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Addiction as a psychological symptom

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Psychodynamic understanding of addiction has advanced greatly in the recent decades. At the same time, there has been a tendency in both popular and academic discussions of addiction to overlook its psychological explanation in favour of a neurobiological view. In this paper I will summarize the understanding of the psychological nature of addiction I have described over the past 20 years, as well as the current state of neurobiological knowledge of addictive behaviour and define where each is clinically applicable. Addictive behaviour can be shown to nearly always be a purely psychological symptom, a type of psychological compulsion. Neurobiological factors can be shown to be operative in impulsive and conditioned behaviours which are also, confusingly, called 'addictions'. The fact that very different clinical entities share the same name has contributed to the ongoing misunderstanding between psychological and neurobiological views. A blurring of the differences between human psychology and behaviour in lower animals has also contributed to the problem, leading some neurobiological researchers to mistakenly generalize conclusions about human addictive behaviour from animal models.

Keywords: addiction; psychology; compulsion; treatment; substance abuse; neurobiology

Introduction

There has been considerable interest in both psychological and neurobiological investigations of addiction in recent years. While many clinicians have the view that both neurobiological and psychological factors may play a role in addiction, these perspectives diverge greatly in their conclusions about the very nature of addiction, as well as its proper treatment. Hence, while each has applicability, it is not correct to assume that both are operative in any given clinical situation. The choice of treatment approaches, and the ability to help patients to understand the nature of their particular problem, hinges on which view applies to that clinical condition. Indeed, these disparate views describe

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very different phenomena which are, unfortunately, both called 'addiction'. Contemporary psychological and neurobiological views will be examined and a proposal made for defining the roles of each.

A contemporary view of the psychology of addiction[1]

Earlier psychological views of addiction centred on addictive behaviour as a self-medication (Khantzian, 1985; Milkman & Frosch, 1973), as a substitute for a lost person (Krystal & Raskin, 1970; Wieder & Kaplan, 1969; Wurmser, 1974), as a rebellion against self-punishing thoughts (Wurmser, 1984), and as a solution for narcissistic injury (Kohut & Wolf, 1978; Wurmser, 1974), among others. More recently I have proposed a view which is consistent with but considerably extends earlier formulations (Dodes, 1990, 1996, 2002). The following briefly summarizes the three central parts of this view (a fuller discussion of this perspective may be found in the references cited).

The psychological function of addiction

New (not continuously occurring) addictive acts are preceded by a feeling of overwhelming helplessness or powerlessness. These feelings are not restricted to deprivation of basic needs such as food or sex (as will be seen to be the model for neurobiological views), but vary depending upon what is emotionally important to the individual. Consequently, issues that may create the experiences of overwhelming helplessness which precede addictive acts are highly varied. They include developmentally early deprivation/attachment failures, conflicts around control and competitiveness with corresponding feelings of humiliation and narcissistic injury (shame), and indeed every variation and level of psychopathology. In understanding and treating any one person it is essential to discover the specific kinds of helplessness which are significant for that individual. Addictive behaviour, indeed even just the decision to take an addictive action, functions to repair this underlying feeling of helplessness because the very decision to act undoes a sense of powerlessness. Taking drugs is particularly suitable for the purpose of regaining a sense of control because drugs are an especially good way to choose one's emotional state. However, many other activities such as gambling, exercising or cleaning may carry the meaning of regaining control. This reversal of helplessness may be described as the psychological *function* of addiction. It must be repeated as the experience of helplessness recurs, resulting in the repetitive, compulsive act we know as the addiction.

The emotional drive behind addiction

States of overwhelming helplessness inevitably produce a kind of rage – an essentially normal fury at the loss of ability to be in control of one's own life

(Dodes, 1990, 1996; Kohut, 1972). The extent of this rage corresponds to the severe narcissistic injury inherent in overwhelming helplessness, and it is accurately called 'narcissistic rage'. Notably, narcissistic rage has specific characteristics which are identical to those of addiction. This rage has been well-described as a

> deeply anchored, unrelenting compulsion [with] utter disregard for reasonable limitations [and] 'boundless' qualities ... narcissistic rage enslaves the [person] and allows [him] to function only as its tool and rationalizer. [In chronic narcissistic rage] ... ideation, in particular as it concerns the aims and goals of the personality, becomes more and more subservient to the pervasive rage (Kohut, 1972, pp. 382, 387, 396).

