

Promises and premises: Emoji in youth mental health and emotional well-being

by Jing Ge-Stadnyk

Abstract

Communication is fundamental for preventing and managing youth mental health, and for effectively maintaining and improving their emotional wellbeing. Nevertheless, crucial challenges to communication in this context remain. In recent years rapid technological change has produced increasingly complex forms of communication, which hold out great promise in this area. Emoji have the potential to play a key role in the communication of mental health-related information in areas such as: self-disclosure, engagement, treatment intervention, and mental health education. However, compared with their roles in other fields (*e.g.*, computer science, communication, marketing), emoji in the mental health domain have been largely overlooked by both communication scholars and health care professionals alike. Building on their cognitive, emotional and interpersonal aspects, this paper outlines potential applications for emoji in the field of youth mental health, while also pointing out challenges to their use. It then offers recommendations for mental health organizations, public health organizations, social media platforms, high-tech companies, and the Emoji Unicode Consortium.

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Introduction

The World Health Organization (WHO) estimates that roughly 14 percent of the world's youth experience some kind of mental disorder at any given time [1]. This rate is nearly doubled compared to the general population. This overwhelming figure deserves both scholars' and professionals' attention because mental-illness-induced suicide is the second leading cause of death among 15- to 29-year-olds. Communication is fundamental to the prevention of mental health disorders and the maintenance of emotional well-being more generally (Donovan, 2016). For instance, individuals experiencing distress need to inform family, friends, and mental health professionals of their conditions to obtain support. Nevertheless, crucial challenges to communication within this context remain. For instance, social stigma surrounding mental health issues prevents many people from seeking help. Also, those suffering distress may not be able to effectively communicate their condition to others; here, severe symptoms, language barriers, and inadequate health literacy are common factors (Lazard, *et al.*, 2016; Panesar, 2016). Such obstacles can hinder mental health professionals' and public health workers' ability to obtain sufficient information, key to providing appropriate treatment as well as enhancing the patient experience.

Graphical means of communication (*e.g.*, infographics, icons) play an important role in communicating health information effectively, for example by conveying complex and difficult information or reinforcing health-related messages (Centers for Disease Control and Prevention [CDC], 2019). Here, emoji have come to be recognized as an innovative and engaging approach to communication within the youth mental health field, due to their common use by this population (Bai, *et al.*, 2019; Marengo, *et al.*, 2019; Scarlet, 2018). Indeed, a few studies suggest that emoji representing nonverbal behavior were used to prompt patients to be more mindful of their feeling and states of mind (Dam, *et al.*, 2019). Emoji conveying abstract concepts were employed by patients to disclose aspects of their mental illness in a way that feels safe and comfortable (Lazard, *et al.*, 2016). For

instance, a clinical psychologist at the Center for Stress and Anxiety Management successfully recommended clients to use the tomato emoji (🍅) to inform family and friends about depression and suicidal thought, as the icon's red color signifies urgency (Scarlet, 2018).

Drawing on the emoji literature, this study argues that emoji use is a complex process involving cognitive, emotional, and interpersonal aspects (Danesi, 2016). This process points to a great potential for emoji to facilitate communication and engagement in the field of youth mental health. Nevertheless, compared with their roles in other fields (*e.g.*, computer science, communication, marketing), emoji in the mental health domain have been largely overlooked by both communications scholars and healthcare professionals alike.

This paper first reviews the emoji literature relevant to mental health and emotional well-being. It then discusses how emoji can be used by youths as a form of coping strategy and by mental health professionals in their treatment interventions. Lastly, the study identifies further opportunities and challenges regarding the use of emoji in this context, offering recommendations to mental health organizations, public health organizations, social media platforms and Emoji Unicode Consortium.

Emoji

Emoji — a form of emotionally expressive and symbolic rich graphical icons or graphicons (Herring and Dainas, 2017) — have an increasingly promising role to play in youth mental health and emotional well-being. In addition to their popular use by this population, emoji potential in this context owes much to their iconicity, *i.e.*, the extent to which the elements of a sign are related to the visual aspects of what is denoted (Mizuko, 1987). Emoji at one end of the iconicity continuum convey readily comprehensible meaning through their pictorial resemblances to physical objects. Many emoji representing facial expressions, body gestures and concrete concepts fall within this spectrum. In particular, the first two categories entail rich and nuanced emotivity, including not only basic emotions (such as anger, disgust, fear, happiness, sadness, and surprise proposed by Paul Ekman), but diverse emotional appeals (*e.g.*, affection, sympathy, flattery) (Danesi, 2016; Ge, 2020; Ge and Gretzel, 2018).

