

# The Addicted Mind: A Plea for a More Scientific Psychopathology

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## Introduction

Beginning with the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), substance related addictions are now summarized as “substance use disorders.” DSM-5 simplified the diagnosis, as the previous clinically-intuitive differentiation between abuse and dependence did not hold up to scientific evidence. That said, the diagnostic criteria changed very little. At first glance this may seem to support the notion that addictions are well-established disorders.

Substance use disorders clearly constitute a public health priority. Tobacco, alcohol and illicit drug addictions and their sequelae top the list of preventable causes of mortality, of suffering, and of public spending. At the same time, underlying biological brain mechanisms of addiction have been delineated on a faster pace than for other mental disorders.

Given the public health significance and the scientific leads provided by preclinical research, one might expect addictions to be a major focus of clinical practice and clinical research. This is not the case. It is hard to find any major disorder with a larger discrepancy between treatment needs on one side and research activity and actual availability of evidence-based treatment on the other side. Interestingly, this lack of enthusiasm for evidence-based addiction treatment is pervasive and may be found both in health care providers as well as in the patients themselves. A substantial number of both patients and providers seem to have problems accepting substance use disorder as a disease, and beyond them this perception seems to be almost universal. Individuals from different backgrounds (physicians, politicians, journalists, lawyers, priests, etc.) or cultural settings (Europe, North America, Asia, etc.) share this unease in accepting substance use disorder as a disease.

Why is this case? *Disorder* and *disease* (used interchangeably in this context) refer to a condition that impairs the normal functioning of the individual and his body. A disorder regularly excuses a person from being able to fulfill social roles and is often associated with social support. Disorders are often seen as fate or “bad luck” - the patient cannot help being ill. It appears to be difficult to accept that the impairment induced by addiction is a consequence of a disorder, in part because the social support aspect is strongly related to the notion that disorders are not the patient's fault.

Addiction may be considered an inability to consistently abstain, despite adverse consequences. The decision to use or to abstain appears to be central in this disorder. The addicted individual appears to make “bad decisions.” But we all make bad decisions, and we have to live with the consequences. It is important to clearly differentiate between making bad decisions per se and bad decision-making based on disorders. From an intuitive layperson-based perspective, we seem to have a solitary, continued, consistent mind and will. Our mind, including our will, is either healthy (“sane”) and we are held responsible, or unhealthy (“insane”) and then we are not responsible for any of our actions. How can we be considered able to make “healthy” decisions regarding non-substance-use-related issues, e.g. our job or our family, but still unable to make “healthy” decisions regarding substance use, e.g. tobacco dependence? One often-cited response is that nicotine “highjacks” our

brain. This provides an image of how a substance may impact the brain, but focuses on the brain rather than the mind. Substance use seems to affect only a fraction of our mind and will. The problem is: in the intuitive layperson-based concept of mind, there is no such thing as a partitioned mind or will. Thus it is hard to perceive that a part of the will is dysfunctional and “disordered” due to a disease, while most parts of the will are still functional and “healthy.”

In recent years a lot of research has been conducted on decision-making. Our scientific understanding of mind will, and decision-making has evolved and is different from the intuitive layperson-based model [1]. Neuro-cognitive and psychological research has substantially modified our scientific concept of the mind. Thus we do not perceive the world surrounding us as passively as we think we do. Perception is not a mere objective reflection of the world around us, but is constructed utilizing individual preconditions and previous information about the world. Decision-making is based on this individually formed perception and can be influenced by numerous unconscious factors and processes, such as priming, framing, and anchoring [2]. It is not the independent conscious activity we think it to be.

Addiction clinicians and researchers have been keen to understand and embrace the biological mechanisms underlying substance use disorders. The evolving scientific concepts of the mind, though, have received more limited attention. Generally, it seems that the concepts used to understand pathologies of the mind (clinical psychopathology) are still very much founded on intuitive layperson-based perceptions of the mind and has seen limited substantial development in the last 100 years. A scientific pathology of the mind needs to be based on a scientific concept of the mind [3].

An empirical research-based understanding of the mind and of the pathology of the mind (psychopathology) opens the possibility for empirically derived developments and refinements of our understanding, especially if based on quantifiable behaviors and measurable cognitive and emotional processes and responses, such as delayed discounting, cognitive control, attention biases, capacity for interception, and emotional responsively [4]. It can also serve as a more solid foundation for a rational development of novel interventions. Finally, it will allow for a conceptualization of substance use disorder that is more coherent with the overall concept of disorder and disease.

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A potential drawback is that these scientific concepts may be less intuitive and less consistent with our day-to-day experience. They may be less easily conveyed to those not familiar with the evidence, but this is a situation faced in most medical fields. The plea for a more scientific psychopathology of the addicted mind is based on the notion that the current concept has hampered the acceptance of addiction as a disorder and is starting to become a burden to the development of the field.

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