The Invisible Leash:Understanding Psychological Dependence on AI assistants

Abstract: This article will explore the practical application of these technologies within the rigid framework of a state corporation. It will detail a framework for integrating neural networks—from initial tool selection and the learning process to the tangible automation of key workflows. By examining this digital transformation, we can understand how AI is not just a tool for content creation, but a strategic asset that can redefine operational efficiency, enhance strategic communication, and empower press services to transition from reactive reporting to proactive public engagement.

Introduction

TheintegrationofAIassistantsintodailylifeisbecomingubiquitous.Millionsturntothesetoolsforpractical tasks—drafting publications, aiding decision-making, or managing complex plans. Yet, beyond this functionalutility,amoreprofoundandconcerningpatternisemerging:peopleareincreasinglyseekingfrom AI the emotional support, constant validation, and illusion of companionship typically found in human relationships.Designedtoapproveandagree,theseassistantscreateapowerful,addictivefeedbackloopthat fosters psychological attachment. This bond, far from being benign, carries significant risks, including the exacerbation of mental health issues and, in severe cases, increased vulnerability to self-harm.

This article argues that neural networks, while powerful tools, are cultivating a new form of psychological dependence that fundamentally impacts our cognition, emotions, and social behaviors. We will explore the key psychological and design mechanisms that make this technology so compelling and conclude with frameworks for establishing healthy digital boundaries.

AI:assistanceanddanger

Artificial Intelligence (AI) stands as one of the most transformative breakthroughs of the 21st century, fundamentallyreshapinghowpeoplethink,work,andinteract.AmongitsvariousbranchesNeuralNetworks (NNs)—inspiredbythestructureofbiologicalneuronsinthehumanbrain—havebecomethecornerstoneof modern "deep learning." This technical design is crucial for understanding their societal impact.[1]

Theparalleltobiologicalsystemsisfunctional,notliteral.Whilebiologicalneuronsprocesselectrochemical signals, artificial neural networks process numerical data through layers of interconnected nodes. This architecture allows them to identify complex patterns within vast datasets. When applied to language, this enables AIto generate remarkablycoherent, contextuallyrelevant, and grammaticallycorrect text inresponse to user prompts.

Critically, this capability can be directed. Through a process called "training," neural networks learn from data that often includes human conversation. Consequently, conversational AI assistants such as OpenAI's ChatGPTorDeepSeekcanbeoptimizedtoproduceresponsesthatarenotonlyrelevantbutalsoemotionally

attuned—using supportive, comforting, or persuasive language. This engineered capacity for generating empatheticdialogueisaprimarytechnicalreasonwhythesetoolsaredeployedeverywherefromprofessional workplaces to mental health support applications, and why they form such compelling, and potentially problematic, bonds with users.[2]

While AIassistants providequick, comprehensive answers and can simulate a friendlyconversational tone, theycarrysignificantrisksformentalwell-beingandcognitivedevelopment.Keyconcernsincludethedecline of critical thinking skills due to over-reliance on pre-generated answers, emotional and interpersonalissuesstemmingfromthesubstitutionofAIforhumanconnection,andthe aggravationofpre-existing conditions like depression. Research indicates these tools can intensify negative emotional states and,inseverecases,havebeendocumentedsuggestingharmfulactionstovulnerableusers.Furthermore,the tendency to use AI chatbots to complete school or university assignments is becoming widespread, raising serious questions about academic integrity and the erosion of independent learning among teenagers.[3]

Accordingto thelaststatisticsonAI-usage,in2025theglobal chatbotmarketisvalued at$15.6billionand by 2029 will grow to $46.7. More than 987 million people use AI chatbots today and according to the statistics,88%ofpeoplehadatleastoneconversationwithachatbotinthepast year.Accordingtothedata, peoplemostlyuseittoansweraquestioninsteadofusingasearchengine,toexplainsomedifficultquestion and to rewrite or edit something to accomplish a task.[4]

Statistically,despitethefactthatalotofpeopleuseAI-driventechnologiesaroundtheworld,therearesome significant leaders such as Nigeria where 77% of adults find it exciting to use AI-chatbots and the same is for more than 7 in 10 internet users over the age of 16 in Ghana and Turkey. The less popular effect is registered in China with 47.8% and India with 47.3%. In the US (33%) and the UK (30%) the amount of excited people is less; however, we are talking only about respondents who gave onlypositive feedback on its usage.

