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Anna Maria Pawiak

https://orcid.org/0000-0002-0104-190X
Uniwersytet Kazimierza Wielkiego w Bydgoszczy, Polska
Kazimierz Wielki University in Bydgoszcz, Poland
pawiak@ukw.edu.pl

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New Technologies in the Development of Empathy: Benefits and Threats

Nowe technologie w rozwoju empatii: korzyści i zagrożenia

ABSTRACT

RESEARCH OBJECTIVE: The objective of this analysis is to explore the potential of new technologies in enhancing the empathy skills of modern users.

THE RESEARCH PROBLEM AND METHODS: The research problem focuses on exploring how new technologies can be applied to foster empathy, considering both positive and negative implications. The study utilizes a critical method of analysis and synthesis of relevant literature to address this issue.

THE PROCESS OF ARGUMENTATION: The study examines traditional definitions of empathy and distinguishes between the concepts of digital empathy and virtual empathy. It also identifies various ways in which new technologies can be employed to cultivate empathy skills and presents key examples of their impact, with arguments both in favor of and against their use.

RESEARCH RESULTS: New technologies can facilitate the development of empathetic interpersonal relationships by enhancing empathy skills in various ways. They offer easier access to a wide range of perspectives and narratives, which can broaden understanding and encourage empathetic attitudes in different contexts. These technologies can be used for personal growth as well as by educators, therapists, and coaches. It is crucial, however, to maintain a balance between the use of technology and the cultivation of interpersonal skills in real-world settings.

CONCLUSIONS, RECOMMENDATIONS AND APPLICABLE VALUE OF RESEARCH: Research on media-driven empathy is complex yet necessary to better grasp the multidimensional nature of empathy that is fostered through the use of new technologies. A key recommendation is to raise awareness among users regarding the implications of these technologies for empathy development. Additionally, it is important to encourage VR designers to create tools that ethically and responsibly promote empathy in users.

→ **KEYWORDS:** **EMPATHY, DIGITAL EMPATHY, NEW MEDIA EMPATHY, NEW TECHNOLOGIES, AI**

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STRESZCZENIE

CEL NAUKOWY: Celem podjętej analizy jest przedstawienie potencjału nowych technologii w rozwijaniu umiejętności empatycznych ich współczesnych użytkowników.

PROBLEM I METODY BADAWCZE: Problem badawczy dotyczy poszukiwania odpowiedzi na pytanie: Jakie są możliwości zastosowania nowych technologii w rozwijaniu empatii z ich pozytywnymi i negatywnymi implikacjami? Wykorzystana została krytyczna metoda analizy i syntezy literatury przedmiotu istotnej dla podjętego problemu.

PROCES WYWODU: Omawiam definicje empatii w tradycyjnym rozumieniu, rozróżniam pojęcia empatii cyfrowej i wirtualnej. Wskazuję na sposoby zastosowania nowych technologii w rozwijaniu umiejętności empatycznych oraz przytaczam znaczące przykłady jej oddziaływania ze wskazaniem argumentów za i przeciw.

WYNIKI ANALIZY NAUKOWEJ: Nowe technologie mogą wspierać empatyczne relacje międzyludzkie, gdyż oddziałują na możliwości kształtowania umiejętności empatycznych na wiele sposobów. Umożliwiają one łatwiejszy dostęp do różnorodnych perspektyw i historii, co może poszerzać horyzonty i wspierać empatyczne postawy w różnych sytuacjach. Mogą być wykorzystywane do samorozwoju, a także przez nauczycieli, terapeutów, coachów itp. Ważne jest zachowanie równowagi między wykorzystywaniem technologii a rozwijaniem umiejętności interpersonalnych w naturalnych warunkach.

WNIOSKI, REKOMENDACJE I APLIKACYJNE ZNACZENIE WPŁYWU BADAŃ: Badania nad empatią nowomedialną są trudne, choć konieczne, aby lepiej zrozumieć wielowymiarowość empatii rozwijanej z wykorzystaniem nowych technologii. Ważną rekomendacją jest nie tylko uświadomienie użytkownikom, jakie implikacje niosą za sobą nowe technologie w kontekście empatii, ale zwrócenie uwagi projektantów VR na odpowiedzialne i etyczne opracowywanie narzędzi służących do rozwijania empatii ich użytkowników.

→ **SŁOWA KLUCZOWE:** **EMPATIA, EMPATIA CYFROWA, EMPATIA NOWOMEDIALNA, NOWE TECHNOLOGIE, AI**

Introduction

With the rapid development of new technologies, society has witnessed a fundamental shift in the way we communicate and thus build interpersonal relationships. It is feared that as we become increasingly reliant on technology, our empathetic abilities may change. The internet allows us to connect with people from diverse backgrounds and with different viewpoints, which in theory could foster empathy by enhancing our understanding of the diversity of human experiences. However, there are also concerns that prolonged exposure to new technologies may disrupt the process of human communication, including empathetic behaviors, because face-to-face communication differs significantly from mediated communication. The purpose of this article is to investigate the potential

of new technologies to enhance the empathetic skills of internet users, with consideration of both the positive and negative implications.

