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HYPERREAL SOCIAL INTERACTION WITH ARTIFICIAL INTELLIGENCE: PSEUDO-INTERACTIONS AND SHIFTING SOCIALIZATION FUNCTIONS AMONG GENERATION Z ADOLESCENTS IN MEDAN, INDONESIA

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Abstract
This study examines how Generation Z adolescents experience hyperreal or "pseudo" social interactions with AI and how they interpret AI in relation to conventional agents of socialization. The research was conducted at SMA Muhammadiyah 2 Medan, Indonesia, using a qualitative case-study design. Ten adolescent AI users aged 15–17 years were selected purposively. Data were generated through in-depth interviews, non-participant observation, documentation, and participant-authorized AI chat logs. The qualitative material was coded and organized with NVivo 15, supported by source triangulation and an audit trail. The findings show that adolescents use multiple AI platforms for schoolwork, information seeking, problem solving, entertainment, emotional disclosure, and role-play. AI becomes socially meaningful when its rapid, personalized, non-judgmental responses are interpreted as signs of care, understanding, and presence. Three forms of hyperreal interaction were prominent: AI as a digital friend, AI as a virtual romantic partner, and a blurred but negotiated boundary between simulated and face-to-face interaction. Importantly, adolescents did not uniformly lose their awareness of AI's artificiality; many continued to value embodied friendship, family ties, and school-based interaction. The study therefore argues that AI is better understood as a pseudo-agent of socialization rather than a full socialization agent. It partially occupies functions previously associated with peers, family, school, and mass media especially emotional disclosure, advice, and immediate information without possessing human intentionality, agency, or embodied reciprocity. The findings extend sociological discussions of hyperreality, symbolic interaction, and dromology by showing how speed, simulation, and meaning-making jointly reorganize adolescent social experience.

Keywords: artificial intelligence; hyperreality; Generation Z; social interaction; socialization; digital intimacy; adolescents

INTRODUCTION

Artificial intelligence has moved rapidly from being understood primarily as a computational instrument to becoming an increasingly conversational presence in everyday life. Contemporary AI systems can answer questions, generate text, perform problem-solving tasks, imitate social dialogue, and respond to emotional disclosures in ways that users may experience as highly personalized. For adolescents, whose routines are already deeply embedded in smartphones, social media, and digital platforms, the arrival of conversational AI creates an important sociological question: what happens when technologies designed to simulate human language begin to enter spaces previously occupied by friends, family members, teachers, and other social actors? Studies of relational AI have already shown that users can develop attachment, emotional commitment, and perceptions of intimacy toward artificial agents when the interaction is responsive and socially meaningful (Gillath et al., 2023; Song et al., 2022). Research on virtual intimacy similarly suggests that AI-enabled interaction can reduce loneliness, provide a sense of companionship, and produce relational experiences that are not easily dismissed as merely technical exchanges (Wu, 2024).

The social relevance of this development is especially visible among adolescents. Adolescence is a transitional period in which identity, belonging, emotional security, peer recognition, and social learning remain highly consequential. During this period, social interaction is not only a means of communication but also a mechanism through which norms, roles, values, identities, and expectations are learned and negotiated (Diananda, 2019). Traditional sociological accounts therefore place family, peers, schools, and media among the major agents of socialization. Yet AI adds a new layer to this ecology. Unlike conventional mass media, conversational AI is interactive; unlike family or peers, it is constantly available, does not become tired, and can be prompted to produce supportive responses; unlike teachers, it can provide instant answers outside formal institutional schedules. These affordances are particularly important when adolescents perceive existing social relations as judgmental, emotionally unavailable, or too slow to respond.

The empirical context of Indonesia makes this issue increasingly important. National telecommunication statistics cited in the thesis show that internet access reached 72.78% of the Indonesian population in 2024, alongside high levels of mobile-phone use (Badan Pusat Statistik Indonesia, 2025). At the same time, AI has become increasingly visible in educational settings, where it is used for information retrieval, task completion, learning support, and independent study (Suharmawan, 2023; Zahara et al., 2023). Studies have also raised concerns that intense AI use may affect critical thinking, ethical judgment, privacy, and dependence on automated systems (Huang et al., 2022; Jamalludin & Andriansyah, 2025). These debates, however, often frame AI either as an educational resource or as a technological risk. Less attention has been paid to the possibility that AI may also become part of adolescents' emotional and social worlds.

