



# Trauma, Dissociation, and Opiate Use Disorder

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## Abstract

**Purpose of Review** The objective of this article is to identify the role of opioid use among survivors of trauma and to characterize the dissociative functions associated with this class of substances. More precisely, this paper will evaluate if the biochemical impact of opioid substances, such as heroin, has particular psychological effects on traumatized users, pertinent to their emotional needs.

**Recent Findings** Reviewed studies demonstrated not only that the vast majority of opioid use disorder (OUD) patients reported a history of childhood trauma but that dissociation played an important role in both the experience of opioid use and abstinence.

**Summary** Traumatized individuals were more likely to report dissociative experiences during their opioid use (chemical dissociation) and were more likely to report dissociative experiences during abstinence. The small body of literature on the interrelationship between opioid use disorder (OUD) and dissociation suggests that heroin produces powerful sensations that mimic psychogenic dissociation. It might therefore be employed when posttraumatic distress can no longer be regulated by psychogenic mechanisms and when it is available. Future research should explore if OUD treatment can be more efficient following effective resolution of trauma-related dissociation and underlying posttraumatic psychopathology.

**Keywords** Dissociation · Dissociative disorders · Opioid use disorder · Substance use disorder · Trauma

## Introduction

The purpose of this review article is to explore evidence with regard to the role of dissociative experiences in opioid use disorder (OUD). Despite the growing interest in the role of dissociation in psychiatric disorders [1–3], its importance in substance use disorders (SUD) is inconclusive and reported rates of dissociative psychopathology among patients with SUD ranging between 17 and 39% [4–6]. These discrepancies probably relate to divergent sampling, substances used, and assessment methods applied.

The research literature suggests that among SUD patients, higher levels of dissociation are expected among OUD patients compared to persons with alcohol use disorder, among females compared to males, and among survivors of

childhood adversities and maltreatment compared to survivors of later traumata [7, 8]. The studies included here represent an investigative effort aimed at the examination of the relationship of dissociation with specific substances abuse. Sedating effects of alcohol and opioids, known as central nervous system (CNS) depressants, and the abuse of these substances has attracted the attention of scholars interested in the study of trauma survivors. While available data suggests that clinically significant levels of dissociation are fairly rare in alcohol-dependent patients [9], opioids seem to have a stronger association with elevated dissociative experiences.

## Opioids

Opium is formed from preparation of the opium poppy; it is collected from gummy fluid that oozes out of a cut in the developing seed pod of a poppy. The sap is then dried into a ball, or dried into powder, or it can be made into an alcohol water extract. Opioids can be injected, smoked, taken orally as pills, or snorted. Humans have been using opioids such as morphine and heroin for thousands of years to lessen pain and for euphoria [e.g., 10].

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Opioids are any medication or drug that binds to opioid receptors in the brain. Several years ago, the term opioids only referred to synthetic drugs that bind to opioid receptors, but it is now a catch-all term for both naturally derived opioids and any synthetically created opioid-bonding drug. The most commonly used opiate is heroin, a highly addictive substance that has become a major public health concern [11]. Users report an intense initial sense of euphoria accompanied by a warm flushing of the skin, dry mouth, extreme relaxation accompanied by decreased sensation of pain, a heavy feeling in the extremities followed by several hours of drowsiness, clouded mental function, slowed breathing, and heart function. Peters, Yocoubian, Baumler, Ross, & Johnson [12] reported, based on their findings with older users, that while heroin use may have started as experimentation, it tends to develop as a lifetime “drug of maintenance” (p. 58). Longer-term use is associated with severe health risks that can include insomnia, constipation, liver, kidney and respiratory disease, sexual and menstrual dysfunctions, infections, sexually transmitted diseases, and HIV [13, 14].

## Opioids, Distress, and Trauma

Many psychodynamic oriented psychotherapists believe that people do not become addicted without a reason; they use drugs to avoid painful feelings, thoughts, and memories. This thesis is substantiated with empirical evidence and is known as the “self-medication hypothesis” of addictive disorders [15]. Indeed, OUD is related both to exposure to traumatic events and to the ensuing posttraumatic and dissociative symptomatology [16, 17].