Traditional Conceptions of Empathy

I will begin by outlining the etymological origins of empathy to lay some historical and theoretical groundwork for further discussion. The concept of empathy existed long before it was given its modern name. Aristotle, for instance, discussed ways to persuade others to one's words and beliefs by projecting human emotions. He emphasized that the credibility of a speaker depends on what attitude they express, how their attitude is judged by the audience, and what attitude the audience itself adopts (Arystoteles, 2004, p. 48).

In tracing the origin of the word *empathy*, it is important to note its roots in the concept of *sympathy* (*sympatheia* in Greek), which the ancient Greek Stoics used to describe a spiritual interconnectedness which leads to expressing compassion. Edward Titchener was the first to use the term *empathy* in psychological literature in 1909 (as cited in Rembowski, 1989, p. 115). He defined empathy as a psychological process involving the projection of oneself into the mental states of others. In his in-depth analysis of the German term *Einfühlung*, Titchener identified two main areas of empathy research: perceptual psychology and social psychology.

In aesthetic theory, the English equivalent *empathy* originates from the Greek word *inpathos* (*empatheia/en* + *pathos*), meaning feeling or suffering, and was introduced by Theodor Lipps (as cited in Nazar, 1990, pp. 26−27). Lipps argued that the essence of empathy lies in experiencing emotional resonance and internal mimicry of others, as well as the so-called motor mimicry. In the theory of interpersonal relationships, Fritz Heider defined empathy as an emotional reaction encountered in the life of another person. Similarly, Carl Rogers described empathy as "deep understanding" or "empathetic identification." David Stewart, in his discussion of empathy, highlighted the importance of intentionally identifying with another person, viewing it as an intuitive process and an attitude of dynamic inference. This is based on perceiving the other person's internal frame of reference, including their emotions, their significance, and the causes behind them, as that person experiences them (as cited in Trzebińska, 1985, p. 418).

In the literature, empathy is often categorized into three types: cognitive, emotional, and a combination of cognitive-emotional empathy. Cognitive empathy, which originates from the psychoanalytic theory of personality, posits links between empathy and the concept of identification (Aronson, 2000; Wojciszke, 2004). Freud defined empathy as "the mechanism using which we are enabled to take up any attitude at all towards another mental life." It plays a fundamental role in understanding what is truly alien to us in others (as cited in Eliasz, 1980, pp. 471−472). Another way of understanding cognitive empathy comes from Piaget's theory of cognitive development, which associates empathy with the ability to take on the perspective or role of another person. The first psychological concept of role-taking was presented by George Herbert Mead (1975).

According to Martin L. Hoffman, emotional empathy is "a vicarious response to others: that is, an affective response appropriate to someone else's situation rather than one's own" (2006, p. 55). The emotions of the other person trigger an emotional reaction in us, which helps us better understand the mental states and social behaviors of others (Rembowski, 1989, p. 55). However, in order to truly understand the feelings of others, one must have a strong awareness of one's own. Daniel Goleman (1997, p. 159) emphasizes this by defining empathy as "understanding others' feelings and concerns and taking their perspective," which stems from self-awareness.

The third, cognitive-emotional approach is represented by scholars such as Norma Feshbach (1975) and Jay S. Coke, Daniel C. Batson, and Katherine McDavis (1978). They argue that empathy should be analyzed as a combination of both cognitive and emotional dimensions because it is a form of emotional response to perceived signals from the environment. However, cognitive processes also mediate how this response develops (Eliasz, 1980, pp. 475−478).

Viewed from this broader perspective, empathy can be understood as a communicative process that includes both emotional and cognitive experiences. Empathetic communication, which is the first natural form of human interaction to develop, evolves with personal experience and personal growth. It influences the emotional-cognitive domain, refining one's personality and behavior toward others. In empathetic communication, the experiences shared are current, authentic, and personal. Ewa Trzebińska (1985, pp. 432−433) confirms that building empathetic relationships with others not only fosters individual growth but is often essential for healthy development.

Empathy in the Context of Modern Technology

The boundaries between online and offline human communication are increasingly blurring, and as a result, our understanding of empathy must also expand to include digital spaces. Today, digital empathy – sometimes referred to as virtual empathy (though is this distinction valid?) – is often considered a digital core competency. But is it accurate to treat the terms *virtual empathy* and *digital empathy* as synonymous? According to Brenda K. Wiederhold and G. Riva (2019), these terms are related but differ in certain nuances. Digital empathy is a broad concept encompassing various forms of digital communication, such as social media, emails, online forums, chat apps, and other online interactions. It involves interpreting emotions conveyed through text, images, emojis, GIFs, and videos. Virtual empathy, in contrast, extends to interpreting understanding emotions expressed through avatars and interactions in 3D virtual spaces. In these settings, users can "embody" roles and experience emotions in a more immersive and sensory way. As such, virtual empathy might be seen as a specific subset of digital empathy as noted by the aforementioned authors.