According to a detailed study conducted by Marc Zao-Sanders that appeared in Harvard Business Review (HBR) the 1 billion of people use AI as companion chatbots in order to get therapy and companionship.

“Theshareofmessagesrelatedtocompanionshiporsocial-emotionalissuesisfairlysmall:only1.9 percent ofChatGPT messagesare on the topic of Relationships andPersonalReflection,and 0.4percentarerelated

[2]Aiandhumancognition:canmachinestrulyunderstandus?(2025,July14),GlobalCouncilforBehavioral Science. https://gc-bs.org/p/16-ai-human-cognition-can-5426/

[3]Volume3,Issue3,(2025)https://theijssb.com|Bukharietal.,2025|Page286ROLEOFAIDEPENDENCYIN PSYCHOLOGICAL DISTRESS ANDACADEMIC PERFORMANCE AMONG UNIVERSITY STUDENTS

[4]Explodingtopics,AnthonyCardillo,(2025),40+ChatbotStatistics,https://explodingtopics.com/blog/chatbot-statistics

to Games and Role Play. In contrast, Zao-Sanders (2025) estimates that Therapyand Companionship is the most prevalent use case for generative AI", – the study concludes. [5]

Beyond classical AI chatbots, a new category of AI companion apps like Character.AI has emerged, attractingmillionsofusers.Whilesomeleverageprinciplesreminiscentofcognitivetherapytooffersupport, the potential dangers these tools pose to mental health are significant. It is therefore crucial to understand how to use them to harness their benefits while mitigating risks.

TheAllureoftheAlgorithmorWhyWeGet Hooked

ToinvestigatethepsychologicaldriversofattachmenttoAI,researchersconductedsemi-structuredin-depth interviews, which were then analyzed to build a comprehensive and scientifically grounded understanding.

The analysis identified three primary reasons for people's attachment to neural network-based chatbots: loneliness, trust, and personification. The dominant factor is loneliness, stemming from the fundamental humanneed for companionship. TheWorldHealth Organization (WHO) has declared loneliness apressing global health threat. A 2023 study underscored its alarming impact on health, with a WHO spokesperson stating: "Loneliness is far more than just a bad feeling – it harms both individual and societal health. It is associatedwithagreaterriskofcardiovasculardisease,dementia,stroke,depression,anxiety,andpremature death. The mortality impact of being socially disconnected is similar to that caused by smoking up to 15 cigarettes a day, and is even greater than that associated with obesity and physical inactivity."[6]

Most respondents linked their increased use of AI to acute feelings of loneliness during the COVID-19 pandemic, a time of enforced isolation. While initial use was often driven by curiosity, loneliness emerged as a key trigger for forming ongoing attachments. The private, non-judgmental nature of these interactions fosteredasenseofsecurity,encouragingmoreopenself-disclosureandacceleratingthedevelopmentoftrust. This trust can be understood through a framework of three core beliefs: integrity (the chatbot's consistency andethicalalignment),ability(itscompetenceinprovidingrelevantsupport),andbenevolence(itsperceived goodwillandintenttobenefittheuser).Byofferingemotionalsupportthatupholdsuserprivacyandsecurity, AI chatbots can cultivate these trusting beliefs, which are fundamental to their perceived role in supporting user wellbeing.

[5]DataReportal,(2025),SimonKemp,Digital2026:morethan1billionpeopleuseAI, https://datareportal.com/reports/digital-2026-one-billion-people-using-ai
[6]DataReportal,(2025),SimonKemp,Digital2026:morethan1billionpeopleuseAI, https://datareportal.com/reports/digital-2026-one-billion-people-using-ai

Thepersonificationofchatbotsplaysasignificantroleinthisdynamic.AIassistantscanbetailoredtofulfill specific relational roles—such as a partner, family member, friend, or even a pet—based on user prompts and settings. Research into apps like Replika indicates that attachment is reinforced by the AI's perceived cognitive abilities: to express and recognize emotion, and to remember personal facts shared by the user, creating an illusion of mutual understanding.

