

# Towards a ‘Sociorelational’ Approach to Conceptualizing and Managing Addiction

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This article looks at how and why addiction should be understood as a ‘sociorelational’ (social and relational) disorder, and what this implies on a policy level in terms of the treatment and prevention of addiction. In light of scientific research, we argue that the neurobiological changes that underlie addiction are heavily influenced by sociorelational processes. We thereby advocate for a conceptual approach in which autonomy in addiction is a sociorelational concept, and social environments are considered autonomy undermining or autonomy promoting. We then discuss the various implications this should have on policies.

## Introduction

There is still no consensus on what ‘addiction’ is (Ross *et al.*, 2010). In most conceptual debates, it is presented as a lifestyle choice, a ‘chronic and relapsing brain disease’ or ‘a bit of both’. Autonomy in addiction is then argued to be intact, missing or ‘somewhere in between’ (van der Eijk, 2013). The result is an ongoing dispute in which addiction as a disorder is conceptually situated along a ‘choice-brain disease’ continuum, with little sign of consensus within the debates and mixed opinions on how policies should proceed.

In the ‘choice’ camp are theorists such as Foddy and Savulescu, who advocate for a ‘liberal theory’ of addiction. This theory assumes that, first, addictive practices such as drug use are freely chosen and driven by appetitive desires akin to those that drive naturally rewarding activities such as sex or eating palatable food. Secondly, it is argued that these practices should not be prohibited on the basis that others may find them morally repugnant (Foddy and Savulescu, 2010). Their theory is therefore rooted in liberal ideology, and assumes ‘autonomy’ in addiction—here defined as the ability to act in line with one’s *own* motives, values and reasons (Buss, 2014)—to be intact. The result is a *laissez-faire* policy, in which addicted drug users are considered capable of quitting drug use whenever they choose. This theory thus makes no distinction between addictive and non-addictive drug use. In terms of autonomy, a similar—

though less liberal—line of reasoning is used to support ‘moral choice’ theories of addiction. Moral choice theories assume that addictive practices, such as drug use, are freely chosen although they are considered to be morally unacceptable. The resulting policy is one in which drug use is deterred, stigmatized and—in many cases—criminally punished (Capps *et al.*, 2014). This approach has dominated drug policies in countries such as the USA for decades, but is widely criticized for its counterproductive and stigmatizing treatment of drug users (Rolles *et al.*, 2012).

On the other extreme are proponents of ‘brain disease’ theories of (drug) addiction. They claim that (i) prolonged drug use *causes* neurobiological malfunctions, and these malfunctions motivate addictive behaviours; (ii) early drug use is voluntary, but neurobiological processes later ‘hijack’ the ability to control drug use; (iii) there is plenty of scientific evidence to support these claims (Leshner, 1997; Hyman, 2005). Although brain disease theories are widely criticized (Hall *et al.*, 2015), they are used as the basis for various clinical definitions of addiction. The USA’s National Institute on Drug Abuse, for example, states that, ‘addiction is a chronic, often relapsing brain disease that causes compulsive drug seeking and use’ (National Institute on Drug Abuse, 2012). The American Society of Addiction Medicine, in a similar vein, provides the following definition of addiction: ‘a primary, chronic, neurobiological disease, with genetic, psychosocial, and

environmental factors influencing its development and manifestations' (American Society of Addiction Medicine, 2001). Since neurobiological processes are thought to 'hijack' behaviour, such definitions may lead to the assumption that addicted individuals have no autonomy. This could result in a sympathetic approach towards addicted drug users, possible moral abolition of their actions (Morse, 2004) or a medicalized treatment approach.

In these conceptual understandings of addiction, focus is on the individual: an *individual's* neurobiology, an *individual's* choices and social factors are considered as secondary to these. For instance, brain disease theorists do not deny the involvement of drug-related environmental cues (such as a place or smell associated with drug use) in triggering addictive behaviours. Drug availability is, likewise, viewed as a social condition which can impact one's tendency to use or continue using a drug. Nevertheless, these are considered secondary to the neurobiological processes that 'hijack' the will and ability to resist drug use (Volkow *et al.*, 2003). In moral choice theories, a society that deters drug use is considered to be facilitative in motivating individuals to quit. However, in this view, whether an individual continues using drugs or not ultimately depends on his/her personal decision. Yet, what if social factors are critical elements of choices, autonomy and the neurobiological events that underlie addiction?

