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Digital Mental Health and its Challenges: An Interdisciplinary Approach to Mental Health in a Crisis

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Abstract:
Background: *Mental health studies indicate that digital mental health care can alleviate the symptoms of those struggling with mental disorders. We have seen Extended Reality (XR) systems, mental health apps, and other digital tool applications employed in mental healthcare settings to help service users cope with their emotions. Nonetheless, research has questioned the effectiveness of those findings and non-usage by immigrant groups. The calls to tackle this issue, chiefly the effectiveness of digital tools, prompted us to take an interdisciplinary approach.*
Methods: *In this research, we use the theoretical concept of mental disorders beyond classical and critical approaches as a theoretical conduit to demonstrate how this issue of effectiveness is linked with the concept of mental disorders. Also, we process interviews with digital mental healthcare service users in three European countries, namely, the United Kingdom, Spain and Ireland, to gauge the effectiveness of digital tools in mental healthcare to improve the quality of care provided in the sector.*
Results: *Answering this question from the position we put forward leads to an integrative approach where digital mental health care can be applied to reduce the symptoms of mental conditions along with other mental healthcare approaches.*
Conclusions: *Our findings support mental disorders as a multidimensional concept, consistent with non-reductionistic approaches, and provide a foundation for further studies in the emerging field.*

Keywords: *Digital Tools; Mental Health Care; Concept of Mental Disorders; Europe*

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Introduction

Digital mental healthcare proliferation is considered an alternative to mental healthcare in a crisis (Cotter & Bucci, 2020; Areán & Allred, 2023; Kaveladze & Schueller, 2023). Nevertheless, given the application of digital tools in mental health care, especially during the pandemic, more theoretical exploration is needed to address emerging issues and how these challenges may affect the quality of care received by service users. As these concerns are raised, the global destigmatisation campaign is ongoing, and mental morbidity is still increasing. From this, the healthcare crisis is in abeyance, far from over. To address this, we decided to use an approach according to our research that has not been applied to determine the effectiveness of digital mental healthcare. Therefore, we decided to select the concept of mental disorders as a theoretical channel beyond classical and critical approaches for these reasons.

Firstly, the matters raised are deep-rooted, and more clarity is required to determine the effectiveness of digital tools in mental health settings. Answering the questions posed by digital tools as a medium to deal with mental disorders requires conceptual clarification. Secondly, we process and analyse the experiences of service users of this technology within the concept of mental disorders to allow the integration of conceptual tensions in digital mental health care and assist future research in the field. Thirdly, applying this theoretical framework will open ways to answer some of the questions raised by digital tools as an effective solution to enhance quality care in mental health care.

This study is presented as follows. First, we discuss mental disorders and digital tools' application in mental health care and how these are linked with the ongoing discussion. Second, we clarify the concept of mental disorders beyond classical and critical approaches, highlighting its importance to the digital mental healthcare intervention outcome. In the third place, we flesh out our qualitative methodology using the experiential accounts of European service users and close with a supportive coda that views digital tools as a medium to get mental health care.

Mental Disorders, Digital Tools, and Mental Health Care

Mental disorders have a debilitating effect on individuals' well-being, considering the number of people struggling with disorders globally. Even their impact can be felt within a community. For example, it is known that one person dies every 40 seconds by suicide. Still, mental health care is one

of the most neglected areas of public health, with close to 1 billion people living with a disorder (World Health Organization, 2020). In most cases, when this occurs, the community becomes fractured, leaving a devastating mark on families and, in some cases, requiring additional mental health intervention. It is evident from the data available that mental health care is in a crisis, and the need to recalibrate the existing approach is long overdue. With the increased number of people struggling with disorders, scholars have called for digital tools application in mental health care to reduce the mortality rates of mental disorders (Bamijoko-Okungbaye & Idemudia, 2020).

In this analysis, digital tools can be applied to assist those struggling with mental disorders, taking the pressure off the traditional healthcare ecosystem. The research views the evidence emanating from digital tools application in mental health as propitious. Notwithstanding, the study raised questions about the challenges facing digital mental health proliferation in pluralistic settings. The normative issues and problematics of value-ladenness in digital mental health care are issues that can affect outcomes in mental health care. Despite the problems identified, digital tools application research's results in mental health care are widely received as promising.

