

# Addictions Between Pleasure and Pain: An Interdisciplinary Approach

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**Abstract:** This article examines the dynamics of pleasure and pain in the context of addiction from an interdisciplinary perspective, focusing on the neurobiological, psychological, and theological mechanisms involved. Addiction is a disorder of the brain's reward system and can result from a pursuit of pleasure that is misdirected toward a substance or behavior. The neurobiological perspective highlights the role of dopamine in motivating and sustaining addictive tendencies, showing how pleasure is gradually transformed into pain when sought in substances such as drugs, alcohol, or compulsive behaviors. The psychological perspective captures this mechanism in the “pleasure principle,” which highlights the human pursuit of pleasure and avoidance of pain, thus illustrating the inner experience of the addicted person. From a theological perspective, addictions are viewed in terms of sin or passions and represent a distorted orientation toward pleasures that lead to pain, while a reorientation of the self toward a relationship with God opens the possibility of experiencing authentic joy. By analyzing this aspect of addiction, it becomes clear that orienting toward the disordered pleasures associated with substances and behaviors can be countered by the pursuit of spiritual pleasures that can be experienced in communion with God and through the development of virtues.

**Keywords:** Addictions, Pleasure, Pain, Interdisciplinary, Virtues, Neurobiology, Psychology, Theology

## Introduction

Addiction is a complex phenomenon that negatively affects human beings from medical, psychological, and spiritual perspectives. Defining addiction is no easy task, and attempts to conceptualize it have given rise to several models aimed at defining it. A widely accepted way addictions have been explained is as the use of substances or behaviors motivated by the pursuit of pleasure and the avoidance of pain (Kennett et al., 2013). On the one hand, we all engage in complex behavioral patterns designed to generate happiness and a sense of well-being while, at the same time, avoiding pain and sadness (Peterson, 2003, p. 86). This lack of control seems paradoxical, since our emotional states are of the utmost importance to us. People are willing to go to great lengths to achieve happiness and avoid pain and suffering. This kind of pursuit has often led to substance abuse or other behaviors with destructive consequences for the human being (Peterson, 2003, p. 86).

Thus, the human pursuit of pleasure in misguided ways not only fails to lead to authentic pleasure but ultimately results in pain. Neurobiological research acknowledges how a misguided pursuit of pleasure through substances or behaviors ends up depriving the individual of precisely what they are seeking, and even causes pain that is usually greater than the pleasure initially derived. The psychological perspective also highlights this human pursuit of pleasure and avoidance of pain in Sigmund Freud's pleasure principle. From a

theological standpoint, true pleasure cannot be experienced without a person's relationship with God and the cultivation of virtues.

### **Addictions and pleasure**

Throughout history, various models have been developed in an effort to conceptualize addictions, such as the brain disease model, the choice model, the learned behavior model, and the moral model, each seeking to explain the complexity of addiction. Although no single model can fully account for this complexity, it is important to consider the motivations that lead an individual to become dependent.

The motivations underlying both the initiation and maintenance of substance use or harmful behaviors are diverse, and the models mentioned above also address the ways in which addictions develop. One model that has received relatively little attention in this regard is the liberal model. Foddy and Savulescu identified an important factor underlying the motivation for addictive behaviors: pleasure. In this regard, they developed the liberal model of addiction, which asserts that the motivation underlying addictive behaviors is pleasure, defined as “[a] conscious sensation produced by the brain that has the quality of being pleasant, satisfying, or enjoyable” (Foddy & Savulescu, 2010, p. 19). This research supports the idea that pleasure plays a decisive role in the onset of addictive behaviors, but it is not clear whether it also underlies their maintenance (Kennett et al., 2013, p. 4). This uncertainty may stem from the fact that in addiction, pleasure is not long-lasting and is often accompanied by pain.