Emoji representing concrete concepts may help individuals facing communication barriers to better grasp information and more effectively convey their ideas. This proposition finds support in the successful use of Blissymbols to teach reading and writing to children with cerebral palsy (Danesi, 2016).

Furthermore, early research suggested that the use of graphical symbols allows healthcare providers to communicate with patients with hearing impairment and limited literacy in a more effective way (Moriyama, *et al.*, 1994). A recent study pointed out that emoji can serve as a useful tool for dietary assessment and for the treatment of children with learning disorders, such as autism, dyslexia, and attention deficit hyperactivity disorder (ADHD) (Bhattacharya, *et al.*, 2019).

Emoji at the other end of the continuum conveys abstract ideas or concepts (Ge, 2020; Wicke and Bolognesi, 2020). Emoji representing objects, food, and animals often fall within this spectrum. In a cognitive sense, these emoji are fundamentally metaphorical pictures or a form of conceptual metaphor: their use and comprehension involve mental processes of association in which the features of one concept are applied to the other (Danesi, 2016). Emoji as conceptual metaphor traces back to their original design by Shigetaka Kurita, seen in his using a light bulb (💡) to signify inspiration (Danesi, 2016). Cognitively connecting a light bulb and inspiration can be considered a token of association. In examining metaphor use in psychotherapy, Rasmussen (1995) found that individuals often employ different types of metaphors to describe their experiences and convey difficult information, including: similarity metaphors (*e.g.*, “My father’s death was a knife in my heart”); proportional metaphors (*e.g.*, “An overprotective parent is a smothering blanket”); and proverbs (*e.g.*, “One man’s meat is another man’s poison”).

The expressive power of emoji lends itself well to social uses, such as self-presentation, relationship enhancement, social probing, and group cohesion. Previous studies showed that users often employ emoji to express their personality (*e.g.*, Konrad, *et al.*, 2020; Zhou, *et al.*, 2017), construct desired self-images (*e.g.*, friendly and humorous) (Wang, *et al.*, 2019), and create affiliations with others (*e.g.*, Ge and Gretzel, 2018; Ge, 2019). Moreover, the positive tone of emoji allows users to convey a sense of intimacy and maintain social connectedness (Kelly and Watts, 2015). Interestingly, previous studies on emoji repurposing suggested that many employ emoji to probe others’ beliefs and attitudes regarding topics that are fraught with risks of misunderstanding and rejection, such as political and religious views, or attitudes toward sex and gender (Kelly and Watts, 2015; Parkwell, 2019). The reason for this might be that emoji are intrinsically light-hearted and playful (Danesi, 2016), allowing users to employ humorous double entendres and innuendo to safely discuss sensitive topics, and to probe the degree to which personal attitudes towards such subjects are shared by others.

Emoji in youth mental health

Martin (2007) defines sound mental health as the capacity to: 1) regulate negative emotions and enjoy positive emotions; 2) cope with stress and adapt to change; and, 3) establish close and enduring relationships with others. Building on the cognitive, emotional, and interpersonal aspects of emoji, this section discusses the potential benefits of emoji use by

youths and mental health professionals alike.

Emoji use by individuals

From the individual's perspective, emoji can be used as a form of coping strategy. Coping, that is cognitive and behavioral efforts to manage a troubled person-environment relationship, includes emotional-focused coping (*i.e.*, the regulation of distressing emotions) and problem-focused coping (*i.e.*, doing something to make the situation better) (Folkman and Lazarus, 1985). Both play an important role in determining if stressful events result in adverse physiological and psychological outcomes.