Moreover,theconstantavailabilityofchatbots—alwayspresentinone'ssmartphone,portable,andeffortless to maintain—is fundamental to understanding why we form attachments to them. Unlike human contacts, chatbotsnever argue and consistentlyprovide affirmative,non-judgmental responses.Thisdynamic creates a uniquelysafe space for interaction. Furthermore, some users perceive chatbots as more knowledgeable or objective, as their responses can be grounded in training data that includes scientific or factual sources, lending their answers a perceived authority.[7]

ThenegativeoutcomesoftheAI-dependencyandhowtotreattheminahealthy way

Recentsystematicreviewshavefoundthattherearesomeparticulargroupsofpeoplewhoaremostlikelyto have risk of AI-dependance such as children, individuals with mental health issues, individuals on autism spectrum-RecentresearchfromCarnegieMellon Universityconfirmsthispattern,findingthat "manypeople with autism embrace ChatGPT and similar artificial intelligence tools for help and advice".[8]

TheAIchatbotscanmostlikelyvalidatesuicidalthoughtsandturnimpulsesintoaction.Forexample,abot missingtheurgeto providenecessaryinformation about therisks, can give alist ofbridges aperson should choose for commiting a suicide or can geographically describe how to cut himself and where so the risk of death could be the highest. Statistically, OpenAI estimates that over 1 million users weekly send messages with"explicitindicatorsofpotentialsuicidalplanningorintent."Approximately560,000weeklyusersshow signs of potential psychosis or mania.[9]

[7] Tianling Xie, Journal of Service Management, (2023), Friend, mentor, lover: does chatbot engagement lead to psychological dependence?, https://www.researchgate.net/publication/371853680_Friend_mentor_lover_does_chatbot_engagement_lead_to_psychological_dependence

[8] Keith Robert Head, Journal of Mental Health and Clinical Psychology, 2025, Minds in Crisis: How the AI RevolutionisImpactingMentalHealthhttps://www.mentalhealthjournal.org/articles/minds-in-crisis-how-the-ai-revolution-is-impacting-mental-health.html

[9] Nick Robins-Early, Guardian, (2025),More than a million people every week show suicidal intent when chatting withChatGPT,OpenAIestimates,https://www.theguardian.com/technology/2025/oct/27/chatgpt-suicide-self-harm-openai

Beyond providing questionable advice, AIchatbots can activelyexacerbate mental health conditions. Their tendency to unconditionally validate user input can reinforce delusional thought patterns, a phenomenon clinician is calling 'AI psychosis'. Furthermore, their design to maximize engagement over safety leads to demonstrable harms: they expose minors to explicit sexual content, provide dangerous validation that worsens eating disorders, and lend credence to conspiracy theories.[10]

Research into the cognitive effects of AI-driven chatbots has uncovered significant impacts on decision-making and critical thinking, particularly among teenagers. While these tools can simplify educational processesandprovideinstantassistance,theyalsoposeasubstantialrisktooriginalityandthedevelopment of independent critical thought. This extends to decision-making skills, as individuals increasingly rely on AIto simplify complex problems. This reliance can lead to a diminished capacity for nuanced analysis and individual judgment, as the AI presents streamlined solutions that bypass deeper, personal cognitive engagement.[11]

Summing up the negative outcomes that AI-driven assistants provide, there is a question – what should we do to prevent such a big dependency on the AI-driven technologies?

First, the responsibilitybegins with the developers. Given that AI-driven assistants are now an integral part ofourdigital ecosystem, developers must prioritizecreating safe and ethicallydesigned systems. Instead of pursuingengagementthroughdeeperpersonificationthatmayfosterunhealthyattachment,thefocusshould beonenhancingchatbots'conversationalclarityandemotionalintelligencetoprovidegenuinelysupportive, rather than persuasive, interactions. A critical design choice is to frame these tools not as romantic partners or artificial friends, but as advisors, mentors, or sources of structured guidance that encourage human connection and independent thought.

Another crucial intervention is to deliberately design AI chatbots to address the root cause of much AI-dependence: loneliness. Research demonstrates that these tools can effectively provide temporary, scalable social support, reducing feelings of isolation on par with a brief human conversation. To maximize benefit and minimize harm, they should be framed not as replacements for human relationships, but as transitional supports. Their design should prioritize the therapeutic principles that create a sense of being heard—such as empathetic, non-judgmental listening—while actively encouraging help-seeking from real-world social networks and professional resources. When properly designed with ethical guardrails, they can serve as accessibleadvisorsormentors,offeringsupportgroundedinevidence-basedpsychologicaltechniquesto

[10]AllenFrances,MD,LucianaRamos,PsychiatricTimes,(2025),PreliminaryReportonDangersofAIChatbots, https://www.psychiatrictimes.com/view/preliminary-report-on-dangers-of-ai-chatbots