One of the early bodies of evidence on the use of opioids for the relief of stress was based indirectly in follow-up studies of veterans who became addicted to heroin while in Vietnam, but later remitted when they returned to the USA [18]. The vast majority of individuals with OUD report past exposure to trauma. The rates are staggering. For example, one study found that 72% of patients treated in a methadone maintenance treatment (MMT) for heroin addiction reported having been exposed to trauma [19]. Another research project discovered that as much as 92% of individuals addicted to heroin describe past exposure to trauma. Compared to the 8% lifetime PTSD rate reported by Mills, Marel, Drake, Ross, Slade, & Teesson [20], Kessler, Cram, Warner, Nelson, Schulenberg, & Anthony [21] showed that lifetime PTSD rate among recovering OUD individuals was 41%. Additionally, Somer & Avni [17] demonstrated that recovering OUD patients reported trauma histories that were more severe than those measured in a comparative clinical sample. Still, lifetime traumatic event scores as measured by the Life Events Checklist (LEC) [22] were unrelated to either PTSD or dissociative symptoms or to lifetime heroin use. The LEC covers about 16 different

potentially traumatic events that may result in PTSD, such as natural disasters, fires and explosions, transportation accidents, life-threatening illnesses or injuries, and sexual assaults [23]. However, since some traumatic events are more related to the increased risk of heroin use [19] and the development of dissociation [24••] than others, it is conceivable that the LEC was not sensitive enough to identify relationships between specific traumatic events and both dissociation and heroin use. For example, emotional neglect and emotional abuse were much more prominent trauma categories among recovering OUD patients than other adversities [17, 24••, 25]. Indeed, research conducted in Israel indicated that most recovering OUD patients had higher trauma scores than a comparative clinical group [26] and that the vast majority of OUD patients in three other Israeli studies had experienced childhood sexual abuse [27–30].

## Method

For the purposes of this review, literature research was performed using the Cochrane library, PILOTS, APA’s PsychArticles, PsychInfo, PubMed, and Scopus. The search was initially limited to papers published within the past 2 years. However, because of the scarcity of research in this specific area, the scope was gradually expanded to articles published in the twenty-first century. The search strategy combined the following key terms: opioid\*, dissoc\*, substance use\*, disorder, heroin, and morphine.

Potential articles were identified, firstly based on a preliminary review of over 1000 titles and abstracts, and subsequently by thorough examination of the potentially relevant publications. The search identified 13 scientific papers containing qualitative or quantitative measures of dissociation applied to individuals who had been using opioids or been diagnosed with OUD.

## Opioids and Dissociation

The role of opioids and dissociation in the regulation of post-traumatic distress was demonstrated well in a case study by Jaffe, Chu, & Woody [30]. The authors described a 15-year-old survivor of rape at age 13 who suffered from PTSD and an opioid dependence in early remission. In reflecting on his past and present substance use, the youngster stated that marijuana exacerbated his anxiety, that alcohol diminished his sense of behavioral and emotional control, and that although benzodiazepines eased his distress, he ultimately preferred opioids because they were the most effective in eliminating his anxiety and irritability. The authors described the development of dissociative episodes following the disclosure of his rape, involving symptoms of passivity, staring, and disorientation, as well

as fear associated with apparent reexperiencing and amnesia. Later in this paper I will recount similarly rich qualitative data on dissociative experiences and opioids, derived from OUD focus groups.

