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CHAPTER 8

Ameliorating Epistemic Injustice with Digital Health Technologies

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Abstract This chapter discusses the potential of digital phenotyping to ameliorate epistemic injustice in mental health. Digital phenotyping, which analyses behavioural patterns from user datas or smart devices, shows promise in improving mental health care. Whilst concerns exist that it may exacerbate epistemic injustice by overshadowing individual experiences, the chapter presents a different viewpoint. Through a fictional case study, digital phenotyping is portrayed as aiding individuals seeking help by offering more accurate evidence and supporting shared decision-making. The objection that digital technology overrides personal claims is countered by arguing against absolute epistemic priority for any diagnostic tool in medicine. The chapter acknowledges the need for technological advancements and ethical considerations but maintains a positive outlook on the future of digital phenotyping in mental health care.

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8.1 Digital Phenotyping and Epistemic Justice

Digital phenotyping involves the identification of behavioural patterns (phenotypes) from digital datas entered by users or recorded by their smart devices, such as watches. In mental health care, digital phenotyping holds promise for supporting diagnosis, monitoring recovery, and customizing therapeutic approaches (Insel, 2018; Torous et al., 2016). Whilst its widespread clinical implementation remains nascent, numerous technologies and applications are already available for various conditions, including depression, psychosis, child and adult ADHD, complemented by recommendations and guidelines from scientific societies (Bufano et al., 2023; Kalman et al., 2023).

Given this context, it is not premature to address a philosophical question about digital phenotyping in psychiatry: is it conceptually compatible with epistemic justice, which entails giving individuals seeking care due credibility? Currently, the predominant trend in literature is to consider digital phenotyping unfavourably, implying that technology may worsen epistemic injustice by potentially overshadowing or undercutting individual voices and experiences in favour of clinical judgement and algorithmic decisions (Birk et al., 2021; Slack & Barclay, 2023). However, in this chapter, I argue that digital phenotyping may actually alleviate epistemic injustice in psychiatry. I suggest that it possesses this potential in various ways, including reducing systemic interpretive injustice, addressing biases underpinning testimonial epistemic injustice amongst healthcare professionals, and empowering users to seek help and correct ineffective or harmful treatment paths.

It's essential to clarify that my argument does not assert the inherent goodness of all digital phenotyping technologies in psychiatry. Digital phenotyping inherits all of the challenges associated with digital technologies—including ethical datas privacy legislation, attention to potential biases in algorithms, and systematic social action to prevent them from contributing to the increasing of health inequities caused by the technological gap (Birk et al., 2021; Quinn et al., 2022)—therefore, many

prerequisites must be met, before they can be considered ethically viable. My aim is rather to establish the conceptual compatibility between digital phenotyping and epistemic justice in psychiatry, provided that such prerequisites are met. Achieving this compatibility necessitates the conscious calibration of digital phenotyping solutions in collaboration with persons undergoing treatment and specialists, acknowledging their limitations, potentials, and specific epistemic roles within the diagnostic and treatment process.

The structure of my chapter is as follows: I begin by providing a brief overview of the potential benefits of digital phenotyping in psychiatry, building on previously published reviews. Following that, I give an illustrated scenario—a vignette—to demonstrate how digital phenotyping could reduce epistemic injustice in a context of mental health care. In the third section, I address one of the arguments for the conclusion that digital phenotyping exacerbates epistemic injustice in psychiatry. Worries have been expressed about how people might not recognize themselves in algorithmic diagnoses or descriptions of their psychological states, and about the potential negative effects of risk assessments produced by this kind of technology (Pozzi, 2023; Slack & Barclay, 2023). To these issues, I respond that when an individual's claim conflicts with the predictive or diagnostic verdict of digital technology, epistemic injustice occurs only when the tool's output is given absolute epistemic priority. Instead, I argue that epistemic priority in medicine must always be relative and proportional to the accuracy of the instruments, and hence, the criticism is based on an unsound principle. Moreover, no technological device should be given absolute priority in decision-making, independently of its accuracy.

