In recent years, young adults have faced both a dramatic reduction in opportunities for social connection and a growing burden of psychological distress. Social isolation and the transfer of education and professional responsibilities to virtual spaces meant far fewer opportunities to interact with people and build relationships. Not surprisingly, research now shows that rates of loneliness, anxiety, and depression in this age group have reached historic highs. At the same time, more and more young people are turning to AI companions (Artificial Intelligence) such as ChatGPT, Replika, Woebot - not just as tools for productivity or entertainment, but as seemingly caring conversational partners. These AI systems, with every interaction, can begin to sound more like empathetic friends than digital assistants. But critical questions remain unanswered: when do AI companions truly help reduce loneliness, and when are they merely poor substitutes for real human connection? This uncertainty carries important consequences for mental health professionals, app developers, and the millions of young adults who are already engaging with these technologies.

Our project is the first to explore how real-life loneliness and frustration with unmet relational needs lead individuals to develop different patterns of dependence on AI companions, and how these patterns, in turn, shape mental health and social functioning in the offline world. Drawing on a model originally tested in research on online gaming, we propose that there are three central patterns of AI use. The first is **compensation**—the most adaptive form—where someone turns to a chatbot when friends are unavailable or stress levels are high, and then returns to offline relationships. The second is **escape/avoidance**, where the AI becomes a convenient alternative when real-life relationships feel difficult or disappointing. The third and most concerning pattern is **dissociation**, in which users gradually retreat from real-world relationships and replace them with virtual ones. Additionally, we suggest that two different factors may influence this process at different stages. In particular, we will look at the role of two key psychological factors. The first is relational effort—understood as an individual's willingness and ability to invest energy in relationships with other people. When someone sees little value in putting effort into human connections, effortless interactions with an AI chatbot may appear as an attractive alternative, potentially leading to less healthy patterns of technology use. Prolonged reliance on this kind of convenient interaction can gradually evolve into unhealthy forms of AI dependence, such as avoidance and dissociation. The second key factor is perceived authenticity—that is, the extent to which the AI relationship feels meaningful and important to the user, and how this affects their psychological well-being.

To examine these dynamics, the project includes three complementary studies. The first is a large-scale longitudinal survey of 1000 young adults, tracking how different patterns of AI use affect mood and social life over time. The second is a 10 days Ecological Momentary Assessment (EMA) study with 100 frequent users of AI companionship apps, who report twice daily on their interactions with AI and other people, their mood, and their motivation for offline connection. The third is an online experiment with 800 participants, who engage in a one-time scripted conversation with an AI chatbot. Half receive empathic responses to personal concerns, while the other half discuss a neutral topic. Participants' well-being, reliance on AI, and offline support-seeking will be assessed both immediately after the chat and again two weeks later. By integrating insights from social and clinical psychology with perspectives from technology research, this project offers the first empirically grounded model of how AI companionship emerges as a response to relational distress—and how it may shape long-term psychological functioning. The findings will help clarify the conditions under which AI companions can serve as healthy supplements to human relationships, and when they risk becoming harmful substitutes