Substituting the word 'addiction' for the term 'narcissistic rage' in this description creates a near-perfect clinical picture of addiction. In my view, this is precisely because it is the narcissistic rage at helplessness that is present in all addictive acts that is the drive behind addiction. Said another way, it is narcissistic rage at helplessness that *gives to addiction its most significant clinical properties*, as described above.

Despite the central role of narcissistic rage in addiction, it is important to emphasize that people with addictions do not as a group suffer with any one psychopathology, and specifically do not suffer with a narcissistic character. Narcissistic injuries serious enough to lead to addiction as an attempted solution may occur at any developmental level without producing a character that is dominantly narcissistic.

In treatment with patients with addiction, it is frequently helpful for them to understand this emotional mechanism. It helps to clarify that their seemingly irrational behaviour, along with its apparent disregard of its harmful effects on themselves and others, is not a sign of moral turpitude or other weakness. It is a compulsion whose nature and basis can be understood and even has some aspects that are quite normal, although misplaced (see below).

Addiction as a displaced action

In addictions, the emotional purpose and drive described above are always expressed in displacement – in a substitute action. Several clinical examples are presented below. Displacements are psychologically necessary because taking a direct (non-displaced) action to respond to perceived helplessness (fighting back in some direct way) is usually inhibited as morally unacceptable or otherwise forbidden. The result of this is a compulsion to repeat the substitute action, which now carries the meaning and impetus to reverse helplessness. This final event is what is called the addiction. Indeed, we name addictions by the displacement. If the drive to reverse a sense of helplessness is displaced to drinking, we say the addiction is alcoholism. If it

is displaced to gambling, it is 'pathological gambling' and so forth. The fact that addictions may be understood as displacements helps to explain why people with addictions can so often shift from one addictive behaviour to another, whether from one drug to another or from a drug to a non-drug addiction such as gambling (Steinberg, Kosten, & Rounsaville, 1992) or to many other compulsive behaviours such as compulsive cleaning. They have simply shifted their displacement.

Vignette 1 (Dodes, 1996)

A business owner who had a history of alcoholism had been robbed for years by his son's embezzlement from the family company. When he discovered that the son's thefts from the company were far greater than he had known, he ended many months of sobriety in a two-day alcoholic binge. Investigation in psychotherapy revealed the long-standing helpless rage he had felt about his son's thefts, a helplessness that was produced by his internal moral prohibition about firing his son ('You don't fire your own', he'd said). He reported that he finally had the thought, 'The hell with it!', drinking was 'the only thing left that I could do'. His drinking reasserted an internal sense of power (he had to do *something* to not feel helpless) and it was fuelled by his rage at his helplessness (despite months of effort to stay sober he finally said, 'The hell with it!'). However, his inhibition about taking action against his son required that he repair his powerlessness via a displacement: he drank instead of firing his son.

Of course, more deeply his behaviour was the result of conflictual feelings about the relationship between a father and his son, including that with his own father in the past. The addiction, then, was a symptom that arose from the conflict between wanting to destroy and protect his son (and father), and it arose when he was faced with his helplessness around acting upon this central psychological issue. In his psychotherapy, it was critical to understand this relationship between his most important psychological issues and his addiction. Conversely, when urges to drink recurred, we could make good use of them to see how his key emotional issues were arising invisibly in his life.

Vignette 2 (Dodes, 1996)

A 32-year-old married woman drank excessively and destructively in the context of unexpressed and barely conscious rage, mostly toward her husband who regularly slighted and insulted her. In turn, she responded with passive acquiescence but then secretly drank, reasserting herself against her (self-imposed) helplessness to deal with him forcefully and directly. On one occasion, she reported that her husband gave her a letter to mail in his usual imperious style. Instead of obeying then drinking, this time she lost the letter.