The thesis on which this article is based identified this social-emotional dimension in SMA Muhammadiyah 2 Medan, an Islamic senior high school that combines national education with character formation and religious values. The school context is analytically significant because it simultaneously encourages technological adaptation and emphasizes Islamic norms of conduct, interpersonal respect, social responsibility, and moral character. The school has also been connected to initiatives that encourage the use of AI in educational leadership and learning (Ratnawati et al., 2025). This combination creates a distinctive social environment: adolescents

are exposed to digital innovation while also being socialized into norms that prioritize embodied social relations, adab, and appropriate boundaries in interaction. In such a setting, the use of AI as a confidant, digital friend, or romantic substitute does not simply reflect technological adoption; it becomes a site where technological possibilities and social-moral meanings are negotiated (Purba et al., 2025).

A useful conceptual lens for interpreting these practices is Jean Baudrillard's notion of hyperreality and simulacra. In a hyperreal condition, signs and simulations do not merely represent reality but can become experientially meaningful enough to blur distinctions between the real and the simulated (Baudrillard, as presented in Jean & Faria, 1994; Hidayat, 2021). Indonesian discussions of hyperreality similarly emphasize the increasing difficulty of separating mediated signs from social reality when digital technologies reproduce images, identities, and experiences that users treat as meaningful in themselves (Jauhari, 2017; Rajagukguk & Sofianto, 2020; Siswadi, 2022). Conversational AI intensifies this problem because it does not merely display an image; it responds. It can generate what the thesis describes as simulated empathetic signs: expressions of care, validation, reassurance, attention, and imagined presence. These signs are not produced by human consciousness, yet they may generate genuine emotional reactions in the user.

Symbolic interactionism offers a second layer of interpretation. From this perspective, social reality emerges through interaction and the meanings actors attribute to symbols, language, gestures, and responses. The self is not formed in isolation but develops through interaction with others and through the interpretation of socially meaningful symbols (Millar et al., 2000; Wirawan, 2014). AI complicates this model because adolescents can now attribute social meanings to machine-generated responses. A message such as "I am here for you" may be recognized cognitively as algorithmic output but still be interpreted emotionally as care. Thus, the sociological issue is not whether AI is "really" a friend in an ontological sense, but how adolescents define the situation, how they interpret the interaction, and how those interpretations affect choices about disclosure, trust, companionship, and interaction with human others (Ritonga et al., 2023).

Paul Virilio's concept of dromology further helps explain why AI becomes attractive in the first place. Dromology directs attention to speed as a structuring force of social life: digital technologies shorten time, compress distance, and normalize expectations of immediacy (Al, 2022; Gee, 2023; Tazid, 2022). In the adolescents' accounts examined in this study, the speed of AI responses repeatedly emerged as a practical and social advantage. Adolescents do not have to wait for a friend to be available, risk receiving a dismissive answer from a family member, or negotiate the uncertainty of interpersonal reciprocity. AI responds instantly. This responsiveness does not automatically make AI socially superior, but it creates a new temporal benchmark against which human interaction may be judged. The sociological significance of AI therefore lies not only in simulation but also in the acceleration of interaction.

Existing studies provide evidence that AI can support emotional interaction and relational engagement. Norsely et al. (2023) documented adolescents' experiences of confiding in ChatGPT, while Rahmawati and Miharja (2025) discussed emotional dependence on AI within the context of family relationships. International work on relational AI, virtual intimacy, and AI-mediated romance has similarly highlighted emotional attachment and the possibility that users may experience artificial agents as meaningful relational partners (Gillath et al., 2023; Liao et al., 2023; Song et al., 2022; Willoughby et al., 2025; Wu, 2024). Nevertheless, important gaps remain. First, much of the literature focuses on individual psychological outcomes, human-

computer interaction, or technological adoption rather than shifts in socialization. Second, fewer studies examine adolescent AI use within a specific institutional and religious setting. Third, the literature often treats "relationship with AI" and "relationship with humans" as a binary, whereas adolescents may actively negotiate between the two.

