# BOULEVARD OF BROKEN REALITIES: UNCOVERING THE RELATIONSHIPS BETWEEN DEREALIZATION/DEPERSONALIZATION DISORDER AND CHILDHOOD SEXUAL ASSAULT IN LITERATURE

Allison Rogers, Grand Canyon University

# ABSTRACT

The effects of childhood sexual trauma (CSA) can show up in various ways in an individual's life-time. This could include dissociative symptoms, posttraumatic stress disorder (PTSD), and derealization/depersonalization disorder (DDD) (American Psychiatric Association, 2022). These symptoms can affect an individual's quality of life and contribution to society (Kapoor, 2023). This review explores existing literature on how PTSD, DDD, and CSA intersect in their impacts on an individual's well-being in pursuit of implementing more research to find the underlying cause of DDD. The overlaps, parallels, and consis-tencies within behaviors, effects, and societal impacts regarding DDD, CSA, and PTSD are explored to further understand the root cause of DDD. Moreover, it will observe CSA's impact through understanding concepts such as the law of parsimony and the biopsychosocial model.

**Keywords:** childhood sexual trauma, derealization/depersonalization disorder, PTSD, biopsychosocial effects, law of parsimony

A young adult is having trouble in her new relationship. Her partner claims that she is "distant," "on autopilot," and "not fully here." The young adult agrees with her partner that she is this way, not just in her relationship but in every facet of her life. After speaking with a therapist, she wonders if there is any correlation between the sexual trauma she endured as a child and her inability to "turn off autopilot." Fortunately, this young adult can get the support she needs to understand the root cause of this problem. This will allow her to grow into a more present individual for the people around her and for her well-being.

The Diagnostic and Statistical Manual of Mental Disorders (fifth edition, text-revised) (DSM-5TR) recognizes what this young adult may be experiencing as derealization/depersonalization disorder (DDD). Individuals who experience DDD explain feelings of being "out of body" or "out of touch with reality" (American Psychological Association, 2022). While this young adult's story ends on a high note, many individuals do not ever get their questions answered on "why" they are living life on autopilot. Furthermore, many individuals do not have the means to get the support they need.

The reality is that individuals who suffer from DDD *are not in reality*. They are either separated from themselves and their mind (depersonalization) or walking throughout their life detached from the world around them (derealization). Derealization/ depersonalization disorder is a scary reality of *unreality* to live in. Thus, this review aims to understand the development of DDD a person undergoes and its interconnections that exist with childhood sexual trauma (CSA) and posttraumatic stress disorder (PTSD). Moreover, it will examine optimal psychological interventions that best address this disorder and facilitate a healing process.

Up to this point, research regarding DDD is aimed at understanding the *what* of it, such as its parameters and outward expressions of one who suffers from the disorder. There is significantly less research that explores the why or the root causes of DDD. Research explored in this review indicates promising findings that DDD could be a result of CSA trauma manifesting in an individual as a coping mechanism (Walker, 2023). In addition, a precursor for an individual with PTSD or DDD is childhood sexual trauma (American Psychiatric Association, 2022). Furthermore, one must recognize that DDD can be comorbid with PTSD (American Psychiatric Association, 2022) as this review dives into the interrelations of the two disorders. Additionally, it is important to note that there is a subtype of PTSD: dissociative posttraumatic stress disorder (D-PTSD), which has similar criteria to DDD. However, this manuscript will not focus on this subtype; this is to help narrow the scope of the review, though it will be mentioned in specific sections. The important insight above helped structure this manuscript to observe literature that speaks upon these disorders about CSA. This can help professionals get closer to answering the question: Is CSA a cause of DDD or is it one of many factors that are correlated with it.

