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Technology Use and Mental Health Disorders: Dueling Aspects of Technology as a Problem and a Solution for Mental Health

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Editorial

With artificial intelligence (AI) at the forefront of social and cultural discourse [1], it is important to recognize the scope and scale of the impact of technology use on human behavior. Technology presents as both a potential source of psychological dysfunction [2,3] and can also be used for psychological benefits [4,5]. Advancements in technology continue despite our inadequate understanding of what these innovations may mean for human functioning and well-being. Within the context of mental health, longitudinal explorations of the potential ramifications posed by technology usage are essential to developing treatment approaches and broad recommendations to guard against its pitfalls.

A growing body of contradictory research on the effects of technology use on adolescents [6-8] may be an indication that a nuanced approach to our understanding of different technologies and the humans who use them is necessary. Our aims should be to overcome any deficits associated with technology use and create opportunities to use technology to support mental health services. In this vein, we must consider technology's dueling paths as they relate to psychological well-being, this includes: a) technology-use addictions that harm mental health outcomes and b) technology-enabled mental health assessments and treatments that provide much-needed services. Through rigorous and lasting examinations of these issues, we can better navigate the road ahead which presents ever-changing technologies.

Technology Use Addictions

As it relates to psychological harm, technology-use addictions have been the focus of scholarly works in the past two decades [9,10]. Although several of the addictions of interest do not have specific designations or recognition by the American Psychological Association (APA) and other international mental health organizations, the behaviors associated with them, including tolerance, withdrawal, and mood disruptions, are of psychological concern [3]. The continued debate that technology itself is not a root cause of psychological harm has merit and should be explored and tested empirically. While some scholars argue that technology is only relevant as a medium by which users are able to act upon their addictions, this argument seems irrelevant to the larger problem at hand. Technology use and its affective consequences as a facilitator, or enabler, of experiences that may lead to psychological harm, has been reliably replicated across a variety of technologies in a broad spectrum of ages, genders, and cultures [e.g., 11-16]. Thus, the question is not if technology use can be harmful, but rather *when* is it harmful and to whom?

Just as enduring or innate vulnerabilities exist for certain disorders or diseases to express themselves in real-world environments [17], it logically follows that digital environments might activate or enhance disordered functioning for certain individuals engaged in these spaces. Consequently, rather than dismissing technology use as irrelevant to mental health or avoiding technology use as *always* detrimental to psychological well-being, our scholarly duty is to better understand the mitigating factors that may play a role. It is in this manner that a path forward to better support those who experience technology-mediated distress and engage with those whose technology use is in a "healthy" range may be found. Thus, realizing goals to use technology in ways that sustain beneficial psychological outcomes is achievable.

Technology-Enabled Mental Health Treatment

Mental health disparities have been an area of concern for a variety of stakeholders. This includes clinicians, practitioners, and researchers, as well as community residents and policymakers [18]. A persistent issue related to the effects of inequality is access to mental health services. Among marginalized racial, ethnic, and socioeconomic groups, structural barriers to treatment providers have led these communities to bear an unequal burden in the social and cultural costs of mental illness [4, 5,19]. Technology has been presented as a solution to breaking down barriers and expanding access to treatment options in communities with the greatest need.

At its best technology-enabled mental health services affords the opportunity for its engagement as a widely accessible, low-cost resource. The practicality of utilizing technology to implement psychological services is gaining scholarly and community support [20]. Although the potential for positive impact remains, deploying and developing the infrastructure necessary to get the right technology to the people has made slow progress. As with the creation of any new technology, challenges to how, when, and who will use these tools exist [21]. While the coronavirus pandemic increased the urgency with which these difficulties require redress, organizing and executing the remedies seems to be lagging behind new uncertainties created by evolving technologies [22,23]. The complexities faced by mental health services providers in the "real world," such as privacy, ethics, and human error, also exist in the digital environment. Hence, advancements in how digital services are provided are not without their own set of consequences or complications.

Even if technology-enabled mental health services face some problems, there can be no doubt that these online assessment and treatment options are here to stay. The exact nature of what technology-based mental health care may look like in the future cannot fully be known. Nonetheless, the efforts we make now in researching the impact and effectiveness of these methods may be key to shaping that future [21,22]. A dedication to evidence-based practices and consistent evaluation and re-evaluation of methods as technologies change may be effortful but essential. In this respect, we may better ensure that technology use works for us, rather than against us.

Conclusion

As society pushes toward greater technological innovations, there should be very little debate that technology use is situated as both a medium of psychological harm and a potentiator of psychological health. Given these dueling aspects, it is important that key stakeholders take the lead in engaging and encouraging continued research and investigation of the impact of technology use on mental health. Identifying the user characteristics or vulnerabilities that facilitate psychological dysfunction in digital environments through research may be vital to tailoring treatment plans and broad recommendations for indicators of psychological well-being.

Our knowledge of how technology can be used to support mental health outcomes is still emerging. With increasing developments in AI, we appear to be on the precipice of a technological revolution that may radically change all aspects of human life, including psychological services. Technology has unquantified potential to change how we assess, diagnose, and treat mental disorders. An organized approach, supported by empirical data, should allow for more successful navigation of the harms, and hopes, of the technology. Moreover, it is important that our research translate into actionable recommendations or policies. Reducing the disparities in access requires the deployment of technology-enabled mental health services to the people and communities with the greatest need [4,5]. The decisions we make now, as these technologies emerge, may hold the key to the future we seek.

Conflicts of Interest

The author has no conflicts of interest to declare.

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