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Affordances and the Shape of Addiction

Abstract: Research in the philosophy of addiction commonly explores how agency is impacted in addiction by focusing on moments of apparent loss of control over addictive behavior and seeking to explain how such moments result from the effects of psychoactive substance use on cognition and volition. Recently, Glackin et al. (2021) have suggested that agency in addiction can be helpfully analyzed using the concept of affordances. They argue that addicted agents experience addiction-related affordances, such as action possibilities relating to drugs, drug paraphernalia, and drug-related activities, as aberrantly salient motivations for action. Building on this approach, we present a novel two-tiered affordance model of addiction. In doing so, we suggest that what is significant about the addicted person's world is not simply *what* affordances are experienced as salient, but also the *way* in which the addicted person's world is shaped by a dominant concern. It is not only that addiction-related affordances become more prominent as addiction progresses but that one's plurality of concerns become monopolized by and funneled through addiction. Our model endorses Glackin et al.'s idea that addiction-related affordances become aberrantly salient, while proposing why they become and remain so. This way of viewing agency in addiction also brings to light important implications for recovery and treatment. For, if an addicted person adopts a new, even "socially approved", dominant concern, there is a risk that the *shape* of addiction is preserved, even though the content changes, leaving an individual at the risk of addiction substitution or relapse.

Keywords: addiction, affordances, agency, addiction substitution, 4E cognition

Introduction

It is common for addiction to be characterized as involving diminished agency over addictive behaviors. Accounts of how agency is impacted in addiction typically adopt a *local* perspective, focusing on moments of apparent loss of control, where addictive motivation drives behavior. While such accounts offer differing explanations, they commonly ask how drug-use impacts cognition and volition in ways that constrain an individual's capacity for self-control over addictive behavior in particular moments. In this paper, we explore a more *global* perspective. We consider how the dynamic interactions between an agent and their environment, over time, systematically incline the agent toward addictive behavior by looking at addiction through the lens of affordances. We provide an account of how agency is diachronically shaped in addiction, and in doing so, we offer a distinctive and contextualized explanation of the localized constraints of agency that are viewed as paradigmatic of addiction in much of the philosophical literature.

Recently, researchers have suggested that addiction can be helpfully analyzed using the concept of affordances (e.g., Glackin et al. 2021; Hill et al. 2018; Miller et al. 2020).

Affordances are understood as action possibilities that agents experience the world as offering.

The affordances we experience are not fixed, they are shaped in relation our embodied capabilities, our interests, and concerns. Importantly, we experience certain affordances as inviting action and, in this way, they can influence how we behave. According to affordance-based approaches, addicted agents experience addiction-related affordances, such as action possibilities relating to drugs, drug paraphernalia, and drug-related activities, as aberrantly salient motivations for action. Addicted agents develop heightened synchronic sensitivity to these specific affordances, and this helps to explain how addictive behavior is driven in particular moments and, thus, ultimately sustained by one's environment. Such approaches

suggest that the world of an addicted person is suffused with addiction-related affordances, and this radically differs from the world of non-addicted persons. Consequently, combating addiction, at least in part, involves altering how the addicted person finds themselves in the world by limiting addiction-related affordances and creating new affordances. And, according to some, this can partially be done through changing the environment of the addicted person. An affordance approach, then, helps construct a picture of addiction that does justice to the way in which addiction is not merely ‘inside’ the individual, but arises and is sustained by the world, and offers alternative visions for therapeutic interventions.

Using Glackin et al.’s (2021) recent paper as our starting point, we develop a two-tiered affordance model of addiction. First, we introduce Glackin et al.’s initial account of how addictive behavior is motivated by synchronic sensitivity to addiction-related affordances, then we extend their account by exploring how addiction involves a diachronically structured way of life that enables the synchronic sensitivity to particular addiction-related affordances to develop and become habitualized. To do so, we argue that what is significant about the addicted person’s world is not simply *what* affordances are experienced as salient, but also the *way* in which the addicted person’s world is shaped by a dominant concern. It is not only that addiction-related affordances become more prominent as addiction progresses. Part of what seems to be involved, at least in more severe cases of addiction, is that one’s plurality of concerns – one’s commitments, projects, values, priorities, for example – become monopolized by addiction, and thus less diverse. As one’s concerns become less diverse, the plurality of salient possibilities for acting in the world is constrained, resulting in a less heterogeneous way of experiencing and interacting with one’s environment. Additionally, we explore how an array of significant concerns that remain in one’s life as addiction progresses begin to be pursued through the

addiction itself. This explanation, we suggest, avoids falling into the trope of presenting the addicted person and their life in overly reductive terms, as essentially defined by the object of their addiction, and as devoid of meaningful possibilities and projects; instead, we highlight how those possibilities, and the agent's dynamic interactions with the world, become structured by addiction. The framework of affordances serves as a useful conceptual bridge between features of addiction that are traditionally treated separately but are equally crucial for understanding how agency is shaped in addiction; namely, the local concerns and psychological processes of the agent on the one hand, and the social and material environment in which their life unfolds on the other.

We conclude by considering some upshots that follow from our account regarding addiction treatment and recovery. Our account suggests that to pursue sustainable recovery from addiction (abstinence-based or not) it is not enough to merely change *what* affordances the agent experiences in the world, i.e., reduce the salience of affordances related to the object of addiction and create new ones. For if an addicted person adopts a new, even "socially approved" dominant concern, the *shape* of addiction as a world-organizing and agency-structuring force may be preserved, even though the *content* changes. The particular addiction-sustaining affordances that are salient and inviting engagement in the environment can be altered, while *how* the environment invites engagement remains fixed, biasing the agent toward a new set of addiction-sustaining affordances. This might help to explain some cases of addiction substitution and relapse, as well as a similarity between substance and behavioral addictions. Ultimately, while we agree that counteracting addiction almost always requires changing the environment in some ways to remove addiction-sustaining affordances and to create new affordances, the relationship between a person's evolving concerns and the world also needs to be addressed. What our

analysis highlights is that strategies for bolstering agency over addictive behaviors may need to provide mechanisms for identifying which of an individual's concerns are being parsed through the addictive behavior and enabling diverse action possibilities for meeting those concerns in alternative ways.

