Conceptualising Addiction: How Useful is the Construct?

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Abstract

This paper engages with the construct of addiction by mapping the historical development of the social logic of the concept. In view of the proposed embracement of the term by the new DSM V, this revisiting of the literature surrounding a highly charged concept is considered timely. The paper presents a discussion about the complexities involved in determining the implications emanating from the construct of addiction with special emphasis on the issue of human agency. Different representations of the addiction construct are discussed. These representations are located within various models, which frame and shape the understanding and the handling of the addicted person. Constructs of addiction, as they emerge from the dominant disease model of addiction, are mainly problematised. Finally, this paper highlights the continued 'usefulness' and the validity of the addiction construct despite its complexities and recommends further research on the career model.

Key Words: Addiction / models of addiction / agency / addictive careers

INTRODUCTION

This paper provides a read of the literature on the construct of addiction with the aim of evaluating the utility of the concept. This is a timely, although certainly not novel exercise, in that the first draft of the latest revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) (www.dsm5.org) is proposing to reintroduce the term. Among the proposed revisions is the recommendation by the Substance-Related Disorders Work Group to eliminate the current categories of substance abuse and dependence and replace this with the new overarching category of Substance Use and Addictive Disorders. Among the work group's proposals is that that this novel diagnostic category will include both substance use disorders and non-substance based addictions. In DSM - V, gambling disorder will be the only behavioural or activity addiction to be included in this category. Other behavioral addictions such as "Internet Addiction" for which the research evidence was considered inadequate, will be considered as potential additions to this category as research data accumulate. In the 1980's, DSM-III-R eschewed the term 'addiction' in favour of 'dependence' as it was felt to be a more neutral term. In the DSM V working group the initial suggestion was for the tentative title 'Addiction and Related Disorders' but this has now evolved into a category titled 'Substance Use and Addictive Disorders' according to the Proposed DSM-5 Organizational Structure and Disorder Names (http://www.dsm5.org/proposedrevision/Pages/proposed-dsm5organizational-structure-and-disorder-names.aspx accessed on 11/06/11). In this paper the terms 'addiction', 'addictive behaviour' and 'addictive disorder' will be used interchangeably.

The term "addiction" has proven to be as problematic as it has fruitful and the discussion on what constitutes addiction is a longstanding one. Reinarman (2005) has aptly called this debate a case of 'conceptual acrobatics' with the term at times being applauded for its conceptual density and at other times eschewed in favour of less culturally loaded and neutral terms like 'dependence' (Peele, 2010)¹. This paper argues that the concept has continued functionality. The aim of this paper is thus to critically revisit this extraordinarily charged and strongly debated concept through a review of the literature. In order to ensure that the literature review covers a significant proportion of published research the major journals of addiction were reviewed for abstracts relating to this paper's topic and accessed via the University of Sterling's proposed list of Addiction Journals (http://www.drugslibrary.stir.ac.uk/journals.php). Abstracts that were considered relevant were consequently sourced for full text articles. Key texts dealing with an exploration of the addiction concept were also accessed.

¹ In 1972 the American Psychiatric Association (APA) shifted away from the term addiction to drug abuse (Reinarman, 2005: 312)

THE EVOLUTION OF THE CONCEPT OF ADDICTION

Some authors (eg Davies, 1997) have gone so far as to call addiction a myth, a phenomenon that does not really 'exist' outside our socially constructed perception. However, despite various criticisms that have been levied against the concept, it retains popularity both among lay people and the professional community. It is a term with which one easily identifies but which elusively defies definition and addiction researchers continue to 'hunt for a definition malleable enough' (Reinarman, 2005;312) to include both the varying types of substance use and more recently behavioural addictions. As evidenced by its proposed reintroduction in DSM, the term 'addictive disorder' now identifies a variety of behaviours because they share a number of elements. It is argued that the term 'addiction' can potentially bring a series of theoretical explanations to these behaviours, and unify them into one category.