The aim of this article is to provide a more nuanced exploration of the social and relational ('sociorelational') aspects of addiction that goes beyond what is generally presented in conceptual debates situated along the choice-brain disease continuum. This exploration is made in terms of addiction neurobiology and choice-making.<sup>1</sup> Ultimately, this article argues that addiction is a disorder rooted in sociorelational processes, with important neurobiological, psychological and behavioural manifestations.<sup>2</sup> It follows that conceptual theories of addiction within the choice-brain disease continuum should be reconsidered in this respect. This article, then, advocates for a sociorelational approach to conceptualizing addiction,<sup>3</sup> and treatment and prevention paradigms that focus more on addressing important sociorelational aspects of addiction.

## Social Aspects of Addiction Neurobiology

Brain disease theories of addiction are supported by neurobiological evidence which shows that, in

addiction, there are significant changes in various neurobiological pathways and structures (Volkow *et al.*, 2003), and these changes are repeatedly and consistently demonstrated in the brains of drug-addicted people (Volkow *et al.*, 2011).

In addiction, important neurobiological changes are often observed in two neurotransmitter systems: the mesolimbic dopamine pathway (Volkow *et al.*, 2011), and the endogenous opioid system (EOS) (Trigo *et al.*, 2010). The mesolimbic dopamine pathway is responsible for eliciting feelings of reward and motivation. The EOS, which has important communications with the mesolimbic dopamine pathway, elicits feelings of attachment, euphoria and pain relief when it is activated (Mansour *et al.*, 1995). Activity in these pathways usually increases when a rewarding activity, such as social bonding or exercise, is carried out.

When an addictive drug is taken, activity in these pathways increases overwhelmingly. If hyperactivation is sustained, homeostatic adaptations occur which result in an overall reduction in the baseline activity of these pathways. Thus, in drug addiction, the availability and numbers of dopamine receptors are consistently lower (Volkow *et al.*, 2001, 2002), and activity of the EOS is downregulated (Trigo *et al.*, 2010). The result is that individuals become less responsive to their drug of choice (Volkow *et al.*, 1997), and the individual's overall sense of motivation and emotional well-being is decreased. They then tend to respond with compensatory behavior: taking drugs to increase activity in these pathways and maintain an acceptable sense of emotional well-being (Volkow *et al.*, 2002). However, drug use itself triggers these homeostatic adaptations. In other words, drug use is often sought as a temporary relief or escape from dysphoric, unpleasant states of mind, but in the long run it actually contributes to these.

Meanwhile, changes are also typically observed in the hippocampus, prefrontal cortex (PFC) and amygdala. The amygdala is involved in creating emotional, often subconscious, memories. The PFC is an important brain region for inhibiting risky behaviours, and the hippocampus is involved in processing declarative, emotionally neutral memories. It is thought that these two structures can veto emotionally driven, potentially risky behaviours (Volkow *et al.*, 2011). In addiction, however, emotional processes—mostly in the amygdala—become less responsive to emotionally neutral, inhibitive systems, so the net result is an increased tendency towards emotionally driven behaviours such as drug-taking (Baker *et al.*, 2004). *Emotional inputs* therefore form an important aspect of decision-making in addiction.

Within the PFC, significant changes are also observed in the right orbitofrontal cortex (OFC). This region is important for integrating sensory information—such as vision, taste and smell—with emotions. The OFC communicates with the EOS, the amygdala, the hippocampus and dopaminergic pathways. Its normal function is to detect the emotional significance of a stimulus and use this information to influence the function of other brain regions. For example, if the OFC detects a cue of emotional arousal on someone (for example, a smile or pupil dilation), it sends messages to other structures to indicate that it is safe to bond with that person. Likewise, if the OFC detects a threat, it will relay these messages to other structures for a response. These responses are often experienced as feelings (e.g. fear, craving) rather than conscious thoughts. The OFC is therefore an important brain structure for relational aspects of human life, emotional control and for interpreting the emotional salience of a situation (Schwartz and Begley, 2002). In addition, these processes are somewhat disrupted as the OFC assigns an excessive reward value to drugs and sends out craving signals (Volkow and Fowler, 2000).