The paper proceeds as follows: In section 1, we set out a brief summary of localized accounts of diminished agency in addiction and motivate the need for a global perspective. In section 2, we outline the concept of affordances and how our concerns shape which affordances solicit our engagement. In section 3, we introduce Glackin et al.'s (2021) preliminary suggestions for understanding addiction through the lens of affordances. Building on their account, we put forward a our two-tiered affordance-based analysis of addiction. In section 4, we finish by showing how our model might illuminate cases of addiction substitution, and we consider some broader implications for addiction treatment and recovery.

1. From a local to a global view of agency in addiction

Addiction is commonly conceived of, and experienced, as involving some form of reduced agency over addictive behaviors. This characterization of is on view, for example, in the Diagnostic Statistical Manual of Mental Disorders V (DSM-V), wherein impaired control is one of the four categories of symptom clusters included to describe substance use disorders (SUDs) (APA 2013). A significant body of philosophical work has focused on the question of how addiction constrains agency. This literature has been particularly occupied with explaining how addicted agents fail to exercise self-control in moments when addictive motivations guide action in the face of strong and competing motivations to abstain from the addictive behavior.

Prominent explanations of “self-control dilemmas” (Burdman 2023) in addiction can loosely be divided into two approaches (Henden 2018). According to the first approach, compromised self-control is a matter of volitional failure. Aberrant desires (or cravings) that result from the effects of ongoing drug use on the brain directly impede self-control.¹ These desires are excessively forceful and persistently override effortful resistance or attempts to abstain. According to the second approach, addictive behavior results from a cognitive failure. On these views, when addictive desires arise, they do not drive behavior directly, rather, they interfere with deliberative processes. At the time of choosing to seek or take drugs, addicted agents unreasonably shift, revise, or reverse their resolutions, preferences, or all-considered judgments for, or valuation of abstinence, usually in response to cravings.²

In general terms, both approaches seek to explain how drug-use and resulting addictive desires impact cognition and volition in particular moments, such that agency over addictive behavior can rightly be described as compromised by addiction. This explanatory project can be described as taking a *local* perspective on how addiction shapes agency insofar as the focus is on particular instances wherein addictive motivations drive behavior. Moreover, while presumably all of these views would agree that factors external to the agent – such as social and material conditions – influence addictive behavior, they tend to favor a relatively internalist perspective where the emphasis in explaining addictive behavior is on the aspects of addiction that are “inside” the (mind-brain-body of) individual.

¹ For example, Holton and Berridge (2013), Berridge and Robinson (2011, 2016), Schroeder (2004), Volkow (2007).

² For example, Levy (2006, 2011), Holton (2009), Heather (2017), Yaffe (2013), West (2006), Ainslie (2001), Wallace (1999).

These prominent approaches to agency in addiction are useful, insofar as they offer one theoretical route to better understanding the motivational states and psychological processes that drive addiction in particular moments and can illuminate distinct pathways and strategies for responding to them. However, it is important to note that addicted people are not only disposed to addictive behavior in moments when addictive motivations override their efforts to abstain, or synchronically interfere with deliberation and choice to enact the addictive behavior. As addiction escalates, a person's commitments, projects, priorities, values, desires, and self-regulation habits, can become progressively oriented toward addiction (Henden 2023; Pickard 2021), and the person can begin to organize their activity around addiction in a multiplicity of ways. As Miller et al. (2020, 5) put it, "their social life — the friends they meet, their work life, their relationship with partner and family — may gradually become organized around the sustaining of the way of life of [drug addiction]". As addiction becomes an organizing force in a person's world and life activities, addiction itself seems to limit an agent's ability to flexibly engage with their environment (Chinchella & Hipólito 2023). As Kemp (2009, 2) suggests, addiction might better be thought of as "a way-of-being, a form of existence which is lived at all times, not just when satiating certain impulses". These observations highlight that only when we take a diachronic view of how addiction saturates someone's way of life does the habitualized pattern of addiction (as opposed to local moments of loss of self-control) come into view.

It is also important not to lose sight of the fact that it is well evidenced that a person's environment plays a crucial role in the development and persistence of addiction. Deprived material environments (e.g., poverty, incarceration, lack of institutional resources such as healthcare and housing) and social environments (e.g., isolation, discrimination, and oppression) highly correlate with addiction. When life is economically and psychologically challenging,

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drug-use, for example, can be a reliable and (at least for a time) effective coping strategy (Khantzian 1985; Hogarth 2022; Maté 2009).

Together, these two observations suggest that more local analyses of agency and addiction that underemphasize global and situated features of addiction risk presenting an inaccurate, or at least incomplete, account of addictive behavior. Accordingly, there is at least *prima facie* reason to pursue a distinct philosophical project; namely, a global and relational analysis of addiction. From a global, relational perspective, a distinct question about agency and addiction surfaces. Rather than asking why addicted agents have diminished control over their addictive behavior in moments when they face simultaneous motives to use and to abstain, we can ask how the dynamic interactions between an agent and their environment, over time, systematically incline them toward addictive behavior.