A short time later she found it, whereupon she lost it again. Her repeatedly losing the letter was a parapraxis – an unconscious psychologically-determined action that accomplished the same reversal of helplessness as her drinking had done, and replaced drinking as a means of accomplishing this. Her ability to substitute a different psychological symptom for her drinking underscores the nature of addiction as itself a psychological symptom. In treatment, the investigation of this new parapraxis symptom and its ability to replace her drinking was likewise helpful for her. Her usual shame-filled attitude toward her alcoholism lessened as she could see that her drinking was an understandable emotional symptom neither more nor less morally tinged than her inadvertent misplacement of the letter.

Vignette 3 (Dodes, 2002)

Another woman who addictively used the drug Percocet also had a verbally abusive husband. He repeatedly called her in the middle of her day with the command to prepare a fancy dinner for business guests that evening. She hated these dinners but always agreed on the phone, followed immediately by an overwhelming urge to take some of the Percocets she kept in supply at home. After a period of time in psychotherapy, when she had begun to understand the emotional mechanism of her addiction, she reported the following story. Her husband had once again called to tell her to prepare dinner for guests that evening. After meekly acquiescing she walked over to the medicine cabinet where she kept her Percocets. She was just standing there, she said, when she came up with a solution. She said she knew by now that she ought to have stood up to her husband, but she couldn't bring herself to do that. However, it suddenly occurred to her that there was another way out – she could order Chinese food to be delivered for dinner. At that moment, she reported her addictive craving vanished.

In this case, this woman was able to find a more direct way than repeating her addictive drug use to reverse her usual helplessness. Having another way of performing this psychological task, her need to repeat her addictive behaviour disappeared. In psychotherapeutic treatment of people with addictions, finding a more direct way to repair feelings of overwhelming helplessness is a common, helpful result. It becomes possible when they recognize the specific issues within them that produce their addictive urges and which produce them at just the point that they occur. Resolution of deeper causes of the propensity to feel helpless regularly takes longer, but addictive behaviour often ceases to be a problem from an early point in treatment.[2]

Addiction and compulsion

The psychology of addiction as described is equally applicable to many of the psychologically-generated symptoms called 'compulsions' (as distinguished

from the biological entity Obsessive-Compulsive Disorder [OCD], whose cause is unknown but whose manifestations are frequently well-treated with SSRI medication, something not true for psychologically-based compulsions). The mechanism of displaced expression of drive is fundamental to the action of compulsions, and addictions are neither more nor less than one form of compulsion. The unity of addictions and compulsions is evident clinically in the common ability of people to substitute other compulsive behaviours (exercizing, obsession with the internet, etc.) for behaviours historically called addictions. Recognizing this unity is often helpful to patients in treatment when they shift their focus from a behaviour known as an addiction to another compulsive behaviour which is not usually thought of as an addiction. It enables both patient and treater to see the new behaviour as simply a change in displacement rather than a truly new symptom (Dodes, 1996, 2002).

The identity of addictions and compulsions also dispels an old myth about addiction: that people with addictions have a single psychodynamic explanation, often historically postulated to be primitive, and are untreatable by psychodynamic therapy or psychoanalysis itself. This is decidedly untrue (Dodes, 2004, 2005). In fact, as mentioned above, the issues provoking feelings of severe helplessness in people may involve any developmental level and as a group addicts run the gamut of mental health from the severely disturbed to quite healthy neurotic levels (Dodes, 1990, 1996; Johnson, 1992). This is possible because, as with compulsions in general, the addictive mechanism I have described may be present within any personality structure. Consequently, as with people who have other compulsions, those with addictions may be fully capable of psychodynamic or even psychoanalytic treatment. Their suitability for such treatment will depend not on the severity of the addiction (measured by its effects on their lives) but on the capacity of their underlying character to engage in the psychotherapeutic work.

The fact that the use of an addictive mechanism may occur within a broad range of personality structures, including quite healthy individuals, is one reason that psychotherapeutic treatment of addiction should excite more optimism than is often the case. A degree of pessimism about treatment of people with addictions has also been the consequence of its treatment having failed to focus on the central issues as described. Too often, treatment efforts stress motivational issues which presume that compulsive behaviour is repeated because of a lack of motivation to stop it; or taking valuable time focusing on the consequences, rather than the causes, of addictive behaviour; or ignoring the addictive behaviour altogether, instead sending patients away to addiction counsellors as if the addiction could be treated as an unrelated behavioural aberration while the psychotherapy proceeds separately. Given appropriate attention to the psychodynamic nature of addiction as described here, the prognosis for people with addictive behaviour is the same as for those with other compulsions.

