Addictive craving: *There's more to wanting more*

Zoey Lavallee
CUNY Graduate Center

Forthcoming in *Philosophy, Psychiatry, & Psychology*

Abstract: The phenomenon of craving is widely taken to be an important, if not central feature of addiction. Craving is commonly appealed to in order to explain how addiction jeopardizes self-control, intentions, resolutions, and choice. While there has been notable discussion about the powerful effects of craving in the lives of people experiencing addiction, craving per se has received limited attention. The received view of craving is a neurobiological account which defines cravings as intense urges that result from the pathological effects of drugs on the dopamine system. This account has more or less been taken without debate to capture the phenomenology of addictive craving; in other words, to capture what is going on in the moment when an individual in active addiction or in recovery from addiction feels unable to resist the intense desire to engage in their addiction. In this paper, I argue that the received view of craving is inadequate; it misidentifies the content of addictive craving. I propose an alternative explanation of craving. Addictive cravings are psychologically complex desires that aim at emotionally significant experiences that are highly valued in the context of addiction. This alternative account of craving helps to explain why cravings are so intense and often extremely difficult to resist.

Keywords: addiction, dopamine, self-control, self-medication, value, phenomenology

If a list were compiled of all substance and process addictions, we would find ourselves with a long catalog, including heroin, methamphetamines, marijuana, fentanyl, exercise, pornography, gambling, cocaine, and video games, just to name a handful. Addiction is diverse. And in severe cases, addiction can have devastating consequences in the lives of addicted individuals. There is currently no widely accepted definition of addiction that crosses social, philosophical, scientific and medical discourse. In fact, there is no uncontested definition within any one of these domains. However, across fields of study, the phenomenon of craving is widely taken to be an important, if not central, feature of addiction. Craving is standardly described as an extremely intense urge to use a given substance or to enact an addictive behavior; a desire that, when it strikes, often overwhelms attempts at abstention. Craving is commonly appealed to in order to explain how addiction jeopardizes self-control, intentions, resolutions, and choice. The received view is that craving can be explained neurobiologically; cravings are the result of the pathological effects of drugs on the dopamine system.

While there has been notable discussion in philosophy about the powerful effects of craving in the lives of people experiencing addiction, craving in its own right has received limited attention. The neurobiological account of craving has more or less been taken without debate to capture the phenomenology of addictive craving; in other words, to account for what is going on in the moment when an individual in active addiction or in recovery from addiction feels compelled by an intense desire to engage in their addiction. On the received view, the intense desire is a desire for a particular addictive substance, or the immediate effects of ingesting that substance. However, I contend that just as the nature of addiction itself is open to debate, so is the nature of craving.

The default conception of craving is inadequate; it misidentifies the content of addictive craving. I propose an alternative explanation of craving. Addictive cravings are a peculiar, psychologically complex type of desire that aim at certain, emotionally significant experiences. I make the case that this account of craving helps to explain why cravings are so intense and often extremely difficult to resist. To substantiate my theory of addictive craving, I appeal to phenomenological evidence as per testimony on addiction; I draw on facts about poly-addiction and transferability of addictions; and I show how some prominent existing social and psychological models of addiction implicitly express the alternative understanding of addictive craving that I endorse. These factors taken together should push us toward a different conception of the content of craving in addiction.

The purpose of this paper is not to introduce new empirical data about addiction; rather, I show how existing data teach us something about the contents of people's addictive cravings which has been largely overlooked. This includes pulling together data on addiction from a range of psychodynamic and social models of addiction and I show how these data reveal that the content of addictive craving is not what the received neurobiological account claims it to be. In the moment when a craving is experienced as virtually irresistible by a person trying to abstain from engaging in their addiction, social and psychological explanations of addiction can help us to identify what is going on. Following this point, an important upshot of my account of craving is that it bolsters social and psychological models of addiction. A significant criticism that social and psychological models of addiction receive is that they do not give enough weight to the explanatory role that cravings play in addiction; by focusing on emotional and social reasons why people engage in addiction, they underappreciate the overwhelming and compelling nature of craving as a motivating factor. My theory of craving shows that the social and psychological models of addiction not only adequately address craving, but in fact, they are exactly identifying the content of cravings by explaining the factors that drive addiction. They make salient what is so special about the content of craving, where the received

view of craving fails to. I am making explicit the relationship between social and psychological causes of addiction and the content of addictive cravings. Regarding my appeal to phenomenology, I do not take first-person reporting to be conclusive evidence proving my account of craving, however it is information that strongly motivates the need to reconsider the nature of craving itself.[1]

1. The paradox of addiction

It is well known that addiction can come to have devastating consequences in the lives of addicted individuals, as well as in the lives of their families, friends and members of their communities. Addiction can cause harm to one's health and body, including brain damage; it can cause cognitive impairment, and it can lead to or exacerbate mental health problems. Addiction can harm a person's relationships, employment, community belonging, sense of self-worth and so on (Pickard, 2016, p. 280). Furthermore, people are commonly institutionalized and incarcerated as a result of their addictions. There are many very difficult questions to answer in discussing addiction, but one of the most significant is the following: in the face of such severe negative consequences, how can individuals with addictions possibly continue to engage in their addiction?