8.2 Digital Phenotyping in Mental Health

In this section, I will briefly describe digital phenotyping and its current prospects and applications in mental health. Let's start by clarifying a few terms. A behavioural phenotype is a collection of observable behaviours displayed by a person or group in reaction to internal or external stimuli. These behaviours might include a variety of acts, reactions, and patterns, such as cognitive processes, emotional responses, social interactions, and movements. Numerous factors, such as development, environment, heredity, and individual differences, affect behavioural phenotypes. In the context of mental health, behavioural phenotypes are key for

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understanding, diagnosing, and treating conditions because they provide insights into an individual's psychological functioning and well-being. This is because the treatment of mental health is currently based on watching and analysing behaviour, as there are no biological or genetic biomarkers for psychiatric nosological conditions like those for oncological or metabolic diseases, and some believe there will never be (Wolfers et al., 2018). A behavioural phenotype is "digital" when it is created from the datas obtained from a person's interaction with their smartphone or smartwatch, computer, or other wearable technology (Onnela & Rauch, 2016; Torous et al., 2016). The "datas" in digital phenotyping are categorized into active and passive. Active datas necessitate user engagement, such as completing questionnaires about mood on one's own smartwatch. Passive datas are collected from sensors and logs without any burden on the subject. They encompass metrics like the number of text messages sent, accelerometry, and geolocation. Biometric datas such as heart rate, sleep patterns, and skin conductance made available with smartwatches and other wearables also belong to this group (Onnela, 2021).

This is essentially how a digital phenotyping technology operates. After datas are uploaded to a server or device, they undergoe preprocessing, including cleaning, to prepare them for further analysis. Machine learning algorithms are then employed to identify predictive behavioural features and other biomarkers from these raw datas sets. The main challenge lies in developing an algorithm capable of making valid connections between features such as the frequency of sent messages or heightened heart rate, and an individual's psychological state, such as anxiety. Ultimately, the goal representation of the person's mental state and functioning is created by integrating the identified features with electronic self-reports and other active datas. The final crucial stage for digital phenotyping in psychiatry stage is clinical implementation, that is, adoption of a valid procedure that connects detection of changes in the digital phenotype with various interventions. This process, known as "closing the loop," involves actions such as preventing relapse, identifying non-response to treatment, delivering timely intervention, suggesting a diagnosis, revising an existing diagnosis, or uncovering comorbidities (Williamson, 2023).

Let's briefly see why digital phenotyping should bring benefits to the treatment of mental health conditions. According to its advocates, digital phenotyping has important epistemic advantages over other types of behavioural observations and evaluations. First, digital phenotyping is an ecological observation, which means it captures the individual in their

daily existence (Huckvale et al., 2019). Traditionally, the evaluation interview for a psychiatric or psychological visit is brief, structured, and may not always reflect the person's typical condition in daily life (for example, they may be calmer or more upset since they are attending a medical consultation). More specifically, in psychiatry, retrospective questionnaires conducted by clinicians and self-reports are considered the gold standard. Unfortunately, retrospective measures are susceptible to memory distortions and may show how people reconstruct the past rather than how they experienced it, and current mood is likely to alter the information recalled (Onnela & Rauch, 2016). Moreover, retrospective recollection of average levels of mood or symptoms may be more challenging than considering the present time, especially for people with distressing conditions. Digital phenotyping could address this problem. It can also "expand the psychiatrist's sensory" by including information not generally available in an interview, like as a person's heart rate or the number of texts they've sent (Williamson, 2023).

Given that mental health issues are deeply influenced by context and social factors, it's crucial to gather datas in a way that reflects these ecological dynamics. Ecological Momentary Assessment (EMA) is a well-established method for assessing behaviour and emotions in real time ("in situ"), widely used across medicine, psychiatry, and psychology (Stone & Shiffman, 1994). However, traditional EMA requires individuals to actively respond to questions about their state at various times throughout the day, demanding their involvement, effort, and cognitive processing. The shift to digital introduces passive datas entry, which, unlike active EMA, occurs continuously and effortlessly, without placing any burden on the individual. This transition to passive datas entry marks a significant advancement in datas collection methods, offering a more ecologically valid and less intrusive approach to understanding mental health dynamics (Onnela, 2021).

Attention-deficit/hyperactivity disorder (ADHD) makes a good example of how to exploit this feature of digital phenotyping. ADHD is defined by dynamic symptoms, including hyperactivity, inattention, and impulsivity, as well as emotion dysregulation. Although much research has been conducted to investigate between-subject differences (how patients with ADHD differ from healthy controls or patients with other disorders), little is known about the relationship between symptoms and triggers, which could help us better understand their causes and consequences. A study financed by the European Union analysed e-diaries apps in the

monitoring of ADHD, with the aim of understanding the temporal relationships between symptoms and environmental triggers in an ecologically accurate manner (Koch et al., 2021).