Moreover, its application can provide an effective way to deliver mental health support. Although, some suggest a multidimensional use of its application (Mansfield et al., 2020). Research in digital mental health care demonstrates that digital tool applications in mental health can effectively be used as an intervention to deal with substance abuse and anxiety disorders. Withal, scholars have called for additional research to determine the effectiveness of existing findings (McDaniel et al., 2020; McDonnell et al., 2021)

Further, the application of (XR) Extended reality systems in mental healthcare, such as Virtual Reality (VR) and Augmented Reality (AR), shows that service users can safely understand and manage their emotions. However, outstanding questions regarding effectiveness are posed when applied in forensic settings (Ligthart et al., 2021). Digitalising mental disorders using artificial intelligence to leverage the impact and scaling up mental health care is seen as a way to reduce the global number of those affected by mental disorders.

Digitisation and digitalisation of mental disorders operate through complex mechanisms, simulating the lived experiences of service users to create an experiential digital Self and making these codified emotions work for the I-experiential, which is the service user can be a multiplex puzzle to solve. For this reason, many scholars have questioned the efficacy and

effectiveness of digital tools in mental health care. For example, the evidence of efficacy and effectiveness in this domain of digital mental health is considered weak because of the points raised concerning its application in clinical settings (Skorburg & Yam, 2021). However, as research continues in this field and more questions are asked, it is crucial to address the issue of effectiveness to determine the quality of care provided by service providers. If this can be answered, its proliferation will benefit service users and those less likely to use it.

This research is essential for these reasons. Firstly, to answer the questions about effectiveness raised by diverse scholars, as most scholars consider the primary evidence promising. Secondly, to assist future research urgently needed in the field. We frame these questions through the concept of mental conditions beyond classical and critical approaches. By so doing, we aim to clarify some of the issues stemming from digital tools implementation in mental health care.

The Concept of Mental Disorders and Digitalisation of Mental Disorders: Beyond Classical and Critical Approaches

Mental disorder concepts have been used to tackle wide-ranging tensions in mental health, including that mental disorders are grounded in evolutionary theory (Wakefield, 1999). Simultaneously, an alternative to the reductionistic account is to examine the roots of mental disorders as a problem of action and intentionality. The latter sees mental disorders as socially negotiated experiences with contested meanings central to the action, which leads to the construction of concepts of mental disorders (Kirmayer & Young, 1999).

Digitising the I-experiential emotions, that is, service users' emotions and leveraging this digitalisation to deal with bio-psycho-social challenges emerging within the populace are complex issues that need clarification to answer some of the questions raised by applying digital tools in mental health care. Research shows that those struggling with mental conditions own their agency (Bamijoko-Okungbaye, 2020). Also, we aim to position the digital Self as an extension of the Self with an agency. From this perspective of understanding, the digital Self as an extension of the Self can determine the outcome of disruption to their sensomotoric Umwelt experiences because the Self is malleable and adaptive, even though akrasia can engender the notion of the Self to be fractured, which will then require intervention. It is sometimes with those experiencing Weltschmerz. This claim is consistent with

the idea of the brain-mind-society that underscores the embodiment of cognition within the digital, physical and social world.

Moreover, a collection of worlds can determine its mental health recovery value by interacting with multiple entities. For example, values can be developed by interacting with technology. The recovery outcome with these entities should be deemed valid if the Self enacts these experiences within a shared world through interaction with others. In this case, this could be their mental health practitioner and others. It is essential to grasp that the neurobiological and neurocognitive nexus of certain mental disorders are very crucial, but these disorders are not just brain disorders; their foundation is not a disruptive representation of the world but the failure to enact a shared world through interactions with others (Parnas & Sass, 2001; Fuchs, 2015; Bamijoko-Okungbaye et al., 2020).

Understanding the concept of mental disorders beyond classical and critical approaches is cardinal to this journey to determine the validity of the effectiveness and efficacy of digital tool applications in mental health care. The classical approach can be traced back to Plato and refined by logical positivists, as cognition is regarded as a computation sequence which leads mental disorders to be described within a narrow scope (Plato, 2000). Conversely, the critical approach dates back to Vico, pointing to the importance of human values in cognition and mental disorders (Vico, 2020). However, in this paper, we position the embodiment of cognition that views the brain-mind in our shared cognitive-affective map where the brain-mind is entangled. This entanglement allows the I-experiential to express their experiences with disorders within the accepted cognitive-affective map (Stanghellini & Aragona, 2016).