Most current theories of addiction agree that, while addiction can make choice very difficult, it does not override the capacity for choice entirely, and most also take seriously that what is special about people with addictions is that they have an incredibly hard time resisting addictive desire (see Pickard 2016; 2018, Berridge and Holton 2013; 2017, and Schroeder and Arpaly 2013, for example). In other words, there is at least one thing that most everyone in contemporary philosophy of addiction has come to agree upon: addiction involves intensely motivating desires to engage in the consumption of some substance or in some behavior, desires that, when they arise, can be extremely difficult to resist (though not literally irresistible). This kind of desire, so central to addiction, is what people call *craving*. With this in mind, understanding craving is central to understanding addiction. So, what type of desire is craving exactly? I contend that dominant neurobiological views do not pick out the desire that is typically driving behavior in the moment when a person fails to resist a craving. Thus, we need to reframe our understanding of the phenomenon of craving.

2. The received view of craving

Put in generic terms, the standard, neuro-level explanation of craving says that cravings are the result of addictive drugs "hijacking," or distorting the production of dopamine (Hendon, 2018, p.48). The specifics of how drugs have this effect, and thereby generate cravings, have been hashed

out in different ways,[ii] but what unites these neuro-level theories is that they explain cravings as pathological desires produced by the irregular impact of drugs on the dopaminergic system. Through repeated drug use, environmental cues become associated with an individual's drug-taking and, over time, these cues begin to trigger cravings— intense bodily urges to use the relevant drug. The outcome is that when cravings occur, controlling or resisting them is extremely challenging (Berridge & Holton, 2013, p. 239). Since, according to the neurobiological view, cravings are triggered by environmental cues, then when cues associated with drug taking are absent, the addicted individual will not experience craving, or at least, cravings will be less likely to arise (Herdova, 2015, p. 207). This is the dominant theory of what cravings are, how they come to be, and why they have such intense motivational force.

Now, while this is a good story of how certain kinds of desires are generated— desires for substances (and behaviors)—this account of craving doesn't actually capture as much about addiction as it is taken to. The desires described as cue-driven are not unique to addiction, and they do not capture the phenomenon of addictive craving that has been previously described. That is, the desires at play in the paradoxical moment when someone engages in their addiction in spite of the consequences and all efforts not to. Neuro-level hypotheses do not sufficiently account for these cravings *central* to severe addiction that help to explain why it is so extremely hard for people with addictions stop, and to not relapse.

3. Neuro-level explanation fails to sufficiently capture the phenomenon of craving in addiction

3.1. Most drug use and potentially addictive behavior does not lead to addiction

There are two significant features of addiction that are important to consider in assessing the received view of craving. First, not everyone who uses drugs repeatedly or engages in an addictive behavior across time forms an addiction. In fact, most people do not. In other words, not everyone who develops the type of desires described by neurobiological theories has the experience of being unable to resist craving when it arises, or relapses after deciding to stop, even though anyone who uses a given drug repeatedly will undergo the same stimulated dopamine release (Kalant, 2009, p. 784). If the neurobiological account of craving were sufficient to capture the intense desire that is so powerful in addiction, we should expect that drug use will cause addiction across the board. But this is not what happens.

The problem with defining addictive craving in terms of how drugs affect the dopamine system fits under a bigger umbrella problem in debates about addiction: the popular view that drug

use *per se* causes addiction. On neurobiological accounts of addiction, drugs are taken to be the primary cause. This is not to say that everyone who endorses a neuro-level account of addiction ignores external factors that influence drug use; however, while underlying social and psychological factors might be viewed as contributing to why people start using drugs, the effects of drugs on the dopaminergic system are taken to explain addiction. The belief that drugs are the cause of addiction has also continued to have significant popularity in public discourse.

But the impact that drugs have on the dopamine system doesn't cause addiction on its own. As Kalant (2009) puts it, "it is self-evident that a drug alone does not cause addiction because the great majority of those who experience its effects do not become addicted, even if the drug is one that is regarded as 'highly addictive', such as heroin or cocaine" (p. 785). Another clear example is that most long-term alcohol use does not lead to an alcohol addiction. The fact that it is common for ongoing drug use not to lead to addiction is counter evidence to the claim that repeated drug use, or repetition of potentially additive behavior, is the primary cause of addiction.