2. Introducing affordances

The term affordance originates from ecological psychology. Gibson (1979) uses the notion of affordance to capture how organisms do not simply find themselves in neutral space, rather, the environment provides a meaningful space of action possibilities. Affordances are understood as what an environment “*offers* the animal, what it *provides* or *furnishes*” (Gibson 1979, 127). For example, a coffee cup is not simply experienced as a solid smallish object but as something that *affords* the possibility of being filled with hot liquid, picked up, and sipped from. The coffee cup might also afford the possibility of upregulating your current mood and aiding attention. Thus, we also experience the world as offering us affective affordances — possibilities for regulating

or changing our affective states (Hufendiek 2017; Krueger & Colombetti 2018; Krueger & Osler 2019).

Affordances are *relational* phenomena.³ They are not simply out there in the world but are constituted through the objective features of the environment and the embodied capacities of the organism. While the coffee cup might afford picking up and drinking for many of you, it does not have such an affordance for a baby or a giraffe. Given this relational dynamic, our bodies and capacities shape how the world appears to us as a space of possibility and action and, in turn, the way the world appears to us reveals aspects about ourselves as emplaced and embodied agents.

If affordances arise out of the relation between the environment and the embodied capacities of an organism, we might suppose that the world is filled with an overabundance of affordances. The room that you are sitting in right now might offer a seemingly infinite number of action and affective possibilities — from sipping coffee to making lunch to texting a friend to doodling on the wall. While an environment consists of manifold possibilities, we are not drawn to take up them all. Certain action possibilities are experienced as more salient to us, they *invite* or *solicit* us to act upon them (Bruineberg & Rietveld 2014; de Haan et al. 2013). When sitting down for breakfast, your coffee cup might be experienced as inviting you to sip from it in a way that the possibility of doodling on the wall does not.

This invitation or soliciting of certain affordances is often described as an affective pull or allure. There is much debate about how to characterize the affective pull or allure of some affordances rather than others. Broadly speaking, though, it is claimed that the affordances that

³ For discussions about the ontological status of affordances, see: Heras-Escribano 2020, Kiverstein 2020, Michaels 2003.

the world offers us which we find most inviting, that draw us in, are those that relate to our cares and concerns (Dings 2021; Krueger 2023; Maiese 2017; Rietveld & Kiverstein 2014). Our concerns include our “interests, preferences, and needs” (Rietveld & Kiverstein 2014, 342), understood to be shaped by the socio-cultural climates we inhabit. Concerns make us affectively responsive to certain affordances. A coffee cup may afford drinking from, but it draws you to pick it up when you are thirsty or tired in ways it does not if you are satiated, busy writing, or simply don’t like coffee. Maiese (2017, 181) describes how the salience or prominence of certain affordances is a bodily affective affair: “a spontaneous, pre-reflective, bodily way of filtering and selecting information in accordance with what matters to us” that affectively frames the world we find ourselves in. Hence different people can experience the same space as offering different meaningful possibilities for action. Importantly, there is a dynamical feedback loop between the environment and the embodied, concerned agent. Inhabiting an environment shapes the concerns a person has and, in turn, as that person engages with the world through their concerned perspective, the possibilities they experience the world having are experienced as particularly meaningful and salient.

Importantly, what affordances we experience the world as having and inviting us to act upon are not static. We have heterogeneous concerns that extend over time, and they can relate to, reinforce, or even come into tension with, one another. As such, the same space can be experienced as having different affordances depending on which concerns we are currently occupied with. Moreover, certain affordances can be particularly salient when they relate to more than one concern. For instance, the coffee might solicit drinking more saliently not only when we are thirsty but also have a pressing deadline on the horizon that we are keen to meet, or our phones might hold an unusually significant affective allure as they offer us action possibilities

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that relate to all manner of concerns from working, socializing, to procrastinating. Thus, Dings (2021) suggests that we should view our diachronic concerns not only atomistically but as holistically related to and embedded within each other, involving our varied values, commitments, projects, and sense of who we are. The distinction between all the possibilities that an environment might offer an agent, and the possibilities that a particular individual experiences as soliciting or inviting action in a particular situation are conceptually distinguished respectively through the topographical metaphors of a ‘landscape of affordances’ and a ‘field of affordances’ (de Haan et al. 2013). Whether an affordance crosses over from one’s landscape to one’s field is shaped by our concerns, normative situatedness, and the design of the environment.

What does this affordance framework tell us about action and agency? It points to the idea that agency emerges from a dynamic interaction between an individual and their environment. We are prompted to act in various ways by our material and social environments and our environments tend to support particular actions over others. Agency arises out of the intertwinement of an agent with their environment and “how we experience our agency, its possibilities and limits, will co-vary with the affordance spaces we encounter and create” (Krueger 2023, 7). Our agency is a situated affair, constrained and shaped by the world in which we find ourselves and, in turn, by the way our habits, capacities, concerns, and norms change how the world draws us in or not. Note that this framework accounts for the way that we often deliberately structure our environments to scaffold our agency by creating spaces that offer us particular affordances and make them especially salient. One may organize the space of one’s office, for example, in order to promote the salience of work-related affordances and reduce the salience of distracting possibilities (an ecological endorsement of the idea ‘out of thought out of mind’). This process of manipulating one’s environment is often described as *niche construction*.

While niche construction is typically discussed in a positive light, as a way in which we can use the environment to make certain actions easier, thus nudging our agency in various ways, there can be a dark side to niche construction (Coninx 2023). Altering our environments to prompt certain actions can lead to harm. For example, constructing a niche with the intention of making work-related action possibilities particularly salient could lead to back problems from sitting too long and loneliness from working too much. While these negative impacts can occur unintentionally, niches can also be constructed to hijack our agency by promoting certain affordances. Think, for instance, of the way that cities can be designed to deter certain behaviors in certain spaces (Kukla 2021; Osler et al. forthcoming), the design of casinos to promote gambling behavior through the removal of windows, attractive flashing lights, and free drinks (Timms & Spurrett 2023), and how the set-up of drinking establishments influences customers into buying alcohol (often without their awareness) by making alcohol-consumption possibilities highly salient and accessible (Hill et al. 2018). What this emphasizes is that agency can be subtly (and sometimes not so subtly) manipulated by influencing an agent's relation with the world around them.