Understanding this concept is integral to validating the efficacy and effectiveness of digital applications in mental health care to strengthen further research. With this line of thought, research indicates that certain mental disorders possess similarities with bodily disorders (Bamijoko-Okungbaye, 2019). Moreover, we also have cases that do not (Fulford et al., 2013). This understanding is crucial to future research, especially in efficacy, and central to effective diagnosis and intervention plans. On a similar track, others have called for these human experiences to be part of the clinical decision-making process to ensure quality care and protection of service users (Juriako & Malatesti, 2020). Within this understanding, validating the effectiveness and efficacy of digital tools in mental health care will require understanding the foundational causes of mental disorders. Even in the case of severe disorders, understanding the enactive analysis is critical in determining the strength of

the efficacy in future studies, considering the role that intersubjectivity plays in mental disorders (Fuchs, 2020; Nemirovsky, 2020). Hence, any attempt to apply a one-way approach to validate the efficacy and effectiveness of digital tools in mental health care would ignore the importance of intersubjective understanding of mental disorders because mental disorders' complexities are beyond monolithic elucidation. It is a given from the above descriptive findings that the dimensional outlook is multifaceted. Suppose the concept of mental illness is understood to be within the dimension of contemporary ampliative understanding of mental conditions. In that case, it is easier to determine its effectiveness and efficacy.

The core arguments to challenge the effectiveness and efficacy of digital tools in mental health care are serious points to evaluate, considering the diverse values involved in conceptualising mental disorders. Therefore, it is unsurprising that digitising emotion to digitalise its disturbances raises more questions than answers. Nevertheless, this approach taken in this research will help future research in a field with promising early results. Furthermore, it would be inappropriate to deny someone struggling with mental disorders or a person with severe depression help digitally, in light of the research showing that the traditional mental health care setting is not reaching children and adolescents needing mental health services (Anthony & Reilly, 2020). As conceptual analysis of mental disorders shows, there are cases of mental disorders whose psychopathology is a response to a societal event—helping those struggling will require highlighting the meaning of the pathogenesis of such event, which can be achieved digitally, as this research will show. Moreover, a reductionist account that precludes the emergent Self experiential actions and functions will hardly be able to answer the "how" question, that is, concerning how such disturbances lead to changes in neuronal function.

Consequently, digital tools application's effectiveness in mental healthcare settings will likely involve listening carefully to the emotional responses of those seeking digital mental health care. However, this should not be taken at face value but analysed within mental health approaches encompassing the existing cognitive-affective map.

We incorporated this into the existing concept of mental disorders and opted to go beyond classical and critical approaches because a monothetic idea of mental disorders is not adequate to describe mental disorders, given the multidimensional facets recognised in mental disorders.

We shall describe the digital Self as an extension of the Self in mental health settings. The standalone digital Self can be conceptualised as a compartmentalised cognitive systematicity whose actions are within

interactive social activities and computational models such as neural networks and AI operating within the ecosystem (Gibson, 1977).

From the realist position adopted in this research, the standalone digital Self fails to account for the I- experiential in the world. For their actions to be meaningful, they must be linked with the Self. The Self is the Self with sensorimotoric capacities and in interactions with the social, physical and digital world. So, the position we put forward is the Self with mind embodied in the sensorimotor-affective nexus within the physical, digital and social environs (Clark, 1998; Clark, 2010). From the position taken here, the Self's experiential account is central to the validity of the effectiveness and efficacy of digital tools in mental health care.

Thus, in this research, we use the empirically underexamined concept of mental disorders concerning digital mental healthcare effectiveness to answer some questions raised by its application in mental healthcare settings, bringing the analysed experiential accounts of service users to the fore. These experiences are within our shared cognitive-affective metaphors.