In this context, emoji's possible mental health benefits would result from their use for emotional-focused coping. First, individuals can use emoji, especially those representing facial expressions and gestures, to deal with stress. Specifically, their use can enhance individuals' self-awareness, allowing them to manage any intense emotions experienced (Dam, *et al.*, 2019). The use of emoji as a self-monitoring tool can best illustrate this. For instance, one study shows that keeping an emoji-based emotion log helped adolescents and young adults to be more mindful of their feelings (Dam, *et al.*, 2019). An elementary school teacher has gone further by initiating an emoji curriculum unit. Students were instructed to use an Emoji Feelings Chart to describe their states of emotion. The goal was to help them circumvent negative reactions to challenging situations by identifying triggers in real time. The results revealed an internal and external stimulus provoked reaction. For example, regarding the latter dynamic, some students expressed anger when they skipped breakfast (Savage, 2018).

Moreover, individuals can employ emoji — which we should keep in mind are fundamentally a light-hearted, often comical form of communication (Danesi, 2016) — to elicit positive emotions and reduce negative ones. For instance, users often use emoji to convey funny stories on viral humor Web sites (Gawne and McCulloch, 2019) and to engage in ongoing jokes with their peers (Wiseman and Gould, 2018). Further, it was recently discovered that, to convey compassion in a humorous way with others, some have been employing 'coronavirus emoji,' where characters are shown wearing facemasks (Evans, 2020). Drawing from the literature on the psychology of humor, it is reasonable to assume that humorous emoji can induce positive feelings of amusement and mirth (at least temporarily), and reduce negative feelings relative to a baseline (Martin, 2007). Moreover, the cost-benefit analysis underlying interpersonal attraction (Cook and Rice, 2003) shows that a sense of humor in another person increases the perceived benefits of forming a relationship with him or her (*i.e.*, the pleasant feelings associated with laughter) and decreases the perceived costs (it is less like the person might become easily offended and display negative, emotional reactions) (Martin, 2007).

Following Hebdige's (1979) claim that "a subculture is subversion to normalcy", the literature on emoji subculture suggests that their use can enhance group identity and cohesion. Indeed, creative use of emoji can foster small groups of people that, in comparison to larger user populations, share distinct beliefs about emoji use. For example, they may assign unconventional meanings to certain emoji, thereby creating a shared, secret, and unique form of communication (Zhou, *et al.*, 2017; Kelly and Watts, 2015). Moreover, the use of emoji for conveying humor among groups of friends can also cultivate group unity and identity. As Martin and Ford (2018) convincingly argue, friendly teasing and sharing of 'in-jokes' can contribute to the 'idioticulture' of a group, allowing members to construct a shared reality and sense of meaning. In the context of mental health, social use of emoji can foster communal and interpersonal support by providing emotional and belonging inputs, which in turn may alleviate individuals' stress levels and encourage a positive perception of self-disclosure (Johnson, *et al.*, 2020).

Emoji use in problem-focused coping may also point to their benefits for youth mental health. First, individuals can employ emoji as conceptual metaphors for self-disclosure, underpinned by the concept of symbolic modeling. Here, the idea is that individuals can benefit from using autogenic or self-generated metaphors to describe their conditions, especially stress-related ones (Tompkins and Lawley, 2002). Some phrases include 'anger is a hot liquid,' 'stress is the burdened camel,' and 'depression is blinders and dark glasses' (Killick, *et al.*, 2016). It is well recognized that, compared to words, the use of emoji as conceptual metaphor allows some individuals to better define and accept the reality of their mental illness, and to talk about their personal experiences with depression and mental disorder in a more natural and comfortable way (Lazard, *et al.*, 2016; Magaña and Matlock, 2018). For example, emoji representing a zipper-mouth face (👄) can signify what it feels like to suffer from the stigma of depression, while a downcast face with sweat (😓) indicates anxiety (Guarino, 2018). Another instance is the app *Abused emoji* [2], which was found to help young people communicate, through customized emoji, their trauma and struggles with such issues as violence, sexual abuse, bullying and suicidal thoughts (Logan, 2015). Here is an example illustrating how it works. A social worker texts a girl asking what happened. This girl responds to the social worker by using an emoji portraying injuries — a child with a black eye or a bandage.