Brain disease theorists argue that these neurobiological changes occur as a result of drug use. However, they can also pre-exist *before* drug use is initiated as a result of emotional pain or stress. To illustrate, the hypothalamic-pituitary-adrenal (HPA) axis—the neurobiological pathway responsible for the stress response—is closely interconnected to neurobiological pathways involved in addiction. For example, the stress response can be inhibited by the hippocampus, OFC (Nauta and Domesick, 1982) and EOS (Kreek *et al.*, 2012). However, these function differently in addiction, in a way that impairs their ability to inhibit the stress response. This relationship is bidirectional as sustained activation of the HPA axis can diminish the ability of the hippocampus, OFC and EOS to inhibit the HPA axis. The result is a consistent shift towards activation of the stress response. For the individual, these neurobiological changes are experienced as having a poor ability to deal with stress, a tendency to feel more unmotivated, dysphoric and anxious and a tendency to seek comfort from external sources such as drugs (Maté, 2008).

In terms of the social environment, this means that addictive behaviours are more easily triggered in times of emotional stress, and that individuals who have been exposed to high levels of stress over the lifecourse are more predisposed to developing an addiction later in life. Evidence suggests that the development of this predisposition can start as early as *in utero*, since maternal

stress, anxiety, depression and the synthetic equivalent of these (glucocorticoid treatment) can consistently activate the stress response of the foetus (Brake *et al.*, 2004). Later, during childhood, stress can affect the development of the hippocampus and PFC, which in turn impairs these structures' capacities to inhibit the stress response as well as risky behaviours (such as drug use). Sustained stress can also affect the development of the EOS, which means that the ability of the EOS to mediate its functions—euphoria, attachment and the relief of emotional pain—is diminished (Lupien *et al.*, 2009).

The first 2 years of life are particularly important in this respect, as it is a time when the brain regions involved in addiction—particularly the right OFC—undergo a crucial developmental period. Newborn babies have no emotional control mechanisms of their own, and are dependent on a parent<sup>4</sup> for their healthy development. This requires consistent and attentive emotional interactions with the parent. If this fails, the OFC will send threat signals to the baby's EOS (among other systems), which results in a subjective feeling of isolation, stress and emotional pain. The baby then cries to get attention from the parent. When the parent soothes the child, the OFC detects stimuli that indicate emotional bonding (e.g. a hug), and communicates these to the EOS. This results in a subjective sense of emotional well-being. The baby then stops crying, and its emotional state is calibrated (Panksepp *et al.*, 2002).

What happens when attentive care fails? If the EOS is not properly stimulated when a baby is in distress, function of the EOS is gradually diminished and the baby loses its motivation to warn the parent. Instead, it will resort to inefficient coping mechanism such as sucking its thumb (Maté, 2008). The baby's ability to control its own emotional pain, stress and form secure emotional attachments also becomes impaired (Schore, 1994). Complete neglect is not necessary for these developmental issues to occur. A parent could be actively caring for the child, but simply under emotional stress or suffering from a mental illness (Rosenblum, 1987). This effect is observed in studies of babies whose mothers suffer from depression. The brains of these babies were notably different to those of babies whose mothers were healthy: even at just 1 month and 3–6 months age, electroencephalogram brain patterns of the babies were similar to those of adults with depression, and these babies were, in general, less active (Field *et al.*, 1995; Jones *et al.*, 1997). Later in life, such individuals have a tendency to 'tune out' of their surroundings and social relationships, and are more likely to turn to outside sources—such as drugs—to find relief from their negative states of mind (Maté, 2008).