The evolution of the social logic of the 'addiction' concept is particularly interesting. Levine's classic 1978 paper on the 'discovery' of addiction (especially addiction as disease) relies heavily on the construction and preeminence given to the concept of the 'individual' in the western world², a concept that did not always exist and that is still alien to some non western cultures today. Levine writes that during the 17th and 18th century people were perceived to drink simply because they wanted to and not because they '*had*' to (Levine, 1978: 493). However in the late 18th century and early 19th century, addiction came to be defined as a disease of which personal *loss of control* was the major symptom. This 'loss of control' eventually came to be the defining feature of addiction. The way we view and treat addicts is contingent on our interpretation of the crucial question of whether they are, or to what extent they are, in control of their behaviour.

It was to alcoholism that the term was first applied. Levine writes:

However the traditional meaning has long since been narrowed. Jellinek's classic work on alcoholism, *The Disease Concept of Alcoholism*, in 1960, did much to link addiction tightly to the use of substances and became identified with the presence of tolerance and withdrawal symptoms. Addiction came to signify a *'state'* that reduces the capacity for voluntary behaviour. This view has been described by Davies (1997) as 'too mechanistic and too remote from the realm of human desires and purposes'. Personal volition was removed from the picture. He continues:

'Instead of a view of addiction problems as deriving from the interaction of a substance, a setting, and the aims and goals of those who use the substance (i.e. a view that sees addiction as something that people *do*), the prevailing notions tend to see addiction as something that *happens to people;* that is, as something imposed from outside by the inescapable pharmacological properties of an alien substance, rather than as a state negotiated through the more understandable channels of human desire and intention.' (Davies, 1997: vii).

There is still much contention in addiction circles about whether addicts are sufficiently autonomous, in control of their addiction and consequently accountable for their behaviour or whether they have significantly diminished agency (Tieu, 2010). Thus while the attempt to clarify definitions of addiction is not a novel exercise and indeed some may argue has been done to death, the implications of various conceptualisations of addiction for issues concerning free will, autonomy, self control, rationality, responsibility and blame are still a contested issue. With the advent of the disease model of addiction, the hallmarks of the definition of addiction became physiological dependence with associated tolerance, withdrawal and cravings. The difficulty lies not in accepting that these biological process occur but rather in deeming them to be 'inexorable, universal and irreversible and to be independent of individual, group, cultural or situational variation" (Peele, 1985:1). Addicts came to be depicted as a 'species standing on their own' (Davies 1997:38).

² In the medical model the 'site' of addiction is seen to reside in the biology of the individual. Other models contend that while the foundation of addiction may be psychopharmacological and physiological, any human behaviour is expressed within a social, historical and cultural context (Peele, 1985; Orford, 2001)

Tied in with the idea of a disease state is the presumption that addiction is characterised by inevitable progression with abstinence as the only solution. The research however attests to the contrary; Edwards (1977) and others (e.g., Armor et al 1976) have shown that controlled involvement with alcohol is possible. Similar findings have been reported for a variety of addictive behaviours, for example, for gambling (Russo et al, 1984), for eating (Greenfeld et al, 1991), for cocaine use (Seigal, 1984), for heroin use (Zinberg 1984) and for smoking (Shiffman, 1989). Recently cultural, social, economic and psychological factors are increasingly recognised as having an important role to play in addictive behaviour. This widening of the construct allows for inclusion of non substance based behaviours as addictions and testifies to the continuing functionality of the addiction concept.

CONCEPTUAL MODELS OF ADDICTION

A review of the literature reveals a rich tapestry of conceptual frameworks attempting to understand this concept of addiction. Consequently, addiction theory and intervention is caught in a labyrinth of contradictions. Most of the theories are insightful and capture important elements of what we understand as constituting addictive behaviour. However a critical read reveals that many a theory, viewed through the conceptual lens of the observer, seems to stem from a novel idea that accounts for only particular aspects of the phenomenon but does not account for others. The story of the three wise blind men who came across an elephant throws an amusing light on this issue: the first blind man touched the trunk and decided the elephant must be like a rope; the second touched the vast body and decided the elephant resembled a wall; and the third blind man touched the leg and concluded it must be like a tree. In the case of addictive behaviour, conceptual bias is perhaps accentuated as a result of the ever-changing definitions of addiction influenced by historical, political and economic influences (Reinarman, 2005). The term 'addiction' was, until recently, restricted to reference to dependence on substances. In the last two decades research has identified a number of behaviours as potentially addictive such as exercise, sex, gambling, video games, shopping and internet use (Griffiths 1997).