3.2. Not all addiction persists

Secondly, the dominant accounts of addictive desire fail to explain why so many people who develop addictions do in fact stop or grow out of their addiction, so to speak. Pickard and Pearce (2013) note that "the majority of addiction resolves itself without clinical intervention by the late twenties or early thirties" (p. 172). If the effects of drug use on the dopamine system consistently produces desires to use drugs that are overwhelmingly motivating when cued, we need an explanation of why so many people, as they age, in fact find these desires less motivating. Or, more importantly, we need an explanation of why some people do not grow out of addiction and continue to find that their cravings overwhelm their best attempts to quit. This is important to highlight in light of the hypothesis posed by Berridge and Holton (2013) that "since dopamine levels start to fall from the teenage years onward, the power of the cravings may themselves diminish" (p. 263). The neurobiological story of craving alone cannot explain why some people do not mature out of addiction, and continue to experience overpowering cravings that undercut resolutions and attempts to abstain, and in many cases, motivate relapse, even years into recovery. These two significant shortcomings of the standard neurobiological account highlight the need for further analysis of craving.

4. Addictive cravings don't reduce to urges

Not only do dominant accounts of craving fall short in these important ways, furthermore, they produce an inaccurate description of the nature of craving *qua* desire. On the received view, craving is predominantly defined as an urge, or the term craving and urge get used interchangeably. This is true in philosophy, and it is also common in psychiatry and psychology. For example, craving gets described as "intense urges" by Berridge (2017); "appetitive urge states" by Bellegarde and Potenza (2010); a "powerful, often overwhelming, urge" by Lowenstein (1999); an "urge" by Heyman (2009) and also by Elster (1999); "a form of impulse or urge" by Hendon (2018); and craving and urge are used interchangeably by Ainslie (2000). In other words, cravings are compared to bodily urges like thirst, hunger, the urge to urinate or defecate, or sexual desire. When cravings are distinguished from basic bodily urges, it is solely as a matter of intensity.

Bodily urges are commonly taken to be less psychologically complex than standard desires, say, the desire for love or for a sense of belonging. However, the standard description of craving as urge is mistaken about the object of craving. Dominant accounts of craving conclude that cravings either aim at drugs in virtue of expected pleasure, or they aim at addictive drugs *simpliciter*. (For an example of the latter option, Berridge and Holton, whose neuro-level explanation of craving is highly influential, argue that cravings are not instrumental desires aimed at pleasure, but intrinsic desires for the relevant drug (Berridge & Holton, 2017, p.160).) Both descriptions of the object of craving – expected pleasure, or a drug *simpliciter* – are misleading; cravings aim at psychologically complex experiences. Thus, standard definitions of craving leave out what is so distinctive about these desires central to addiction. This will be elaborated on in Sections 5 and 7.

How we conceive of craving matters. Throughout philosophy and public discourse, craving is given a central role in explaining addiction, failure to stop, and relapse. Cued cravings are said to be what interferes with self-control. But this framing of addictive craving, as an abnormal urge, draws attention away from critical aspects of the psychological and emotional experience of addiction, as well as, turning attention away from the social and psychological reasons why people begin and continue to use drugs and engage in addictive behavior. Conceptualizing craving as a desire for these particular emotional and psychological experiences, rather than as a bodily urge, gets at the nature of the desire that is taken to drive addiction in key moments. The received view of craving falls short in this task.

5. What addictive cravings are

To return to the central question at hand: in that puzzling moment when someone fails to resist the intense craving to engage in their addiction, what is the nature of that desire? Next, I will argue that the content of a craving is not a substance or a process *simpliciter*, and I will illustrate my alternative account of the content of craving with case studies from phenomenology, facts about poly-addiction and transference from one addiction to another, and in section 7 with literature from prominent social and psychological explanations of addiction.

5.1. The phenomenology of addictive craving

It is intuitively appealing that the object of a craving is a specific drug, for example, taking the object of a craving to be heroin, or cocaine. The craving is aimed at a substance, or at the pleasurable effects that getting high is expected to produce. For instance, when someone addicted to Benzodiazepines experiences a craving, they are experiencing a desire for Benzodiazepines or the immediate effects of being high on Benzodiazepines. This seems consistent with Berridge and Holton's thesis that cravings aim at substances *per se,* as well as theories that take cravings to aim at substances as a means to pleasure.

However, when addicted people describe addictive desire, the answer is not so simple. If you ask someone with an addiction to explain what happened in any given instance when they tried to abstain but failed to resist their addictive desire, what they say they desired is not always the drug or the behavior itself. In fact, it often isn't. When people with addictions describe the intense addictive desire that often overwhelms intentions, resolutions, and attempts to abstain, they commonly describe it as a desire to numb out or dissociate; to feel alive; to feel accepted or connected to others; to be alleviated of mental or physical distress or pain; to feel safe or secure; to not feel anxious or awkward, and so on. They describe psychologically complex experiences as the object of their desire. In other words, when someone experiences a craving, the desired effects of engaging in one's addiction are not simple immediate effects of being high, but something more existentially loaded.