3. Affordances and addiction

3.1. Glackin et al. on addiction and affordances

There is burgeoning literature on how affordances can help us understand (so-called) psychopathologies and inform treatment (e.g., de Haan 2022; Dings 2020; Gallagher 2018; Kjøster 2017; Krueger 2022; Krueger & Colombetti 2018; Maiese 2021). Affordance models of specific psychopathologies have also proliferated; for example, depression (e.g., Bague &

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Laurent 2023), obsessive compulsive disorder (e.g., de Haan et al. 2013), chronic pain (e.g., Coninx & Stilwell 2021), schizophrenia (e.g., Kim & Kim 2017), anorexia nervosa (e.g., Eli & Lavis 2022; Krueger & Osler 2020), social anxiety (e.g., Roberts & Osler 2023), and chronic fatigue syndrome (e.g., Byrne 2021).⁴ By enlisting the concept of affordance, these approaches aim to circumvent traditional dichotomies between the agent on the one hand and their environment on the other and seek to provide analyses of psychopathologies that shed light on how an agent's actions and experiences are relationally tied up with how they perceive and are situated in the world around them (and vice versa). The affordance framework, by revealing how our concerns shape what possibilities for action we experience as inviting and how the world itself draws us to act, holds promise for providing a relational and diachronic picture of agency in addiction.

Glackin et al. (2021) have outlined what they call an 'externalist' approach to addiction. In the final sections of their paper, they consider how the world of the addicted agent is different from the world of the non-addicted agent in terms of the kinds of affordances the addicted agent experiences the world as having and inviting action. What this means in the context of drug addiction, they suggest, is that the "'salience' [of drugs] as incentives to action is radically amplified" (Glackin et al. 2021, 5). To develop this idea, Glackin et al. appeal to the incentive-salience theory of addiction, which comes from research on the effects of drugs on the dopaminergic system and the resulting salience of drugs as incentives for action (e.g., Holton & Berridge 2013; Berridge & Robinson 2011; Berridge & Robinson 2016). According to the incentive-salience theory, ongoing drug use leads to stimuli in the environment that are

⁴ For in-depth discussions of the trend towards using affordances in psychopathology, see Dings (2020) and Krueger (2023), and for a critique of this approach, see Ratcliffe and Broome (2022).

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associated with drug-use (for instance, the drug itself, or drug paraphernalia or locations of regular use) having a pathologically heightened effect on motivation. These stimuli come to act as cues or triggers for drug cravings, understood as abnormally strong desires for the relevant drug that come to dominate the addicted person's action selection and behavior as they move through the world. And to use our terminology above, these stimuli come to have a strong affective allure for the addicted person. As Glackin et al. suggest, this incentive sensitization process "profoundly changes the drug-taker's motivational space, the agential structure of her environment" (2021, 5). Addiction-related features of the environment come to be aberrantly prominent in the addicted person's field of affordances, even where other affordances are available in the broader landscape of affordances.

An addicted person's agency, then, is shaped and constrained by the way the world appears to them, biasing them towards actions that are addiction-related. Through their amplified salience and allure, addiction-related things, people, and places draw the addicted person in. We might go so far as to say that drug-related affordances don't so much 'invite' action as 'demand' it (Dings 2018). And, as an individual continues to take up these affordances, their bodily affective responsiveness to such affordances becomes habituated, creating a feedback-loop where action serves to cement salience which, in turn, serves to drive action.

Glackin et al. (2021, 4), therefore, claim that the control an addicted person has over their actions is "at least substantially dependent" on the affordances they experience the environment as having. By recognizing the role that the environment itself is playing in addiction, they suggest that rather than attempting to alter the neurobiology or internal determinants of control of the individual, we might instead look to ways in which we can construct material and social environments that are "free from salient reminders of addiction... transforming her experienced

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relation to the world around her”. As such, they argue that treatment and recovery techniques can, and should, involve restructuring the material and social environment as a way to remove addiction-related affordances and, instead, help create a new affordance space or niche that supports non-addictive behaviors as alternative sources of reward.

Glackin et al.’s proposal seems to be supported by the fact that addiction flourishes in deprived material and social environments. There is significant evidence that such environments limit opportunities for engaging in the world in alternative ways to addiction (Pickard 2021; Lavallee 2023; Burdman forthcoming; Snoek, Levy, & Kennett 2016, for philosophical discussion of this evidence). In deprived environments, the salience of addiction-related affordances might proliferate, especially where there may be limited competing affordances in the landscape for sources of rewards. Hence, changing such environments is likely crucial for changing addictive behavior. As Kennett (2013, 162) suggests, changing addictive behavior “requires also that the agent sees himself as having other, better, *achievable* options. In the absence of such options agents may understandably [...] focus on the synchronic goods provided by drug use”. This brings a political dimension of addiction into focus – poverty and social deprivation are not only risk factors for developing an addiction but, through the construction of material and social spaces, ways in which addiction is sustained. Having little or no control over one’s private and public spaces, then, may be a contributing factor to continued addiction and raise the likelihood of relapse.

However, while addiction often does emerge and persist in comparatively deprived social and material environments, addiction can arise and persist even when the environment might hold diverse affordances for action and engagement beyond addiction. Indeed, friends, family members and communities who care for addicted individuals may struggle to understand why

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their loved one seems unable to reach out for help or accept their support when it is readily offered. Or consider cases of addiction in high-income populations, where rich material environments fail to restructure addictive behavior.