The literature on the social uses of emoji underscores their role in the initiation and maintenance of satisfying and enduring relationships, such as those with close friends and family members (*e.g.*, Danesi, 2016; Kelly and Watts, 2015). A great deal of research suggests that such relationships have a profound influence on people's level of happiness and emotional well-being in general (Martin, 2007). Reviewing the research in this area, Reis and Cloninger [3] claim that "there is widespread evidence that socially involved persons are happier, healthier, and live longer than socially isolated persons do." For instance, the literature consistently shows that people involved in meaningful relationships are less likely to experience depression, stress, or anxiety disorders (Segrin, 2000). Emoji use can help foster such sound relationships by allowing individuals to easily present a positive self-image in front of peers. As a previous study showed, people using smiling face emoji are perceived to be friendly, attractive, kind, sincere, and helpful (Wibowo, *et al.*, 2017). Relatedly, Jeon's (2020) work suggested that emoji use allows individuals to convey empathy and relationship commitment through perspective taking (*i.e.*, cognitive activity to understand and accept others) and inner imitation (*i.e.*, people's tendency to be triggered by the same emotional state in others).

Furthermore, emoji allow people struggling with mental health issues to support each other through conveying emotional and belonging inputs (*e.g.*, camaraderie, empathy). Such mutual support among peers provides a buffer to stress, encourages a positive perception of self-disclosure, and creates a sense of acceptance (Johnson, *et al.*, 2020). Finally, the playfulness and positive tones embedded in emoji can facilitate the resolution of conflicts that inevitably occur in all relationships. Thus, the emoji-enabled interaction can be a

way of regulating emotion, augmenting positive enjoyment, and reducing feelings of distress originating either from within or outside the relationship itself.

Emoji use by mental health professionals

Mental health professionals can employ emoji for patient engagement, while enhancing individuals' abilities to manage their own health (Balas, *et al.*, 2012; Troiano and Nante, 2018). First, emoji use is especially useful for communicating with individuals who have low health literacy and with those who have poor communication capacities due to severe conditions (Skiba, 2016). This can be illustrated by the successful use of Blissymbols to teach children with cerebral palsy to read and write. In the context of mental health, a study exploring emoji use for engaging with people suffering from psychosis found that emoji-based storytelling encourages these individuals to share their unique experiences and perspectives; in turn, this helps health professionals develop customized treatments. Furthermore, research on digital interventions sheds light on the integration of emoji into chatbots to support patients' informational and experiential needs. For instance, scholars found that a chatbot using interactive emoji improves user experiences when he or she searches for online self-help tips (Cameron, *et al.*, 2017).

Other studies examine the efficacy of 'Woebot' in helping people manage their mental health through mood tracking and emoji games. The results showed participants reporting significantly lower levels of depression after two weeks of treatment in comparison to those in an information-only control group (Beattie, *et al.*, 2020; Fadhil, *et al.*, 2018; Fitzpatrick, *et al.*, 2017). Several scholars suggest that therapists and psychiatrists can use a set of emoji to identify and assess their patients' mental illness conditions (Dam, *et al.*, 2019). As Alismail and Zhang (2018) explained, professionals and young patients appreciate emoji use in this context, because they can make the assessment process easy to understand and even fun, while also facilitating the decision-making process and boosting language proficiency. Indeed, one study found that the animated emoji scale is a fun and engaging tool for measuring dental anxiety in children (Setty, *et al.*, 2019). This promising result indicates that emoji can help professionals identify those patients who require special care, where the professional might need to assuage patient fear. Moreover, Marengo, *et al.* (2019) introduced emoji into the process of depression assessment and confirmed that accuracy was significantly improved.

Other potential application areas for emoji are psychological health education and mental illness prevention. Emoji art shows and the use of emoji in public health education illustrate well this potential; the former occurs in the off-line domain, whereas the latter takes place primarily in digital space (*e.g.*, mobile devices, social media platforms). Art is widely accepted as a positive contributor to both individual and societal mental well-being, and in this vein the Emoji Art Show 2018 launched in Atlanta not only provides artists with an outlet for self-expression through emoji but also encourages community members to have meaningful exchanges about their own emotional and mental states (Murden, 2019). In addition, public health organizations can use emoji as a kind of universal language to deliver health care-related information across geographic boundaries (Bhattacharya, *et al.*, 2019). For instance, the mosquito emoji (🦟) has provided health professionals with an effective way to communicate to the public the health hazards associated with the mosquito; it also allows researchers to promote their work more easily around mosquito-borne diseases (Lotfinejad, *et al.*, 2020). Similarly, 'face with thermometer' (🌡️) and sneezing face emoji (🤧) are often used to represent a hospital patient, a person with a cold or flu, or physical diseases in general. Recently, microbe emoji (🦠), 'face with medical mask' (👤) and bar of soap (🧼) have seen a considerable rise in use. According to Emojipedia analysis, this jump in use correlates with the spread of COVID-19.