Brief summary of neurobiological factors in addiction

In contrast with a psychological understanding of addiction, recent neurobiological investigation has led to the proposal that drug addiction is the result of enhanced responsiveness of the reward-seeking structure of the brain. A full review of this literature is beyond the scope of this paper but it has been reviewed elsewhere (Kalivas & Volkow, 2005; Nestler, 2002; Volkow, Fowler, Wang, Swanson, & Telang, 2007). The central findings of this view are briefly summarized below.

A number of systems and receptor targets have been identified as the principal sites of action of different drugs. These systems are related to reward pathways and presumably evolved to respond to natural rewards such as food and sex (Nestler, 2002). Cravings and associated relapse are thought to be related to ongoing alterations in these reward systems which can persist beyond the last drug use. Specifically, many drugs of abuse increase extracellular concentration of dopamine in the area of the brain called the nucleus accumbens. Firing of dopamine cells may also occur in response to salient stimuli which are associated with drugs (e.g. drug paraphernalia). This finding has been interpreted by some researchers to mean that addiction is a 'chronic brain disease' in which the brain is hyperresponsive to cues in the environment, setting off an uncontrollable urge to repeat use of a drug. This would be a physiological, rather than psychological, conditioned response, producing 'automatic' behaviours, compulsions and habits (Volkow et al., 2007). This conditioned response can be demonstrated in rats, and has been extrapolated to humans because humans possess similar systems (although humans also possess higher functions that are capable of interacting with and mediating the expression of basic drives). In addition, long-term drug use is associated with decreased dopamine function and reduced activity of frontal areas of the brain. This finding has been seen as possibly leading to loss of 'executive control' (Kalivas & Volkow, 2005; Volkow et al., 2007) possibly contributing to impulsive behaviour. This could apply to addictive acts when they are impulsive, i.e. not planned or delayed.

A number of studies have also shown a significant role for genetics in addictions. Investigations have involved multiple techniques including twin studies, family studies, adoption studies, and direct efforts to locate genes or areas on chromosomes that might be linked with expression of an addictive behaviour such as alcoholism (Dodes, 2002). Among the findings of these studies is the interesting result that people with the same genes (identical twins) have a less than 50% concordance for alcoholism (i.e. if one twin has alcoholism, it is statistically likely that the other does not). Although no genes have ever been found that are linked to addiction, these studies have led to the hypothesis that there may be many 'susceptibility' genes which could bear on the final behaviour (Foroud & Li, 1999; Schumann et al., 2008). While the kinds of addictive behaviours that are influenced by genetic

susceptibility have not been defined, it is reasonable to assume that genetic factors play the greatest role in the form of 'addiction' that is described by the neurobiological model.

The role of complexity theory

The word 'addiction' has been used to describe two very different phenomena, with very different clinical significance and applicability. However, the extent of this dichotomy between psychological and neurobiological views has received scant attention. Partly this is because for some there is no dichotomy – the mind is seen as simply the result of functions of the brain, as expressed in the maxim: 'the mind is what the brain does'. This view fails to take into account the modern physics of Complexity Theory (Waldrop, 1992), a science that describes the creation of novel phenomena in complex systems. These 'emergent' phenomena (phenomena that emerge only when a system becomes sufficiently complex) are neither present nor predictable from the basic elements of the system. The fluid properties of water, for example, are neither present nor predictable from the physics of a single water molecule. Life is another emergent phenomenon, neither present nor predictable from the chemicals that comprise living things. Likewise, human psychology is an emergent phenomenon not present in the neurons and neurotransmitters of the brain and not predictable from knowledge of them. Consequently, purely psychological findings must be understood in their own terms and cannot be reduced to the physiological elements of the brain. The aphorism that 'the mind is what the brain does' is not correct and, in terms of the present subject, neurobiological findings cannot replace or better explain the psychological basis of addiction. Neurobiological findings have in fact been based largely on animal studies (mostly with rodents). These animals do not possess a brain complex enough to provide the substrate for the emergent phenomena of higher psychological functions such as defences within a complex character structure. Conclusions drawn about human addiction from such studies should consequently be approached cautiously. The applicability of neurobiological factors is discussed below.