Having a rich landscape of affordances that an individual might potentially experience and take up may well be necessary for shifting addictive behavior, however, it is likely not always sufficient. If potential affordances fail to move from the landscape of affordances to an agent's field of affordances, then while these affordances may be present in some sense, they can fail to have a salient and inviting effect on the agent sufficient to be experienced as real possibilities for engaging in the world. Szalavitz (2023) uses a metaphor to describe her addiction and recovery, which seems to echo this suggestion: "If you are locked in a room with an escape route unknown to you hidden under the carpet, you are just as trapped as if that exit didn't exist. My recovery began when I saw that there was a bearable way out". "Trap doors" (affordances that support recovery, in our description) need to exist in order to offer alternatives to addictive behavior, but they also need to be experienced as salient, to solicit engagement. In order for altering the environment to support changed patterns of behavior, a change in salience and solicitation is required, such that new affordances are experienced as real possibilities. Thus, creating new affordances is a dynamic process, which likely does not solely involve changing the features of an individual's material and social environment.

3.2. Developing an affordance model of addiction

Glackin et al.'s externalist analysis brings into view the way that the *objects* of addiction, and directly associated pieces of the environment, come to dominate an agent's motivational space. But, while Glackin et al. focus mostly on the role of the environment in structuring the

affordance field in addiction, affordances are relational, and so the *concerns* of the agent play an equally vital part in structuring what possibilities for action appear available and relevant.

We propose that the objects of addiction or the addictive behavior itself can be described as becoming a *dominant concern* for the agent as addiction progresses. This description builds on a commonly recognized aspect of addiction, especially in its more severe and lasting forms: the object or behavior of addiction comes to have a monopolizing effect in the agent's overall set of valued priorities (or, in other terms, it changes their preference or priority structure). The addiction itself becomes a growing priority – and cares, commitments, projects involved in maintaining the addiction come to overpower day to day life. Other things the agent cares about, values, their longer-term projects and commitments that compete with the addiction, can become increasingly deprioritized.⁵

As noted, in the more localized explanations of agency in addiction, some theorists have suggested that in moments of addictive behavior, there is a *temporary* shift or re-ordering of values or preferences, placing immediate substance use above everything else. And this is taken to explain apparent failures of synchronic self-control in addiction. But other analyses of addiction have suggested that addiction leads to a more robust re-ordering of an agent's values, interests, projects, and commitments – one's diachronic concerns shift toward addiction, crowding out other concerns. Henden (2023, 7) notes that many addicted agents “experience difficulty in disengaging their attention, thoughts, and feelings from drugs” and because of this,

⁵ De Haan et al. (2013) offer a similar view of affordances in Obsessive Compulsive Disorder, suggesting that individuals experience affordances related to OCD as highly prominent in the field of affordances, even working to obscure other affordances. They suggest that OCD-related affordances can get in the way of affordances that really matter to them. As will become clear, while our account is largely compatible with de Haan et al's approach, we suggest that it is not simply that addiction-related affordances dominate the field of affordances, but this is, at least in part, because addiction-related affordances are experienced as *meeting* the concerns and interests of the addicted person, as the path through which what really matters to them can be realized.

“[t]heir practical perspective (what they notice, acknowledge, respond to, pick out as salient, and so on) will therefore be dominated much of the time by drug-related emotions, goals and preferences”. He suggests this may have a temporally extended crowding out effect on other concerns, as evidenced by the fact that addicted agents “typically experience a loss of interest in things and activities that they used to value, such as hobbies or spending time with family or friends” (ibid.). The DSM-V description of SUDs likewise notes the restructuring of valued priorities: “Important social, occupational, or recreational activities may be given up or reduced because of substance use [...]. The individual may withdraw from family activities and hobbies in order to use the substance.” (APA 2013, 483). Heyman (2009, 145) argues that using drugs across time undermines the value of competing rewards, such as social goods and activities. And Kennett (2013, 157) suggests it’s plausible that in some cases, “[d]rug use over time may lead to corruption or corrosion of the drug users’ values”.

This is the first sense in which addiction seems to involve a dominant concern: values, projects, interests, and commitments outside of addiction can become eroded or backgrounded, as the addiction itself becomes a monopolizing concern. And this helps to explain the field of affordances that emerges in addiction; a field dominated by possibilities that relate explicitly to the object of addiction. As other concerns are backgrounded, competing affordances in the landscape that might have been enabled by those concerns lose traction in the person’s experience of their environment, further amplifying the salience of affordances related to the dominant concern of addiction.

Highlighting the role of a dominant concern draws out the relational and diachronic aspects of what’s going on in cases where addiction appears to limit a person’s ability to flexibly engage with their environment (even where diverse opportunities in the landscape of affordances

may appear available from an outside perspective). That particular pieces of the environment structure the field of affordances by cueing motivational states that drive addictive behavior in specific moments is part of the picture, but the field of affordances is equally structured by a monopolizing concern that both contributes to amplifying the salience and allure of addiction related cues for action and prevents other affordances in the landscape from appearing in the addicted agent's affordance field. This highlights both the importance *and* the limitations of altering one's environment in order to interrupt an addiction-sustaining field of affordances, as a means of bolstering agency over addictive behavior.

At this point, a possible worry may arise about the implications of describing addiction itself as a dominant concern. There is a risk that this description paints a reductive and potentially stigmatizing picture of an addicted agent: that is, the image of a person who only cares about one thing – the thing they are addicted to – and who does not dynamically or purposefully engage with their life or the world through a range of interests, needs, values, projects. This image could perpetuate, for example, the harmful stereotype that permeates public mythologies about addiction of the “pleasure-seeking wonton” – the belief that addicted people are just “hedonistic pleasure seekers” (Matthews 2019, 13). In fact, research suggests that pleasure seeking does not motivate initial drug use in all cases, and even when it does, it often eventually stops playing this role (e.g., Matthews 2019; Kennett et al. 2013). Not only do reductive and essentializing stereotypes like this harm people experiencing addiction by, among other things, fueling public stigmatization, self-stigma, discrimination, criminalization, and shame,⁶ but they obscure a key component of addiction – a component that we will next attempt

⁶ See Matthews 2019 for an overview of evidence that stereotypes contribute to self-stigma that negatively impacts recovery.

to accommodate in our affordance model. Namely, addictive drugs and behaviors serve many meaningful purposes.