The idea that addiction or addictiveness is a property of substances is losing ground. Orford (2001) discusses how it is not to substances that we are at risk of becoming addicted, but rather to objects and activities of which substances are only a specific example. There is increased consensus that addiction can be demonstrated where no substance is involved. DSM 5's reintroduction of the term addiction and its inclusion of the behavioural/activity addiction of gambling is testament to this advance. Still addiction remains 'a contested state' (May, 2001). Theoretical frameworks of addiction may be broadly subsumed under four major conceptual models or constructs: the moral model; addiction as a biological construct; addiction as a psychological construct; and addiction as a sociological construct (Walters, 1999). Biopsychosocial models will not be discussed here as they are understood to be an attempt at integrating various models and borrow significantly from these four core perspectives.

The Moral Model and Classical Thought

The moral model of addictions has been, in the main, considered as an unscientific perspective rooted in religion and based on classical thought, which, through assigning blame, criminalises the addict and consequently impedes recovery. Classical thought, in seeking to answer the question of why people engage in any behaviour including substance use, gambling, excessive sexuality etc, focuses on the element of personal choice. An understanding of personal choice is commonly based in a conception of rationality rooted in the analysis of human behaviour developed by the early classical theorists, Cesare Beccaria and Jeremy Bentham. The central point of this model as applied to addiction is that first and foremost the human being is a rational actor who engages in an end/means calculation. Consequently people (freely) choose all behaviour based on their rational calculations. Choice, with all other conditions equal, will be directed towards the maximization of individual pleasure and can be controlled through the perception and understanding of the potential pain or punishment that will follow an act.

Those who advance this model do not accept that determining forces influence addictive behaviour but rather propose that there is something morally wrong with people who use drugs heavily or gamble excessively. The question begged here is 'are addicts sufficiently autonomous to control their behaviour?' Is it simply a matter of choice? This model (see Frankfurt (1971) regards the addict as one who consciously and willingly decides to engage in the behaviour on a regular basis. The addict is viewed as a free agent and is consequently culpable. Dalrymple (2006), for example, describes addicts as liars and manipulators, exaggerating their withdrawal symptoms. The core issue here is one of human agency. I argue that, as the addictive career progresses, the individual experiences gradually diminished agency, and becomes an 'unwilling addict' (Frankfurt, 1971).

Bandura (1999:214) in a sociocognitive analysis of substance abuse postulates that 'among the mechanisms of human agency, none is more central or pervasive than beliefs of personal efficacy'. I propose, like Bandura, that diminished agency is a consequence of subjective perception of loss of control, a sort of learned helplessness. This subjective perception of loss of control is contingent on physiological, psychological and social processes set in motion by increased involvement with the addictive behaviour. It will be later argued that addiction is best viewed in terms of a career trajectory existing along a temporal dimension. According to Tieu (2010:44)

'it is a person's lack of perspective of themselves as agents existing within that temporal dimension that renders them victims of their own short sightedness and thus diminished in their agency. This by no means renders them unable to refrain from drug taking when the moment requires, nor does it prevent them from admitting to a counsellor that they freely choose to take drugs, but to generalise them as willing participants who are fully responsible from moment to moment is to misrepresent the nature of free will and the complex ways in which it can become compromised.' The moral model has little therapeutic value and implies that addicts should be punished rather than treated. However, elements of the moral model, especially a focus on individual choices, have found enduring roles in other approaches to understanding and intervening with addicted individuals. Currently the need to reconsider this model is being raised (see for example Walters, 1999), redefining its bases in scientific terms and recovering the notion of personal responsibility, not only for overcoming addictive behaviour but also for its development.