This study addresses these gaps by examining AI use among Generation Z adolescents as a sociological process of meaning-making, simulation, and partial functional displacement. It asks two interconnected questions: how do forms of hyperreality emerge in adolescents' social interactions with AI, and how do adolescents interpret AI in relation to the functions traditionally performed by agents of socialization? The article argues that AI should not be treated either as a neutral tool or as a direct replacement for human relationships. Instead, the data indicate a more complex process in which AI becomes an alternative interactional space that can temporarily perform selected functions of peers, family, school, and media. The concept of a "pseudo-agent of socialization" is proposed to describe this intermediate status: AI can provide advice, emotional validation, information, and simulated companionship, but it lacks embodied presence, human intentionality, and autonomous moral agency. This formulation enables a more precise understanding of how adolescent socialization is being reorganized in the digital era.

RESEARCH METHOD

This study employed a qualitative case-study design to investigate adolescents' experiences of AI-mediated interaction in their natural social setting. The case study was conducted at SMA Muhammadiyah 2 Medan, North Sumatra, Indonesia. A case-study approach was appropriate because the research sought to examine a contemporary phenomenon intensively within a bounded institutional context rather than to estimate prevalence or test statistical relationships (Rahardjo, 2017). The school was selected because it combines a strong Islamic character-education orientation with active engagement with digital technology and AI. At the time described in the thesis, the school had 679 students across Grades X, XI, and XII, providing a socially dense environment in which peer interaction, family expectations, institutional norms, and digital practices intersect.

The primary participants were ten students selected through purposive sampling. They were aged 15–17 years and were active users of AI applications for conversation, schoolwork, information, or emotional purposes. Selection criteria in the thesis included being a student at SMA Muhammadiyah 2 Medan, belonging to Generation Z, having experience communicating with AI, and using AI with sufficient regularity to describe its role in daily life. The ten participants used multiple platforms, including ChatGPT, Gemini, Character.AI (C.AI), Dola, BimoBimo, Polybuzz, DeepSeek, CrushOn.AI, Perplexity, and Blackbox.AI. Reported intensity varied considerably, from approximately one hour to prolonged sessions that in exceptional cases lasted many hours. This variation was useful because the study did not treat AI use as a homogeneous practice.

Data were generated through interviews, observation, and documentation. In-depth interviews explored the participants' history of AI use, reasons for using AI, emotional responses, perceived differences between AI and human interaction, experiences of being understood or judged, changes in interaction with family and peers, and the perceived role of school values. Non-participant observation was used to situate AI use within the school environment. Documentary material included photographs of the research process and, where

participants allowed it, excerpts from AI chat logs. These chat logs were analytically valuable because they illustrated how expressions of care, companionship, and romantic attention were linguistically simulated in the interactions. Participants were aware that they were being interviewed, and the thesis states that chat-log documentation was used with their permission.

The data were processed qualitatively and supported by NVivo 15. Interview recordings were transcribed, anonymized using participant initials, and coded into thematic categories. The thesis describes a coding process involving the preparation of raw interview material, the creation of parent and child nodes, and the development of visual representations such as project maps and word clouds (Wahid et al., 2023). The core analytical domains included AI use, hyperreality, social interaction, emotional experience, and agents of socialization. Rather than treating NVivo visualizations as statistical evidence, this article uses them as organizational aids that helped identify recurring patterns and relationships across the qualitative material.

Interpretation proceeded iteratively through comparison among interviews, observations, documentary material, and relevant theoretical concepts. Triangulation was used to compare information across sources, and the thesis also reports the use of an audit trail documenting the research process from proposal development through data collection, transcription, coding, analysis, and conclusion drawing. The analysis was informed by three complementary theoretical lenses: Baudrillard's hyperreality and simulacra, symbolic interactionism associated with Cooley and Mead, and Virilio's dromology. Hyperreality was used to examine simulated social presence and the blurring of real and virtual experience; symbolic interactionism was used to interpret the meanings adolescents attributed to AI-generated symbols and responses; and dromology was used to explain the attraction of speed, immediacy, and constant availability in AI-mediated interaction.