A further epistemic benefit of digital phenotyping is personalization. datas is collected and analysed at the individual rather than group level. Group-level datas are useful for determining, for example, how the prevalence of a pattern of behaviour or illness varies with sociodemographic factors, but they cannot be used to make inferences about individuals without committing ecological fallacy, which is making inferences about individuals based on inferences about the group to which those individuals belong. "Individual-level" in digital phenotyping also means that many datas analyses focus on within-person changes over time (Bickman et al., 2016). At the conceptual level, this resurrects the idea of Georges Canguilhem, who argued that every person is their own norm and that the concept of normal and abnormal is strictly unique (Canguilhem, 2012). We find here a theme that defies the biomedical paradigm, based on epidemiological or clinical evidence supplied by trials at group level.

In spite of the abundance of new studies, it is crucial to realize that, at the time of writing, digital phenotyping in psychiatry is more of a promise than a reliable instrument (Anmella et al., 2022; Engelmann & Wackers, 2022). There are technical challenges—real-world datas obtained from smartwatches, smartphones, wearables, and human–computer interactions are often noisy, patchy, and substantial in size, and unlike in fields like medical imaging or genomics, there is no standardized method for analysing datas from digital devices (Williamson, 2023). Moreover, systematizing and validating digital phenotyping tools necessitates collaborative, reproducible, and transparent studies, whereas we still find ourselves in a situation where digital phenotyping is tested in specific applications, via small studies, and works with algorithms and devices that are very different, making them incomparable (Bufano et al., 2023). Finally, there is currently no consensus on how to close the loop in psychiatric digital phenotyping, that is, how to respond to the evidence provided by the tool—a point I will also elaborate on in the fourth section below (Huckvale et al., 2019). In sum, effectively harnessing the potential of digital phenotyping in mental health care requires a blend of technical, legal, clinical, and methodological expertise to translate promise into tangible benefits (Kalman et al., 2023).

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8.3 Ameliorating Epistemic Injustice with Digital Phenotyping

I have just illustrated that there is still much work to be done before digital phenotyping becomes routine in mental health care. However, most of the methodological and conceptual aspects of these new tools are sufficiently evident to allow for a priori assessment of some structural traits. For example, as seen above, it has been claimed that they may structurally provide certain epistemic advantages when compared to traditional assessment tools in mental health care. But where does digital phenotyping stand in terms of epistemic risks, and specifically, the risk of epistemic injustice, or not giving the correct credence to the person's point of view in the care interaction, because of prejudices about the group to which they belong? The research in the humanities appears to agree on the negative verdict: digital phenotyping is or will be another tool of epistemic injustice in psychiatry (Engelmann & Wackers, 2022). Here, however, I'd want to argue the opposite of that. In this section, I present a fictitious example, a vignette, to show how digital phenotyping could mitigate epistemic injustice. The meaning of the example is as follows: digital phenotyping could be a tool to be believed and validated in the request for help, care, and even a more specific diagnosis. For the construction of my vignette, I rely on recent research on so-called high-functioning adult ADHD, a somewhat under researched and underdiagnosed condition (Crook & McDowall, 2023; Hoben & Hesson, 2021).

Meet A, a woman in her forties, juggling the roles of a university professor, a mother to two children from different relationships, and a partner to someone living in another city. Despite her outward appearance of good health and well-being, A's life is fraught with financial struggles, including significant expenses from divorces and accidents for which she was at fault. She often receives fines for driving infractions and once overlooked declaring income from a translation job. Despite her modest lifestyle, she occasionally splurges on unnecessary purchases, sometimes even going beyond her means to indulge in holidays she can't afford for herself and her children. In her professional life, A has battled feelings of inadequacy and unreliability, often feeling as though her ideas slip through her fingers and struggling to meet deadlines. She's been in therapy for years due to episodes of depression and a previous diagnosis of borderline personality disorder, which later specialists refuted. Over the

years, A continues to grapple with dissatisfaction and seeks answers to her challenges.

One day, whilst reading, A stumbles upon a description of ADHD symptoms in adult women. Intriguingly, many of the traits outlined resonate with her own experiences. Eager to gain clarity, she schedules a psychiatric evaluation to confirm her suspicions. However, the outcome is not what A anticipates. The doctor explains that whilst A's own story suggests the possibility of ADHD, her performance in assessment tests for her executive functions is average. Moreover, A's functionality in her career and personal life, including her role as a professor and her responsibilities as a parent and partner, seems incongruent with such a diagnosis. Overall, according to the doctor, the typical phenotype of adult ADHD starkly contrast with A's outward appearance of health and stability and with her overall success. This puts an end to the possibility of confirming an ADHD diagnosis, and A goes back home with an illness with no name.