The Medical Model

The medical model, looks to an inescapable biological source for addiction. According to May (2001: 385), "As a medical phenomenon, addiction is founded upon the subordination of personal agency (and thus the possibility of individual control) to some hypothesised pathological mechanism." Two main explanatory frameworks within this tradition posit biological mechanisms: genetic theory and neuroadaptation theory. The latter is the most popular of these in accounting for addictive behavior. Vrecko (2010) emphasises that while the rise of addiction neuroscience was able to occur because of favourable political and funding conditions, one cannot neglect the fact that it has been an extremely productive position and has contributed to an almost universal acceptance of addiction as a disease of the brain. This position has not however been without its critics. Still, the medical model continues to be popular because it is the official position held by the National Institute on Drug Abuse (NIDA) which funds circa 85% of the world's research into addiction (Vrecko, 2010). It is a position that is most readily applied to substance use and is harder to reconcile with the idea of behavioural addictions.

The revolutionary discovery of receptor sites in the brain on which drugs act, by Snyder and Pert at John Hopkins University in 1973 was crucial in this regard although Collier's seminal hypothesis way back in 1965 had already posited the existence of such mechanisms. Vrecko (2010) writes that "A few decades later, addiction is no longer imagined as a brain disease; it is a brain disease as a matter of facts" The medical model contends that neurochemical adjustments lead to measurable tolerance and withdrawal. While it is beyond the scope of this paper to describe in detail the biological processes involved in addiction (for a review of this readers may refer to Leshner, 1997), one must stress that the idea of addiction as a brain disease is often in strong disagreement to the opinions of social scientists who instead emphasise the social and cultural elements of the phenomenon. The continued issue of susceptibility vs culpability (inherited from the temperance movement) is of particular importance here (May, 2001). Biological processes are necessarily involved in addictive behaviour as they are in all behaviour. People may, at times, feel constrained by their chemistry but humans are not controlled by chemistry alone. It is illogical to assume that once you have found the pharmacological correlates of behaviour, you have found the reasons for doing it since all behaviour has a psychopharmacological correlate.

Armstrong (1983) discuses how the medical model reduces human subjects to impersonal objects of clinical practice. The medicalisation of addiction has not, in fact, been wholly successful because while the medical profession claims with some certainly that it is able to diagnose addiction, recovery continues to depend on the motivation and will of the patient, unlike the majority of medical conditions. While the medical model generally explains addiction in terms of biological process, diagnosis is most often made in terms of psychosocial functioning and subjective states expressed by the 'patient' (May, 2001). Social scientists however need to be more attentive to the advances made within the laboratory based brain sciences and take biology more seriously (Kushner, 2006). A major limitation in the arguments of the medical model that makes it hard to apply to behavioural addictions is that recovery from addiction requires abstinence. Abstinence is not always desirable, with some behavioural addictions like sex, eating and shopping.

Adherents to the disease model often equate physical dependence with addiction. This is evidenced in a rather controversial paper by Nutt et al (2007) on the assessment of harm in relation to various substances. The authors write "*Physical dependence or addiction* (my emphasis) involves increasing tolerance, intense craving and withdrawal reactions." (p1048). Peele argues that the disease model is probably best viewed as a metaphor. He claims that few would suggest that addiction is a 'disease' in the strict patho-physiological sense, but the suffering associated with it is no less real. While the medicalization of addiction has allowed a pragmatic, humanitarian approach of demonstrable benefit to individuals and communities (as with methadone maintenance protocols), the metaphor may have been taken too literally by some. Dunbar et al (2010:3) contend that 'addictions have both social and organic etiologies and physiological and cultural sequelae......that have multiple triggers and pathways, ranging from the cultural to organic, but are probably informed by a combination that we could usefully consider a 'cultural biology'. Peele stresses that while the addictive experience 'stems from a pharmacological and physiological source", it "takes its ultimate form from cultural and individual constructions of experience." (1998:97) An explanatory model that describes well the reality of addiction must be able to account for non biological factors namely, cultural, social, situational, ritualistic, developmental and cognitive factors.