### **The pleasure neurotransmitter**

Neurobiological research supports the idea that addictions can also be viewed as disorders related to appetite and individual cravings. These are defined as unwanted intrusive psychological states, characterized by a strong and compulsive desire to use a substance or engage in hedonistic behaviors (Auriacombe et al., 2019, p. 133). As a result of this action, the brain's reward circuit is strongly activated by the use of a substance or the engagement in a behavior, triggering feelings of well-being or euphoria (MacNicol, 2017, pp. 141–148). For example, food is a substance that can increase activity in the reward system by 45%, while cocaine or amphetamine increase activity by 500% (Hernandez & Hoebel, 1988, p. 1705). This feeling of well-being experienced after consumption leads to a return to the substance or a specific behavior, and as the activity is repeated, the pattern is reinforced just as with any other habit (Torregrossa et al., 2011, p. 613). Known as the “pleasure neurotransmitter” due to its association with the brain's reward system, dopamine reinforces behaviors by stimulating euphoria, thereby making the repetition of these behaviors likely. Due to the brain's reward mechanism, the repeated release of dopamine in the brain reinforces the behavior and transforms it into a powerful habit that is difficult to give up and very easy to return to. Reward mechanisms are triggered by certain stimuli that serve to motivate a specific behavior in order to obtain a reward.

Dopamine plays an important role in the development and maintenance of addiction due to its impact on motivation and decision-making. Extensive research in this field shows that dopamine is the primary neurotransmitter influencing addictive tendencies. (Olds & Milner, 1954, Robinson & Berridge, 1993, Wise, 2004). Although dopamine is responsible for producing feelings of well-being in the brain, the repeated artificial flooding of the brain with this substance, in addition to the tolerance it creates, leads to “an inability to produce and absorb one's own dopamine” (Foote et al., 2014, p. 49). As a result, there will be an increased need to artificially trigger this sensation, either through substances or behaviors. Thus, in order to experience the previously felt sense of well-being, the addicted individual will seek external stimulation and an increase in addictive behavior. Such a habit has

predictable effects on the brain's neurochemistry, leading to long-term changes that result in tolerance and dependence (Volkov, 2014). One of the consequences experienced is that as the pleasure produced by the release of dopamine decreases, depressive states are experienced more and more frequently (Dunlop & Nemeroff, 2007, p. 327)

The midbrain is responsible for sending dopamine projections via four distinct pathways (Martinez & Castillo, 2019). Each of these pathways is involved in pleasure. The first pathway, known as the mesolimbic pathway, originates in the ventral tegmental area and extends to the nucleus accumbens of the striatum. This particular pathway plays an important role in reward-seeking behavior and addiction. The second pathway, called the mesostriatal pathway, involves projections from the substantia nigra to the dorsal striatum, which is responsible for decision-making, motivation, and rewards. Its primary function revolves around cognitive processes and motor output. The third pathway, known as the mesocortical pathway, originates in the ventral tegmental area and extends to the prefrontal cortex, which is the brain's executive center, where the highest-level mental processes, behavioral control, attention, emotions, and motivation are located—an area where the process of reflection also takes place (Gheorghe et al., 2007). Research has revealed surprising findings regarding how, for example, drug use affects dopamine levels in the brain. According to the study, people who are addicted to drugs experience significant increases in dopamine, triggering the desire to seek out the substance or pleasurable behavior, despite the harmful effects (Volkov et al., 2010). One way these effects are experienced is through withdrawal, which highlights how addiction leads to a decrease in pleasure and an increase in pain.

### **From pleasure to pain**

A study conducted by Volkow examines the dopamine system in individuals struggling with addiction (Volkow et al., 2010). The research reveals surprising findings regarding how, for example, drug use influences dopamine levels in the brain. According to the study, people who are addicted to drugs exhibit significant increases in dopamine, triggering the desire to seek out the substance or engage in pleasurable behavior, despite the harmful effects (Michalak & Biala, 2015, p. 5).