I would like to add that A's doctor should not be considered particularly arrogant or uninformed here. It is very difficult to diagnose ADHD in adult individuals, especially if they have a high IQ or cognitive abilities that systematically compensate for their difficulties in executive functions (Milioni et al., 2017).

Years go by, and advancements in technology lead to the validation of a digital phenotype for adult ADHD. A, upon learning about this breakthrough, collaborates with her therapist to explore this possibility. She downloads the necessary app and undergoes testing, revealing patterns of impulsive spending, bouts of intense or "hyper" focus, and prolonged periods of unproductivity—details that eluded detection in her initial assessment. The digital phenotype, in conjunction with traditional diagnostic tests and A's own insights, undergoes careful analysis by her therapist. Ultimately, A receives a diagnosis that aligns with her self-identification, providing her with the validation she has long sought regarding her life experiences.

Let us see how, in this fictional case, digital phenotyping helped A. Because A was observed in greater detail by the technology, an appropriate diagnosis was possible. The psychiatrist now has access to a variety of new and diverse information, whereas previously the psychiatrist's assessment of A was limited to the conversation and the patient's appearance and behaviour during visits. This material exposes A's struggles in life and at work, which were previously concealed by the fact that A was consistently able to make up for them with respectable levels of success

in both her career and relationships. A now has proof of her particular pattern of suffering, which the therapist can validate, thanks to digital phenotyping. A gains insight into their experience and life narrative and can initiate targeted treatment, including medication-assisted therapy or psychotherapy grounded in fresh information. Essentially, in this case, digital phenotyping has done more good than harm, as in any case where a more accurate diagnostic tool or support is introduced in medicine—for example, imaging technologies that accurately locate and monitor tumour progression and response to therapy—with the additional benefit, in this specific case, of validating the illness claims that previously were dismissed. In addition, this validation occurs in a way that is both comprehensible and trustworthy for the therapist.

Now we must address the key point, which is that this greater good than harm is specifically aimed at alleviating epistemic injustice. We know from A's fictional case that her former therapist did not accept her suggestion to rename her illness as ADHD—a term that had never been suggested to A in her career as a healthcare user. In this, A's credibility was harmed and diminished. To be a victim of epistemic injustice, one must, nevertheless, be more than just someone who is not taken seriously or who is not given credit for their epistemic contributions; not all mistakes in credibility assessment qualify as epistemic injustices (Fricker, 2007). We're interested in the phenomena in which someone is not believed, listened to, or understood because of a bias or stereotype about the type of person they are.

Does A fit this description? It is, in at least two ways—as we can see if we examine attentively, there is overlapping injustice regarding A's knowledge capability. The first and most evident stereotype she falls prey to is the more familiar from the epistemic injustice in healthcare literature: A is undervalued in her capacity to aid in the diagnosis by providing information that differs from what the therapist gathers from questionnaires and assessments because she is a sick person, and she is viewed a non-expert by the therapist. Crichton, Kidd, and Carel provide a thorough illustration of this particular form of epistemic injustice committed by mental health professionals against people seeking care, and the idea is carried through in a number of other publications (Crichton et al., 2017; Drożdżowicz, 2021; Houlders et al., 2021; Spencer, 2023).

I would add that A is a victim of epistemic injustice because of an additional stereotype that undermines her credibility more subtly and elusively. It is the misconception that people who are prima facie good-looking,

with an adequate income, and with decent relationship and emotional achievement cannot be unwell, i.e. cannot bring genuine experiences of struggle and suffering. Insofar as the therapist's two intersecting stereotypes undermine A's authority, we can acknowledge that A is a victim of epistemic injustice. However, to the degree that the app's digital phenotyping has made a successful diagnosis possible, this technology has also helped to ameliorate the testimonial epistemic injustice committed against A.