Psychological and sociological factors are important considerations even when discussing biological processes (see for example Zinberg's (1984) classic work on the impact of set and setting in the context of substance abuse). The lack of engagement of the medical model with the social needs critical interrogation. While Vrecko (2010:56) admits that the dominance of this perspective means that "the brain and the scientists laboratory have become obligatory points of passage for those who wish to produce truths about addiction" he continues by stressing that "the conditions required for producing such facts are historically contingent and dependent upon a range of social, political and economic factors that play an important role in determining what becomes a problem, what is imagined as a possible explanation and what possible explanations are actually investigated and brought into the realm of truth". It is argued that the medical model has been able to gain such popularity because it has been so well funded. Conrad and Schneider (1980) and Ben-Yehuda (1990) are among the many scholars who have revealed the hegemonic desires of dominant groups to gain widespread social acceptance of the disease model through the funding of micro level research.

Addiction as a Psychological Construct

Closely allied to the biological construct of addiction, its psychological counterpart also focuses on internalised processes but emphasises the person - behaviour – environment interaction as the central concern. According to Gifford and Humphreys (2007: 353), "addiction is not simply a physiological process, but the action of multi dimensional individuals behaving in a particular fashion in certain contexts". The psychological construct of addiction has matured into a host of theoretical frameworks and it is beyond the scope of this paper to review them here. A common theme is that addiction is seen as stemming from unmet psychological needs, engaged in as a means of escape. The Khantzian model of self medication (1997) for example asserts that addiction is engaged in, in an attempt to self-medicate suffering, to regulate lives and remedy negative affect. This model perhaps is best able to explain why some individuals are able to maintain a recreational form of substance use while others progress to addiction. While the relationship between negative affect and addiction is quite strong (see Clark & Sayette, 1993, for anxiety; Mayfield, 1985, for depression; McCromick et al, 1984, for problem gambling; and Quadland, 1985, for sexual addiction) the direction of this relationship remains unclear.

For negative emotional states to be considered a cause of addiction they should precede the onset of addictive behaviour. However, Walters (1995) in his review of both prospective and intervention studies concludes that negative affect is more likely to be a consequence rather than a cause of addictive behaviour. Alternatively one may argue that negative affect consequent to problems emergent from engagement in the addictive behaviour contributes to further involvement and the maintenance of addiction. Motivational models present a more agentic perspective; addiction is hypothesised to be a manifestation of human motivation rather than a 'loss of control'. Gillford and Humphreys (2007) argue that this seemingly out of control behaviour is actually an individual's response to their environment and options at the time. Motivational models (for example, positive and negative reinforcement, expectancies, self efficacy, etc) make sense of behaviour that otherwise may appear irrational. The social cognitive perspective has been hugely influential and testifies to the human capacity for self regulation. According to Bandura (1999: 214) '(p)erceived self efficacy constitutes a key factor in human agency because it operates on motivation and action not only in its own right, but through its impact on other determinants as well'.

Self efficacy beliefs influence individuals' goals, amount of effort expended and persistence in the face of difficulties. If an addict has self efficacy beliefs regarding his or her ability to stop engaging in the behaviour, this influences the goals he/she sets in terms of recovery, the effort expended and his/her attitude in relation to relapse. This approach views addicts as active in the face of biologically induced cravings – rather than waiting for cue exposure to extinguish the cravings, they use cognitive and behavioural self regulatory strategies to help them resist the craving. This has positive implications for intervening with addicted individuals in that addicts may be instructed on strategies such as delay tactics, using imagery to weaken cravings, visualising negative consequences and substituting activities for the addictive behaviour. The 'addictive personality' is another psychological framework that has attracted much lay and academic support. The argument that people engage in multiple addictions and switch addictions has been used to support this hypothesis.

However attempts to identify a core set of personality traits unique to addicted individuals have failed (Cox, 1985; Gaines and Connors, 1982; Walters, 1995). The overlap between the various addictions may be attributed to commonality in lifestyles. Another plausible argument is that maladaptive traits seen to be characteristic of addicts' character traits develop as a result of the addiction. Hence the direction of the relationship between personality and addiction is also dubious. Besides cultural and circumstantial factors play a strong role in the ways in which individuals deal with their problems, and thus, while there may be some strategies commonly used by addicted individuals, there would be too many differences to arrive at any coherent statement as to the common characteristics of all addicts (Miller & Rollnick, 1991). In discussing the lack of evidence for any distinctive personality types, Miller (1995:90) comments:

"Studies of character defence mechanisms among alcoholics have yielded a similar picture. Denial and other defence mechanisms have been found to be no more or less frequent among alcoholics than among people in general".