Early evidence from controlled research on the OUD-dissociation link was provided by Somer & Avni [17], who showed that the mean score on the Hebrew Dissociative Experiences Scale (H-DES) [31] among recovering OUD patients was lower compared to the average H-DES score measured among individuals diagnosed with Posttraumatic Stress Disorder and Acute Stress Disorder. In other words, OUD patients were as dissociative, if not more so, as individuals diagnosed with posttraumatic disorders. A later associated study showed that PTSD-related Avoidance/Numbing were linked to lifetime heroin use. Levels of dissociative symptoms were significantly related to lifetime heroin use, with participants describing higher levels of dissociative symptoms being more likely to report having used heroin [23•]. Dissociation scores correctly differentiated between recovering heroin users in 69% of the cases. Mean dissociation scores for both the heroin use and non-use groups were below clinical levels; however, the mean was significantly higher for the heroin use group [23•]. Furthermore, Somer [26] also found that current trauma-related dissociation independently predicted abstinence from heroin use with a significantly negative relationship between the variables: high-dissociating recovering OUD patients, as measured by extended periods of abstinence, were less likely to benefit from OUD treatment. Moreover, recovering OUD patients were three times more likely to have a probable dissociative disorder than a comparative non-user group sampled from a trauma clinic [32••]. This finding was more recently supported by Somer et al. [29], who showed that OUD patients were twice as likely as a non-clinical control group, to be screened as positive taxon-positive for dissociative disorder (40% and 20.8% respectively, [33]). The rates of dissociative disorders among OUD patients (diagnosed with the clinician-administered Dissociative Disorders Interview Schedule (DDIS)) [34] were as follows: 32.3% were diagnosed with dissociative amnesia and dissociative fugue, 27.9% had a Dissociative disorder NOS, 5.9% met diagnostic criteria for Depersonalization/derealization disorder, 1.5% had dissociative identity disorder, and 1.1% were diagnosed using the Dissociative Trance Disorder Interview Schedule (DDTIS) [35], as suffering from Dissociative trance disorder [29]. New data on patients recovering from substance use disorder (SUD) with a preponderance of reported opioid use provided further information on the relationship between OUD and dissociation. In this study the authors showed that while no control participant scored above the clinical cut-off score suggestive of suspected maladaptive daydreaming on the 16-item Maladaptive Daydreaming Scale (MDS-16) [36], 16% of the recovering SUD patients had a mean MDS-16 score indicative of pathological daydreaming [25].

Supportive evidence for the dissociation-OUD link was also provided by a series of papers published in Iranian peer-reviewed journals. For example, one study conducted among Iranian prisoners, both with and without OUD, identified significantly higher levels of dissociation among prisoners coping with the consequences of OUD [37]. In an earlier study, Kianpoor, Bahredar, and Ommizade [38•] reported that the mean DES score of prisoners suffering from OUD was as high as 45.8, well above the suggested DES cut-off score marking a probable dissociative disorder [39]. Seventy-four percent of the same Iranian sample had an average DES score above 30 indicating increasing likelihood to suffer from a dissociative disorder. Ghafarinezhad, Rajabzadeh, & Shahriari [40] found dissociative symptoms to be significantly more common among recovering Iranian OUD patients on MMT than in the control group. Based on the accepted DES cut-off point, 9.9% of their participants had dissociative disorders. Thirty-nine percent of non-incarcerated Iranian recovering OUD patients reported elevated average DES scores (above 15 [41]). These results were in line with the studies by Dunn and Paolo [42], who showed that 41.5% of individuals with substance use disorder had a score of 15 or higher, and by Benishek and Wichowski [43], who showed that 30% of people with SUD had an above average DES score of 15 and above. Interestingly, Kianpoor et al. [38•] also demonstrated that the rate of elevated DES scores was 39% among individuals about to begin their rehabilitation process, but was 72% among individuals recovered from OUD, implying a chemical dissociation role for opioids.

Again, the cross-sectional, correlational nature of existing data does not permit causative conclusions with regard to the relationship between dissociation, OUD, and abstinence: persons who had only recently become abstinent could have been more likely to compensate for the missing chemical dissociation by evoking their psychogenic trauma-related dissociative defenses, trauma-related dissociation could have compromised the ability to benefit from OUD treatment, or another external factor could have explained this relationship. Nonetheless, it is highly plausible that persons with a history of heroin use, who are highly likely to have suffered from significant childhood adversities [26, 32], may be more prone to engage in dissociation during treatment or when CNS-suppressing agents are not available, as a means of escape from trauma-related pain.

Somer has previously suggested the “chemical dissociation” hypothesis [17, 24••] to explain the importance of opioids in distress regulation by trauma survivors. The use of heroin by trauma survivors may represent an attempt to lessen the pain of trauma injuries when psychological dissociation has failed to do so. That is, the research data suggests that when individuals who use heroin are unable to sufficiently reduce the discomfort associated with their trauma through psychological dissociation, they may resort to using opioids