One of these harmful effects is withdrawal, which plays a role in the maintenance of addiction. Once dependence has become physiological, discontinuing a habit or substance use will lead to withdrawal, a condition marked by a sense of discomfort arising from the disruption of the altered balances achieved through the use of a substance or behavior (Institute of Medicine, 1997, p.13). Stopping use or the activity triggers an unbearable state that drives the addicted individual to seek immediate relief, which is usually obtained through a substance. Substances and behaviors based on reward processes can sustain addiction by altering motivation through prominent stimulation, reinforcing compulsive habits, and facilitating impulsivity (Uhl et al., p. 6). When there is excessive stimulation of the reward system, the brain's stress system and sensitivity to adverse emotions are affected (Uusitalo & Kuorikoski, 2022, p. 296). A person who becomes addicted to drugs or other harmful behaviors loses the normal functioning of the reward system in exchange for the activation of the stress system (Uhl et al., p. 10). Constant exposure to activities that artificially trigger the reward system leads to the repeated suppression of the reward circuitry and an inability to naturally activate rewards, and this phenomenon induces a state of dissonance in the individual, leading them to return to drug use or engage in certain behaviors in order to temporarily escape the stress triggered by addiction (MacNicol, 2017, p. 142). At this stage, the addicted person no longer uses substances or engages in behaviors to feel good, but rather to avoid the negative feelings they cause, thus entering a vicious cycle that makes breaking free from addiction particularly challenging. This difficulty is exacerbated by the changes

that addiction causes in the brain, which result in the reprogramming of a person's desires and behaviors toward self-destruction.

### **The pursuit of pleasure and the avoidance of pain**

Neurobiological perspective highlights how, initially, the motivation behind addictive behaviors is the pursuit of pleasure, and how this desire gradually transforms into the need to avoid physical and emotional suffering. Ultimately, the only perceived source of pleasure comes from the relief of the stress and pain caused by addiction, a condition that the addicted individual attempts to control by resorting to substances or compulsive behaviors. The person feels compelled to use substances or engage in compulsive behaviors to avoid withdrawal symptoms and maintain a semblance of normality. Thus, following prolonged use of a substance or engagement in addictive behavior, what was once an enjoyable activity becomes a necessity fulfilled to avoid physical and emotional pain.

This idea is also supported from a psychological perspective. This mechanism can be observed in Freud's theories and is represented by the pleasure principle, which posits that humans are automatically programmed to seek pleasure and avoid pain (Freud, 1920–1922, p. 7). The choice of an addictive substance or behavior is essentially about immediate gratification and the avoidance of emotional or physiological pain, despite harmful long-term consequences. Freud employs the “conflict” model of personality, suggesting that personality is shaped by the mind's internal conflicts (superego, ego, and identity), which lead to a dynamic interaction in which innate desires, such as sexual desire, are constantly challenged by attitudes inhibited by society's norms, prohibitions, and taboos (Freud, 1990, p. 144). While the id opts for immediate gratification because it operates on the “pleasure principle,” the ego opts for the “reality principle,” which takes into account the consequences of certain behaviors or actions. Furthermore, the part of the personality called the superego acts on the basis of moral or idealized instincts (Chandak, 2022, p. 25).

Through Freudian theories, it is argued that human behaviors stem from subconscious desires, instincts, and biological drives, particularly the libido. The latter, in his view, is the force underlying human behavior. By linking this principle of pleasure to a neurobiological analysis, we observe how the pleasure and reward mechanisms activated in the early stages of addiction are gradually replaced by mechanisms of suffering and stress. The resulting pleasure drives the continuation of the behavior that reinforces the addictive habit. As the habit solidifies, the brain learns to tolerate a substance or behavior, resulting in a decrease in pleasure and, paradoxically, an increase in stress levels. Thus, substance use or addictive behavior becomes a means of avoiding the pain caused by what initially brought pleasure. In this way, pleasure is derived solely from avoiding or alleviating the pain caused by addiction. This reality is also captured from a theological perspective.