The addictive personality concept is reminiscent of the disease model of addiction and is equally reductionist and does not allow for personal agency. Learning theories have also had a tremendous impact on the psychological constructions of addiction and the basic principles of learning help us understand the interaction between the addictive behaviour, the person and the environment. Herrnstein's matching law theory (1961) for example explains how changes in reinforcement opportunities influence individual choice. Taking a cost benefit ratio approach, this model identifies how the cost benefit ratio of other activities impacts on the cost benefit ratio of addictive behaviour. Personal agency is clearly more present in this theoretical framework. Reinforcement too is also a "fundamentally personal phenomena a function of a muti-dimensional person interacting with a complex environment" (Gifford and Humphreys, 2007: 354). Learning principles have also been extensively applied in intervention settings and to understanding further the 'dynamic neurobiological processes involved in vulnerability to addiction" (Gifford and Humphreys: 355). The psychological construct of addiction can guard against the idea that because brain systems are involved in addictive behaviour, then all solutions should be biomedical. It is perhaps in the area of intervention that psychology has been most productive in the field of addictive behaviour, with psychology taking a leading role in the development of new theories for intervention. Thus psychology's contribution to understanding the field has been a valuable one. The major limitation in this construct, and one that can be attributed to any formulation of addiction that focuses on the individual, is that it has given limited attention to context (Gifford and Humphreys, 2007:356).

The Sociological Construct

The emphasis on context is perhaps the trademark of the sociological construct of addiction which theorises how addictive behaviour is acquired through socialisation within the family, the peer group, the media and subcultural affiliation and the adoption of a deviant role. Many sociologists understand addiction as being socially and culturally constructed rather than an entity that is discrete or easily identifiable. For example Reinarman (2004:308) discusses how a drug user's behaviour is 'forged in interaction with features of users' environments. What are taken as empirical indicators of an underlying disease of addiction consist of a broad range of behaviours that are interpreted as 'symptoms' only under some circumstances'. Zinberg (1984) for example explored how even biological processes such as withdrawal and loss of control (considered by those who adhere to the medical model as being the core identifiers of the 'state' of addiction) are not an inevitable outcome of use or engagement in a behaviour but are influenced by social contexts and psychological variables (Zinberg, 1984; Hanson et al, 1985). This approach is part of a wider understanding of deviance as socially relative, an approach popularised by Chicago school sociologists and most notably Howard Becker (1963).

Sociologists criticise the medicalisation of social deviance. Science, medicine and medical practice are not objective and value free but constitute a political tool that may be used for repressive practices while claiming that it is 'for their own good' (Reinarman, 2004: 317). Medical definitions have a high likelihood for dominance and hegemony. The definition of both substance and behavioural addictions as a social problem is contingent on several factors such as the social status of the user/addict, and the agenda of the social control agent (Skoll, 1992). Labelling theory throws much light on the process of becoming a 'junky' or 'junkification'. The label 'addict' becomes one's master status and core identification leading to behaviour that is congruent with that identity and role. Labelling theory is more agentic than either structural or functionalist perspectives on addiction in that it recognises the role the actor plays in the imputation of the deviant label.