It is easy to see, then, why drugs such as heroin, cocaine and tobacco—that produce overwhelming activity in the EOS and dopaminergic pathways—are especially appealing and 'addictive' to individuals who have been repeatedly exposed to emotional pain, stress and other sociorelational hardship. Indeed, the addictive use of illicit drugs (UNODC, 2013), tobacco (Warner and Burns, 2003) and alcohol (WHO, 2011) tends to be concentrated among socially disadvantaged groups: socioeconomically deprived communities, socially oppressed racial minorities and people suffering from mental illness. For them, negativities within the social environment—such as stigma, social marginalization, lack of employment opportunities, lack of meaningful relationships, financial pressures and so on—create an overall environment in which certain life options become narrowed or less desirable in light of more immediately gratifying options such as drug use. It is their sociorelational environments—and the systematic social injustice that shapes these environments—that predisposes individuals to addiction, and these predispositions are often observed in the neurobiology of these individuals.

Brain disease theories of addiction are correct to the extent that addiction has neurobiological manifestations that are mirrored in the behaviour and psychology of addicted individuals. However, prolonged drug use is not necessarily *causal* (or the *only* cause) of these, and the solution to 'fixing' these manifestations does thereby not strictly lie in a medicalized or individualized approach.

## Relational Aspects of Choice

'Choice' theories of addiction take a similarly individualistic approach as brain disease theories. The main difference is that addictive practices are thought to originate from the autonomous choices the individual makes rather than the neurobiological processes that underlie these choices. These choices, then, should be deterred (per the moralistic approach) or permitted (per a liberal approach), depending on whether these choices are considered to be morally acceptable or not.

However, this picture is too simplistic, since the choices one makes are picked from the range of desirable options one has. An individual is therefore more inclined to opt for a life of heroin use—knowing that this is illegal, stigmatized and potentially life-threatening—if there are no desirable alternatives. To illustrate, rats typically self-administer high levels of drugs such as cocaine when housed in standard laboratory cages

(Schenk *et al.*, 1987). When cocaine-addicted rats are moved into an 'environmentally enriched' condition, they stop self-administering cocaine (Solinas *et al.*, 2008). Similarly, in the 'Rat Park'<sup>5</sup> experiments, rats do not self-administer morphine or cocaine even if it is provided in a tasty sugar solution (Alexander *et al.*, 1978, 1981). In humans, a similar effect has been observed in studies on Vietnam War veterans who developed heroin addictions while in Vietnam. Upon returning home, only a small proportion of soldiers continued taking heroin (Robins, 2006). It is likely that their circumstances, which were less stressful at home, played an important role. Further, as mentioned above, addictive drug use is concentrated among people who tend to be exposed to higher levels of stress, dysphoria and social oppression on a daily basis.

What does this mean for 'choice' as it pertains to addiction? The social environment can narrow or broaden the range of options made available or desirable to individuals. In this sense it is crucial to consider choice-making—at least in the context of addiction—as being 'sociorelational' in nature. Some choice theorists do acknowledge this, in arguing that the social environment influences the costs and benefits attributed to addiction-related choices (Heyman, 2009). However, they still fall short of acknowledging the extent of these sociorelational aspect and their role in the decision-making. The circumstances play into the decision-making in a more complex way than merely contributing to the costs and benefits of the options the agent has available.

How does this, together with the neurobiological information presented above, relate to the notion of 'agency' in addiction? Choices are generally considered to be instances or expressions of agency. The discussion of 'agency' in addiction has typically concerned the capacities of addicted drug users to make autonomous choices regarding their drug use. The competence of addicted individuals, for instance, has been analysed in terms of the circumstances that are in play at the moment of decision. Those circumstances also involve aspects of freedom: one cannot choose if he lacks the *ability* to evaluate his options in light of his interests, nor can he choose if he is prevented from acting *according to his own judgement* (Henden, 2013). This individualistic view on expressing one's autonomy has, however, received a great deal of criticism for its insistence on conceptualizing the 'self' as self-sufficient (MacKenzie and Stoljar, 1999). It also fails to adequately accommodate neurobiological evidence, such as that reviewed above, in which the sociorelational embeddedness of human emotion, desire and action is emphasized. In

some choice theories of addiction, preferences are viewed as dynamic: formed in light of former experiences (Heyman, 2009). However, these experiences are also limited, as the drug user only considers the future preferences in light of previous drug use and not in a context that is framed by social experiences across the life course. The experiences are also not problematized in the sense that the experiences would be considered to affect the framework of preferences in an *undesirable* way, as we suggest. In philosophical discussion of autonomy, this has, nevertheless, been a common topic (e.g. Christman, 2004; Colburn, 2011).

