

Emotional Venting among Adolescents: A Study on the Role of AI Chatbot

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Abstract—The rapid advancement of artificial intelligence has led to the widespread adoption of conversational agents such as ChatGPT among adolescents, particularly as platforms for emotional venting and informal mental health support. While existing research has largely focused on the clinical effectiveness of AI chatbots, limited attention has been given to adolescents' behavioural reliance on these technologies and their implications for real-world social interaction. This study aims to examine the extent to which adolescents use AI chatbots for emotional venting and to analyse the perceived psychological and social impact of substituting human interaction with AI-mediated communication. Primary data were collected from 50 adolescent respondents through a structured questionnaire. The study employed correlation analysis, to assess the relationships between variables such as personality traits, family environment, peer interaction, and emotional venting through AI chatbots. The findings reveal that while overall usage of AI for emotional venting is moderate, a significant proportion of respondents engage with AI as a supplementary emotional outlet. Strong positive correlations were observed between emotional venting and factors such as emotional reservation, social alienation, and reduced peer interaction. Additionally, a behavioural discrepancy was identified, where respondents reported limited reliance on AI despite evidence of emotional engagement. The study concludes that AI chatbots function not as substitutes but as parallel emotional support systems, highlighting emerging socio-behavioural shifts in adolescent emotional communication in the digital era.

Index Terms—Emotional Venting, Peer Substitution, Personality Traits, Family Environment, AI Chatbots

I. INTRODUCTION

The expanding presence of artificial intelligence in everyday life has begun to subtly reshape the ways in

which individuals communicate, reflect, and seek support. Among these developments, conversational AI systems have emerged as interactive digital interfaces capable of simulating dialogue with a level of responsiveness that often mirrors human exchange. For adolescents, who navigate a highly digitised social environment, such systems are no longer confined to functional use but are increasingly woven into personal and expressive spaces.

The adolescent phase represents a period marked by heightened emotional awareness, evolving identity, and a continuous search for understanding and validation. Conventionally, these needs are addressed within interpersonal networks such as family and peer groups, where emotional exchange plays a central role in development. However, the growing inclination toward technology-mediated interaction introduces an alternative channel through which emotions may be processed and articulated. The appeal of conversational AI lies in its constant availability, absence of social judgment, and the perceived safety it offers for expressing thoughts that may otherwise remain unspoken.

Despite the increasing visibility of AI-driven conversational tools, researchers' attention has predominantly centred on their functional or therapeutic potential. Less emphasis has been placed on examining how adolescents integrate these systems into their everyday emotional lives, particularly in relation to patterns of expression, dependence, and social interaction. The subtle shift from human-centred communication to technology-assisted dialogue raises important questions regarding the evolving nature of emotional engagement in digital contexts.

Against this backdrop, the present study seeks to explore the role of conversational AI as an emerging

medium of emotional articulation among adolescents, with a focus on understanding its broader social and behavioural dimensions.

II. OBJECTIVES OF THE STUDY

- To examine the extent to which adolescents use AI Chatbot such as Chat GPT for Emotional Venting.
- To analyse the perceived psychological and social impact of substituting peer interaction with AI chatbot-based emotional support among adolescents.
- To assess the influence of repeated interaction with an AI Chatbot on adolescents' real-world social and emotional support.

III. HYPOTHESIS OF THE STUDY

Hypothesis 1: Family Background

Adolescents experiencing lower levels of familial support or stability are more likely to engage with AI chatbots for emotional expression compared to those from supportive family environments.

Hypothesis 2: Personality Traits

Adolescents displaying introverted or emotionally restrained traits are more inclined to rely on AI chatbots for emotional support than those who are socially expressive.

Hypothesis 3: Social Interaction Impact

Increased frequency of AI chatbot usage is positively associated with a higher perceived substitution of human interaction for emotional support.

IV. REVIEW OF LITERATURE

Existing scholarship on AI chatbots in the context of mental health has largely concentrated on their functional effectiveness, often positioning these technologies as supplementary therapeutic tools. For instance, Feng et al. (2025) highlights the moderate success of AI-driven interventions in reducing anxiety and depression among adolescents. Similarly, experimental studies by Fitzpatrick et al. (2017) and Fulmer et al. (2018) demonstrate that chatbot-based applications grounded in cognitive behavioural principles can produce short-term improvements in psychological well-being. While these studies establish the clinical potential of AI chatbots, they

remain largely confined to controlled environments and structured interventions, thereby limiting their ability to capture the complexity of real-world usage patterns among adolescents.

More recent research has begun to shift attention toward how adolescents actively engage with generative AI platforms beyond therapeutic settings. Ryan et al. (2025) observe that adolescents frequently use AI chatbots for emotional reassurance, advice-seeking, and informal self-diagnosis, driven by factors such as anonymity and immediacy. This perspective moves closer to understanding behavioural usage; however, it still primarily focuses on individual motivations without adequately examining the broader social consequences of such interactions.

In contrast, Bhat et al. (2024) introduce a critical dimension by highlighting the potential risks associated with prolonged reliance on AI-based companionship. Their work suggests that while AI may offer temporary emotional comfort, excessive engagement could weaken interpersonal relationships and reduce peer interaction. Although this study raises important concerns, it remains largely conceptual and does not empirically investigate how these dynamics manifest in adolescent behaviour.

Collectively, the existing body of literature reveals a clear imbalance: while the therapeutic effectiveness and technological capabilities of AI chatbots are well documented, there is limited empirical exploration of how adolescents integrate these systems into their everyday emotional lives. In particular, the interplay between personality traits, family environment, and peer interaction in shaping emotional reliance on AI remains underexplored.