I'd like to briefly expand on the point about the "positive" stereotype that the app contributes to mitigating. Since adult ADHD is now receiving more attention, studies have shown that one of the barriers to receiving a proper diagnosis is precisely the perception of sanity from the therapist's part, which can occur when adults with ADHD have compensatory mechanisms that enable them to function—if not thrive—despite their condition (Crook & McDowall, 2023; Hoben & Hesson, 2021). But stereotyping is not the only bias that psychiatrists and therapists, like other healthcare practitioners, are susceptible to during the diagnostic process (Blumenthal-Barby & Krieger, 2015). Another cognitive bias that is relevant here is anchoring, in which the therapist bases a diagnosis on the first impression of a person. In A's case, the first therapist that dismissed A's suggestion of an ADHD diagnosis could be described as anchoring to A's prima facie appearance (A appeared healthy) and therefore disregarding the specific pattern of pain that she was attempting to express. Anchoring in this case reinforces stereotyping and produces epistemic injustice. One of the possible advantages of technology-aided diagnosis is precisely to mitigate cognitive biases such as stereotyping and anchoring, in psychiatry as elsewhere (Mouchabac et al., 2021). In as much as these are crucial to testimonial epistemic injustice, digital phenotyping can contribute to ameliorate it.

It is also necessary to consider interpretative epistemic injustice in order to determine whether and how digital phenotyping can have an ameliorating role. Interpretive or hermeneutical epistemic injustice arises when a structurally dominating group fails to acquire the conceptual tools to make sense of the experiences of people from less dominant epistemic groups and to include them equally in the interchange of knowledge—in healthcare, when therapists do not engage in finding out the resources to understand some group of people's illness claims (Carel & Kidd, 2017; Medina, 2017). If and when digital phenotyping works, as illustrated in the invented example of A, it provides a detailed and complete

behavioural trace of psychological states that, on the one hand, is as close to the complexity of personal experience as possible, whilst also using a language that the therapist understands and has already been translated, so to speak, into an intersubjective code. In this way, digital phenotyping fills a gap in the therapist's understanding and, as a result, mitigates interpretative epistemic injustice.

8.4 Epistemic Injustice and Absolute Epistemic Priority

As previously said, there is agreement in sociology and philosophy of medicine that AI-based technologies and digital phenotyping are tools that exacerbate epistemic unfair treatment towards patients rather than alleviate it. In this chapter, I will discuss one of the objections that has been made, which offers an example that is exactly comparable to my own with rA and the ADHD app. The critique is that the patient may not recognize themselves in the phenotype, symptom description, diagnostic verdict, disease risk assessment, or overall output provided by the algorithm. When this occurs, technology becomes a tool of epistemic oppression in the hands of doctors. Melissa McCradden and colleagues (McCradden et al., 2023) provide this example. A person visits the psychiatric emergency department with distressing suicide thoughts, low mood, and anxiety. A predictive AI model built to assess acute risk deprioritizes urgent care because there is a low possibility of imminent demand. The model's decisions are influenced by a borderline personality disorder diagnosis. The patient's assertions of increased danger are therefore minimized, resulting in a referral to outpatient care.

According to McCradden and colleagues, this is an example of epistemic injustice, where the person's clear call for assistance is ignored owing to algorithmic prediction, as the model's verdict takes precedence over the patient's urgent care plea. The same claim is made by Giorgia Pozzi, elaborating on a fictional example of a person in need who is denied opioid prescription because she is incorrectly categorized as high-risk of addiction by a predictive model (Pozzi, 2023).

This kind of fictional examples is diametrically opposed to the one I described above, in the sense that for A, the output of digital technology (in this case, the digital phenotype) is supporting evidence, whereas here it is proof against the patient's claim. Likewise, whilst technology could ameliorate epistemic unfairness in example A, it actually enhances it here.

One may be tempted to draw a simple conclusion: perhaps digital technology and digital phenotyping are tools for mitigating epistemic injustice when they support the first-person narrative of the individual seeking help and means for epistemic injustice when they undermine it. If we follow this reasoning, we must conclude that digital technology in mental health is neutral in terms of epistemic injustice, as it sometimes mitigates and sometimes exacerbates it.

However, this conclusion would not address our original conceptual question: Does digital phenotyping support or undermine epistemic justice, before we examine how frequently the technology's findings correspond with an individual's own testimony?

Let us try another way. As pointed out in both papers under consideration, an epistemic injustice arises in the application of digital technology because the clinician considers this much more than any other source of evidence, particularly the claims of the person seeking assistance. In other words, the diagnostic tool's evidence is given absolute epistemic priority. This attribution of absolute epistemic priority to the machine's verdict is described as a very likely risk (a possibility) (McCradden et al., 2023) but also as something that is already happening (a fact) (Pozzi, 2023).