#### **ORGANIZATION AND SCOPE OF BODY**

This review will focus on reckless behaviors associated with childhood sexual assault, derealization/depersonalization disorder, and posttraumatic stress disorder and the similarities between them. As similarities are noted, the review will then focus on literature that highlights the different neurological/cognitive, psychological, biological, and social intersections of CSA, DDD, and PTSD. After highlighting these intersections, how they are all related will be explained using concepts such as the law of parsimony and the biopsychosocial model observed through different literature. Furthermore, existing literature on the contradictions and gaps within these topics will be examined. The literature used in this review was chosen to explore further and hopefully uncover more about the root cause of DDD and why this disorder develops in individuals.

The scope is focused on research published within the past two to five years, apart from a few sources that extend that timeframe. The reason for this timeframe is to observe the most recent literature to continue growing the scope from this point and to use research that is past this timeframe but lays the foundation for research written after it. The key concepts, theories, and correlations in this review are used because of their vital contribution to answer the questions of CSA's role in how DDD develops in an individual and should be viewed as such by the reader.

#### BACKGROUND AND CONTEXT

Despite the existing bodies of recent research, derealization/depersonalization disorder (DDD) remains mostly unprecedented territory with much discovery to undergo. The journey of discovery begins by deep diving into the root causes of DDD. Drawing on the insights from the literature, a promising opportunity exists to unlock a new side of DDD that can shed light on the multifaceted effects and interrelated impacts. Furthermore, it will examine the potential origins of DDD, one of which is potentially childhood sexual assault (CSA).

The lack of research regarding DDD could mean that victims are not aware they are suffering from it. It could be possible that individuals with DDD are living in a fog their whole lives, which clouds their vision of their external environment and their internal emotional/cognitive processes, and they are not ever aware (Walker, 2023). However, there is hope that finding the causes, signs, and symptoms of DDD can help individuals understand how to combat this disorder, finally seeing and clearing the fog they have been living in. Recent research has suggested a high possibility that specific cognitive and psychological changes in CSA victims can manifest into dissociative symptoms, and these symptoms, over time, can become DDD (Walker, 2023). The similar behavioral functionality of CSA, PTSD, and DDD is important to recognize because of how they can become a societal issue, according to the biopsychosocial model (Sarafino & Smith, 2022). The suffering that individuals endure from DDD, PTSD, and CSA are observed at a young age and can be impactful in adulthood as well, which can then affect the environment they are interacting with (Walker, 2023).

This review illuminates the literature on the numerous similarities in these disorders and why they further prove the possible cause of DDD from CSA. These behavior similarities are believed to be not only emotional causation but also a biopsychosocial reaction from the body storing psychological trauma and the individual coping in their environment through dissociative mechanisms, which can eventually cause DDD (Van der Kolk, 2014; Walker, 2023). The emphasized biopsychosocial effect of CSA is another driving point leading the argument for CSA causing DDD.

#### **RECKLESS BEHAVIORS**

It is important to note that dissociative symptoms, dissociative-posttraumatic stress disorder (D-PTSD), and dissociative disorders are all separate from one another in the DSM-5-TR. It is like the difference between having a cold with symptoms of headaches (D-PTSD), having a headache (dissociative symptoms), and having a migraine (dissociative disorders). They are all similar in symptomology and behaviors but contrast disorders, causes, and treatments, which is observed in how the DSM-5-TR organizes the disorders and symptomatology. It is also highly important to note that while reckless behaviors are common in adolescence, the rate that the DSM-5-TR criterion covers is abnormal. Just as a cold, headache, or migraine are unhealthy and hint at an underlying health concern, so are the behaviors listed below, which this section covers.

The diagnostic criteria for PTSD as written in the *DSM-5-TR* includes exposure to an actual or threatened death, a serious injury, or sexual violence in four ways: direct experience, experiencing repeated or extreme exposure to the aversive details of traumatic events, witnessing events in person as they happen, and/or learning that traumatic events occurred to a family member/friend of a close relation. It is also written in this criterion that in adolescence, an individual with PTSD may struggle with reckless behavior that can lead to accidental injury of oneself or others. Thrillseeking and high-risk behaviors are *common* in the development of adolescents with PTSD (American Psychological Association, n.d.).