The present study addresses this gap by examining AI chatbot usage as a behavioural phenomenon rather than a purely clinical tool, thereby offering a more nuanced understanding of its social and psychological implications among adolescents.

V. RESULTS & FINDINGS OF THE STUDY

To analyse the objectives of the study, primary data was collected from 50 adolescents. The results of the study reveals that the overall use of AI chatbots for emotional venting among adolescents is moderate (Mean $\approx$ 2.5), indicating that AI is used occasionally rather than as a primary emotional outlet.

A clear behavioural inconsistency is observed, where a majority of respondents report limited reliance on AI (34% “never” share emotions), yet a notable proportion still engage in emotional expression (30%–34% share stress, loneliness, or concerns either often or sometimes).

The study performed a correlation analysis between emotional venting through AI Chatbot as dependent variable and independent variables such as personality traits, family environment and peer interaction. The results of the correlation analysis of the research hypothesis is mentioned below

Table: 1

DEPENDENT VARIABLE	Emotional Venting through AI Chatbot	
INDEPENDENT VARIABLES	Correlation Value	P value
I. PERSONALITY TRAITS		
Introverted	0.241	0.04*
Extroverted	-0.213	0.137
Socialises but feels alienated	0.390**	0.005
Expressive	-0.097	0.503
Reserved	0.483**	0.000
Affiliative	-0.285*	0.045
Familial	-0.215	0.133
AI Reliant	0.700**	0.000
Resilient	0.542**	0.000
II. FAMILY ENVIRONMENT		
Emotional support	0.513**	0.000
Communication Pattern	-0.469**	0.001
Emotional Hesitation	0.596	0.000
Family Responsiveness	-0.267	0.061
Family conflict	-0.212	0.140
Family coping	0.539**	0.000
III. PEER INTERACTION		
Friend supports	-0.285*	0.045
AI Impact (Social)	0.578**	0.000
Reduced peer interaction	0.600**	0.000

AI complement	0.558**	0.000
AI Substitutes	0.706**	0.000

Note: **indicate 1% level of significance *indicate 5% level of significance

Personality traits exhibit a statistically significant relationship with emotional venting through AI. Traits such as reserved nature ($r = 0.483$), social alienation ($r = 0.390$), and AI reliance ($r = 0.700$) show positive correlations, indicating higher emotional engagement with AI among these individuals.

Family environment significantly influences AI usage behaviour. Factors such as emotional hesitation ($r = 0.596$) and family coping ($r = 0.539$) show strong positive correlations, while effective communication patterns ($r = -0.469$) reduce dependence on AI for emotional expression.

Peer interaction demonstrates a contrasting effect. Support from friends ($r = -0.285$) is negatively associated with AI usage, whereas reduced peer interaction ($r = 0.600$) and AI substitution ($r = 0.706$) show strong positive relationships with emotional venting.

Although 74% of respondents report frequent overall AI usage, only a smaller proportion actively use it for emotional purposes, indicating that AI functions primarily as a situational emotional outlet rather than a dominant support system.

The findings suggest that AI chatbots operate as parallel emotional channels, particularly for adolescents experiencing barriers in interpersonal communication, rather than fully replacing human relationships.

Increased AI interaction is associated with occasional reduction in face-to-face communication (29% reported “sometimes”), indicating a gradual but not complete shift in social behaviour.

VI. SUGGESTIONS

The study’s outcome indicates the need for a balanced approach toward adolescents’ interaction with conversational AI systems. The following recommendations are proposed:

1. Promotion of AI Psychological Literacy

Adolescents should be guided toward a more conscious use of AI-based platforms. Rather than passive consumption, emphasis should be placed on understanding the boundaries of such systems,

particularly in emotionally sensitive situations. Awareness initiatives can help users distinguish between supportive interaction and overdependence.

2. Behavioural Monitoring and Early Indicator

There is potential for developing digital frameworks that observe patterns of prolonged or emotionally intensive AI usage. Identifying such trends at an early stage can help prevent excessive reliance and encourage healthier engagement. These systems should function as supportive tools rather than restrictive controls.

3. Strengthening Family and Institutional Support

Emotional accessibility within family and educational environments remains critical. Active listening and open and supportive communication can reduce the tendency to seek alternative digital outlets for emotional expression. Institutions can also play a role by fostering emotionally inclusive spaces.

4. Reinforcing Interpersonal Connections

Although AI platforms provide convenience, sustained emotional well-being is more strongly rooted in human relationships. Encouraging adolescents to engage with peers, mentors, and support networks can help maintain a balanced emotional ecosystem.

5. Responsible Design of AI Systems

Developers should prioritise user well-being by integrating ethical design elements. This may include context-sensitive prompts, cautionary messages, or redirection mechanisms that encourage users to seek appropriate human support when required.

VII CONCLUSION

The findings of this study illustrate that conversational AI is gradually becoming embedded within the emotional experiences of adolescents. While its use for emotional expression is not dominant, it is sufficiently present to indicate a shift in behavioural patterns.

The inclination to interact with AI for emotional purposes appears to be influenced by a combination of personal disposition and social context. Individuals who experience difficulty in expressing emotions within their immediate social environment are more likely to turn toward AI-based interaction. Conversely, the presence of supportive family dynamics and meaningful peer relationships reduces such dependence.

These observations suggest that AI does not displace human interaction but instead operates alongside it as an auxiliary channel of expression. Its role is situational, emerging more prominently where traditional support systems are perceived as limited or inaccessible.

In essence, the integration of AI into adolescents' emotional landscapes reflects a broader transformation in communication patterns within a digitally mediated environment. Understanding this shift is essential for ensuring that technological engagement remains balanced, supportive, and aligned with overall well-being.

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