



Research paper

Addiction screening and diagnostic tools: ‘Refuting’ and ‘unmasking’ claims to legitimacy



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ABSTRACT

Human practices of all kinds – substance use, gambling, sex, even eating – are increasingly being reframed through the language of addiction. This ‘addicting’ of contemporary society is achieved, in part, through the screening and diagnostic tools intended to identify and measure addiction. These tools are a key element in the expert knowledge-making through which realities of addiction emerge. Promoted as objective and accurate, the tools are given legitimacy through application of scientific validation techniques. In this article, we critically examine the operations of these validation techniques as applied to substance addiction tools. Framed by feminist and other scholarship that decentres the epistemological guarantees of objectivity and validity, we structure our analysis using Ian Hacking’s (1999) concepts of ‘refuting’ (showing a thesis to be false) and ‘unmasking’ (undermining a thesis). Under ‘refuting’, we consider the methodological validation processes on their own terms, identifying contradictory claims, weak findings and inconsistent application of methodological standards. Under ‘unmasking’, we critically analyse validation as a concept in itself. Here we identify two fundamental problems: symptom learning and feedback effects; and circularity and assumptions of independence and objectivity. Our analysis also highlights the extra-theoretical functions and effects of the tools. Both on their own terms and when subjected to more searching analysis, then, the validity claims the tools make fail to hold up to scrutiny. In concluding, we consider some of the effects of the processes we identify. Not only do these tools make certainty where there is none, we contend, they actively participate in the creation of social objects and social groups, and in shaping affected individuals and their opportunities. In unpacking in detail the legitimacy of the tools, our aim is to open up for further scrutiny the processes by which they go about making (rather than merely reflecting) the disease of addiction.

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Introduction

Human practices of all kinds – substance use, gambling, sex, even eating – are increasingly being reframed through the language of addiction. This ‘addicting’ (Fraser, Moore & Keane, 2014) of contemporary society is achieved, in part, through the standardised screening and diagnostic questionnaires (hereafter referred to as ‘tools’) intended to identify and measure addiction. Critical public health and science studies scholars have argued that diseases, including addiction, are constituted through the scientific knowledge-making processes used to identify, measure and diagnose them (Duffin, 2005; Fraser et al., 2014; Mol, 2002).

Addiction screening and diagnostic tools are a key element in the expert knowledge-making through which realities of addiction emerge. Promoted as accurate and objective, the tools are given legitimacy and authority through application of scientific validation techniques. In this article, we critically examine the operations of these validation techniques as applied to substance addiction tools. Doing so is of pressing importance because the knowledges produced via tools carry with them important political implications. They contribute to influential statements about substance users and ‘addicts’, are used to justify public policies and programs and directly inform decisions about resource distribution and service delivery.

We begin with a background section with three parts. First we conduct a brief review of critical literature on addiction tools and on addiction diagnosis, identifying a need for further work in this area. We then outline the objectivity and accuracy claims made

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about the tools and discuss the statistical techniques of ‘validity’ and ‘reliability’ testing that are deployed to legitimate these claims. This is followed with a discussion of our theoretical approach and methods. The second section of the article presents our analysis of the validation processes applied to the tools, which we structure using Hacking’s (1999, pp. 53–4) concepts of ‘refuting’ and ‘unmasking’. Developed by Hacking to perform specific analytical tasks, these two terms have a particular purpose in this article. In the ‘Refuting’ section we consider the validation processes on their own terms, identifying contradictory claims, weak findings and inconsistent application of methodological standards. In the ‘Unmasking’ section we go further, critically analysing validation as a concept in itself. Here we identify two fundamental problems with the validation processes: symptom learning and feedback effects; and circularity and assumptions of independence and objectivity. Our analysis also highlights the extra-theoretical functions and effects of the tools. In concluding, we consider some of the effects of the processes we identify, for the meanings ascribed to addiction, the forms it is said to take and the individuals it is thought to affect. We close by noting that our critique raises pressing questions about the effects of these tools, the politically loaded categories they create and legitimise, and the justifiability of the ‘kinds’ (Hacking, 1998) of persons they produce.

Background

To date the validity and reliability claims made about the tools have received little examination from a critical social science perspective. Room (2006) raises important questions about validity when he points out the differential cross-cultural performance of addiction tools. He draws attention to the cross-cultural variation in interpretations and meanings of individual tool items, as well as in underlying concepts of intoxication, harmful use and addiction. Midanik, Greenfield and Bond (2007) highlight ways in which political processes and the entropy characterising much scientific practice affect which addiction tools come to be seen as ‘gold standards’. They cite the personal interests of tool designers in promoting their tool and the tendencies for researchers to unquestioningly accept statements made by others regarding the utility and accuracy of tools. They also draw attention to the ways in which research processes themselves, particularly the desire for comparability across studies and over time, exert pressure to maintain the ongoing use of a tool irrespective of its relevance or value as a measure of addiction.