Method

Participant Recruitment

This research was part of a project which sought to understand digital mental health care service users' experiences to weigh in on the issues that arise with the application of digital tools in mental health care, mainly the question of effectiveness in three European countries, namely, Ireland, Spain, and the United Kingdom. The first part of the findings was published to examine the effectiveness of digital mental health care in Ireland (Bamijoko-Okungbaye & Idemudia, 2020). Before recruiting participants, we introduced observations to identify resources available to those struggling with mental health challenges. We also conversed with service users and digital mental healthcare service providers. The observational phase started in 2019 and helped facilitate recruitment and gain participants' trust.

A total of 120 qualitative in-depth interviews were conducted between 2019 and 2021. The sample collected was chosen to include the most excellent possible range: mental health concerns of adult participants and long-term use of digital tools in mental health care settings. This approach ensures that solid experiences regarding digital mental health care access are analysed. Participants were recruited offline and on digital platforms with the help of researchers. In this research, researchers were well-versed in using digital tools in mental health care. Participants were recruited from local voluntary

organisations and public facilities such as libraries and schools. Snowballing was employed to recruit participants. An attempt was made to include Afro-Europeans or people of African origin and immigrants by going to barbershops, university campuses, libraries and cultural centres in these European countries, considering their lived experiences are mostly excluded from European research. However, the effort was unsuccessful because we could not find enough participants using digital tools to get mental health care support within the group we contacted. We noticed digital mental healthcare literacy as a barrier when we engaged them to ask about our studies. As one put it explicitly:

> *I have not used mental health apps to manage mental health challenges, but I would look at them and see if they are effective.*

As this is separate from our examination, we did not go in-depth about their concerns.

Data Selection and Participants

The interviews examined the issues raised by digital tools application in mental health care. These experiences were shared voluntarily, cardinal to this study, as these experiences allow us to gain insight into service users' whole experiences using digital tools. Again, humanistic and non-reductionist accounts are central to the theoretical framework to determine digital mental health care effectiveness and efficacy. All within the cognitive-affective shared map, and in this research, we included only interviews (N=11) where participants had comprehensive experience with digital tools application in mental healthcare settings. All interviewees here were service users using digital tools regularly to seek mental health care.

Data Analysis

The data analysis posits service users' experiences within the cognitive-affective map where the effectiveness and efficacy of digital tools in mental health care can bypass reductionist and essentialist explanations. We provide a sophisticated concept of the Self that integrates a range of conceptual tensions in mental health to make room for a digital Self within the framing of mental disorders that moves beyond classical and critical approaches. The position taken here promotes integrative care for individuals with mental disorders and also a position that helps readers understand these experiences in the context of contemporary understanding of mental health conditions. Most interviews were recorded and transcribed using Quirkos, a

data analysis software. The interview guide includes questions regarding challenges service users face, especially the intervention/recovery outcome described by service users based on their experiences using digital applications. The interviews were analysed employing deductive thematic analysis, which allowed a rich examination of how these experiences are positioned within mental disorders beyond classical and critical approaches to determine the effectiveness of digital tool applications in mental health. Data were coded and analysed by the authors.

Ethical Considerations

Ethical approval was obtained from the non-profit organisation affiliated with one of the authors. The authors received verbal and written informed consent from all participants, informing all participants that confidentiality and anonymity would be protected. Additionally, they were advised to withdraw at any time of their choice if they felt distressed, and the local health centre details were provided where they could get emotional support if need be. Also, participants have direct contact information to contact the authors if they have additional inquiries.

Findings

To our question, digital mental healthcare service users said they could access care wherever they are, get hold of mental health practitioners within the app they use if required, and have access to referrals for severe cases within the app. In our attempt to theoretically frame the criteria for effectiveness in digital mental health care, we discern three propositions:

(a) The central norms of mental disorders are within the contemporary ampliative understanding of mental conditions, that is, predicated on moral and medical grounds, beyond classical and critical approaches of the concept of mental disorders, multidimensional so to speak.

(b) As the approach taken in this research shows, there will be cases responsive to digital health care applications considering the complexities surrounding mental disorders as a disorder.

(c) Within the integrated concept of the Self, which is malleable that we presented, an integrative explanation is central to their function, and meaningful recovery requires the lived experiences of service users to be incorporated into recovery outcomes.

Access to Care: Digital Tools the First Line of Contact for the Digital Self

I like using our employee assistance program via this app and trying to decompress from the challenges that I face daily. I have been struggling with depression for some time now, and I can manage it with this app. As a result, I think I have been more productive at work than ever, and I know that my recovery does not need to be perfect.