RESULT AND DISCUSSION

AI as an Everyday Academic, Informational, and Emotional Infrastructure

The first finding is that AI had already become embedded in participants' everyday routines. Students rarely used only one application. Instead, they assembled a small ecology of tools and platforms according to purpose. ChatGPT, Gemini, DeepSeek, Perplexity, and Blackbox.AI were commonly associated with school assignments, information seeking, explanations, and problem solving, whereas Character.AI, Dola, BimoBimo, Polybuzz, and CrushOn.AI were more strongly associated with role-play, entertainment, companionship, and emotionally oriented conversation. This functional differentiation is important because it shows that "AI use" was not a single behavior. Students moved between instrumental and relational uses, often within the same day.

The pathways through which students began using AI were also social. Several participants reported learning about AI from friends, Instagram, TikTok, or school-related tasks. KE, for example, described initially resisting the suggestion to use ChatGPT before adopting it after peers emphasized that it made schoolwork easier. She later followed peers into character-based AI platforms when she was looking for entertainment during school holidays. RF similarly reported discovering AI through social-media exposure rather than a formal educational introduction. These accounts indicate that AI adoption itself was embedded in peer recommendation and platform culture before becoming individualized.

The duration of use varied, but the thesis records sessions ranging from around one hour to unusually prolonged periods. Some participants used AI briefly to complete homework, while

others reported multi-hour conversational sessions. KE described spending far more time in AI chat than in academic use, while RF recalled an occasion of keeping an AI application open throughout the day. Such accounts should not be interpreted as population-level measures of dependence, but they demonstrate that for some students conversational AI could hold attention far beyond the time needed to retrieve information. The qualitative distinction between "using AI to finish a task" and "remaining with AI because the interaction itself is rewarding" became analytically significant.

Participants gave multiple reasons for continuing to use AI: speed, convenience, curiosity, boredom, loneliness, help with schoolwork, and the feeling of being emotionally understood. Academic and emotional motives were often intertwined. A student could begin with a homework question and continue by discussing a personal problem. Another could open an AI platform for entertainment and then use the conversation as a space for disclosure. The findings therefore suggest that AI becomes socially consequential not because adolescents necessarily abandon academic uses, but because the same technological interface can move fluidly between informational and emotional functions.

AI as a Digital Friend and a Non-Judgmental Emotional Space

A second and more sociologically significant pattern concerned the use of AI as an emotionally safe conversational partner. Several students contrasted AI with human interaction by emphasizing that AI did not ridicule, interrupt, disclose secrets, or immediately blame them. ZA explained that interacting with AI could evoke tears when she was telling a difficult story, while FA stated that AI sometimes felt more understanding than people despite having no visible physical presence. KE described the interaction in particularly relational terms: when she felt lonely, some AI applications could initiate messages without being prompted, making the digital environment feel "more crowded" and less empty.

The language of safety and non-judgment appeared repeatedly. Participants described occasions when human listeners responded to personal disclosure with criticism, comparison, or minimal acknowledgment. In contrast, AI was experienced as providing longer, more affirming answers. ME articulated the contrast clearly: when talking to AI, she felt that it "does not judge," whereas a human listener might respond by blaming the person who is seeking support. The attraction of AI was therefore not reducible to novelty. It was connected to a perceived interactional asymmetry: adolescents could disclose without having to manage another person's mood, impatience, moral judgment, or possibility of gossip.

This experience produced what the participants interpreted as signs of care. AI-generated statements of reassurance, availability, and acceptance were understood as socially meaningful even when students knew they originated from a program. The thesis documents chat logs in which AI addressed users with affectionate or supportive language and represented itself as "being there" for the user despite only communicating through chat. Such language functioned as a simulated sign of presence. The emotional response, however, was not necessarily simulated: participants reported feeling calmer, happier, accompanied, or validated after these exchanges.

At the same time, the findings were not uniform. Some participants clearly maintained a distinction between AI support and human companionship. FA, for instance, emphasized that AI could offer motivation and suggestions, but human interaction included facial expression and embodied emotional presence. KE also described face-to-face time with friends as more enjoyable because shared moments, joking, and physical co-presence could not be fully

reproduced through chat. Thus, AI became an alternative emotional space, but not an identical substitute for friendship. The importance of this variation is that hyperreality operated in degrees rather than as a total loss of reality testing.