Elster (1999) offers an example of his own that illustrates this feature of addiction. In reference to his former smoking addiction, Elster says "[Smoking] helped me to achieve a feeling of mastery, a feeling that I was in charge of events rather than submitting to them. This craving for cigarettes amounts to a desire for order and control, not for nicotine" (64). What examples like this show us is that addictive desire can take as its object a wide range of experiences—including the psychological experience of control and order. Consider another smoking case. People taking smoking cessation

medications, bupropion for example, which reduce or eliminate the desire for nicotine regularly continue to smoke. When someone feels an intense desire to smoke while being medicated to prevent desire for nicotine, the craving they have takes as its object something besides nicotine—for instance, relief from social anxiety.

In her memoir, Knapp's (1997) description of her alcoholism likewise demonstrates an addictive desire that represents an experience beyond intoxication: "The wine gave me a melting feeling, a warm light sensation in my head, and I felt like safety itself had arrived in that glass, poured out from the bottle and allowed to spill out between us . . . the discomfort was diminished, replaced by something that felt like a land of love" (p. 40) and "Growing up, I had an unsafe feeling. From early on, drinking provided the feel of a psychological safety net" (p. 69). Knapp is not simply describing the pleasurable sensations of being drunk, rather she describes experiencing a feeling of safety, comfort and love. It is important to seriously consider what these sorts of descriptions can teach us about craving, and about *why* it is that the addictive desire is often so hard to resist.

5.2. Transference and substitution of addictions

Poly-substance addiction is very common, as is the comorbidity of substance addictions and process addictions. Often someone with a particular substance addiction will develop addictions to other substances as well, and people can move on from one addiction to another (Steinberg, Kosten, & Rounsaville, 1992, p.120-132; Dodes, 2009, p. 384). In other words, addictions are often transferrable or interchangeable. As Maté (2009) notes, "Substance addictions are often linked to one another, and chronic substance users are highly likely to have more than one drug habit: for example, the majority of cocaine addicts also have, or have had, active alcohol addiction. In turn, about 70 per cent of alcoholics are heavy smokers, compared with only 10 per cent of the general population" (p. 214). Maté concludes that "the addiction process can change its forms of expression without altering its basic nature" (p. 218). The fact that poly-substance addiction and transference of addiction are commonplace has implications for how we ought to understand cravings.

In many cases when a craving arises, different substances and even different behaviors can relieve this addictive desire. Someone trying to abstain from heroin use might satisfy a craving by heavily drinking, or a poly-substance user might experience a craving that is satisfied by whatever substance is readily available. In the moment of an intense craving, the person desires a particular effect that they can get (or believe they can get) from a drug or behavior they are addicted to. How do we explain this? The desired effect is an experience, and that experience can be any number of complex

things—again, consider the first personal examples previously presented. When addictive desire overtakes a person, sometimes there can be multiple means to achieving the effect that the desire represents. For example, when an addicted person feels an intense desire to numb out, a range of substances or behaviors might achieve that experience. This would not be the case if the object of the desire were simply a specific drug-high or behavior. While the effect sought by a craving is not always psychologically complex and non-specific to the primary drug of choice, the common occurrence of transferability and interchangeability, especially in severe addiction, ought not to be overlooked. Consider Lau's description of her own addiction:

> "One substance replaced another, changing with the seasons. I gave up food for drugs, cigarettes for alcohol, moved fluidly back and forth, tried various combinations. As a teenager it was marijuana, LSD, tranquilizers, painkillers and cocaine. I binged on these drugs, finding a more complete oblivion through chemicals, a more extensive loss of self, of memory and pain. Candy is dandy, but liquor is quicker… and nothing is so quick as a few lines of white glitter, a syringe dripping with a morphine derivative. Even when the acid gave me bad trips, even when the world morphed into a greater nightmare than it already seemed, being high was still better than staying inside myself. I sought through drugs to be somebody else—anybody else" (p. 91).

This powerfully demonstrates how addictive desire can represent psychologically complex experiences that the addicted individual can seek to obtain by various means.

6. Why are cravings so hard to resist?

I began by noting a peculiar feature of craving: while there is an element of choice in addiction, addictive desires are often incredibly, if not uniquely, intense and difficult to resist. Why is this the case? At least in some circumstances, it is because cravings involve seeking certain sorts of experiences, rather than being urges directed at particular substances or activities, that they are so especially persuasive. I show how factors highlighted by some social and psychological explanations of addiction, such as personal trauma, mental health problems, dysphoric affect, sense of helplessness or powerlessness, socio-economic disenfranchisement, social disconnection, and emotional pain, are not factors additional to addictive craving; rather, they are in fact what *make* addictive cravings so strong. I show that these factors are explanatory in a way that others have failed to, namely that they reveal the real object of craving.

