Position Paper at the Intersection of Disability Justice: Socioeconomic Status and Mood Disorders

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In the US, those living with disabilities related to mental health conditions require more support than is currently available and accessible. In the US, those living with disabilities related to mental health conditions require more support than is currently available and accessible. That need is heightened within people experiencing multiple marginalized identities, such as those with a low socioeconomic status (SES). Through this position paper, I plan to identify barriers and discuss designing just technologies for low-income individuals living with mood disorders. Mood disorders are the most common category of mental health conditions, impacting approximately 10% of the US adult population [1]. Mood disorders are "a category of mental illnesses in which the underlying problem primarily affects a person's persistent emotional state" [2]. Mood disorders such as depression are considered a psychosocial disability, resulting in impairments that may impact quality of life and day-to-day functioning [3].

There are serious barriers to accessing mental healthcare (e.g., financial, accessibility…); however, many have proposed technological solutions for supporting individuals with mood disorders to increase the reach and effectiveness of such programs [4]. Despite the promises of mental health technologies (MHTs) bridging the gap for access to mental healthcare, there remain barriers to the widespread use of effective MHTs. One major issue is that it is difficult to find technologies that are evidence-based and effective at supporting mental health management [5]. Furthermore, few of these technologies center the disabled person in their design; few are motivated by the explicit needs for interdependence, support, and community necessary to assist disabled individuals in navigating an ableist world.

Current MHTs do not meet the needs of disabled individuals, and there are additional concerns related to technology use that exacerbate these barriers. There remains a digital divide despite an increase in the adoption of smartphones and computers among low SES populations in the past 30 years [6]. Technology platforms also differ based on income factors. While smartphone adoption is rising, low-income people are more likely to own Android devices, which may not be compatible with some mobile telehealth applications [7]. Even beyond technological compatibilities, many consumers may not know where to start when accessing MHTs. A typical first strategy is accessing commercial apps through marketplaces (e.g., Apple Store or Google Play store) [8]. However, many technologies in these commercial platforms have a low evidence base despite their high availability [8]. Many researchers claim that MHTs can increase reach regarding mental health care and a decrease in cost for low-income people in particular [9]. Still, the impact of these MHTs on low SES individuals remains understudied. As with many health technologies, what *could happen* is often very different from what d*oes happen*.

Although there is evidence that MHTs can effectively manage mental health conditions such as mood disorders [10, 11], there are issues with how MHTs are designed. A systematic review revealed significant challenges in using information and communication technologies for mood

disorders, mainly that the technologies were slow, impersonal, and highly complex [11]. To address these shortcomings, we need to consider the design process for MHTs. Understanding the needs of disabled people with mood disorders who experience low SES is crucial in designing technologies that meet their needs.

To build technologies that suit disabled users' needs, taking a user-centered approach is crucial. There are evolving methods that incorporate the intended user in the design of technologies. User-centered design and participatory design practices capture some of the participants' voices and needs within the design process. Building on calls from previous scholars, [12-14] incorporating community-based participatory research (CBPR) and design justice approaches to research that center marginalized users could help design future MHTs for low SES groups. CBPR is a collaborative process-based approach to research that establishes the participation of those impacted by the issue being studied [14]. CBPR can help serve groups who remain marginalized by mainstream technological designs [13] and includes community members and stakeholders in all steps of the research process. Creating and studying MHTs designed by and with user communities will potentially lead to a more inclusive technological future for those with psychosocial disabilities.

Design justice also focuses on centering the user group in the design, but it extends some CBPR principles by asking designers to think of unintended/potential negative consequences and encouraging designers to incorporate approaches that already work for the intended communities into their design practice [12]. Within the design and research of technologies for low SES users with mood disorders, those users need to be centered in the design process and treated as collaborators and subject matter experts. Users should be engaged in the complete cycle from motivating the work, developing aims for technological research, participating in the design process, and ultimately helping to understand and disseminate the data. Additionally, it is crucial to thoroughly think through any unintended consequences these technologies may have. We must stress the importance of non-exploitative solutions to design and prioritize design's impact on the community over the intentions of the research team [12]. Design justice helps outline ways forward in which developers of technologies are not imposing technologies on distant communities. Instead, we need to focus on developing technologies with and for disabled communities with their full participation.

Moving forward, incorporating disabled users with a low SES could improve technologies. Allowing these communities to motivate and shape this research will result in technologies that center the disabled user's need and allow for more equitable health outcomes across socioeconomic groups.

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