ADDICTIVE CAREERS

It is being proposed that the most useful way of conceptualising addictive behaviour is utilising a career approach where behaviour is located as occurring along points on a continuum. This approach has been successfully applied to criminality and the model lends itself to providing a framework for studying addictive behaviour in the lifespan. An addiction career has a beginning (onset) and an end (desistance) and a career length in between (duration). Only a certain proportion of the population has an addiction career and engages in addictive behaviour. During their career addicts engage in addictive behaviour at a certain rate (frequency). The concept of career emphasises both subjective (eg identity change, feelings of loss of control) and objective (eg neuroadaptation, legal difficulties) contingencies encountered in the career path (Clark, 2006). In this regard Peele notes that "while in some cases addiction achieves a devastating pathological extremity, it actually represents a continuum of feeling and behaviour more than it does a distinct disease state' (1985: 2). On the one end of the continuum is behaviour involving no attachments, while on the other end is behaviour involving extreme attachment. The career concept emphasises the person's awareness of a past sequence of events associated with a particular identity, deemed significant by the individual and others and which is seen to extend into the future (Clark, 2006). The subjective point of view of the actor in relation to the path one's life is taking is given importance, while not ignoring the objective turning points in the person's life that are significant to the development of addiction. Studies of addictive careers explore why people start engaging in a certain behavior, why that behavior becomes more salient and frequent (escalation), how that behavior is maintained and finally why individuals desist.

While the addictive career is more often than not, non linear, for conceptual purposes, it may be explained as developing in four phases, although progression is not inevitable. It may be visualised as a corridor starting with tentative flirtations with the behaviour in question, followed by decreasing restraint and culminating in commitment. The corridor is flanked by doors leading into more restrained behaviour. The individual is able to exit at any of the available doors. This allows for controlled involvement and unassisted change, phenomena for which there is plentiful evidence: eg Armor et al (1976) for controlled drinking, Blaszczynski et al (1991) for controlled gambling, Siegal (1984) for controlled cocaine use and Biernacki (1991) for unassisted change from heroin addiction. Contingencies operate at different stages and are interpreted by the self in light of his/her psychological state, biological condition and social/cultural context. Still'the self system is not merely a conduit for external influences as structural and biological reductionists might claim. The human mind is generative, creative, aspiring and proactive, not just reactive' (Bandura, 1999:214). Onset or initiation, that is, the taking up of appetitive behaviour marks the start of the addictive career. Biological, psychological, social, cultural and situational factors increase one' susceptibility to initiating addictive behaviour.

Use may remain experimental or recreational and the individual may fail to progress along the continuum. While many individuals experiment with drugs, alcohol and gambling for example, Orford (2001:201) has shown how 'the majority of people are found to conform to a relatively moderate norm (or in certain sub-populations to an abstinence norm) with smaller and smaller proportions of people displaying consumption in excess of this norm to a greater and greater degree'. For those who move to the stage of escalation, once again a host of contingencies will facilitate overcoming the restraint that characterised the first stage. These include but are not limited to: tolerance, changes in risk assessment, learning, conditioned associations, expectancies and changes in social norms regulating behaviour. Commitment or the development of strong attachment constitutes the next stage. According to Carnes (1983:12-13) "the addiction surfaces in the addict's inability to manage his or her life....This unending struggle to manage two lives – 'normal' and addictive – continues. The unmanageability takes its toll." An addictive attachment is manifested by frequent engagement in the behaviour. A regular pattern of behaviour comes to be established, what in everyday parlance, has been termed a habit and the behaviour takes on increased centrality in the person's life (West, 2006).

Commitment implies that the behaviour will take precedence over other activities and also implies a refutation of alternative courses of action (Clark, 2006). This stage is also marked by preoccupation. Spending a significant amount of time engaging in the behaviour or preparing for it is indicative of this (Walters, 1999). When a person's thinking is dominated by the addictive behaviour, this leaves little energy left to concentrate on other aspects of one's life which come to be neglected, resulting in a reduction in adaptive functioning. Consequently commitment results in harm in a variety of contexts. Social, occupational and recreational activities are reduced or abandoned and the individual experiences recurrent physical, psychological or social problems. Perhaps the quintessential sign of having reached this stage is a *perceived* difficulty in reducing or giving up the behaviour, what has been termed dependence. Dependence may be physical (manifested by withdrawals) or psychological - that is - rather than depending on themselves and their faculties they come to depend on the addictive substance or activity for certain rewards and come to view this involvement as essential to their functioning (Peele 1985). Associated with the concept of dependence is the notion of perceived loss of control or lack of self efficacy over controlling the behavior in question. Walters (1999:10) defines this as engagement in the behavior longer than anticipated and lack of success in reducing or terminating the involvement. Orford (2001) emphasises that this loss of control is subjectively felt. "The subjective experience of having an inclination so strong that self control is severely diminished is a reality for people who experience strong and troublesome appetites" (Orford, 2001:263).