### **From pain to pleasure**

From a theological perspective, addictions have been defined in terms of sin (Mercadante, 1996) or likened to passions (Man, 2011, p. 141). Stăniloae illustrates this point and asserts that passions “represent the lowest level to which a human being can fall... they overwhelm the human will, so that the man of passions is no longer a man of the will, but is said to be a man dominated, enslaved, or carried away by passions.” Passions are a holistic phenomenon. Saint John of Damascus observes that there are both spiritual and bodily passions. In the category of bodily passions, numerous addictive behaviors can be identified: “gluttony, insatiability, indulgence, drunkenness, secret eating, the love of various pleasures, fornication, adultery, debauchery, impurity, incest,... gambling, the evil and passionate use of the world's sweet things, a life devoted to the flesh, which, by clouding the mind, makes it

earthly and beastly, and never allows it to aspire toward God and the practice of virtues” (Stăniloae, 1948, p. 191).

These are a result of humanity’s fall into sin. Larchet (2008) observes that “passions are a product of the human imagination, as a consequence of original sin.” Defined as missing the mark, the effect of sin in one’s life can also be seen in the misguided pursuit of human pleasures. This leads to a distortion of fundamental human desires for fulfillment and joy, which can truly be found only in a relationship with God. This distortion is likely exacerbated by the changes that addiction produces in the brain, which result in the reprogramming of a person’s desires and behaviors toward self-destructive behaviors. The theological concept of sin and fallen human nature confirms the neurobiological and psychological perspectives on addiction discussed earlier, showing how turning to the fleeting pleasures found in addictive habits ultimately leads to pain without pleasure.

The pain that replaces pleasure is also manifested in a desperate search for fulfillment that cannot be found in addictive substances or behaviors, because the human brain possesses infinite capacities to adapt and to build a tolerance to a substance, and what initially brought pleasure gradually comes to cause despair (Griesel, 2019, p. 13). In the same vein, St. John Climacus refers to one of the passions, namely the greed of the belly, which: “does not allow a person to be satisfied, even if they were to eat all of Egypt and drink the entire Nile (Stăniloae, 1947, p. 182).” In the same way, a person addicted to substances or behaviors will never be fulfilled, for as Augustine said, “You have made us for Yourself, and our soul is restless until it rests in You” (Augustin, 1985, p. 63). This aspect is also captured by the prophet Jeremiah, who speaks of the people’s inability to be satisfied without God: “For My people have committed a double sin: They have forsaken Me, the Fountain of living waters, and have dug for themselves cisterns, cracked cisterns that cannot hold water” (Jeremiah 2:13). Alienation from God leads to an ever-increasing degree of dissatisfaction.

From a theological perspective, the mechanism by which addiction operates in the human brain reflects the way sin works within the human being. Both addictions and sin grow increasingly powerful as they become part of a person’s behavior. In dialogue with Saint Maximus the Confessor, Stăniloae notes the “mutual causality” between pleasure and pain in relation to passion, which is interpreted as vice. He speaks of the realities of the pleasures of the body and the flesh, which lead to pain. First, he refers to indulgence in pleasure to avoid pain, which produces new pain; second, he discusses overcoming pleasure by bearing the cross, which signifies a balance in human nature between “excessive sensitivity and the restoration of the spirit’s strength” (Stăniloae, 2001, p. 15). Following the idea of Maximus the Confessor, Stăniloae shows that “Indulgence in pleasure only pushes a man into a further attempt to escape from pain through further pleasure” (Stăniloae, 2001, p. 15). Even if it does not refer to addiction, his idea very aptly reflects the reality of the person experiencing the pain of addiction: “Through pain, which always follows pleasure, a person can learn to resist pleasure. Unfortunately, he does the opposite: the pain that follows pleasure, instead of causing him to avoid pleasure as its source (how unified is the tree of the experience of good and evil!), pushes him back into pleasure to escape it, entangling him ever more deeply in this vicious cycle” (Stăniloae 2002). Stăniloae captures what may be similar to the mechanism of addiction when he describes how passions arise from the pursuit of pleasure and the flight from pain (Stăniloae, 2005, p. 12). According to Mark the Ascetic, this dynamic is the result of man’s alienation from God: “He who forgets God seeks pleasure and flees from pain” (Stăniloae 2005, p. 261).