Given the lack of datas on the usage of predictive digital technologies, it is critical to return to the conceptual level in this discussion. Certainly, it is possible that absolute epistemic priority is given to a diagnostic or predictive tool in medicine, but from a conceptual and normative perspective, this is not justified either epistemically or ethically. Let us see why, in clinical assessment and diagnosis, such an absolute epistemic priority principle is, at the very least, contentious. To begin with, all medical technologies, whether predictive or diagnostic, have an accuracy level that essentially represents their capacity for error-free performance (Deeks et al., 2023). The accuracy of diagnostic tests and technologies varies greatly, especially without the use of artificial intelligence or the complex field of psychiatry. A clinical test performed by an orthopaedic surgeon or physiotherapist to determine whether there is a meniscus damage (knee joint) typically has an accuracy of about 70%, whereas a lab pregnancy test has an accuracy of 99% (Shekarchi et al., 2020). If we take accuracy into consideration, it makes sense to give the results of a pregnancy test epistemic priority above the statements of someone claiming, say, that they are not pregnant. It makes considerably less sense and is not justifiable to give priority to a clinical test in the case of a meniscus injury over the patient's medical history or the information they supply. Essentially, my

point here is that any test or diagnostic technology has a relative epistemic priority and this should be based on how accurate it is—a point acknowledged by (Carel & Kidd, 2014).

There is another crucial step to make: although a test or extremely accurate diagnostic technology may legitimately have epistemic priority over a patient's claim in a clinical assessment or even diagnosis, it is not the same thing to state that the diagnostic tool's result can dictate the clinical decision. The last five decades of bioethics have taught us, at the very least, that the individual receiving medical care and the healthcare provider must always collaborate to make the clinical decision. If a highly accurate imaging test reveals to the orthopaedic surgeon and person B that there is a substantial lesion, and we agree that this test is the best approach to determine what is going on with B's meniscus, it will still be B, together with the healthcare professional, who decides what to do, whether surgery, other types of interventions, or simply going home hopping on the other foot.

Let us return to digital phenotyping and other AI-based diagnostic and prediction solutions for mental health. For the time being, none are as accurate as a pregnancy test, and there are strong indications that none will ever be. As a result, it is unlikely that we will be able to justify giving the results of these diagnostic tools epistemic priority. Moreover, it is impossible to defend giving the digital phenotype or the risk predictor's output absolute priority in clinical decision-making, as is the case with all clinical and predictive testing in medicine. Technologies can be useful decision-making tools, and the therapist will consider them based on their accuracy and validity. However, ultimately, the choice on what to do must come from the interaction between the therapist and the individual in care.

We now have a response for the criticism of McCradden and colleagues and Pozzi. Their concern was that when the algorithm does not validate the claim of the person seeking assistance, it will inevitably override the person's voice. The response is that the algorithm will only trump persons' voices if we grant it absolute epistemic priority and decision-making authority. However, the former should be dependent on the accuracy and validity of the technological tool, and the latter is, to put it simply, always ethically and procedurally inappropriate in clinical encounters. As a result, the psychiatric emergency case presented as example of epistemic injustice is rather a case of bad medicine, in which the shortcomings and functions of the digital technology are not adequately understood.

8.5 Looking at the Future with Optimism

In this chapter, I have provided reasons to respond positively to the question: can a digital technology like digital phenotyping mitigate epistemic injustice in mental health? I have presented a hypothetical case in which the output of the technology becomes an ally for the person seeking help to defend their claim, as it represents them more faithfully, expands the evidence traditionally available to the clinician, and easily integrates into shared decision-making processes. The example demonstrates a conceptual possibility, the realization of which depends factually on the maturation of appropriate technologies in terms of both accuracy and ethical and legislative levels. The hope is that these technologies can mature in the desired direction.

I have considered the objection that digital phenotyping and risk prediction models in mental health are tools of epistemic injustice because they de facto minimize the patient's claim by providing a type of evidence that takes absolute epistemic priority not only in the person's assessment, but also in decision-making. I replied that if the absolute epistemic priority of digital technologies in diagnosis and medical decision-making were justifiable, then digital phenotyping in mental health would be incompatible with epistemic justice and, consequently, could not contribute to it. However, this principle is not defensible in any area of medicine. The fact that clinicians and the system may misapply predictive technologies in mental health is a possibility, but the idea that they must misapply them due to conceptual necessity is a conclusion that does not follow. We must not confuse, in philosophy, the realm of empirical possibilities with the conceptual realm, and bad medicine with bad tools.

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