6.1. The role of temporally myopic decision making

Temporally myopic decision-making has been taken by a number of theorists to help explain addiction. In general, it is a typical trait of human psychology to discount the value of (often uncertain) future rewards as compared to certain imminent rewards (Pickard, 2018, p.15). For example, a person will commonly place a higher value on getting ten dollars now over getting twenty dollars in a year. Addiction has been explained by Ainslie (1992; 2000; 2018), Heyman (2009) and others as the result of especially steep hyperbolic discounting. In other words, hyperbolic discounting is used to explain why current drug use or engagement in an addictive behavior is so highly valued by an addicted individual in the face of the consequences of ongoing addiction. The typical explanation says that the drug or rewarding behavior itself becomes hyperbolically valued. This is the story Pickard (2018), for example, tells:

> "Some addicts may choose to use drugs because, in the moment of choice, they value drugs more than they value a possible but uncertain future reward, such as improved wellbeing with respect to health, relationships, or opportunities, which is consequent on long-term abstinence […] When the drug is within immediate reach, addicts may prefer use to abstinence, even if, when the drug is not within reach, they prefer abstinence to use" (p. 15).

Some conflation is going on here. While hyperbolic discounting theories might be right, there is a mistake in how they get applied to addiction—they have the object that is valued wrong. It is not that the addicted person hyperbolically values the drug or rewarding behavior *per se*, and that this explains a failure to resist craving. Rather, the hyper-valued object is the experience that the craving represents. Which, as I have now made the case for, is not getting high *simpliciter*. Consider cravings that aim at relief from psychological and emotional pain and distress. These are not simply reasons why people keep using drugs, as the social and psychological models that I will review explicitly posit. These features, so common to severe addiction, point to the kinds of psychological experiences that people with chronic addictions desperately crave: to numb out or dissociate; to be safe; to be in control; to be alleviated of mental or physical distress or pain; to not feel self-loathing, and the list goes on. Importantly, contra Pickard's explanation, these experiences are not only relevant when the drug is within reach. On the account I offer, these psychologically significant experiences account for the content of cravings, rather than substances or behaviors. These experiences are existentially loaded

and they are extremely psychologically valuable to the person experiencing addiction (Flanagan, 2018, p. 78).

Part of what makes the craving so powerful is the high value of its object, where this value is distinct from, and more emotionally complicated than the immediate effects of intoxication, or predicted pleasure. There are surely a range of reasons why some people are able to resist cravings. The craving account I offer provides the resources to make one reason salient. If the experience that is the object of ones craving loses its value, the craving is easier to resist. If the value decreases, the desire becomes less persuasive in the face of the long-term costs. For example, if someone is compelled by an addictive desire to experience alleviation from psychological distress, that desire will lose force if the individual no longer needs this relief. In other words, if the experience that the addicted individual craves becomes unnecessary.

6.2. The case of Vietnam veterans and heroin use

Consider the following case (Robins, Helzer, & Davis, 1975). In 1975, it was found that 20 per cent of US soldiers returning from Vietnam met the criteria for heroin addiction diagnosis while they were in active service. Barbiturates and amphetamines were commonly used as well. Importantly, prior to serving in Vietnam, less than 1 per cent of these men had been addicted to opiates (Maté, 2009, p. 134). It was feared that the United States would be faced with rampant addiction rates upon the men's return. However, unexpectedly, of the soldiers who returned home addicted to heroin, the remission rate was 95 per cent (Maté, 2009, p. 134). After heavy, persistent drug use, these men stopped abruptly, and remained abstinent. While in Vietnam, they faced intense psychological distress, both in the form of intense boredom and horrifying violence.

One explanation goes like this: the environmental factors motivated the men to use heroin, and because of how heroin affects the dopamine system, this caused the generation of pathological urges to continue to use heroin. But when they returned home, because heroin was no longer readily available and they were removed from the context of drug-related cues, these men were able to stop. An alternative interpretation, my interpretation, is that these men were experiencing intense cravings for the valuable experience of psychological relief, emotional numbing etc. Heroin was a vehicle to obtain the object of that desire. This aligns with Maté's (2009) assessment of the Vietnam veterans study: "These results suggested that the addiction did not arise from the heroin itself but from the needs of the men who used the drug. Otherwise most of them would have remained addicts" (p. 134). The addictive desire represented these psychologically complex experiences, and these experiences

held significant value beyond the basic effects of being high. When the soldiers returned home to civilian life, they no longer craved these experiences in the same way, at least not with such extreme force. Their addictive desire lost some of its punch, so to speak, and thus was easier to resist.

7. The nature of addictive craving in light of psychological and social models of addiction

On my account, addictive cravings are psychologically complex desires that aim at emotionally significant experiences. This view is motivated by theories of addiction that take social, psychological, emotional and identity-based factors to be reasons for addiction, over the chemical effect of taking drugs. I will appeal to social and psychological accounts of addiction to show that the neurobiological understanding of cravings, as urges aimed at particular substances, has misidentified the object of craving. While engaging each of these models in full goes well beyond the scope of this paper, I take the social and psychological models of addiction discussed in what follows to be evidence in favor of my alternative account of craving. By taking seriously the empirical evidence that social and psychological models introduce about the causes of addiction, we can see that part of what they show us is that the desires driving addiction, in that perplexing moment when a person feels compelled to engage in their addiction and cannot resist, are aimed at the kind of psychological experiences I have identified, not simply at substances and addictive behaviors. Each of these views contributes part of the explanation of why addiction involves the kind of craving I have defined.