Similarly, a network analysis with six PTSD clusters, in which there were 20 variables, was tested for adults ages. Six variables corresponded to a hybrid model of PTSD, and fourteen variables corresponded to reckless behavior. The study revealed that most reckless behaviors are directly

associated with one or more of the PTSD symptom clusters. These findings are an observation of the close and common relations between reckless behaviors and different PTSD clusters that even go beyond the *DSM* criteria (Armour et al., 2020).

Dissociative disorders are defined as the disruption and/or discontinuity of normal integration of consciousness, memory, emotion, identity, body representation, motor control, perception, or behavior. DDD is defined as the presence of recurrent or persistent experiences of depersonalization, derealization, or both. *Depersonalization* is a feeling of unreality, detachment, or being an outside observer of one's feelings, sensations, thoughts, body, or actions. *Derealization* feels unreal, foggy, lifeless, dreamlike, or visually distorted. Some of the most common DDD behaviors include depression, anxiety, severe stress, and illicit drug use (American Psychiatric Association, 2022).

There is a clear association seen in the *DSM*-5-TR with childhood/interpersonal traumas in a substantial portion of individuals who struggle with DDD (American Psychiatric Association, 2022). DDD's association with PTSD is listed as low within the *DSM*-5-TR. However, it is possible that since the behaviors and the interpersonal traumas listed for PTSD and DDD are so similar, the rate of comorbidity between the two is higher than what research shows thus far. This could be grounds to argue that CSA is a contributing cause of DDD at a much higher rate than what current findings can show.

Research shows that for CSA victims, certain self-harm strategies are used to regulate feelings of fear, disgust, and sadness in the individual (Bradley et al., 2018). One study observed the indirect effects of four trauma-related emotions that include fear, disgust, sadness, and anger, of PTSD severity with the two mediators of derealization and self-harm (Bradley et al., 2018). The results indicate that struggling to regulate these four trauma-related emotions may lead to more severe derealization and self-harm as coping techniques, which could lead to greater PTSD severity (Bradley et al., 2018). More research has investigated direct and indirect links to trauma exposure, posttraumatic dissociation (PD), and reckless or self-destructive behavior (RDSP). Findings suggest that PD and RDSP had significant indirect effects linking trauma exposure and adolescent offending/involvement in the juvenile justice system (Modrowski et al., 2021).

Further research shows there is a greater likelihood that CSA victims can experience sexual difficulties (Meyden & Godbout, 2023). There is a greater severity of dissociation during sex, which is linked with greater sexual dysfunction and compulsive sexual behavior disorder, as well as intrusiveness during sex (Meyden & Godbout, 2023). The similarities of reckless behaviors between DDD, CSA, and PTSD could be from the neurological/cognitive, psychological, social, and biological effects that overlap between these topics.

#### INTERSECTIONS

The description of DDD on the APA website is placed near the trauma symptom chapter, which implies and acknowledges that dissociative symptoms are often a result of traumatic experiences (American Psychiatric Association, 2013). Consciousness, memory, identity, emotion, body representation, motor control, perception, and behavior are all considered within this section. One can recognize how these disruptions can affect neurological/cognitive, psychological, biological, and social processes in an individual who struggles with DDD.

#### NEUROLOGICAL/COGNITIVE INTERSECTIONS

DDD affects neurological functions in many ways, but how is it obtained within an individual? In its nature, DDD is referred to as an estranged state of mind involving a deep feeling of detachment from an individual's respective sense of self and the surrounding environment (Murphy, 2023). CSA is shown to impact brain development and can result in different psychological consequences, which can be dependent on the age at which the abuse started, and this can cause hormonal and neurochemical changes (Walker, 2023). Moreover, CSA can even lead to structural changes within an individual's brain, as shown through neuroimaging, which can view reduced volume in brain regions, such as the hippocampus, in CSA victims (Walker, 2023). Additionally, a split between the mind and the body can occur in somatosensory and prefrontal areas of the brain that create a higher level of dissociation, increasing the individual's chance of surviving a traumatic event, such as CSA (Walker, 2023).

