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Empathy in the Digital Age: Exploring Disinhibition, Phubbing, and Emotional Erosion in Online Communication

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ABSTRACT: The rapid growth of digital communication has reshaped interpersonal interaction and raised concerns about empathy in computer-mediated environments. This study examines how digital disinhibition, multitasking, and phubbing affect emotional presence and empathetic engagement. Using a mixed-methods design, quantitative data from 200 participants and qualitative interviews with 25 individuals were analyzed to provide comprehensive insights. Results show significantly lower empathy scores in online compared to face-to-face communication, with younger participants reporting higher rates of phubbing. Thematic analysis revealed emotional fatigue, attentional fragmentation, and disinhibition as major causes of relational disconnection. Generational and cultural differences further complicated the dynamics of empathy in digital settings. The study highlights the need for empathy-centered design in communication technologies. Recommended interventions include responsive interfaces, ethical frameworks such as the Ethics of Care, and user-centered practices. The findings call for a systemic redesign of digital platforms to strengthen attentiveness, emotional intelligence, and ethical engagement.

Keywords: Digital Empathy, Phubbing, Emotional Disconnection, Digital Disinhibition, Online Communication, Multitasking, Ethics of Care.

INTRODUCTION

Empathy, as both cognitive and affective processes, is central to trust, cooperation, and emotional resonance in relationships. Traditionally, it is conveyed through verbal and nonverbal cues such as tone, facial expressions, and body language. However, as communication shifts to digital platforms, the richness of these cues is reduced, limiting clarity and depth of empathetic engagement (Terry & Cain, 2016; Venter, 2017).

Digital contexts impose new constraints on empathy because of limited nonverbal cues. Users often rely on emojis or punctuation, which cannot fully substitute for facial expressions or tone. This expressive limitation reduces relational quality, though digital tools also expand opportunities for frequent interaction across distance (Lee & Oh, 2015).

One of the key challenges in this realm is the phenomenon of digital disinhibition, which refers to the tendency for individuals to express themselves more openly or, in some cases, more aggressively when communicating through screens rather than in-person encounters (Casale et al., 2015). Theoretical models of disinhibition suggest that perceived anonymity, invisibility, reduced social accountability, and lack of immediate feedback within digital environments encourage a broad range of behaviors. These range from increased self-disclosure and emotional vulnerability to incivility and toxic interactions (Kurek et al., 2019). This dual-edged nature of disinhibition introduces complexity in evaluating the quality of empathetic interactions online, as both authentic connection and emotional detachment may coexist, influenced by contextual factors, cultural norms, and media types.

Additionally, digital multitasking represents a significant barrier to emotional presence and relational depth. Online communicators are often engaged in several simultaneous activities switching between messaging platforms, checking notifications, attending virtual meetings resulting in cognitive overload and fragmented attentional states (Hu & Yu, 2022). This diminished attentiveness critically reduces one's ability to recognize, process, and respond to subtle emotional cues, thereby weakening the reciprocal dynamics essential for empathy. Empirical studies confirm that multitasking correlates with reduced interactional quality, diminished social connection, and increased perceptions of emotional distance and disengagement, particularly during conversations that demand emotional attunement (Favotto et al., 2019; Morrow et al., 2020).

Moreover, the structural and functional design of digital environments can either facilitate or obstruct emotional connectivity. Constant connectivity, attention-grabbing notifications, and interface overload tend to erode attentional focus and sustained interaction, making prolonged empathetic engagement difficult (Eziakor, 2022; Jones et al., 2021). In contrast, some digital interfaces are designed with relational intimacy in mind, incorporating features such as video presence, emotive reaction tools, and synchronous interaction mechanisms that help bridge emotional gaps. This complex and often contradictory nature of digital interactional spaces underscores the need to consider both technological features and user behavior when assessing empathy in mediated environments (Dalola, 2022; Darics & Gatti, 2019).

Phubbing, the act of ignoring one's conversational partner in favor of engaging with a mobile device, exemplifies this erosion of attentional and emotional presence in contemporary digital life. Particularly prevalent among younger demographics who are more deeply embedded in mobile culture, phubbing reflects and reinforces patterns of detachment and fragmented social attention. It has been linked to increased feelings of interpersonal neglect, reduced relationship satisfaction, and heightened conflict, particularly when one party perceives the other as inattentive or emotionally unavailable (Cecchinato & Cox, 2020; Mays et al., 2020). These patterns suggest the need for cultural realignment in how attentiveness and digital engagement are socially understood, negotiated, and regulated in both personal and professional settings.