To avoid painting a picture of an addicted person as only concerned *with* the objects of addiction, so that only a small set of affordances in the landscape appear in the agent's field, we turn to how addiction becomes a concern-structuring force. This moves away from looking at *what* affordances might be highly salient in addiction, to looking at *how* addiction works to shape a person's experience of world-possibilities more generally. Importantly, we suggest this captures the way in which addiction does not just work to shrink down the affordances of an agent so that drug-taking to satisfy cued cravings, for instance, is the only affectively salient possibility that is experienced by an agent. Rather, we aim to show how addiction actually works to open up a whole world of affordances which, nevertheless, still incline the addicted person towards addictive actions.

This second dimension of addiction as a dominating concern is put in view by asking: what does addictive behavior afford? Addictive behaviors aren't only enacted to acquire the object of addiction for the immediate mental and bodily effects of engaging with it (be that drug intoxication or the immediate 'high' effects of addictive behavior). Addictive behavior serves a range of meaningful and valued concerns in a person's life (Lavallee 2020, 2023). As Pickard (2021, 4) argues: "drugs have tremendous values to people because of what they do for us: they are a means to many valuable ends". While addiction as a dominating concern in the first sense does act to obscure certain affordances in the landscape, simultaneously, addiction starts to become the funnel through which a range of concerns are parsed, so that one's addictive behavior also affords all sorts of action, affective, cognitive, and social possibilities.

Many valued priorities can start to be pursued through addictive behavior – things like social connection, relief from emotional or physical pain, finding meaning in daily life, emotion regulation, coping with symptoms of mental illness, self-confidence, cognitive performance, a sense of control over one’s world, and “other mind- altering and self-altering experiences, including spiritual experiences” (Pickard 2021, 4) (Müller and Schumann 2011; Pickard 2012; Henden 2023; Alexander 2018; Lewis 2011; Lavallee 2020, 2023). Influenced by Pickard (2012; 2018; 2021), we can see how addiction-related action possibilities – including the projects, activities, and behaviors they involve – can even come to serve the valuable function of providing one’s sense of identity and sense of community through reciprocal relationships with other people who use drugs and who have shared values, commitments, and experience of a social identity through their addictions. As Pickard (2020, 11) notes, this can be especially true for individuals who are in more severely marginalized and socioeconomically disenfranchised drug using communities: “Living on the margins of society, addicts may love, protect, and care for each other, while they face their collective daily need for drugs in a context of poverty, homelessness, disease, disability, and police harassment and violence [...] quitting using would involve quitting the community and these relationships.”

To put it simply, addictive behaviors can serve a wide range of one’s concerns, and in this sense, addiction is a manner of purposefully and dynamically interacting with the world. For example, Elster (1999, 64) describes how his smoking enabled him to feel a sense of control over his life: “[Smoking] helped me to achieve a feeling of mastery, a feeling that I was in charge of events rather than submitting to them”. If one’s concern for feeling in control mediates the salience of relevant affordances, and if drug use has become one’s reliable means of feeling in control, we can see how this concern (which is not about smoking *per se*) may amplify the

salience of smoking-related affordances. Or consider the high correlation between addiction and materially and socially deprived environments, as well as between addiction and mental illness (e.g., SAMHSA 2019; Jacobsen et al. 2001; Regier 1990), where an individual may be navigating living in a field of affordances that is bleak, distressing, even unbearable. Pickard (2021, 5) argues that in these conditions “drugs continue to provide relief from pain, fatigue, stress, boredom, negative emotions and psychological suffering (even if addiction creates its own suffering)”. In our analysis, in such cases, it is plausible that addictive behaviors serve the purpose of affording an *alternative* world, offering the possibility of *escaping* the existing field of affordances and creating a new one.⁷

As highlighted earlier, certain affordances will be especially salient when they relate to multiple concerns at once. If an individual’s addiction has come to be the primary way of interacting with the world in pursuit of such significant concerns as coping with stress and emotional pain, inhabiting meaningful social roles, and enabling one’s sense of self-identity, addiction-sustaining affordances can become dramatically more salient invitations for motivation and action, as they relate simultaneously to all of these significant concerns. Glackin et al.’s account explains addiction-related affordances as aberrantly salient; understanding addiction as involving a dominant concern in the second sense we describe helps to explain *why* they become and remain aberrantly salient.

In summary, addiction has a spreading effect in how it structures one’s fields of affordance. Some of an agent’s concerns may fade to the background in addiction as the object of addiction becomes a dominating concern in the first sense. But, at the same time, other

⁷ Thank you to Matthew Ratcliffe for this suggestion.

significant concerns are pursued through the addictive behavior. Addiction, in this sense of a dominating concern is a concern-structuring force: it begins to organize other meaningful concerns through the one behavior. The addiction becomes the filter through which the world is parsed, and, as other concerns are channelled through the addictive behavior, the agent's field of affordances is altered. Addiction does not only impact how an individual experiences the world's affordances because that person becomes overly concerned *with* the object of addiction, losing sight of other things they cared about. As addiction progresses, it organizes a person's global concerns in such a way that the addictive behavior becomes implicated *across* a range of concerns. In this way, addiction shapes how a person's diachronic concerns holistically hang together. Note that this renders addiction-related objects as highly salient motivators for action, as Glackin et al. suggest, while preserving the textured meaningfulness that the world still has for an addicted individual and their dynamic life-building activity in line with a range of valued priorities.