Discussion

Johnson (2003) suggested dividing addiction into three types: psychological, physical, and what he termed addictive character. Others have claimed that neurobiological factors alone explain all addiction, that addiction is a 'chronic relapsing disease of the brain'. Some have said that the very fact of vulnerability to relapse in addicts implies that addiction must be caused by long-lasting changes in brain function (Kalivas & Volkow, 2005). However, relapse to old symptomatology is also a well-known property of human

psychology, due to the lasting nature of character and emotional conflict over a lifetime. A unitary neurobiological view also does not take into account the fact that chronic drug use does not necessarily lead to addiction at all, as shown by Robins, Helzer, & Davis (1975). Robins' findings (summarized below) suggest that a neurobiological conditioning effect either does not occur in most cases of chronic drug use, or if it occurs, leads to addiction in very few cases.

Robins showed that Vietnam veterans were able to stop their extensive use of heroin upon return to the USA despite having become physically dependent and presumably having developed the brain changes known to occur with prolonged drug use. In contrast, heroin addicts from the same time who remained in the USA could not stop use after the same detoxification treatment. Given that the drug was the same for both groups[3] this large-scale unplanned experiment suggests that for many people brain alterations due to prolonged drug use are not able to turn them into addicts. Put another way, the veterans had the form of 'addiction' that is described by physical dependency: they had (only) a physical addiction (physical dependency) that was resolvable with detoxification. This is the same use of the term 'addiction' that describes many cigarette smokers and others whose use is not determined by psychological factors but rather by physiologically-induced cravings (due to withdrawal) and habit. In contrast, the addicts who stayed at home were using heroin as a psychological symptom as described above, a kind of addiction that cannot be resolved by detoxification. Another way to draw this distinction is to say that the veterans used heroin as a response to the stress of being in a war far from home: an external factor. The addicts who remained in the USA used heroin as a psychological symptom: an internal factor.

A physiological conditioned response as described by the current neurobiological view, however, may apply to some cases of repetitive drug-seeking behaviour. Specifically, those instances when addictive acts are impulsive (unplanned, not delayed) and immediately or impulsively responsive to salient environmental cues are likely to fit the neurobiological view. This behaviour would presumably be produced via hyper-responsiveness of the brain's reward system to the external cues. In addition, addicts with significant loss of frontal lobe functioning would presumably be more likely to have such impulsive drug use, so where there is loss of 'executive control' there may be a role for frontal lobe damage due to chronic drug use.

Such responses are, however, not central in human addiction which is mostly delayed and often planned in advance. People with addictions regularly wait until after work to have a drink, or they drive long distances to reach a casino, or they carefully arrange to meet their drug supplier at a future time. In all these cases there is not a salient environmental cue, but rather a critically important emotional experience. For these most common instances of addiction, the behaviour is best understood as a psychological symptom.

Because of its ubiquity, mention should be made of the DSM-IV and its approach to addiction. Since the DSM-IV does not recognize the unity of symptoms that share the same psychological basis, it has no section entitled 'Addictions' (for example, compulsive or 'pathological' gambling is mistakenly placed in the category of 'impulse control disorders' even though it is a compulsive behaviour rarely performed on impulse, and is a true addiction). In its section on 'Substance-related Disorders' addiction is described by the DSM-IV in terms of the presence or absence of physical dependency, of common clinical signs such as unsuccessfully attempting to decrease use, and of effects (not causes) of addiction such as loss of usual social functioning. Neither psychological nor current neurological views factoring in the aetiology of addiction are considered. The book's emphasis on the significance of physical dependency as a measure of severity (it is the major difference between 'Dependence' and 'Abuse') is also unwarranted, since physical dependency can be present only with certain drugs whose use, or not, does not bear on the diagnosis or the severity of addiction (it is possible to destroy one's life by use of hallucinogens that cannot produce physical dependency and to function quite well with regular use of a benzodiazepine that rapidly induces physical dependence). Further, it is possible to become physically dependent without having an addiction in any meaningful sense; anyone who takes enough of an addictive drug will become physically dependent, as in the case of the Vietnam soldiers. Current thinking from both a psychological and neurobiological standpoint recognizes that physical dependency, while a potentially serious medical problem, is of little significance in understanding addiction. In its emphasis on it, and its failure to recognize that addictions include non-drug behaviours, the DSM-IV has added to the confusion about the nature of addiction that this paper is an attempt to clarify.