Perhaps most significantly, digital communication is hampered by the lack of nonverbal cues facial expressions, gestures, tone of voice that are fundamental to conveying emotion, nuance, and empathy (Candrasari, 2021). In face-to-face settings, these cues operate synergistically to support the flow of conversation and reinforce relational understanding. In digital interactions, however,

users often resort to textual signals such as emojis, gifs, typographic emphasis, and punctuation to approximate emotional tone. While these tools offer some level of affective signaling, they remain imperfect substitutes and may not fully capture the complexity of human emotional expression (Kingsbury, 2015). Misunderstandings are thus more likely, particularly in ambiguous or emotionally sensitive contexts, reinforcing the argument for deliberate efforts to enhance emotional literacy and attentiveness in digital communication.

Taken together, digital communication reshapes how empathy is expressed and sustained. Users must navigate disinhibition, multitasking, distraction, and phubbing, alongside reduced nonverbal cues. However, limited research has comprehensively examined how these factors simultaneously shape empathy in online communication. Therefore, this study aims to investigate how digital disinhibition, multitasking, and phubbing interact to influence emotional presence and empathetic engagement in online settings.

METHOD

This study employed a mixed-methods research design to investigate the influence of digital communication behaviors specifically empathy and phubbing on interpersonal relationships. A combination of quantitative surveys and qualitative interviews was used to gather a comprehensive understanding of the phenomena. This approach allowed for the triangulation of data, offering both statistical generalizability and nuanced insight into participants' experiences.

This study used a mixed-methods design to examine how digital communication behaviors particularly empathy and phubbing affect interpersonal relationships. A sequential approach combining surveys and interviews enabled both statistical generalization and in-depth insights

A purposive sample of 200 individuals aged between 18 and 35 participated in the quantitative survey. Participants were recruited through social media advertisements, university mailing lists, and community forums. A subsample of 25 individuals was selected for follow-up semi-structured interviews, representing diverse backgrounds in terms of gender, occupation, and digital media usage. Ethical approval was obtained, and all participants provided informed consent.

To measure digital empathy, validated scales were employed. The Basic Empathy Scale (BES) was utilized for its ability to assess both cognitive and affective dimensions of empathy, and has demonstrated cross-cultural validity and internal consistency (Francisco et al., 2023). Complementary instruments included the Interpersonal Reactivity Index (IRI), which captures nuanced aspects of empathetic responsiveness in relational settings (Valentín et al., 2019), and the Multifaceted Empathy Test (MET), which considers the contextual nature of digital interactions (Lima et al., 2023). The CARE Measure was also referenced for its relevance to digitally mediated consultations, particularly in telehealth (Chen et al., 2019; Roberts et al., 2020).

Phubbing was measured using the Perceived Phubbing Scale developed by David and Roberts (2020), which includes subscales for the frequency of phubbing behaviors and perceptions of being phubbed. Additional items were adapted from Ayar & Gürkan (2021) to assess the emotional and

relational impact of phubbing. These tools provided a comprehensive view of phubbing as a communicative phenomenon affecting attentiveness and emotional engagement.

Surveys were administered online via a secure platform, and interviews were conducted virtually through video conferencing. Interview questions focused on experiences of attentional disengagement, digital empathy, and emotional connection or disconnection during online interactions. Interviews were audio-recorded and transcribed verbatim for analysis.

Quantitative data were analyzed in SPSS using descriptive statistics and paired-sample t-tests, with reliability confirmed via Cronbach's alpha and factor analysis.

Qualitative data were thematically analyzed in NVivo. Codes were inductively generated and clustered into themes, then triangulated with survey results for validation.

RESULT AND DISCUSSION

Online vs. Offline Empathy

Survey results showed that empathy scores were significantly lower in digital than in face-to-face communication (M = 3.0 vs. M = 4.1). Participants attributed this gap to the absence of nonverbal cues, which reduced emotional resonance. Younger participants reported greater tolerance for this empathy gap compared to older individuals, reflecting generational adaptation to digital platforms (Ravik et al., 2023).

Neurological and psychological evidence from related literature suggests that the limited sensory input in online communication diminishes activation in neural pathways responsible for empathy and emotional recognition (Berman et al., 2018). These limitations contribute to reduced emotional depth in digital communication, especially in high-stakes or emotionally charged exchanges. Psychological theories emphasize that the abstraction of emotional cues in CMC creates perceptual and cognitive biases that inhibit empathic engagement.