Christopher Terry and Jeff Cain (2016, p. 1) define digital empathy as "traditional empathic characteristics such as concern and caring for others expressed through

computer-mediated communications." Similarly, Thomas Fuchs (2014, p. 155) observes that "our affective relationships with others are increasingly mediated by virtual interactions." Echoing Yonty Friesem (2016, p. 72), Lianjiang Jiang and Jinyuan Gao (2020, p. 74) describe digital empathy as "cognitive and emotional ability to be reflective and socially responsible while strategically using digital media." While both concepts involve the ability to understand and react to emotions in digital spaces, and although virtual empathy is more specialized, pertaining to interactions within more technologically advanced virtual settings, it is clear that both forms of empathy are vital for cultivating relationships and fostering understanding in our increasingly digitalized world. For the purposes of this discussion, I will refer to this concept as "new media empathy."

In summary, whether we are discussing traditional empathy or new media empathy, the core essence of empathy remains unchanged. However, the ways in which empathy is expressed naturally evolve as the world and its modes of communication become increasingly digital (Terry & Cain, 2016, p. 3). At a certain point in my research, I began to question whether it is even necessary to differentiate between new media empathy and traditional empathy, especially in light of J. Morbitzer's (2015, p. 418) idea of a "hybrid world," where the real and virtual converge without distinct boundaries. On the one hand, making this distinction helps raise awareness of the challenges and opportunities of expressing empathy in digital environments and encourages reflection on the differences and similarities, such as how empathy is communicated across these platforms. On the other hand, one could argue that our online and offline communication should be viewed as part of a continuous spectrum (Bracci et al., 2022). We immerse ourselves in the virtual world with empathic experiences from the real world, encounter new emotions and behaviors from global virtual interactions, and then return to the real world, carrying these experiences with us.

New Technologies in Developing Empathy Skills

Contemporary technologies, such as artificial intelligence (AI), can play a significant role in in personal growth, especially in enhancing empathy skills. One way to leverage AI to enhance empathy and the ability to respond to others' emotions is through simulations and educational games (Louie et al., 2018). By controlling characters in simulations and games that portray various social and emotional scenarios, participants can explore different feelings and reactions in a controlled setting without facing real-world repercussions (Oh et al., 2016). For instance, the game *Becoming Homeless: A Human Experience* immerses users in the lives of people affected by homelessness. Through exploring a virtual city, interacting with other characters, and making decisions, users gain insights into the struggles and hardships of being homeless. The goal of *Becoming Homeless* is to increase social awareness and empathy for homeless individuals, by helping players understand their daily difficulties better (VHIL, 2017).

During the SoTechLab AGH seminar on "Virtual Reality (VR) as an Empathy Machine? How VR is Changing the Social World and Emotional Abilities," the discussion referenced an example from Chris Milk, a well-known American filmmaker and pioneer in interactive art and virtual reality. Milk was among the first to describe virtual reality as the "ultimate empathy machine" (Olszewska & Żuchowska, 2023). In collaboration with the United Nations, he created one of the most renowned projects in 2015, *Clouds Over Sidra*. This interactive film tells the story of a young Syrian refugee girl and was a groundbreaking experiment in using virtual reality to foster empathy. By allowing viewers to immerse themselves in the protagonist's situation, the film enabled a deeper understanding of her daily challenges and life in a refugee camp, thus potentially leading to greater empathy and engagement with refugee issues.

I wonder, however, how participants of different ages might reflect on the situations and behaviors in the real world after such an immersive experience, and whether they can independently draw appropriate conclusions. Cognitive and emotional empathy are governed by different mechanisms. It seems that emotional empathy is often triggered automatically by the suggestive stimuli in virtual reality, whereas cognitive empathy might require more effort, such as using one's imagination to construct the experiences of others. This is why VR designers are encouraged to develop tools that challenge users to engage in the empathic effort more deeply.

Another way AI can be used to develop empathy skills is by creating advanced chatbots or virtual assistants capable of recognizing the emotional context of a conversation and responding empathetically. These chatbots can simulate real-life situations where users need to demonstrate empathy, such as interacting with someone going through a difficult emotional event, and then requiring the user to find an appropriate response. Advanced chatbots equipped with emotion recognition algorithms can provide immediate feedback based on the user's interactions, highlighting which behaviors were more empathetic and effective and which could be improved. By simulating conflict situations, these chatbots can prompt users to apply empathy and problem-solving skills to find positive resolutions.