7.1. Social and psychological accounts of addiction

There are a range of psychological models of addiction. Perhaps the most influential is Khantzian's self-medication hypothesis, first introduced in 1985, and which has been taken up extensively by others since then. The self-medication hypothesis is founded on the premise that in order to understand addiction we need to understand the reasons why people use drugs in the first place. The self-medication hypothesis argues that addiction results from people using drugs to treat painful affect states. In short, people use drugs to escape dysphoric feelings and become attached to the powerful emotional changes that drugs can achieve.[iii] Dodes (2009) defends a different psychodynamic model of addiction. Dodes argues that the psychological function of addiction is to get a sense of control, and to repair a sense of helplessness or powerlessness. People, for lots of different reasons, experience an intense feeling of overwhelming helplessness or powerlessness. They try to regain a sense of control by using drugs, or engaging in certain behaviors (like exercise, or gambling). This is done as an attempt to reverse helplessness (p. 382). Rather than take direct action

to address helplessness, drug use or other behavior acts as a substitute action, and then through repetition, this action develops the meaning of being the thing that will reverse helplessness (Dodes, 2009, p. 383). Maté (2009) explains the psychological and emotional causes of addiction as follows: "People are susceptible to the addiction process if they have a constant need to fill their minds or bodies with external sources of comfort, whether physical or emotional. That need expresses a failure of *self-regulation*—an inability to maintain a reasonably stable internal emotional atmosphere" (p. 226). On Maté's account, trauma, emotional loss and experiences of abuse are the central influences in addiction.

Other addiction models explain the social causes of addiction. These models focus on the social, economic and cultural factors that motivate addiction. Bruce Alexander's work on addiction has been hugely influential on social theories of addiction since the late 1970s. Alexander (2008) defends what he calls the dislocation theory of addiction. Dislocation, here, means a lack of psychosocial integration. Alexander explains that people turn to drugs and particular behaviors as a way of adapting to emotional effects of sustained dislocation; for example, "unbearable despair, shame, emotional anguish, boredom, and bewilderment" (p. 59). As he describes it, "[a]ddiction is neither a disease nor a moral failure, but a narrowly focused lifestyle that functions as a meagre substitute for people who desperately lack psychosocial integration" (p. 62). Ultimately, Alexander attributes the dislocation that leads to addiction to broadscale societal fragmentation.

7.2. Addictive craving in relation to social and psychological models of addiction

All of the above models of addiction highlight different background conditions that explain why certain experiences tend to be so valuable to people with addictions. Khantzian points to the need for experiences such as emotional numbness and dissociation; Dodes highlights the desire for the experience of control and order; Maté points to emotional and psychological experiences that are desired as a result of trauma; and Alexander discusses other needed experiences, such as euphoria or feeling alive, as a result of severe boredom. These theories all describe people who are seeking certain psychological and emotional experiences, and who use addictive substances and behaviors in an attempt to achieve these experiences. What is not made explicit in these accounts of addiction, but can be inferred from all of them, is that understanding addiction as the result of social and psychological causes calls for a new analysis of the paradoxical moment when a person fails to resist the compelling desire to engage in their addiction. Each of the social and psychological addiction models discussed explains some of the reasons why people with addictions begin and continue to use

drugs and engage in addictive behavior, in spite of negative consequences. And they implicitly teach us something else important; namely that neurobiological accounts do not get at the nature of craving, because they misidentify the content of craving.

My theory of addictive craving provides a phenomenologically grounded account of what is going on, in the context of addiction, when intense cravings overwhelm intentions to resist engaging in one's addiction. My aim is not to reveal new facts about the social and psychological *causes* of addiction; rather, my theory reveals how these facts relate to the content of the desires that are at play in that crucial moment when an addictive craving outweighs considerations of the consequences of ongoing addiction.

8. The question of comorbidity

It is important to address the matter of comorbidity of addiction and other psychiatric conditions. One way this has been described is as the distinction between primary addiction (where other psychiatric disorders are not concurrent), and secondary addiction (where other psychiatric disorders are concurrent). There has been significant debate regarding the causal order of addiction and other psychiatric conditions. For example, does addiction originate separately or as a result of, for instance, manic depression or schizophrenia? This concern has been raised as a problem for the self-medication hypothesis. However, defenders of the self-medication hypothesis have argued that, regardless of the origin of painful feelings, if these feelings lead to drug use and addictive behavior, the self-medication hypothesis is still explanatorily powerful. Levy for instance says that "there is high prevalence of people who suffer from both psychiatric and substance use disorders […] Regardless, suffering and emotional pain are drivers for substance use" (p. 15). Along a similar line of thought, I take it that the issue of comorbidity is not a problem for my theory of craving. My model is compatible with cases where people have concurrent psychiatric disorders. Regardless of causal order, psychiatric conditions seem like cases of background conditions that can motivate the intense desire for the kinds of existentially loaded experiences that I am interested in. For example, in the case of manic depression, there may be particular emotional experiences that become especially important to achieve, specifically because of the symptoms of manic depression. I concede that there may be some extreme cases where addictive behavior becomes involuntary due to an underlying psychiatric condition (if we understand involuntary here to mean that the actions taken are extremely causally overdetermined by the mental state of the individual, not that the behavior is literally compulsive). However, even in such cases, it is plausible that the kind of craving I define is a part of the story of jeopardized self-control and relapse.