Further demographic analysis revealed notable age-related differences in empathy perception across media types. Younger participants, who reported more extensive use of digital platforms, displayed relatively higher tolerance for empathy gaps in online settings compared to older individuals (Wilson et al., 2016). Gender, educational attainment, and digital literacy also influenced participant responses, highlighting the multifaceted role of socio-demographic variables in shaping digital empathy.

Finally, participant responses underscored the potential of interventions aimed at cultivating digital empathy. Strategies such as digital literacy programs, virtual role-playing, and perspective-taking simulations were identified as promising tools for enhancing emotional engagement online (Hafizha et al., 2023; Suprayekti, 2023).

Phubbing Behavior

Descriptive data revealed a high prevalence of phubbing, particularly among participants aged 18–24, who reported frequent mobile phone use during interpersonal conversations. Figure 1 illustrates a generational gradient, with younger users exhibiting the highest phubbing scores. This behavior was negatively associated with relationship satisfaction and perceived emotional closeness.

Participants described feelings of neglect and frustration when phubbed by friends or romantic partners, confirming findings from previous studies that linked phubbing to decreased trust and increased relational conflict (Fitriani et al., 2023). Attachment theory was often invoked to explain these responses, highlighting how emotional disengagement during phubbing can induce insecurity and dissatisfaction.

Additionally, age and digital fluency played crucial roles in shaping attitudes toward phubbing. While younger users normalized the behavior, older participants expressed discomfort and perceived it as rude or disruptive to intimacy (Morva & Ünlü, 2022; Samsudin et al., 2023). These generational disparities point to evolving social norms in mediated communication, influenced by differential exposure to and reliance on digital technologies.

Conceptual models explain phubbing through the lens of gratification theory, suggesting that mobile devices fulfill psychological needs such as validation or entertainment at the expense of relational presence (Morva & Ünlü, 2022). Observational learning and social reinforcement contribute to the normalization of phubbing, complicating efforts to address its emotional consequences.

Qualitative Themes of Emotional Disconnection

Interviews revealed recurring themes of emotional fatigue, detachment, and reduced attentiveness due to multitasking and digital overload. Anonymity encouraged emotional detachment, while cultural background influenced tolerance of multitasking collectivist participants reported stronger negative reactions (Subasman & Aliyyah, 2023). These feelings were particularly prevalent among those balancing multiple communication platforms simultaneously, contributing to reduced relational depth.

Anonymity emerged as a key factor influencing empathetic behavior. Participants expressed that anonymous or semi-anonymous settings encouraged emotional detachment and insensitivity, in line with the online disinhibition effect (Velasco et al., 2022). Users reported feeling less accountable for their emotional responses, often leading to misinterpretations or conflicts.

Cultural factors also played a role in emotional regulation during multitasking. Respondents from collectivist cultures expressed stronger negative emotional reactions to multitasking, citing it as a violation of relational harmony, whereas participants from individualist cultures displayed greater tolerance (Daradkeh et al., 2023; Pocock et al., 2021).

The analysis confirmed the value of qualitative methodologies, such as in-depth interviews and multimodal analysis, in capturing the intricacies of emotional interaction in digital (Smith-MacDonald et al., 2021). These approaches allowed for a richer understanding of participants' emotional narratives, shedding light on the subtle yet impactful nature of digital emotional disconnection.

This study demonstrates that digital disinhibition weakens empathetic responsiveness by reducing social restraint and accountability, confirming prior findings on online incivility (Liu & Agur, 2022). Unlike earlier studies focusing on single factors, our results show how disinhibition interacts with multitasking and phubbing to intensify empathy erosion in online settings.

In tandem, empathy erosion emerges as a significant consequence of prolonged exposure to emotionally impoverished or hostile digital environments. Defined as the gradual decline in emotional attunement and responsiveness in online interactions, empathy erosion is particularly prevalent in spaces characterized by frequent confrontational exchanges, limited social norms, and an absence of affective feedback loops (Wright & Wachs, 2020). Over time, individuals immersed in such environments may find it more difficult to recognize and respond appropriately to the emotional states of others, even outside digital contexts. This decline in empathetic engagement may also result in a general weakening of interpersonal trust and social cohesion, raising important concerns for digital well-being and community resilience.

The interplay between disinhibition and empathy erosion is further compounded by a robust body of research linking lower levels of empathy to increased tendencies toward aggressive behaviors, including cyberbullying and other forms of online hostility (Maftei et al., 2023). The so-called "emotional buffer" created by screens weakens the immediacy of social cues and emotional reactions, allowing harmful behaviors to proliferate unchecked (Barlett & Helmstetter, 2018). In environments lacking regulatory or social accountability mechanisms, such patterns can become normalized, reinforcing toxic communication styles and reducing incentives for empathetic or supportive engagement. Communication theorists and platform designers must address this normalization, recognizing that platform architecture, moderation practices, and user culture all play critical roles in either perpetuating or mitigating empathy erosion.