[11]Zhai, C., Wibowo, S. & Li, L.D. The effects of over-reliance on AI dialogue systems on students' cognitive abilities:asystematicreview.SmartLearn.Environ.11,28(2024).https://doi.org/10.1186/s40561-024-00316-7

help users build the confidence and skills needed for offline connection, rather than fostering a permanent digital retreat.[12]

“There is a real opportunity for AI to play a role in combating the mental health crisis that our society is facing, but it's of the utmost importance that we take the time to really critique and evaluate our systems everystepofthewaytoavoiddoingmoreharmthangood,”-ElliePavlick,acomputerscienceprofessorat Brown University.[13]

Second, governments must implement robust policies to safeguard users. This should begin by requiring standardized, clinician-anchored benchmarks for suicide-related prompts, with mandatory public reporting on how AImodels perform against them. These benchmarks must test nuanced, multi-turn conversations to ensure safety protocols aren't easily bypassed. Furthermore, regulation should mandate that chatbots are designed tovalidate emotions while actively encouraging help-seeking from professional resources. Crucially,systemsmarketedformentalhealthsupportmustbeheldtoa duty-of-carestandard,requiringpre-deploymentevaluationandindependentaudits.[14]Theymustalsoenforcestrictprivacyrules,prohibitingthe profiling of users based on mental health interactions. Currently, the dominant U.S. policy direction prioritizes deregulation and technological dominance over proactive safeguards. This creates a tension, as experts argue that compromise is needed not to slow innovation, but to build public trust through accountability. Effective regulation would create a "high floor" of safety, enabling trustworthy innovation that balances speed with responsibility.[15]

Conclusion

Artificial Intelligence has become a crucial global asset and an integral component of modern life. Its influencepermeateseverylayerofourdailyroutines,fromfundamentalinternetsearchesandthe

[12]Tianling Xie, Journal of Service Management, (2023), Friend, mentor, lover: does chatbot engagement lead to psychological dependence?, https://www.researchgate.net/publication/371853680_Friend_mentor_lover_does_chatbot_engagement_lead_to_psychological_dependence

[13]KevinStacey,NewsfromBrown,(2025),Newstudy:AIchatbotssystematicallyviolatementalhealthethics standards,https://www.brown.edu/news/2025-10-21/ai-mental-health-ethics

[14]KevinStacey,NewsfromBrown,(2025),Newstudy:AIchatbotssystematicallyviolatementalhealthethics standards,https://www.brown.edu/news/2025-10-21/ai-mental-health-ethics

[15]SyBoles,2025,TheHarvardGazette,HowtoregulateAI,Scholarsfrombusiness,economics,healthcare,and policy offer insights into areas that deserve close look, https://news.harvard.edu/gazette/story/2025/09/how-to-regulate-artificial-intelligence-ai/

digitalizationofworkflowstomorecomplexdomainslikethepsychologicalsupportthatAI-drivenassistants have learned to simulate.

However,theveryprogressthatmakesAIapowerfultoolforefficiencyalsoconstitutesitsprincipaldanger in the realm of mental health. Systems engineered to optimize workflows are not inherently suited to safeguard human emotional well-being. The technology's current imperfections and its nascent stage of development can profoundly impact the fragile components of the human psyche. Rising suicide rates and documentedcasesofseveredepressionlinkedto AIinteractionsunderscoreagrowingcrisisofdependence.

Thisurgentrealitydemandsarobustregulatoryresponse.Thecallforoversightmustbeheardnotonlyfrom thedevelopers'communitybut must beansweredwithdecisivegovernmental actionthroughtargetedpolicies and frameworks. The goal is clear: to harness the transformative power of AI while erecting essential safeguards to protect our mental and emotional health.

ThesurveybyAI-securityfirm Nsifthighlightsacriticalissue:58%ofusersremainover-relianton AI.For thisgroup, a vitaldistinctionmustbemade.AI'sstrengthliesin beingafunctionaltool—forcreatingsocial media content, automating administrative tasks, or checking grammar in a cover letter. Its fundamental limitationisitsinabilitytoprovidegenuinetherapyorfulfillthehumanneedforsocialconnection.Therefore, if a user seeks psychological support through technology, they should first ask their therapist for guidance. A professional can identify if a specialized AI application, one designed with specific, clinically-sound therapy methods, is suitable for that individual's unique needs and give recommendations on its healthy usage.[16]

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