A traditional, historical account of procedural autonomy has tried to meet these challenges by setting constraints on the ways in which the agent's preferences have formed. Yet, it remains focused on the *individual's* choices: the agent actually or counter-factually approves the ways in which certain interests have become his own (Levy, 2006). People continually exposed to hardship might not be aware that their sociorelational experiences promoted their addictive behaviours (Bourgois, 1995). Some addiction theorists do recognize that the social environment affects one's choices. Watson, for example, points out that engaging in addictive activities may be the best alternative in some situations (Watson, 1999). What these views fall short in recognizing, however, is that individuals are *inherently* sociorelational. Therefore, the 'sociorelational' is not merely a platform in which the actions of the agent take place; rather, it is embedded in one's preferences and actions in ways that cannot be captured by merely juxtaposing the person's personal values with the external environment.

## Towards a Sociorelational Understanding of Addiction

Based on the evidence and arguments presented above, we argue that conceptual understandings of addiction situated along the choice-brain disease continuum are missing an important detail: that choice-making and neurobiology in addiction are essentially *sociorelational*. Liberal theories of addiction, for instance, correctly recognize that addictive drug-taking may well be rewarding, but fail to fully account for the reasons why these rewards are sought in the first place. Brain disease theories draw on neurobiological research rather selectively, as they typically under-emphasize the role of sociorelational processes, particularly those relevant *before* the initiation of drug use.

There are various psychosocial descriptions of addiction that have gone further than these theories in recognizing the sociorelational features of addiction. They are usually based on work in which addicted drug users are observed more closely: for example, the ethnographic works of Chein (1964) and Bourgois (1995), the observations of Robins (2006) and Zinberg (1984) on Vietnam War veterans' heroin addictions (see above) or the clinical experiences of Maté (2008). Generally, addiction is described as a psychological coping mechanism that works in paradox: it provides subjective comfort, though in reality it destroys; it is a means of experiencing a sense of connection, though in reality it marginalizes the individual from society; it is often stigmatized, though society encourages it. Peele, for example, describes addiction as a 'social disease' (Peele, 1976), propagated by societies that force individuals to seek relief from outside sources:

We are taught—in many cases by the institutions themselves—that we need school, need marriage, need a steady job, need medicines. What we really need is to be whole in ourselves, to take charge of our own health and education and emotional development. We need to be confident that we can cope with, learn from, and enjoy the people and things that make up our environment. Because that wholeness is so hard for us to achieve, addiction is not, as we like to think, an aberration from our way of life. Addiction *is* our way of life. (Peele and Brodsky, 1975: 181)

Hence, 'addiction' may occur in socially unaccepted forms such as illicit drug use, or in more common, socially tolerated forms such as addictions to work, exercise or chocolate. Writers such as Alexander, in a similar vein, argue that modern society has dislocated individuals from each other, their cultural origin and themselves. An emotional void is then created, which the individual attempts to fill with drug use or some other activity (Alexander, 2008). These descriptions of addiction do not necessarily deny that addiction has neurobiological manifestations, or that addicted individuals—to some extent—'choose' to engage in the addictive practice. In fact these descriptions are well-aligned to the neurobiological evidence presented above, as 'addiction' may be thought of not as a particular behaviour, but as a *relationship* to a behaviour that is characterized by certain neurobiological manifestations and preferences. This relationship is also a by-product of negative social and relational experiences, and so addiction is essentially a *sociorelational* disorder with important neurobiological, psychological and behavioural manifestations.

This conceptual approach has several implications. Affective factors, such as emotions and relationships to other people, are recognized as an important aspect of decision-making in addiction. Hence, a supportive sociorelational environment—for example, with emotional support, meaningful life opportunities and low levels of stress—can facilitate an individual's ability to abstain from drug use. Conversely, an unsupportive environment—characterized by stress, emotional pain and isolation—has the opposite effect. In this sense, environments can be autonomy-promoting or autonomy-undermining, and the development of one's autonomy hinges in part on the social environment.<sup>6</sup> This is observed also in neurobiological terms, since the ability to resist drug use can be impaired if, at a young age, the individual had a poor early bonding experience or was subjected to high levels of emotional stress. Therefore, autonomy in addiction is *relational*. 'Relational autonomy' hereby refers to the idea that social and relational processes, such as relationships, are important in decision-making and can affect the development of an individual's autonomy (MacKenzie and Stoljar, 1999).