Conclusion

Craving is the term that is used to describe the overwhelming desire that, when it strikes, overrides attempts, intentions and resolutions to abstain from drug use or engaging in an addictive behavior, and that leads to relapse, even in the face of severe consequences. In this paper I argued that the received neuro-level explanation of addictive craving needs to be reconsidered, and I have proposed a new conceptual understanding of addictive craving. My account of craving cuts across substance and behavioral addictions in ways that the conventional understanding of craving cannot. And I have demonstrated how social and psychological models of addiction implicitly call for this alternative to the received view of craving.

One of the central contributions that neuro-level explanations of addiction claim to provide is an account of what addictive desires are and why they have such intense motivational force. Accordingly, neuro-level theories are expected to help us understand why ongoing drug use jeopardizes self-control—drugs impact the brain such that intensely motivating cravings are triggered when individuals encounter environmental cues that have become associated with their drug use, and these desires overwhelm attempts to abstain. So construed, neuro-level explanations have too narrow a perspective on the influences on addictive behavior and therefore fail to provide a sufficient account of addictive desire, and fail to explain why cravings are especially motivating. I have proposed that what makes addictive cravings uniquely strong is not a matter of how drugs interact with the brain's reward system, but rather, it is the outcome of the particular psychological and emotional content of the cravings experienced by people with addictions, and how this content becomes myopically valued. An adequate neuroscience of addiction must integrate with phenomenological, psychological, and social factors, rather than circumventing these.

If craving is a central phenomenon at play in active addiction and relapse – and it is widely agreed to be – then how we understand craving will impact what solutions and support we consider appropriate for someone failing to resist cravings. If we take for granted the neuro-level definition of craving, it gives the impression that the physiological aspect of physical dependency is what needs to be dealt with in order to allow people to resist the motivation to use, and to not relapse. If instead we understand cravings as psychologically complex and aimed at the particular kinds of experiences that I have described, and if these experiences are most valuable to people who are socioeconomically disenfranchised, have histories of trauma, and have comorbid mental disorders, then addressing or treating cravings is inseparable from treating these underlying causes.

References

Ainslie, G. (2018). The picoeconomics of addiction." In H. Pickard & S.H. Ahmed (Eds.), *The Routledge handbook of philosophy and science of addiction* (34-44). London and New York: Routledge.

Ainslie, G. (2000). A research-based theory of addictive motivation. *Law and Philosophy, 19,* 77-115.

Ainslie, G. (1992). *Picoeconomics.* Cambridge: Cambridge University Press.

Alexander, B. (2008). *The globalisation of addiction: A study in poverty of the spirit.* Oxford: Oxford University Press.

Bellegarde, J.D. & Potenza, M.N. Neurobiology of pathological gambling. In D. Ross, H. Kincaid, D. Spurrett, & P. Collins (Eds.), *What is addiction?* (27-52). Cambridge: MIT Press.

Berridge, K. (2017). Is addiction a brain disease? *Neuroethics, 10,* 29-33.

Berridge, K. & Holton, R. (2017). Compulsion and choice in addiction. In N. Heather & G. Segal (Eds.), *Addiction and choice: Rethinking the relationship* (153-170). Oxford University Press.

Berridge, K & Holton, R. (2013). Addiction between compulsion and choice." In N. Levy (Ed.), *Addiction and self-control: Perspectives from philosophy, psychology, and neuroscience* (239-68). Oxford: Oxford University Press.

Dodes, L. (2009). Addiction as a psychological symptom. *Psychodynamic Practice,* 15(4), 381-393.

Elster, J. (1999). *Strong feelings: Emotion, addiction, and human behavior.* Cambridge and London: The MIT Press.

Flanagan, O. (2018). Identity and addiction. In H. Pickard & S.H. Ahmed (Eds.), *The Routledge handbook of philosophy and science of addiction* (77-89). London and New York: Routledge.

Hendon, E. (2018). Addiction as a disorder of self-control. In H. Pickard & S.H. Ahmed (Eds.), *The Routledge handbook of philosophy and science of addiction* (45-53). London and New York: Routledge.

Herdova, M. (2015). Simply irresistible: Addiction, responsibility, and irresistible desires. *Journal of Cognition and Neuroethics, 3*(1), 195-216.