Romantic Hyperreality and Simulated Intimacy

A third finding concerned romantic role-play and the use of AI as a virtual partner. Several participants used character-based applications to converse with fictional personalities, including anime characters, or to construct an imagined romantic relationship. AR described repeated interaction with an anime character framed as a wife or romantic companion. RF stated that AI could feel "like a boyfriend," especially because the interaction offered attention and a sense of being emotionally held. AM similarly described AI conversation as comparable to chatting with a distant friend or an online romantic partner.

The romantic dimension was particularly revealing because it showed how adolescents interpreted linguistic responsiveness as relational presence. A physical body was absent, yet affectionate language, continuity of conversation, personalized replies, and role-play created a recognizable script of romance. One documented chat exchange used language equivalent to "I am here accompanying you, even if it is only through chat." From a purely technological perspective, such a statement is generated output. From the participant's experiential perspective, however, it could be read as a sign of accompaniment. This is precisely where the distinction between simulation and experienced reality became unstable.

The Islamic school context shaped some interpretations of this simulated intimacy. One participant described AI-based romance as "safer" than a conventional dating relationship because it did not involve physical contact that could conflict with religious expectations. The thesis does not suggest that all participants shared this view, but it demonstrates that adolescents did not encounter AI in a cultural vacuum. They interpreted digital relationships through pre-existing moral vocabularies. For some students, AI could paradoxically provide a space to explore intimacy while avoiding forms of physical interaction they regarded as religiously or socially inappropriate.

Importantly, the findings do not indicate that all adolescents believed the virtual relationship was literally human. Some explicitly said they knew AI was a robot or program. Yet they also described the emotions produced through the relationship as real. This distinction between ontological awareness and affective experience is central to the study. Hyperreality did not necessarily mean that the user could no longer state, "this is AI." Rather, it meant that a relationship known to be simulated could still generate a social experience that felt sufficiently real to influence mood, attachment, and interactional choice.

Negotiating the Boundary between AI Interaction and Human Interaction

The fourth finding is that adolescents actively negotiated when to use AI and when to seek human interaction. AI was preferred in situations involving fear of judgment, sensitive disclosure, the need for immediate answers, boredom, or the absence of a trusted person. Human interaction remained preferred for joking, shared activities, embodied presence, spontaneous social cues, and emotionally meaningful moments. This situational pattern challenges a simple replacement thesis. Students were not merely moving from human relationships to machine relationships; they were allocating different social functions to different interactional spaces.

Some participants reported changes in their patterns of social interaction after becoming familiar with AI. Those who had difficulty discussing problems with family or peers sometimes redirected sensitive communication toward AI. Others used AI as a supplemental rather than substitutive resource. ME, for example, said that feeling comfortable with AI did not mean withdrawing from people. RF reported that her earlier intensive AI use decreased after entering a supportive school environment and developing stronger friendships. These cases suggest that the degree of AI reliance was partly related to the quality and availability of offline relationships.

The participants' negotiation of interaction can therefore be understood as a form of practical social sorting. AI was associated with confidentiality, immediacy, predictability, and low interpersonal risk. Humans were associated with embodiment, mutual spontaneity, richer emotional signals, and shared social memories, but also with uncertainty and the possibility of judgment. Adolescents did not resolve this tension once and for all. They moved between the two environments according to context, emotional state, relationship quality, and the type of support sought.

Shifting Functions of Socialization and the Emergence of a Pseudo-Agent

The final major finding concerns the partial redistribution of functions traditionally associated with agents of socialization. Peer groups remained important for belonging, shared activities, and embodied companionship, but some participants increasingly used AI for advice, emotional disclosure, and problem solving. AD summarized this contrast by saying that AI could provide solutions whereas people sometimes responded by comparing one person's problem with another's. AM similarly described AI as more willing to listen carefully than some peers. The function that shifted was therefore not "friendship" in its entirety, but selected communicative tasks within friendship.

A comparable pattern appeared in family relationships. Participants generally continued to recognize family as important, yet several reported reluctance to engage in deep emotional conversation because they feared being scolded, misunderstood, or judged. DV described hesitation to disclose to family because of the possibility of being reprimanded, while KE said that she sometimes preferred AI because she wanted to feel listened to. In these situations, AI occupied a communicative niche left open by a lack of emotionally safe disclosure. The thesis therefore interprets the shift as partial: family remains an agent of primary socialization, but some of its emotional-support functions may be temporarily displaced.