Future directions and recommendations

The World Health Organization predicts that youth mental illness and emotional disorders will continue to increase among the world's population (Brundtland, 2001), and it's safe to assume this alarming situation will only be compounded by the mental stresses brought on by the COVID pandemic. It is thus understandable that there have been growing calls to place youth mental health right at the center of the world's global health and development agendas (Brundtland, 2001).

Against this backdrop, this paper has explored the potential role for emoji in overcoming communication barriers in the areas of mental well-being. Building on the cognitive, emotional, and interpersonal aspects of emoji, the study argued that youth can use the emotionally expressive and symbolic rich emoji as part of creative, effective, and engaging (fun) coping strategies. Moreover, mental health professionals can employ them as a non-intrusive and engaging communication approach to achieve therapeutic goals, while public health organizations can use emoji to effectively implement health education and prevention programs. These arguments are supported by previous studies (albeit, still limited in number) in the field of healthcare and public health, while pointing to a promising future for emoji in the areas of mental health and emotional well-being.

From an individual perspective, emoji can be used as an interactive tool of communication. The use of emoji for enhancing self-awareness suggests that people are able to employ them as a self-help tool to better understand and manage their own negative emotions. As a psychologist who specializes in youth mental health (Wang, 2020) explains, once people can identify their emotions, activation of the amygdala (which is responsible for the fight or flight response) decreases dramatically. However, gaining a clear understanding of specific emotions (*e.g.*, anger, fear, sadness), which must occur prior to emotion management, is not an easy task. This is especially the case for teenagers and those with severe mental health issues (Wang, 2020). Here, the iconicity of emoji can facilitate such self-learning and discovery. Moreover, the literature on mental health suggests that, compared to words, emoji metaphors allow for a more natural way for individuals to communicate their mental health issues, making it easier to seek help (*e.g.*, Lazard, *et al.*, 2016; Magaña and Matlock, 2018). Considering these positive attributes, one can assert that emoji have great potential to democratize the language of communication in mental health, helping youths overcome (or at least be less intimidated by) the social stigma often attached to mental illness.

From the mental health professional's perspective, emoji can also be used as a one-way tool to collect information. It's recognized as an ongoing problem that health care providers are largely overworked and short on time, thus there is the need to assess the health status of patients as quickly as possible (Moriyama, *et al.*, 1994). For this reason, emoji used for symptom description and assessment need to be further developed into equivalents and/or replacements of verbal expressions. Moreover, according to Tompkins and Lawley (2002), a *British Journal of General Practice* study shows that although patients sometimes spontaneously use metaphors to describe symptoms, they need to be invited to use such language. In light of this, mental health professionals should acknowledge the obstacles their patients face, then guide them to employ emoji metaphors to describe the qualities and characteristics of their subjective experiences of mental illness and emotional discomfort. Lastly, emoji use for evaluation suggests that healthcare organizations can and should develop emoji-based mental health assessment tools. As Wang (2020) comments, many well-validated assessment tools are text-based questionnaires—for example, the Center for Epidemiologic Studies — Depression Scale (CES-D). These become barriers for people with poor communication and/or reading skills. The visual aspect of emoji-based questionnaires can help professionals and patient overcome these challenges. Children and young adults may in particular benefit, as they are more familiar with and accepting of image-based cues, such as emoji, which they use with greater frequency in online communication.

The growing body of research on emoji use for enhancing interpersonal intimacy and social connectedness suggests that public health organizations can use them as a form of relational capital to engage in and foster meaningful relationships with the public. Such engagement plays an important role in the effective implementation of health education as well as illness prevention measures. Moreover, emoji use as social play is rife with potential as a form of game therapy. It is well accepted that gaming can reduce stress and anxiety, because it allows individuals to feel unencumbered by daily pressures (Wallace, 2019). Relatedly, the amusing and playful aspects of emoji point to their possible use in humor therapy. Previous studies suggest that, while humor therapy does not significantly reduce depression, it can be a useful additional therapeutic tool to reduce individuals' agitation and improve their emotional well-being (Low, *et al.*, 2013; Walter, *et al.*, 2007).