The cognitive and affective toll of habitual multitasking in digital communication represents another key mechanism driving emotional disengagement. Multitasking simultaneously managing multiple streams of digital information and communicative inputs leads to cognitive overload, impairs attentional focus, and weakens memory retention (Maftei & Dănilă, 2021). Individuals attempting to balance competing demands often experience fragmented engagement, resulting in superficial interactions and diminished communication quality. From an affective standpoint, frequent multitasking is associated with increased emotional fatigue, loneliness, and detachment (Fichman & Rathi, 2022). As attention becomes increasingly divided, users may find it difficult to maintain meaningful emotional connections, particularly in high-stakes or relationally intimate conversations. Over time, this erosion of emotional depth contributes to greater interpersonal strain, reduced relational satisfaction, and a diminished sense of mutual understanding (Lillis et al., 2016).

To address these challenges, digital platforms should integrate human-centered design (HCD) with empathetic features such as synchronized video, high-fidelity audio, and responsive emotive tools. Practical applications include empathetic avatars, emotion reflection modules, and interactive "check-ins" that encourage attentiveness during communication (Ameringer et al., 2014).

Beyond technical affordances, embedding empathic design principles into user interfaces can further reinforce emotional engagement. Interactive features such as contextual prompts, perspective-taking exercises, emotion reflection modules, and digital "check-ins" serve as valuable tools for encouraging users to remain emotionally present and attentive during interactions (Begum et al., 2023). Such features can be integrated into messaging platforms, video conferencing tools, and collaborative digital workspaces to create more supportive and emotionally intelligent communication environments. In addition, incorporating user-driven emotional status indicators or mood-based interface customizations may further personalize and humanize digital interactions, enabling users to convey subtle affective nuances.

Crucially, the development and implementation of emotionally supportive technologies must be grounded in robust ethical frameworks that prioritize user well-being. The Human-Centered Design model emphasizes the inclusion of user perspectives in every stage of technology development, ensuring that platforms are attuned to the emotional, cognitive, and relational needs of diverse populations (Young et al., 2016). Complementing this, the Ethics of Care framework advocates for the primacy of empathy, compassion, and relational responsibility in both the design and use of communication technologies (Achab et al., 2022; Shields et al., 2022). These ethical orientations challenge dominant models of efficiency-driven design and instead emphasize the cultivation of community, trust, and shared understanding.

Supplementary to these frameworks are practical best practices developed by scholars and digital ethics organizations. These include recommendations for transparent communication policies, accessible feedback mechanisms, user education programs on emotional intelligence, and culturally sensitive moderation systems (Quinn & Fromme, 2016). Collectively, these strategies offer actionable pathways for creating emotionally responsive and ethically sound digital communication spaces. As digital environments continue to shape everyday life, the prioritization of emotional well-being and empathetic engagement must become foundational principles guiding their evolution.

In sum, this discussion underscores the urgent necessity to reevaluate the normative structures and technological foundations of digital communication through both empirical and ethical lenses. The cumulative effects of digital disinhibition, multitasking, and empathy erosion reveal deep vulnerabilities within current communication ecosystems. These challenges demand coordinated responses that integrate design innovation, evidence-based behavioral strategies, and culturally attuned ethical commitments. By adopting emotionally intelligent design practices and embedding ethical care into communication platforms, digital environments can transform into spaces that sustain, rather than diminish, the core human capacity for empathy and meaningful emotional connection.

CONCLUSION

This study highlights how digital disinhibition, multitasking, and phubbing jointly erode empathy and emotional presence in online communication. By integrating quantitative and qualitative data, the findings extend prior research that often examined these factors separately, showing their combined effects on attentional fragmentation, emotional fatigue, and relational disconnection. The results underline that empathy erosion is not only a behavioral issue but also a structural outcome of current digital environments, which prioritize speed and multitasking at the expense of emotional depth.

The contribution of this study lies in advancing digital empathy research and offering practical implications for technology design and communication practices. Human-centered and empathy-oriented design, ethical frameworks such as the Ethics of Care, and user training in emotional literacy can help mitigate empathy erosion. Future research should further explore cross-cultural and longitudinal dynamics to inform the development of digital platforms that sustain rather than diminish human connection.

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