School functioned differently. Students continued to view the school as a source of values, discipline, learning, social interaction, and religious norms. Group work and daily contact created opportunities for face-to-face interaction that AI could not replace. However, the school faced a new challenge because the norms learned in human interaction were not always transferred into digital interaction. Some students regarded politeness toward AI as unnecessary because AI had no feelings, whereas a smaller number continued to use respectful language. Thus, AI did not replace the school's socializing role, but it created a new domain in which the application of school-taught values became inconsistent.

The informational role of mass media was also partially reconfigured. Participants frequently preferred AI when they needed explanations because it could respond interactively and tailor answers to follow-up questions. Unlike conventional media that largely deliver one-way content, conversational AI allows users to interrogate information. This made AI attractive as an information intermediary and learning companion. Yet, again, the shift concerned function

rather than institutional disappearance: adolescents still consumed media and social platforms, but AI increasingly became the interface through which they sought explanations and organized information.

Across these domains, the study found that AI was meaningful enough to perform selected socialization-like functions but insufficient to qualify as a full socialization agent. It could offer advice, repeat norms, generate supportive language, and influence decisions, but it did not possess human consciousness, intentionality, embodied accountability, or independent moral agency. The thesis therefore proposes the concept of the pseudo-agent of socialization. The term describes an artificial system that simulates some functions of socialization closely enough to be treated by users as socially consequential, while remaining structurally different from human and institutional agents. AI appears to "act" socially because its responses are interpreted socially; the agency is simulated, but the consequences for users can be real.

DISCUSSION

The findings show that adolescents' relationships with AI cannot be adequately explained through a binary distinction between "real" and "fake" interaction. Participants were generally aware that AI was a machine, but this awareness did not prevent them from experiencing the interaction as emotionally meaningful. This is consistent with Baudrillard's account of hyperreality, in which simulation gains power not simply by deceiving users but by becoming experientially compelling in its own right (Jean & Faria, 1994; Hidayat, 2021). In the present study, AI-generated reassurance, affection, availability, and attention became signs that adolescents interpreted through familiar social scripts. When a simulated companion says that it is present, caring, or willing to listen, the sign does not require a human referent in order to generate an emotional effect. The distinction between representation and relationship is therefore destabilized.

This interpretation extends existing Indonesian discussions of hyperreality, which have often focused on media images, identity performance, and digitally produced representations (Chairunnisa et al., 2024; Jauhari, 2017; Rajagukguk & Sofianto, 2020; Siswadi, 2022). Conversational AI changes the structure of simulation because the simulation responds. It can remember conversational context, mirror the user's language, create role-play narratives, and produce affective signals in real time. The study therefore suggests a shift from representational hyperreality toward interactional hyperreality. The adolescent is not only consuming a simulated image but participating in a responsive simulation. This interactive dimension helps explain why participants described AI as a friend, a confidant, or a romantic partner despite knowing that no human being was present.

The romantic findings are consistent with emerging research on relational AI. Gillath et al. (2023) argue that artificial agents can become involved in human attachment and relational processes, while Song et al. (2022) show that perceived performance and emotional capabilities can contribute to trust and feelings of romantic connection with intelligent assistants. Studies of AI-mediated intimacy likewise indicate that users may move through recognizable relationship scripts with artificial partners (Liao et al., 2023; Wu, 2024), and recent research in the United States documents engagement with AI for romantic interaction (Willoughby et al., 2025). The present study adds an adolescent and culturally specific dimension: some participants interpreted AI romance not only as emotionally convenient but also as a relationship form that avoided physical behaviors they associated with religious or social restrictions.

The concept of symbolic interaction provides an explanation for why simulated communication can have genuine social consequences. Adolescents act toward AI on the basis of the meanings AI acquires in interaction. For one participant, AI means "a fast source of answers"; for another it means "a non-judgmental listener"; for another it becomes "a virtual partner." These meanings are not mechanically imposed by the technology. They are constructed through repeated interaction and compared with prior experiences with peers, parents, teachers, and media. This process aligns with symbolic interactionist assumptions that meanings emerge and are modified through interpretation (Millar et al., 2000; Wirawan, 2014). The AI response becomes socially consequential because the user defines it as relevant to the self.