This participant is an Irish participant who took part in this study. She pointed out the easy access to care made possible by her employer. In addition, she highlighted the importance of having this avenue. She described how this has positively improved her productivity at work. It shows that employers' awareness and engagement can ease employees' mental health conditions by delivering flexibility to their employee's concerns. Conversely, if the well-being of employees is not attended to, this can lead to higher costs and low productivity (Bernfort et al., 2021). Another participant, a British participant, describes the advantages of having this access.

Expressing how we feel can sometimes be complex and even challenging, putting into words what we need, and sometimes we want to be heard without judgment. I can anonymously seek help online without feeling the stigma that comes with it.

Getting help through this channel can prevent suffering in silence for those struggling with mental conditions. Stigma can have devastating repercussions for those avoiding care due to social construct that hinders their care (Dobson & Szeto, 2021). Digital mental health service users often have structured care monitoring recovery. For example, a Spanish participant explained.

I was introduced to this app by my sister during the COVID-19 pandemic, and I later noticed that I was struggling with anxiety. I am unsure whether my anxiety was COVID-19 related. Still, I can manage the situation now after getting on the mental health app recommended by my sister.

The participant also mentioned that it is a service she would be fine recommending to those who need it. This line of thought aligns with the findings that digital mental health care can effectively deal with anxiety disorders, and digital mental health application in the case of anxiety disorders provides a medium where treatment accessibility barriers can be removed, and digital mental health care offers a platform where standardised treatment can be personalised based on individual cases (Gu, 2019).

OMG was the word used by one of our Irish participants.

I cannot stand here and tell you that I was not mentally affected by the COVID-19 pandemic. It was great that I could use Telemental Health. I got hold of my well-being specialist, who assisted me in dealing with my situation. She said I was struggling with pandemic stress.

The processed data show that it is compatible with the theoretical concept of mental disorders beyond classical and critical approaches presented in this research, which views mental disorders as multidimensional. The digital Self in this research refers to the extension of the Self, a humanistic and non-reductionistic extension, and their lived experiences are central to their recovery. This recovery can be understood by integrating shared societal and contextual understandings of experiences.

With this conceptual framework in place, it is acceptable to accept the lived experiences of service users as a valid representation if it is analysed and integrated within our cognitive-affective metaphors to achieve integrative care. In addition, there are cases where life's experience can alter the well-being of individuals, as one of our British participants explained her situation.

I will tell you that it has been a challenging year, and it is not wrong that I can share these experiences digitally and get help for my mental condition.

From the above description, one can see that events in the world can disrupt the Self and alter their foundational state of mind (Zaner, 1981; Idemudia et al., 2013). Once again, the notion of Self gets disrupted emotionally. A well-balanced reinteraction with the entities within a collection of worlds can help rebalance the detachment felt when struggling with mental disorders, and digital mental health can help those seeking mental health intervention. For example, a Spanish student using digital tools to deal with her phobia said that the daily reminders she gets from her app are helping her deal with the hurly-burly of her school life.

See, I do not know about you, but my mind sometimes goes so fast, and getting daily reminders using artificial intelligence to manage my phobia is nice.

Our research situates these lived experiences within the integrative care inherent in the enactive structure of the recovery process, all within the cognitive-affective map. To accommodate these experiences, we move away from a description that views these experiences of the digital Self as a computational transformer but toward objects in the world where these experiences, penetrable horizons and specific contexts are understood. Another service user from the United Kingdom believes that technological

application in mental health care is expected to be part of the new waves, considering the waiting time and backlogs to see a mental health practitioner.

From experience, I was told that my mindset is critical to my depression, which it is. However, to select a specialist within the app and not be on a long waiting list, share my experiences, and get feedback. So these are my experiences using apps for my mental health care.

We cannot infer that all people experience disorders the same way, and digital tools would appropriately deal with all mental illnesses. Despite this, in cases where their application is practical, this can provide considerable leeway to ease existing issues in mental health care. Following this approach, similar to the experience, was a participant from Ireland struggling with a disorder.

Sometimes, many people dont have patience with your illness, which worsens things. So, it is good that I can use mental health apps and remain anonymous if I wish to do so without feeling the pressure of the disorder.