The individual experiences conflict between having a desire and wanting to control it. The presence of perceived self efficacy to control or desist from the addictive behaviour will determine whether the individual continues to engage in the behaviour in an excessive manner or returns to a more restrained engagement. The last stage of the addictive career, desistance, thus refers to giving up the excessive behaviour or returning to more manageable activity. Contact with a treatment agency will not always bring about desistance and it is hypothesised that it may actually increase commitment. When treatment modalities define the addict's behaviour as dependent and involuntary this reduces self efficacy for change and contributes to the development of an 'addict' identity. Through a process of social interaction with professionals who define addiction as a chronic relapsing condition, the addict comes to define himself as dependent and as having lost control. Defining behaviour as a medical issue diminishes responsibility from the individual and allows for the development of several justifications for the continuation of the behaviour in question (Clark, 2011). Peele argues that addicts often simply do 'what they have been told they could not help but do.' (1985 p.6) "Chaos narratives" characteristic for example, of heroin users in treatment are, according to Frank (1995) and Loseke (2001), "non-self stories," i.e., stories where the individual is depicted as having lost control over his/her life and therefore appears as helpless, unpredictable, and unreliable.

The narrative of the chaotic addict is clearly a non-self story about a person suffering from loss-of-control and needing the treatment-system's help. Evidence from ethnographic studies of heroin users (eg Faupel: 1991) show that heroin careers are not linear and that addicts move in and out of addiction. Desistance may happen with or without professional intervention but Bandura (1999:214) discusses how theoretical frameworks 'over predict psychopathology and the inability to overcome substance abuse'. While there are no firm boundaries between the points on the addiction continuum, attempts are underway to develop research and clinical tools that identify the severity of the addictive behavior eg the Internet Addiction Test (Young 1996), Diagnostic Screener for Compulsive Buying (Faber and O'Guinn, 1992). Several authors have developed their models of addiction utilizing the career approach. Peele (1985) writes how the person must first experience exposure to the substance or activity in question. They then learn to turn to the experience to modify feelings and in time come to abandon all functional coping efforts they used previously.

In time the addictive experience becomes sole means for asserting control over addict's emotional life. Desistance from the addictive behavior is possible if there occurs a shift in the mix of addictive and functional coping. Stress lessens, situations improve, successful experiences foster self efficacy and the addictive involvement becomes less necessary. The individual then comes to invest more heavily in activities that addiction interferes with and experiences increased rewards. In the final stage rewards are firmly established and there is no consideration of returning to the previous lifestyle. Orford also proposes a model to explore the transition from use to addiction (Orford, 2002) which he describes as a transition from appetitive behaviour that constitutes acceptable moderate indulgence to highly troublesome and noticeable excess, from consumption that is manageable to one that is unmanageable. Parker et al's (1998) General Progression theory posits that change in patterns of use, change in motivation and change in norms regarding use occur in the course of the addictive career. It is proposed that further research into addictive careers is in order.

CONCLUSION

Despite the volumes written on the subject, the existence of addiction, its causality, its progression and consequently how one might intervene with addicts remain contested and controversial. The continued utility of the concept is however evidenced by the fact that DSM-V plans to reintroduce the term 'addiction'. This paper has presented a discussion of the complexities involved in determining the implications, especially those for human agency, emanating from the construct of addiction. Different representations of the addiction construct have been discussed. These representations are located within various models, which frame and shape the understanding and the handling of the addicted person. Constructs of addiction, as they emerge from the dominant theoretical disease models of addiction, are mainly problematised since they accentuate the vulnerabilites rather than the strenghts and agency of the addicted person. Finally, this paper highlights the continued 'usefulness' and the validity of the addiction construct despite the complexities of its operationalisation and recommends further research on the career model. The challenge remains the development of a truly integrative and agentic approach to addiction.

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