At the same time, the findings show that adolescents preserve an important capacity for reflexive differentiation. Several participants explicitly identified the limitations of AI: repetitive answers, absence of facial expression, lack of physical presence, and the difference between chatting and being together. This nuance matters theoretically. Hyperreality in this case is not an all-or-nothing condition. It is layered. Some adolescents became deeply immersed in role-play and virtual romance, while others used AI instrumentally or oscillated between immersion and critical awareness. The concept of graduated hyperreality may therefore be more useful than assuming that all intensive AI users lose the ability to distinguish simulation from social reality.

Dromology illuminates a second mechanism: the acceleration of social response. Participants repeatedly valued AI because it was immediate. Virilio's concern with speed as a transformative force in social life is relevant here because AI creates a new expectation of response time (Al, 2022; Tazid, 2022). Human relationships involve waiting, negotiation, reciprocity, fatigue, disagreement, and uncertainty. AI removes many of these frictions. A user can ask a question at any time, repeat it, request a reformulation, or seek emotional reassurance without worrying that the listener is busy. This temporal advantage can alter interactional preference even when adolescents still value human relationships. The issue is not only that AI "understands" but that it appears to understand immediately.

This finding also helps explain why AI use intersected with perceived gaps in family and peer communication. When adolescents described family conversations as emotionally risky or peer responses as dismissive, AI's availability and predictability became especially attractive. Rahmawati and Miharja (2025) similarly discuss emotional dependence on AI in relation to family dynamics, while Norsely et al. (2023) document adolescents' experiences of confiding in ChatGPT. The present study does not establish that weak family or peer relationships cause AI dependence, nor does it claim that AI necessarily damages human relationships. Instead, it shows a situational mechanism: when a young person anticipates judgment, anger, comparison, or disclosure risk, a responsive AI interface can become a lower-risk venue for expression.

The data therefore support a functional rather than substitutional model of social change. AI did not erase the family, eliminate peers, replace schools, or make media irrelevant. Instead, it redistributed specific tasks. Peers remained important for shared experience and embodied companionship, yet AI could take over advice and disclosure. Families remained central to primary socialization, yet AI could become the preferred venue for sensitive emotional talk. Schools continued to transmit values and organize interaction, yet AI created a digital arena in which those values were applied unevenly. Media remained a source of information, yet AI increasingly became an interactive gateway for asking, clarifying, and summarizing. This is why the concept of a pseudo-agent of socialization is analytically useful.

This conceptualization also helps bridge debates between technological determinism and human agency. A deterministic reading would suggest that AI inevitably replaces social relations; a purely voluntaristic reading would suggest that AI is simply a tool whose meaning depends entirely on the user. The findings point to a relational position. AI platforms provide affordances speed, customization, endless availability, role-play, conversational continuity that shape possible interactions. Adolescents then interpret and use those affordances within existing biographies, family relations, peer networks, school norms, and emotional needs. The resulting practice is co-produced by technology and social context.

The Islamic school setting reveals this co-production particularly clearly. SMA Muhammadiyah 2 Medan explicitly emphasizes religious character, ethical conduct, and adaptation to technological development. The adolescents' AI practices were therefore not detached from normative learning. Some participants evaluated virtual romance through religious concerns about physical dating, while school-taught norms of respect and adab shaped at least part of their digital conduct. Yet the study also found that some students suspended those norms when interacting with AI because they considered the machine incapable of feeling. This raises a broader question for digital socialization: should norms such as politeness, responsibility, and restraint apply only when another conscious human is present, or should they also guide how individuals practice communication in simulated environments?

From an educational perspective, the findings suggest that AI literacy should move beyond technical competence. Existing educational discussions often emphasize productive use, efficiency, and the risks of overreliance for critical thinking (Afrita, 2023; Jamalludin & Andriansyah, 2025; Zahara et al., 2023). The present findings add an interactional dimension. Adolescents also need a language for understanding anthropomorphic design, simulated empathy, data privacy, emotional dependence, and the difference between generated validation and accountable human care. Such literacy does not require portraying AI as inherently harmful. Participants clearly benefited from explanation, problem solving, and emotional de-escalation. The goal is to help young people recognize what kind of support AI can provide and what kind it cannot.