Another service user from Spain says digital mental health apps allow her to express herself without questioning her moods and feelings.

Mental disorders can be detrimental to your health. So, having this support on my digital platform is helping me manage my condition.

Simultaneously, critical views of the digital application are also presented. As one user in Ireland explains :

My issue with the service provided by the digital application using artificial intelligence was overgeneralising my mental condition; I would have preferred a personalised approach to my issue.

As another UK user puts it*, the link sent to me to engage my well-being specialist on the digital platform did not work, leaving me without support that day even though my appointment was confirmed.*

As this research shows, the current findings are promising. We are sympathetic to those findings that have called for additional research in the field because of the lack of representation of minorities' values, address the current inequality issues in mental health care and tackle the issues raised by the participants of this research.

Discussion

This research explores the accounts of 11 digital mental health care service users in three European countries on their experience using digital tools in mental health care. We analyse their findings using the theoretical concept of mental disorders beyond classical and critical approaches. Digital tools in mental health care settings raise various questions that our studies did not include. However, we have presented a foundation for future research that attempts to answer the questions of efficacy and effectiveness using findings from this research as a guide. The outcome of the findings moves toward an integrative approach based on mental disorders' theoretical concept that highlights the Self as decentred, multiple and malleable. We support this by analysing service users' experiences in digital mental health care, each having experiences that show that mental disorders are multilevelled.

We do not claim that our findings are the only way to study the effectiveness of digital tools in mental health care. Nevertheless, our findings have raised a case that any explanation and understanding of efficacy and effectiveness, excluding the lived experiences of service users, is oversimplifying mental disorders and leading such research outside the shared cognitive-affective map. Hence, such a move would neglect the interaction between biology and culture necessary to understand the treatment outcomes of mental disorders (White & Marsella, 1982).

Based on the approach we applied in this research, it is safe to say that more than focusing solely on the essentialist mechanism of mental disorders will be needed to grasp the intricacies surrounding an illness. Understanding other underlying structures concerning context and the complexities, including the Self's concept, is also essential. For example, if mental disorders are explained as a sort of imbalance, codifying this in a way to be understood will require the symptoms to be grasped within a particular cultural and historical period, which would lead us to have a wide range of phenomena that monothetic explanation would not be able to cover.

The concept of mental disorders beyond classical and critical approaches is within the cognitive-affective map. Within this map, the Self can reconnect with the underlying relevant shared context to determine their recovery process outside of a reductionist explanation.

Limitations of the Study

The data collected from participants are part of a project to examine the effectiveness of digital tools in mental health care by bringing service

users' experiences to the fore. We did not focus on all the issues that arise with digital tools application in mental health care or the problems that come up in the digital world. Even so, we are aware of situations where certain mental disorders would be responsive to other treatment approaches. Considering the emerging field, this research has laid a foundation for further research necessary for this domain. We notice that minorities, especially Afro-Europeans or people of African origin in Europe, do not use the service. It might be interesting for future research and policymakers to heed scholars' calls to rethink existing policies. Their research shows that advancing digital tools without inclusive policies could exacerbate health inequalities in our society. Considering the exclusion of values of Afro-Europeans in traditional mental health research and healthcare settings, If these issues are not addressed, the mental well-being of those groups will be negatively affected (Nazroo et al., 2019 Bamijoko-Okungbaye, 2020; Idemudia & Boehnke, 2020). The lack of access to digital health care, poor interaction with digital health care, and barriers to digital health literacy can lead to poor health outcomes.

As a result of these findings, we call for organisations to shift their actions towards purposeful and sustainable equity and diversity in digital mental health care, and this is consistent with other scholars who call for digital health equity to be integrated into health care provider training, side-by-side with personalised mental health care and should be supported at the individual, institutional, and social levels (Crawford & Serhal, 2020).

Conclusion

Regarding recovery, we brought the experiential accounts of digital mental health service users to the fore. The integrative outcome of this study is predicated on applying the theoretical concept of mental disorders beyond classical and critical approaches and lived experiences of service users to address the questions regarding effectiveness and efficacy in digital mental health care.

Further research in this domain will require a reasoned consideration of the shared cognitive-affective maps to improve service users' quality of care when applying digital tools in mental health care settings and improve the level of non-usage amongst minority groups.

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