In recalling the 'Rat Park' experiments, an autonomy-undermining environment is the standard laboratory cage, where the rat is isolated, and where the only subjectively enjoyable pastime is drug intoxication. Rat Park, in contrast, is autonomy-promoting because rats have opportunities to socialize, mate and explore. The rats' choices in Rat Park are thereby broadened: they can seek pleasure from exploration, play, mating or drug use, and they continually choose the others over drug use. There is a striking similarity between Rat Park and the privileged, relatively stress-free lives of individuals who are not affected by addiction, as well as standard laboratory cages and the bleak, deprived communities in which many drug-addicted individuals live (Chein, 1964; Bourgois, 1995; Maté, 2008). For humans, then, an autonomy-undermining environment is one in which individuals are subjected to high levels of stress, emotional pain and other negativity, and in which there is little scope for meaningful life opportunities or the formation of stable emotional relationships. The environmentally enriched 'Rat Park' equivalent would be a social environment with meaningful social relationships, stimulating life opportunities, financial stability and good support systems for those who need them the most.

## Policy Implications

Addictive drug use has serious and often lifelong impacts on the health and well-being of individuals (Jha,

2009; UNODC, 2013). In supporting health and well-being across the life course, a policy for preventing and treating addiction should avoid individualistic views of addiction and shift stronger emphasis onto sociorelational aspects of the disorder. These have been largely ignored in 'moral choice' policies in which addicted individuals are persecuted, stigmatized and socially marginalized. Policy solutions based on brain disease or liberal theories of addiction are, similarly, unlikely to adequately address the needs of addicted drug users, who obviously need strong sociorelational support. What, then, are the basic principles of an 'ethical' policy for addiction?

Public health policy is, generally speaking, orientated towards striking a balance between protecting public health and individual freedom. The public health ethics framework of the Nuffield Council on Bioethics is illustrative. It consists of an 'intervention ladder' in which interventions are graded in terms of their level of intrusiveness. The most intrusive interventions at the top of the ladder, such as 'choice elimination' and 'choice restriction', are reserved for the most potentially severe cases. For example, drink driving may result in fatal road accidents, so elimination of the choice to drink and drive is ethically justified (Nuffield Council on Bioethics, 2007). In the case of addictive drug use, interventions in the middle of the ladder may be considered appropriate: discouraging or incentivizing certain choices or providing information. For example, in tobacco control policy, smoking is deterred by raising the prices of tobacco and placing off-putting warning labels on tobacco packaging. The option to smoke, however, is still preserved for adults.

Would such a public health ethics framework be appropriate in the context of addictions more generally? We argue not, because the intervention ladder—like brain disease and choice theories of addiction—is limited by its failure to adequately recognize the sociorelational aspects of decision-making in addiction. Deterrent measures—such as raising the price of drugs—may work to some degree, but they do not address the sociorelational conditions that prompt addictive drug use in the first place. What is needed, rather, is a framework for public health ethics that is based on sociorelational principles. Focus should not be on balancing health with individual freedom, but on an individual's decision-making and health as emerging from the sociorelational context in which she is situated. In fact, when autonomy is understood as an inherently sociorelational concept, this focus should follow.

It was suggested elsewhere that public health policies should be based on ethical principles that reflect a

relational conception of public health (Baylis *et al.*, 2008). Such a public health ethics framework, it was argued, should be based on three ethical principles: relational autonomy, social justice and relational solidarity. Social justice reflects the idea that there are systems of social oppression and disadvantage that impact some groups more than others, which results in an unequal spread of opportunities for health. Relational solidarity, the authors argued, is a solidarity which is committed to social justice such that, ‘when we attend to relational solidarity, we need to be attentive to the increased and quite particular risks faced by members of some social groups as compared with others.’ (Baylis *et al.*, 2008: 204). Such a conception of public health ethics is well-suited to the context of addiction, as it holds sociorelational processes as central to its theory, thereby shifting a stronger focus onto the factors that underlie ill health and health inequalities: for example, poverty, racism, education, income and poor family dynamics (Marmot and Wilkinson, 2005).