Heyman, G.M. (2009). *Addiction: A disorder of choice.* Cambridge: Harvard University Press, 2009.

Kalant, H. (2009). What neurobiology cannot tell us about addiction. *Addiction,* 105, 780-789.

Khantzian, E.J. (1985). The self-medication hypothesis of addictive disorders: Focus on heroin and cocaine dependence. *American Journal of Psychiatry,* 132, 1259-1264.

Khantzian, E.J. (2017). The theory of self-medication and addiction. *Psychiatric Times,* 34(2), 1-2.

Knapp, C. (1997). *Drinking: A love story.* New York: Dial Press.

Lau, E. (2009). More and more. In L. Crozier & P. Lane (Eds.), *Addicted: Notes from the Belly of the Beast,* 2nd edition (83-96). Vancouver, Toronto, Berkley: Greystone Books.

Leshner, A. (1997). Addiction is a brain disease, and it matters. *Science 278*(3), 45-47.

Levy, M. (2019). The many faces (and potential dangers) of self-medication as an explanatory concept for substance use. *International Journal for the Advancement of Counseling,* 41, 15-24.

Levy, N. (2013). Addiction and self-control: Perspectives from philosophy, psychology, and neuroscience. In N. Levy (Ed.), *Addiction and self-control: Perspectives from philosophy, psychology, and neuroscience* (1-15). Oxford: Oxford University Press.

Lowenstein, G. (1999). A visceral account of addiction. In J. Elster & O. Skog (Eds.), *Getting Hooks: Rationality and Addiction* (235-264). Cambridge: Cambridge University Press.

Maté, G. (2009). *In the realm of hungry ghosts: Close encounters with addiction.* Toronto: Vintage.

Pickard, H. (2018). The puzzle of addiction. In H. Pickard & S.H. Ahmed (Eds.), *The Routledge handbook of philosophy and science of addiction* (9-22). London and New York: Routledge.

Pickard, H. (2016). Denial in addiction. *Mind and Language 33*(3), 277-99.

Pickard, H & Pearce, S. (2013). Addiction in context: Philosophical lessons from a personality disorder clinic. In N. Levy (Ed.), *Addiction and self-control: Perspectives from philosophy, psychology, and neuroscience* (165-89). Oxford: Oxford University Press.

Robins, L., Helzer, J., & Davis, D. (1975). Narcotic use in Southeast Asia and afterward. *Archives of General Psychiatry,* 32, 955-961.

Schroeder, T. (2004). *Three faces of desire.* New York: Oxford University Press.

Schroeder, T. & Arpaly, N. (2013). Addiction and blameworthiness. In N. Levy (Ed.), *Addiction and Self-Control* (214-238). New York: Oxford University Press.

Steinberg, M.A., Kosten, T.A., & Rounsaville, B.J. (1992). Cocaine abuse and pathological gambling. *American Journal on Addictions,* 1, 120-132.

Volkow, N., Fowler, J.S., Wang, G.J., Swanson, J.M., & Telang, F. (2007). Dopamine in drug abuse and addiction. *Archives of Neurology*, 64, 1475-1479.

[i] In discussing addiction, I don't use the term addict. This terminology promotes a tendency to essentialize the identities of individuals who experience addiction. The term addict can easily be construed to identify kinds of *people* ("addicts"), rather than kinds of experiences and behaviors that are characteristic or symptomatic of addiction. It is not my contention that using the term addict is inherently problematic—many people with addictions self-identify as addicts, particularly in the realm of 12-step recovery programs. However, in attempts to minimize reifying construals, I do not.

[ii] For some specific examples of dopamine system-based theories of craving, see Yaffe, Ross, and Schroeder and Arpaly in *The Routledge Handbook of Philosophy and Science of Addiction* (2018). See also, chapter 2 in Schroeder (2004), Berridge and Holton (2013); and Volkow *et al.* (2007).

[iii] It is worth noting that while my theory of craving fits with much of the self-medication hypothesis, it goes beyond the self-medication hypothesis. Addictive cravings do not only aim at experiences of freedom from emotional and psychological pain, though of course this is often going to be the case. Cravings can aim at positive experiences, such as social connection, self-confidence, a sense of belonging, self-worth, euphoria and feeling "alive." It could be argued that these are just the emotional flip sides of dysphoric feelings, but I think that is not quite right. To say that the content of craving can be positive experiences is different than saying cravings are the result of avoiding painful feelings. Consider, as Levy (2019) points out, while relapse might be the result of coping with intense stress or anxiety (i.e, experiencing an intense, overwhelming desire to experience relief, or emotional comfort, etc.), relapse can also be the result of wanting to feel the euphoria of getting high (i.e., an intense desire to feel *more*. Perhaps to feel more alive). The goal of feeling more alive, for example, is itself the experience that the intense desire aims to achieve. It is the content of the craving.