In Christ, pain and pleasure are transfigured because: "He did not overcome pleasure and pain through some kind of stoic insensitivity, an inability to feel; he mastered them by strengthening his spirit ... preserving yet transfiguring our entire human sensibility ... His Cross means that the spirit is victorious over matter without rendering matter ineffective... but by transfiguring the material world through the response of a will wholly given to God"

(Stăniloae, 2001, p. 15). His understanding is that a person enslaved by passions cannot experience pleasure without pain, but through self-love can partake of pleasure without pain. Such love can be understood in relation to divine love, which serves as a model for the way we must love one another. Thus, in the context of the relationship with God, man reorients his loves and pleasures toward God: “Therefore, he who does not desire bodily pleasure and does not fear pain has become dispassionate. For along with these and the carnal love of self that gave rise to them, he has killed all the passions that grow through this and through those” (Stăniloae, 2005, p. 13).

He observes how the same pleasure that enslaves and brings pain, when directed toward God, strengthens the human being and opens up the possibility of experiencing spiritual pleasures: “Escaping the iron circle of carnal pleasure and pain does not mean becoming numb, but rather rising to another kind of pleasure and vigor, of a spiritual nature, which, far from weakening the nature, gives it true strength” (Stăniloae, 2005, p. 15). Since addiction acts destructively upon the brain’s neuroplasticity, spiritual healing involves a transformation that reshapes the brain so that it desires the things of God. For Stăniloae, the transformation of the human being is achieved through the discovery of higher pleasures that can be found in “the Word of God, which bestows all spiritual pleasure” (Stăniloae, 2005, p. 210).

He argues that the transformation and direction of pleasures stem from man’s relationship with God. “Thus, for the one who has subjected these powers to reason, desire has become pleasure through the righteous union of the soul with God in grace, and the fervor is a pure ardor that defends the pleasure arising from union with God, and a sober anger that causes the power of the will to withdraw entirely from things in the soul’s desire for God” (Stăniloae, 2005, p. 312). This statement captures how, in the context of man’s relationship with God, his desires are transformed. Thus, man has renewed desires that are in harmony with God’s desires and experiences the true pleasures that result from this relationship.

In this relationship with God, in addition to the higher pleasures that come from God, man discovers the pleasure of cultivating virtues. In this context, both pleasure and pain are reconfigured: “For every virtue is accompanied by pleasure and pain: pain for the body, which is deprived of sweet and gentle pleasure, and pleasure for the soul, which delights in the spirit with faculties purified of everything that falls under the senses” (Stăniloae, 2005, p. 337). In the same vein, he reaffirms that pleasure and pain can work together: “salvific pleasure is the soul’s pleasure in virtue. And useful sorrow is the body’s pain for the sake of virtue.” (Stăniloae, 2005: 341) This perspective, in contrast to the logic of addiction that avoids pain at all costs, harnesses its potential to develop virtues, anticipating the pleasure of spiritual transformation. Virtue can thus also be interpreted as pain that is transfigured and ultimately converted into pleasure.

## Conclusions

This article examined the dynamics of pleasure and pain in the context of addiction from an interdisciplinary perspective. By examining the neurobiological, psychological, and theological mechanisms involved in addiction, it becomes evident that a distorted pursuit of pleasure leads to pain and dependency. Addictions are disorders of the brain’s reward system and may result from a pursuit of pleasure that is misdirected toward a substance or behavior. When a person seeks pleasure in substances or behaviors, they become attached to creation rather than the Creator, and the result is unfulfillment, as these are oriented toward realities that cannot fully satisfy the human being’s needs. When pleasure is directed toward communion with God and the development of virtues, the whole person experiences healing, restoration, and authentic fulfillment. Thus, neither pleasure nor pain constitutes the problem, rather, their orientation.

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