Given that emoji use in mental health practice is an emerging phenomenon, it is necessary to acknowledge key challenges to their use in this context and, further, offer recommendations to healthcare organizations, the Unicode Consortium, and social media platforms. First, within emoji communication, there exists the potential for confusion and ambiguity. Gregory Leskin, director for the NCTSN Military and Veteran Families Program at the UCLA/Duke University National Center for Child Trauma, points out that professionals who are not familiar with emoji may misinterpret or misunderstand what's being communicated by individuals (Logan, 2015). Therefore, public health organizations should develop and implement emoji training programs where professionals are taught how to interpret and respond to emoji-based messages. Emoji communication protocols are also needed. Furthermore, mental health organizations should keep in mind that not all patients are familiar with emoji, and also that any two emoji users may interpret the same emoji differently due to dissimilarities in age, gender, cultural background, and the like. Thus, it is necessary to define the meanings of selected emoji when using them for communication intervention. Third, while it is widely recognized that mental health-related Chatbots using emoji can make conversation more engaging, high-tech companies still need to be mindful of the specific cultural contexts in which they are working — as well as of the double meanings of some emoji — when using them to reach international audiences. For instance, one should be careful when using 'thumbs-up' emoji in parts of the Middle East and West Africa, as it can, in certain circumstances, be the equivalent of the middle finger in the Western world (Danesi, 2016).


Fourth, when using emoji to convey healthcare-related information online, public health organizations must proceed with the understanding that emoji appearance (or design) will often differ between mobile devices and across social media platforms. Here, the first recommended solution is that such organizations check the comprehensive list provided by Emojipedia showing the different appearances of each emoji across devices and platforms and, accordingly, try to avoid mixing emoji with significantly different appearances. The second solution is the designing of customized emoji. For example, a non-profit organization in Sweden has created its own set of emoji which express different kinds of abuse (Logan, 2015). Fifth, in the field of mental health, a set of pre-agreed emoji remains absent, making it difficult for individuals to effectively communicate SOS signals. Given this situation, the Emoji Unicode Consortium might consider introducing a category of mental health-related emoji that allow individuals to better communicate their feelings and ask for help. Such emoji, similar to 'eye-in-speech-bubble' (🗨️) representing anti-bullying, would be appreciated by users (Gonzalez, 2015). Further, given the potential role for emoji gaming and emoji humor in mental health treatment (such as preventing and mitigating anxiety and stress) both gaming and emoji designers could collaborate with healthcare organizations to design individual-tailored emoji games.

To move the entire field forward, this study proposes the following recommendations. First, researchers should develop appropriate visual frameworks for using emoji, particularly in regard to their complex use (such as when used in sequences). To write meaningful sentences in any language a writer needs to understand both words and grammar. This relationship between words and grammar also applies to emoji and should thus lead to the establishing of general rules for arranging them. Moreover, healthcare organizations should popularize emoji use, and the specific emoji being used, in the medical community. Despite the common use of graphic symbols in healthcare contexts, it is reasonable to assume that some mental health providers consider light-hearted and playful emoji to be somewhat childish and so would be unwilling to accept them as instruments of communication. To increase the popularity and acceptance of emoji in the mental health community, their successful use in particular areas needs to be further documented.



Conclusion

Overall, emoji use in the field of mental health has reached both the online and off-line domains. While there are a few case studies showing the promising role of emoji in this context, there is a dearth of understanding regarding how age, gender, the specific mental illness being addressed, and similar factors relate to and affect emoji use. There is also

no conceptual framework that classifies emoji use by type of individual or mental health professional involved. This paper provided a first glimpse of the importance and role of, and challenges faced by, emoji in the mental health field. It is hoped this work will help researchers and professionals push the field forward, out of its current relatively nascent stage, so that emoji may begin to fulfill their enormous potential to contribute to better mental health for young people worldwide. 

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Notes

1. <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>.
2. <https://www.mic.com/articles/119362/abused-emojis-are-a-new-tool-in-the-effort-to-help-domestic-abuse-victims>.
3. Reis and Cloninger, 2001, p. 58.

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