Importantly, our view accounts for the way that addiction involves synchronic sensitivity to specific addiction-related affordances, but moreover, it explains addiction as a diachronically structured way of life that enables this sensitivity to develop and become habitualized. Thus, the view we defend presents a global account of how agency is shaped in addiction that contextualizes particular moments of addictive behavior. As we explore below, understanding an addicted agent's concerns as holistically and habitually linked around one core concern has implications for recovery. Why? Because, if the object of addiction is removed but an individual retains the habit of organizing their life around one dominant concern, the architecture of addiction may stay in place, making someone vulnerable to addiction substitution or relapse.

4. Substitution, recovery, and the shape of addiction

4.1. Theoretical considerations

Addiction substitution (also referred to as addiction transference and cross-dependency) involves increased engagement with a secondary potentially addictive substance or behavior while one is in recovery from a primary addiction, such as substituting food for alcohol or drugs, drugs for sex, alcohol for smoking, gambling for video gaming, or food restriction for exercise. Not surprisingly, there is concern that when addiction substitution occurs, a second addiction might take hold. Substituting a substance or behavior for another can occur unintentionally or through deliberate choice and effort. Indeed, substitution addiction may be explicitly encouraged where a secondary substance or behavior is deemed less harmful.

While addiction substitution is commonly discussed in clinical practice and recovery, to the point of being dubbed part of clinical lore, evidence of the prevalence of addiction substitution is mixed. However, research shows that it is a risk for some people in recovery, and that when substitution occurs, treatment outcomes are worse and risk of relapse for the primary addiction is greater (Kim et al. 2021; Sinclair et al. 2021). As such, gaining a better understanding of addiction substitution has important implications for not only preventing secondary addictions from developing but for developing more robust recovery programs and reducing the risk of primary addiction relapse.

What does an affordance model of addiction tell us about addiction substitution? Imagine a case of alcohol addiction where Glackin's et al.'s proposed strategies for recovery are applied – the agent's environment is altered to remove the object of addiction, and to remove or avoid salient reminders of it. This individual clears all alcohol from their house, changes their daily

travel routes to avoid passing any liquor stores, avoids spending time with drinking buddies, and so on. Now, imagine that rather than adopting an array of non-addictive patterns of behavior, the agent substitutes in a new potentially addictive behavior, for example cannabis use. We might imagine a similar example where alcohol use has been substituted with exercise, which may, at least on the surface, appear to be a ‘positive’ substitution. The initial affordance model does not, obviously, help explain why a new set of addiction-sustaining affordances so readily becomes salient in the environment (i.e., the particular 'stimuli' or 'cues' to motivation may be completely different, but the new set of addiction related affordances keeps the same prominence in and structuring of one's field of affordances). So, what explains this?

One way to understand addiction substitution is to see the substitute as playing a similar role to the original substance. For instance, it is speculated that smoking and sexual behavior are commonly substituted for one another due to them both functioning as a form of “relaxation or escape” (Sussman and Black 2008, 170). One might organize one’s environment in a way that new objects are experienced as offering salient affordances by meeting the same cognitive, affective regulation, identity-related, or social concerns, for example, that the original objects of addiction once offered. Thus, the *object* of addiction as a dominant concern has changed from the primary to the secondary substance or behavior. This may be beneficial where the secondary substance or behavior is less harmful – physically, financially, socially, or otherwise. It may also reduce a person’s exposure to stigma where the new substance or behavior is viewed as more socially acceptable or even “healthy” or praiseworthy.

Why, though, could this particular strategy leave individuals at risk of relapse to the primary addiction? Applying our twofold affordance model, we could say that in these cases *what* is salient and inviting engagement in the environment has changed, but *how* the

environment affectively invites engagement has remained the same – namely, salience patterns being structured by a dominating concern, systematically inclining the agent toward one behavior in order to pursue a range of meaningful concerns. The “shape” of addiction persists, even though its object has been substituted, and the inflexibility of addiction remains intact. Indeed, one might even go so far to say that the term “substitution addiction” is misleading as it suggests a *new* addiction has taken hold; while there is a substitution of the object of addiction, addiction, understood as a life-organizing force through which an individual’s concerns are channeled, remains firmly in place. When the architecture of addiction still holds, the agent may also be vulnerable to relapse to the original addictive behavior, which can neatly slide back into place.

Even more speculatively, our account could have implications for thinking about where to draw the boundaries of what can qualify as an object of addiction. It is a live controversy where the edges of addiction ought to be pinned down; for example, whether people whose lives are structured around a dominant concern like work or exercise should be described as addicted. Take, for instance, the person who experiences the world through a monopolizing concern for work, such that not only do work-related affordances (e.g., laptops, books, the ping of an email) appear aberrantly salient in their field of affordances, but their concerns come to be filtered through work (e.g., working to relieve stress, resting in order to be ready for work, social connection with colleagues, providing for one’s family). First, our model might suggest that this could be robustly understood as an addictive lifestyle (perhaps giving weight to the term ‘workaholic’).⁸ Second, it might suggest that such people are vulnerable to something akin to

⁸ Our account doesn’t offer necessary and sufficient conditions for addiction and may only apply to a subset of cases. So it may be that, as in many standard descriptions of addiction, a life structured by a dominant concern is only

addiction substitution. For if this dominant concern is in some way disrupted, for example, the loss of a job or an injury that takes you off the football team, someone might be vulnerable to taking up or finding a new dominant concern that plays a similar world-organizing role. As such, this might be suggestive for thinking about people who are potentially vulnerable to certain kinds of addiction, such as SUDs, as the way their concerns are structured already mirror the shape of addiction.