Despite their critiques, these scholars remain committed to treating addiction as a stable disease entity, one that may be identified and measured through improved diagnostic criteria and tool design. In contrast, our view is that no pre-existing independent addiction entity precedes its measurement. As medical sociologists have long shown, diagnosis is a process of actively attending to particular experiences and discounting others, transforming these experiences into symptoms of a disorder and ‘attributing this disorder to a person as an explanation of the experiences reported’ (Georgaca, 2013, p. 57; Fraser, 2011). Rosenberg (2006, p.412) argues that it is through such activities that diseases are reified as universal, consistent ‘entities existing outside their unique manifestations in particular men and women’. In this sense, the facts of diseases, addiction included, are socially produced – they comprise historically and culturally situated ideas about relevant symptoms and sufferers and ideas about causes, outcomes and treatments, all shaped by prevailing ideas of what is philosophically and scientifically reasonable at a given time or, in other words, with what corresponds with established ideas and objects and the instruments seen to capture them (Duffin, 2005; Fraser & Seear, 2011). Thus, as our second author, Fraser, along with other scholars, has noted elsewhere, definitions and meanings

of addiction are multiple and contested, showing considerable historical and socio-cultural variation (Fraser, 2015; Fraser et al., 2014; Reinerman, 2005; Room, 1983). Indeed, influenced by scholars from science and technology studies, we proceed from the view that knowledges, such as those generated by addiction tools, ‘produce realities in a process of ongoing enactment’ (Fraser, 2015, p. 7; Fraser et al., 2014). Given this, we consider it of great importance to subject such knowledge-making instruments to critical scrutiny, to question how addiction is being made and to examine the effects, intended or otherwise, of these particular materialisations of addiction. Elsewhere (Dwyer & Fraser, forthcoming), we have examined the definitions and assumptions embedded in substance addiction tools. In that article, we identify how logics of comparability and brevity, alongside processes of reduction, expression, normalisation and quantification in tools, work to constitute addiction as a viable problem. As we note, ‘all this is done under the sign of objectivity and the unspoken assumption that these processes allow the production of neutral information’. It is this observation that inspires our analysis in this article. While our previous work examined processes by which addiction tools go about making (rather than merely reflecting) addiction, we are concerned here with the processes of scientific legitimation. Our analysis is framed by insights from feminist and other scholars who decentre the epistemological guarantees of objectivity, independence and validity (Fraser et al., 2014; Lather, 2010; Law, 2004). These scholars have convincingly demonstrated that knowledge is never free of the social conditions under which it is produced. There is no ‘view from nowhere’ (Haraway, 1991) that permits a value-free, objective window on to reality. Scientific knowledge is perspectival and partial, made of ‘assumptions, personal bias, and culture-bound misconceptions’ (Fraser, 2015, p. 14). We scrutinise the scientific truth-making processes manifested in the legitimacy claims made about substance addiction tools in the light of these understandings.

Claiming legitimacy

Prompted by perceptions that substantial rates of substance-related problems were going undetected, addiction screening and diagnostic tools were introduced in the 1960s (Allen & Wilson, 2003) as a solution that would provide ‘consistent’ and ‘quantifiable’ (Selzer, Vinokur & van Rooijen, 1975, p. 1563) measurements of substance problems, with the advantages of being ‘short’ (Dhalla & Kopec, 2007, p. 33) and ‘easy to administer’ (Ewing, 1984, p. 1905). On the basis of these characteristics, the tools are widely promoted in the scientific literature as efficient, objective means to identify and measure the scale and character of addiction problems (Haber, Lintzeris, Proude, & Lopatko, 2009; USPSTF, 2004). Efficiency and objectivity, however, are not sufficient. In order to be taken up as useful and legitimate, the tools must demonstrate that they also *accurately* identify addiction (Midanik et al., 2007).

In the scientific literature, the two concepts held to provide evidence of objectivity and accuracy are ‘validity’ and ‘reliability’. These concepts carry different meanings across scientific disciplines. In the addiction tools literature we analyse here, validity is defined as the ‘extent to which a test measures what it purports to measure’ (Colman, 2014) or ‘is a true indicator of the disease’ (Ireland, 2014). ‘Reliability’ is defined as the ‘consistency or repeatability of [test] scores’ (Dhalla & Kopec, 2007, p. 35). Moreover, different aspects of validity and reliability may be assessed. The most common validity assessment in the tools literature is ‘criterion validity’. This is defined as the extent to which [the tool] corresponds to another accurate measure – an ‘independent’ criterion standard (Streiner & Norman, 2008). The most common reliability assessments are ‘test–retest’ – usually correspondence between individuals’ scores on different occasions – and

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