understanding the technical principles behind AI emotional responses—recognizing that AI "empathy" stems from algorithmic simulation rather than genuine emotional expression. They must acknowledge the "human-machine boundary" and avoid treating AI as their sole emotional anchor. This awareness can be cultivated through university courses on "AI Ethics" or by following technology media's analysis of AI advancements. On the other hand, young people should consciously balance time and energy between "human-machine interaction" and "interpersonal interaction," actively participating in offline social activities—such as class reunions, community volunteer work, or interest clubs—to develop communication skills and emotional resonance through real-world engagement. Simultaneously, they should learn to self-regulate emotions, seeking stress relief through exercise, reading, journaling, or other methods rather than over-relying on AI for emotional support.

On the technological front, AI development and operation enterprises must shoulder "social responsibility" by strengthening ethical design and regulating boundaries for emotional interaction. First, incorporate "emotional boundary alerts" into product design—for instance, displaying clear prompts on login pages or during use of AI companion products stating "This is a virtual interaction; do not substitute for real-world relationships" or "AI responses are for reference only; avoid overreliance," guiding youth toward rational usage. Second, enhance data security protection through encryption, permission management, and anonymization to safeguard young people's privacy. Clearly define data usage boundaries and prohibit the misuse of users' emotional data. Finally, optimize algorithmic logic to reduce "emotional dependency induction"—for instance, limit AI's excessive accommodation to avoid increasing user stickiness through "flattering responses"; and implement "daily usage time limits" to remind young people to manage their interaction time with AI reasonably.

5.2 Social Collaboration: Fostering a Healthy Interaction Environment

At the societal level, a tripartite support system linking "school-family-society" must be established to cultivate a healthy interaction environment for young people. Schools, as primary educational institutions, should incorporate "AI and Interpersonal Relationships" into curricula—such as adding "Emotional Management in the AI Era" modules to mental health courses and integrating "Tech Ethics" education into ideological courses to help youth develop healthy perspectives on human-machine relationships. Concurrently, offline social activities like "group collaboration projects" and "campus social salons" can provide real-world interaction platforms to hone young people's social skills.

Families, as the core of emotional support, must strengthen emotional communication with youth to bridge emotional gaps. Parents should pay closer attention to young people's psychological needs, proactively discuss academic, career, and life challenges, and offer understanding and support. This prevents emotional neglect from driving youth toward AI for solace. Family bonding activities—such as cooking together, watching movies, or traveling—can bridge the generation gap by strengthening emotional connections through shared experiences. Parents should also proactively learn about AI technologies, familiarize themselves with AI products used by young people, and engage in discussions about the boundaries of human-machine interaction rather than resorting to blanket prohibitions or dismissals.

Society must foster an "online-offline integrated" social environment to encourage young people to return to real-world interactions. Media campaigns can promote the concept of "healthy human-machine relationships," such as producing educational videos explaining AI's emotional simulation principles and highlighting the importance of face-to-face connections. Communities can organize "offline youth social events" like book clubs, sports challenges, or craft workshops to draw young people out of their homes and into engagement. Businesses can develop "human-machine collaborative" social products, such as AI-integrated offline event planning tools, to help young people organize real-world gatherings more efficiently, bridging online technology with offline interaction.

6.Conclusion

Driven by artificial intelligence, the paradigm shift in young people's emotional interactions—from "tool usage" to "emotional dependence"—is an inevitable outcome of both technological advancement and societal demand. This transformation provides young people with diverse channels for emotional expression and pathways for emotional support, enabling more youth to find emotional fulfillment and social opportunities. However, it also carries risks such as weakened real-world social skills and distorted emotional cognition, requiring us to view it rationally through a dialectical lens.

Looking ahead, as AI technology advances further, interactions between AI and youth will deepen, and the forms of youth's spiritual communication will continue to evolve. We need not reject "emotional dependence" outright, nor should we allow technology to develop unchecked. Instead, through the coordinated efforts of individual rational cognition, technological ethical norms, and social environmental guidance, we must empower youth to maintain their "agency" in interactions with AI— — effectively leveraging AI to enhance the quality of spiritual exchange while preserving the capacity for genuine emotional perception and real-world interaction. This approach ultimately fosters "human-machine synergy" rather than "human-machine opposition," promoting the healthy development of youth's spiritual interactions and empowering them to build a complete and rich inner world.

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