However, I would also like to point out the potential negative consequences of using chatbots for training emotional interpersonal relationships. One notable example is Replika AI, which was initially developed to support users' mental health by creating a safe and non-judgmental space for conversations and emotional expression. Unfortunately, in January 2023, concerning behaviors were observed during interactions with Replika. It was found that conversations with the chatbot posed "too many risks for children and emotionally vulnerable individuals, primarily because they received responses that were entirely inappropriate for their age" (Pańczyszyn, 2023). This is just one of the more prominent examples of the negative impacts of using chatbots.

A third example involves AI systems analyzing human communication (such as interactions on social media platforms) and providing users with feedback in the form of constructive criticism on their communication style, suggesting more empathetic responses and behaviors toward others. This can include analyzing text, tone of voice, or even

facial expressions in video calls. Through virtual training scenarios, users of new technologies can learn how to respond appropriately to the needs and emotions of others, tailoring their responses to specific social situations. Recognizing and managing one's own emotions, as well as responding compassionately to the feelings of others are key skills for developing emotional intelligence (Teding van Berkhout & Malouff, 2016).

I am aware that these examples of cultivating empathy through modern technologies offer only a general overview due to the constraints of this text. I want to emphasize that modern technologies offer significant potential for developing interpersonal skills, including empathy. However, their effectiveness and ethical use depend on the creators – on proper design, testing, and implementation – to ensure that AI supports positive and healthy behavior patterns rather than distorting or manipulating them. As Olszewska and Żuchowska (2023) note, "The use of VR technology alone does not guarantee the promotion of a specific type of emotional connection. It is important to acknowledge potential concerns about cultivating empathy through VR" (p. 12). While AI cannot replace genuine human interactions, it can serve as a valuable tool in supporting the development of empathetic skills.

Conclusions and Reflections

The use of modern technology to develop empathy can yield both positive and negative outcomes. Immersing oneself in virtual social situations, where users "connect" or "embody" virtual characters who share their stories and emotions, offers the opportunity to experience another person's life and understand feelings and thoughts distinct from their own. This can lead to heightened empathy and a deeper appreciation of human diversity, as well as a better grasp of complex social issues such as poverty, migration, or war. Consequently, it may inspire increased social awareness, a desire to help, engagement in charitable activities, and efforts in conflict resolution. Virtual reality technologies can also be employed in cognitive-behavioral therapy, trauma therapy, and phobia treatment as tools for exposing patients to controlled conditions, which can potentially aid in the management of various mental health disorders.

On the other hand, using virtual reality as a tool for empathy has limitations, particularly when it comes to accurately representing real experiences. Although advanced technology makes it possible to simulate different situations, it is not always possible to fully capture the complexity of another person's emotional experience. For instance, simulating the experiences of individuals with autism may not effectively capture the nuances of their reality in a virtual space. Additionally, there are potential risks to users' mental health. Engaging in simulations of traumatic experiences to raise awareness and empathy might lead to emotional distress or negative feelings, such as anxiety or aggression.

Another major challenge is the expense of acquiring and maintaining the necessary equipment, tools, and software. The tendency to spend excessive time in front of a screen

at the cost of real-world human interaction can heighten isolation by reducing face-to-face contact, ultimately diminishing empathetic abilities. The threat posed by treating virtual reality as an "empathy machine" also includes the potential for its unethical use, especially for commercial purposes in marketing and advertising. This could distort the original purpose of the technology, by shifting the focus from building genuine empathy to driving consumerism (Olszewska & Żuchowska, 2023, pp. 13−14).

In conclusion, while there is ample evidence that modern technologies can be used to develop empathetic skills, concerns about their use are valid. It is essential to consider these risks and strive for the responsible application of new technologies to optimize their social benefits. As Marek Konopczyński (2020, p. 28) rightly points out, we must remember that our current understanding of human interactions in virtual spaces is based on a limited knowledge of the coexistence of certain links, such as the interplay of specific physiological and psychological traits and their correlation with elements of the digital environment. "The digital revolution, of which we are both witnesses and participants, is opening new dimensions of perceiving reality, shaping a new culture and entirely different ways of engaging with the world, others, and ourselves" (Kalbarczyk-Borawska, 2017, p. 119).

When used thoughtfully and responsibly, new technologies can assist users in honing empathetic skills as part of personal growth. Teachers and professors can leverage these tools in schools and universities to design interactive lessons, facilitate online discussions, and organize group projects that promote empathy. Likewise, therapists and coaches can incorporate them into their sessions. However, this requires awareness of the ethical and psychological implications and maintaining a balance between modern technology and the cultivation of natural interpersonal skills. With a better understanding of artificial intelligence and its potential to nurture empathy, we may be able to develop more effective and ethical tools for refining these skills.

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