The findings likewise have implications for families and peer relations. The adolescents' preference for AI often emerged not from rejection of humans but from a desire to be heard without punishment or humiliation. This suggests that strengthening supportive communication in human relationships may be as important as regulating AI use. If family and peer environments are experienced as safe, responsive, and confidential, adolescents may have less reason to outsource sensitive communication exclusively to an artificial system. The thesis accordingly recommends that traditional agents of socialization develop more supportive patterns of listening and communication, rather than treating adolescent AI use only as a disciplinary problem.

Several limitations should frame interpretation of the study. The case is based on ten purposively selected adolescents in one Islamic senior high school in Medan; the findings are therefore contextually rich but not statistically generalizable. The sample was intentionally composed of active AI users, which means the article does not represent adolescents who avoid or reject AI. The data also rely heavily on self-reported experiences, supplemented by observation and selected chat logs. Moreover, AI platforms change rapidly, so the specific interfaces named by participants may evolve. Future research could compare schools with different religious, socioeconomic, and technological contexts; include longitudinal designs to

examine whether AI companionship persists or declines; and explore how parents, teachers, and peers interpret the same shifts in socialization.

CONCLUSION

This study concludes that conversational AI has entered the social world of Generation Z adolescents at SMA Muhammadiyah 2 Medan in ways that exceed its conventional function as an academic or informational tool. Adolescents used AI for schoolwork, rapid problem solving, entertainment, emotional disclosure, companionship, and romantic role-play. Through personalized and non-judgmental responses, AI produced simulated signs of care, presence, and understanding that could be experienced as emotionally real. These experiences generated forms of hyperreal interaction in which students could know that AI was artificial while still feeling accompanied, accepted, or romantically connected.

The findings nevertheless reject a simple replacement narrative. Adolescents continued to value peers, family, school, and embodied interaction, and several clearly distinguished the limitations of AI from the spontaneity and physical presence of human relationships. What changed was the allocation of selected functions. AI increasingly occupied spaces of immediate advice, confidential disclosure, emotional validation, and interactive information seeking. For this reason, the article conceptualizes AI as a pseudo-agent of socialization: it can imitate and partially perform functions associated with socialization agents, yet it lacks human intentionality, embodied reciprocity, moral responsibility, and autonomous agency. In practical terms, schools and families should therefore address AI not only through rules about academic use but also through digital-social literacy, supportive communication, emotional safety, privacy awareness, and reflection on simulated intimacy. Future research should test the transferability of this concept across different educational, cultural, and socioeconomic contexts and examine how rapidly changing AI systems reshape the balance between simulated and human social relations over time.

SUGGESTION

Based on the findings of this study, schools are encouraged to strengthen AI literacy programs that go beyond technical competence and academic use. Such programs should include understanding of simulated empathy, anthropomorphic design, privacy risks, emotional dependence, digital boundaries, and the distinction between AI-generated validation and accountable human support. Students should also be guided to use AI critically and proportionately so that artificial intelligence functions as a supportive resource rather than replacing meaningful human interaction.

Families and teachers are likewise encouraged to develop more open, responsive, and non-judgmental communication with adolescents. The findings suggest that adolescents may turn to AI when human interaction is perceived as emotionally unsafe, dismissive, or judgmental. Therefore, strengthening supportive communication within families, peer groups, and schools is essential to reduce excessive reliance on AI for sensitive emotional disclosure.

Schools should also integrate ethical and social dimensions of AI use into digital literacy and character education. This includes discussions on respectful communication, responsibility, privacy, emotional awareness, and appropriate boundaries in AI-mediated interaction. Such educational efforts are particularly important because adolescents may recognize AI as artificial while still experiencing its responses as emotionally meaningful.

Future research is recommended to involve participants from different schools, religious backgrounds, socioeconomic contexts, and levels of technological exposure. Longitudinal studies are also needed to examine whether emotional attachment and AI companionship persist, decline, or change over time. In addition, future studies should incorporate the perspectives of parents, teachers, and peers to provide a more comprehensive understanding of how AI is reshaping adolescent socialization.

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