to obtain relief. Actually, higher levels of dissociative symptoms have been shown to be related to greater psychological distress and shorter duration of treatment among individuals with heroin dependence. These studies showed that recovering OUD patients who reported higher distress during inter-use craving also reported more dissociative experiences during heroin use (this can be termed, chemical dissociation). Furthermore, they also showed that high-dissociating recovering OUD patients were more likely to report a yearning for dissociative experiences during their substance use [17]. Peles et al. [27], Peles et al. [28], and Somer et al. [29] suggested the existence of two distinct coping strategies for dealing with childhood traumata: dissociation and OUD. While in persons who did not have complex posttraumatic stress disorder (C-PTSD), both strategies were used; there was an inverse correlation between the two strategies among those who were diagnosed as having C-PTSD, with one superseding the other. Why do some survivors of childhood adversities use dissociation as a defense mechanism, while others use drugs, or switch to drugs? The most plausible option is that when the dissociative mechanism is being overwhelmed and opioids are available, they are more likely to abuse substances, and subsequently experience additional and multiple traumatic and violent events associated with the typical lifestyle of OUD patients.

Indeed, a study by Somer et al. [32••] found dissociation to be three times greater among opiate-detoxified patients compared to methadone maintenance therapy patients. It noted that although opiate-detoxified patients were significantly younger, the groups did not differ with respect to trauma history and severity of addiction, and therefore, they attributed the low rate of dissociation among MMT patients to the effect of the methadone, which they suggested serves as a protective shield against painful memories and emotions, much as illicit opiates do. While only longitudinal studies could solve the “chicken or the egg” sequence riddle, I believe that OUD might actually follow earlier dissociative tendencies. This hypothesis is supported not only by a few retrospective studies that traced the date of onset of both the substance use disorder and the dissociative pathology [e.g., 7] but also by OUD patients own accounts in which they describe yearnings for specific dissociative experiences during heroin use.

To investigate the meaning and function of opioid use among a group of Israelis recovering from a heroin use disorder, I conducted five focus groups involving 10–15 individuals each, comprising in total 66 OUD patients [24••]. I asked them to tell me what effects and sensations of the drug use had been most meaningful or important to them. Four main themes emerged in regard to their experiences: (1) chemical amnesia: participants described how they had used heroin to induce a memory impairment to shield against painful childhood memories, (2) chemical suppression of posttraumatic arousal symptoms: respondents described heroin as their preferred

calming agent and as an effective regulating process in controlling numerous sympathetic and affective posttraumatic symptoms, (3) chemical numbing, depersonalization, and derealization: many comments on the experience sought in heroin use were also characteristic of typical dissociative experiences. It seemed that some participants had anthropomorphized the heroin by describing it as having benevolent traits akin to wrapping hugs warming their cold internal core, and finally, (4) soothing, gratifying pleasure: heroin had not only aided my participants in deadening their distress and in isolating them from their unbearable memories, but also helped engender enjoyable feelings that were normally very rare in their lives. These in-depth group interviews provided reliable, qualitative verification of the idea that some survivors of childhood abuse or neglect utilize heroin defensively as a dissociating agent, specifically seeking the numbing, depersonalizing, and amnesic effects of opioid use.

## Conclusions

The findings of the present literature review are consistent with the view that many people addicted to opioids may seek chemical dissociation. This thesis is in line with the self-medication hypothesis concerning SUD that argues that individuals use substances to self-regulate painful affects [15]. The addiction of many OUD patients might be partially rooted in a coping strategy, first employed when psychogenic dissociation from childhood trauma experiences and symptoms was ineffectual, and when opioids, capable of producing swift and effective respite from emotional pain, became available. The interchangeability of psychogenic- and opioid-induced chemical dissociation experiences is an idea that rests on three main pillars: (1) posttraumatic dissociative disorders and OUD are highly comorbid, (2) they share common etiological roots, and (3) they also have a comparable experiential phenomenology. Future brain imaging research should explore if similar brain regions or neuro-biochemical mechanisms are active during both opioid use and dissociation. This review also implies that candidates for substance abuse treatment should be screened for posttraumatic and dissociative pathology. Before clinicians encourage OUD patients to abstain from opioids and thus relinquish their chemical dissociation, they should tackle underlying posttraumatic pain that needs to be regulated. I maintain that healing from trauma-related pain and dissociation is a prerequisite for a successful resolution of OUD.

## Compliance with Ethical Standards

**Conflict of Interest** The author declares that he has no conflict of interest.

**Human and Animal Rights and Informed Consent** This article does not contain any studies with human or animal subjects performed by any of the authors.

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