4.2. Therapeutic considerations

While our account doesn't on its own spell out specific therapeutic or clinical strategies for recovery, we suggest it can give insight into why certain kinds of existing strategies for altering addictive behavior are potentially effective. Namely, strategies that can counteract addiction as a dominant concern on the second level; that is, strategies that work to dismantle the *shape* of addiction.

Avoiding triggers or cues in the environment that motivate addictive behavior seems to be important to many people's recovery process. This can occur by a person actively removing certain objects or people from their environments – i.e., through niche construction – or moving themselves to a new environment, for example in-patient rehabs. Such approaches address addiction as a dominant concern at the first level: removing addiction-related affordances might help one re-establish competing concerns that have become overshadowed by the monopolizing salience of the addiction-sustaining affordances and the looping effect they have on one's concern for the object of addiction. However, these strategies aren't always easily achievable or sufficient. Many individuals are not able to remove addiction-related affordances from their

addictive if it also involves escalating consequences, and inability to flexibly alter the behavior, despite these consequences.

environments for long periods of time, and while some people might fare well in in-patient rehab spaces, it is well documented that returning to one's home environment is a vulnerable moment in recovery. Where addicted people have primarily relied upon removing themselves from an environment, they can be left relying on demanding avoidance and coping strategies when addiction-sustaining affordances are re-encountered.

Our notion of addiction as a dominant concern in the second sense, as a funnel for concerns, also suggests that it is imperative to be sensitive to the implications of removing affordances from an individual's environment as a recovery approach. Such affordances may be salient and affectively alluring precisely because they are experienced as efficacious in relation to significant concerns. In removing those affordances, an individual may find themselves in a world that does not offer up alternative possibilities for engagement in relation to their cares and concerns. Consequently, encouraging someone to remove or avoid taking up addiction-related affordances may be like asking them to let go of having their concerns met – the things they care about – that are being fulfilled by the addictive behavior. Alternatively, the agent may be at risk of addiction substitution, for the reasons we've spelled out, and begin to organize a range of significant concerns around a different, but still singular, dominant concern, leaving the architecture of addiction preserved.

Expanding agency over addictive behavior in the more global sense that we're focused on can be fostered by therapeutic approaches that: (1) help the addicted agent to clarify *what* needs, projects, and values, including social roles and identity-work, are being parsed through the addictive behavior (there is likely greater and lesser reflective awareness of the purposes the addictive behavior has come to serve habitually); and, (2) once these concerns are identified,

support the addicted person to start exploring and accessing or building out alternative action possibilities for meeting these particular concerns in different and diversified ways.

Notably, what an affordance model importantly stresses is that this more global therapeutic approach does not have to take place merely ‘inside’ the addicted individual. Rather, environmental strategies can be employed to aid this process. Addiction recovery groups or peer-support groups might be an example of a sort of therapeutic approach that offers both kinds of recovery strategies: an individual can both expand awareness of the purposes their addictive behavior has come to serve, bolstering insight through the self-knowledge and narratives of other people with experience of addiction, and the groups can serve as social scaffolding that enables new life building activities – if the addictive behavior has come to structure one’s meaningful social roles, and sense of identity, for example, recovery groups can change one’s field of affordances not just by providing an alternative source of reward, but by replacing the addictive behavior to pursue the same meaningful concerns.

Conclusion

The initial affordance analysis from Glackin et al. highlights how pieces of the environment become implicated in the constraint of agency in addiction, insofar as salient reminders of the addictive behavior disproportionately solicit and invite action. This helps illuminate one way that external conditions like structural inequality are implicated in shaping agency in addiction: a deprived social and material niche further amplifies the salience of the addiction-related field of affordances, where alternative sources of reward are limited. Building on this analysis, we have suggested that, on one level, addiction as a dominant concern obscures competing affordances in the landscape – as, for example, some of the agent’s interests, activities, and social roles are

crowded out – and this does seem to shrink the diversity of valued priorities in one’s life, with the addiction itself coming to play a monopolizing role. This explains one aspect of inflexibility of engagement with the environment that addiction results in.

However, with the aim of avoiding a reductive picture of the addicted agent and their world and adding more nuance to an affordance-based approach, we have identified a second way in which the environment and the concerned perspective of the agent work in dynamic interaction to shape the field of affordances, and thereby agency. On the second level, addiction is a concern-structuring force. It begins to organize and funnel other meaningful concerns through one behavior. It spreads to other concerns, so to speak. Notably, the addicted individual habituates this practice of experiencing the world and their concerns through this organizing force, it becomes a familiar way of being in the world. In this way, addiction involves a second kind of inflexibility; the addictive behavior becomes a focal point for parsing a wide range of valued priorities, backgrounding other potential affordances for pursuing these concerns. Again we see here how particular environments exacerbate this form of inflexibility, for example, where many of the meaningful goods in life that a person values, is concerned with pursuing, are significantly inaccessible as a result of socioeconomic precarity or social isolation. In such cases, the addictive behavior may, in fact, be the most reliable means of engaging in the world, in pursuit of those valued priorities.

What comes into view, on our account, is the broader *shape* of addiction as a concern-organizing force that makes particular affordances highly salient and affectively alluring. This not only helps us provide a more global perspective on addiction, but gives us a framework to analyze the phenomena of addiction substitution and relapse. Our twofold affordance model lends credence to recovery approaches that promote counteracting the inflexibility of addictive

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behavior by restructuring the environment, especially where structural inequality, social and material deprivation co-occur with addiction, as well as approaches that provide strategies for (1) identifying the plurality of concerns that have come to be funnelled through addiction as a concern structuring force, and (2) expanding and diversifying alternative pathways for pursuing those concerns.

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