What would be the practical implications of using a sociorelational public health ethics framework in addiction policy? First, there would be a stronger recognition of the relational contexts of decision-making in addiction. For example, in the treatment setting, it would not be assumed that addicted drug users can simply exercise a rational choice to quit. Rather, clinicians may take a more careful look at the individual’s social surroundings, significant relationships (or lack thereof) and possible options that may serve as a meaningful alternative to drug use. In preventive policies, more attention would be paid to the social conditions that trigger and sustain use. This would entail, for instance, promoting healthy family relationships and helping to enhance parents’ capabilities to take care of their children. This would apply in particular to parents with mental health issues or other difficulties, as their mental health can affect the emotional development of their child (as seen, for example, in mothers suffering from depression). Policies might also focus on creating more meaningful alternatives to drug-taking, such as employment or improving peoples’ abilities to cope with emotional pain, stress and other dysphoria. It would also result in a more equitable policy that pays attention to the needs of socially disadvantaged groups.

It may be argued that a sociorelational approach to policy is challenging to implement, as it requires society to commit to the tolerance and acceptance of groups who might otherwise be considered to be acting immorally or socially irresponsibly. However, it is important for societies to recognize that, first, addiction is not an ‘individual’s problem’. It is a disorder that is triggered

by sociorelational processes, so society has a shared responsibility to support addicted drug users rather than socially stigmatizing and marginalizing them. Secondly, it is in the interest of the society to help people to overcome their addictions, particularly the most socially disadvantaged, as healthy individuals as an aggregate contribute to the flourishing of a healthy, productive society. Thus, the welfare of individuals within a society is interconnected, at least indirectly on the level of the overall well-being and productivity of the society, and this applies also to more privileged individuals who may not be directly affected by drug-related issues such as crime or chronic disease. Making changes on a societal level in the environment in the ways in which the environment becomes autonomy-enhancing may not require highly intrusive measures, yet the gains may be great.

## Conclusion

We have argued that individualistic conceptualizations of addiction result in policies that fail to adequately address the important sociorelational processes that underlie the disorder. ‘Brain disease’ theories of addiction are limited, as they do not take into account important social and relational processes that influence one’s neurobiology prior to the initiation of drug use. ‘Choice’ theories of addiction are narrow in their insufficient recognition of important social and relational processes that underlie decision-making in addiction. We suggest that, instead, a sociorelational perspective is crucial for understanding addiction as a disorder, and for developing more ethical treatment and prevention policies.

## Notes

1. There are many studies on addiction neurobiology and choice-making in addiction that, for sake of space, will not be described here. Instead, we focus on research that highlights neurobiological processes in addiction that are heavily influenced by social and relational processes, and the relational aspects of choice-making in addiction.
2. We refer to addiction as a ‘disorder’ on the basis that: (i) it has clear neurobiological, psychological and behavioural manifestations that distinguish addictive drug use from non-addictive drug use; and (ii) it is a serious impediment to health and well-being. For example, as a result of nicotine addiction, smokers lose on average 20 years of productive life

(Jha, 2009), and tend to experience great difficulties in quitting even though, in most cases, they would prefer to give it up (Fong *et al.*, 2004).

3. In conceptualizing 'addiction' as a sociorelational disorder, we also imply that sociorelational factors are important in addiction etiology.
4. 'Parent' here refers to any primary caregiver who takes on a parenting role, e.g. grandparent.
5. 'Rat Park' is an environmentally enriched condition in which rats have access to toys, playmates, a large space and attractive surroundings.
6. At this point, it should be noted that 'autonomy-suppressing' environments do not necessarily negate an individual's autonomy. Individuals living in highly stressful or oppressive environments can, in general, still choose to not use drugs. Our point is rather than this option is more difficult or less desirable to exercise in particular environments, and in this sense the environment is *autonomy-undermining* rather than *autonomy-negating*. This can have significant impacts on the health and well-being of society's most disadvantaged individuals, which calls for policy action—see discussion on 'policy implications'.

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