Conclusions

The term 'addiction' has been used to describe very different phenomena, resulting in views of its cause and nature that are also very different. Nearly all instances of addiction can be shown to be a psychologically-based compulsion in the same group with other psychological compulsions. The unity of these behaviours is indicated by the fact that they can substitute for each other, and may even be replaced by other kinds of purely psychological symptomatology such as psychologically-induced forgetting.

Neurobiological findings of impulsive, conditioned responses that arise from more evolutionarily basic levels of drive and reward seeking can be demonstrated largely via animal experimentation. This model is applicable in repetitive, drug-seeking behaviour in humans that is a reflexive

or habit-based response to particular external cues. Psychological findings, on the other hand, explain addictive activity that is planned, anticipated, delayed, and intended (not impulsive) although not necessarily wanted. Such psychologically-based compulsive behaviours are the result of higher functions of the mind such as emotional defences, including the ability to displace actions to substitute activities (which are then called addictions or compulsions), and the presence of a conscience and the capacity for internal conflict which leads to inhibition of direct action, thereby requiring a displacement. These kinds of functions distinguish humans from lower animals, and cannot be seen or studied in animal models because they are not present in them.

In the treatment of patients with addictions it is necessary to ascertain whether their behaviour is limited to settings in which the addictive object (a drug, a casino, or associated stimuli) is present. In these cases a neurobiological model may be applicable. Correspondingly, in these instances there may be a role for medication and/or impulsivity counselling. When addictive behaviour is planned in advance and thoughts of performing the behaviour can be shown to have been precipitated by emotional factors such as frustration, anger or sadness, patients should receive a careful psychological evaluation and treatment based on a contemporary psychological understanding of addiction.

Such an understanding shows that addictive acts are precipitated by feelings of overwhelming helplessness. The specific forms of helplessness are highly individualized and always reflect what is most emotionally important to that person. Addiction reverses and repairs the sense of helplessness because it is a way to reassert control over one's emotional state. Correspondingly, the drive behind addiction can be shown to be the powerful rage always associated with fundamental challenges to one's power and psychological integrity, a rage at helplessness that in itself is quite normal. Finally, the addiction itself may be understood to be a displacement of the drive to reverse helplessness to another activity. This displaced enactment is what appears as the addiction.

Psychological treatment of addiction involves recognition of this pattern, understanding the forms of helplessness at work for each patient, and undoing the displacement to take actions that are a more direct (and appropriate) expression of the need to reassert power. In ongoing psychological treatment, the issues behind the addictive symptom are simultaneously explored to alleviate the risk of relapse of symptomatology, including relapse of the addiction.

Notes

1. In this paper I will focus on the psychodynamic understanding of addiction. Social, economic, cultural and other factors are certainly relevant to addiction but they are beyond the scope of this paper.

2. A reader of this paper noted that two of the vignettes presented involve sadomasochistic relationships and wondered if that is separate from the question of helplessness. As with all psychopathology, sadomasochistic issues commonly produce feelings of helplessness – over accepting the masochistic position or guilt over enacting either the masochistic or sadistic position. However, numerous other issues of very different types may produce a degree of helplessness sufficient to precipitate addictive behaviour. For example, a person whose addictive behaviour was precipitated by the anniversary of the death of a parent illustrated how the presence of overwhelming hopelessness and helplessness associated with an inability to grieve could serve as the substrate for addictive acts (Dodes, 2002). In addition, beyond her overtly sadomasochistic marriage, a deeper issue for the woman in Vignette 3 was her helpless inability to separate from her mother, later repeated with her husband via her masochistic attachment.
3. Reports from veterans suggest that the drug was actually more potent in Vietnam.

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