While up to this point in literature, neural/neurobiological details of dissociation have remained unclear, an increasing number of neuroimaging studies in DDD, DID, and D-PTSD have alluded to the possibility that dissociative symptoms alter brain function and structure (Krause et al., 2017). It is assumed that the broadly conceptualized symptoms of DDD (including detachment, emotional numbing, emptiness of thoughts, hypervigilance, and analgesia) are associated with the increased activity in the medial prefrontal cortex (mPFC), dorsolateral prefrontal cortex (dlPFC), and the anterior cingulate cortex (ACC) (Krause et al., 2017). These areas implicate attention, cognitive control, and arousal modulation (Krause et al., 2017). Symptoms of DDD may be associated with a disconnection in the cortico-limbic brain system, which involves the amygdala, ACC, and prefrontal cortex (Krause et al., 2017), which are all strikingly similar to the neurological impacts of CSA.

A systematic review in 2019 comprising 4,137 clinical and 28,228 nonclinical participants suggested that despite the variations in the methodological quality within this narrative synthesis, cognitive factors mediate the relationship between early trauma and later psychopathology (Aafjesvan Doorn et al., 2019). Furthermore, psychological trauma has been implicated in dissociation development, and dissociation during traumatic events can be seen as an adaptive defense mechanism that is used to cope with an overwhelming threat that cannot be prevented or escaped (Krause et al., 2017). It is, therefore, possible that when an individual regularly relies on the cognitive process of dissociation to cope, it causes the individual's cognitive process to become mentally fragmented (Walker, 2023). Dissociation is considered to interfere with a coherent encoding of events, leading to fragmentation of memory and thus increasing the risk of subsequent PTSD (Krause et al., 2017). Research has shown a consistent link between CSA and post-traumatic dissociation (Walker, 2023). Thus, it is more common for an individual's neurological functions and forms to suffer from the above circumstances (Walker, 2023). Further extensive research on the neuroimaging mentioned above has also shown that hippocampal volume, the activation of the amygdala (where emotions are produced), and the medial/prefrontal cortex could be variables that indicate an individual's risk for PTSD (Shin, 2022).

Derealization is further shown to be associated with increased the ventromedial prefrontal cortex (vmPFC) activation in the emotion reactivity task and a decreased resting-state vmPFC connectivity to the cerebellum and orbitofrontal cortex (Lebois et al., 2022). Self-related experiences are represented neurobiologically through a largescale cortical network along the brain's mid-line, called the default mode network (DMN) (Lanius et al., 2020). The DMN is activated during self-referential and autobiographical memory processing, which is thought to lay the foundation of a stable sense of self that persists throughout time and is available for conscious access (Lanius et al., 2020). However, for individuals with PTSD, it was shown that the DMN is significantly reduced at its restingstate functional connectivity in contrast to healthy individuals, and greater reductions of the resting level can be observed in higher severity of PTSD (Lanius et al., 2020).

Self-concept is one's perception and beliefs of oneself (Gewirtz-Meydan & Godbout, 2023). Or, more specifically, a multifaceted cognitive schema that includes traits, values, and episodic and semantic memories about the self (Gewirtz-Meydan & Godbout, 2023). The association with CSA and the development of a negative self-concept has been explored, and CSA can cause victims to feel a complete loss of power that is brutally taken from them by the assaulter (Gewirtz-Meydan & Godbout, 2023). Dissociation is considered a discontinuity or disruption of the otherwise integrated aspects of mental processing and psychological functioning, including consciousness, identity, memory, cognition, and affect (Lassri et al., 2022). This dissociation is known to be linked to experiences in which the victim's reality is not in their control and is forcibly taken away from them, in which their neurological processes start to cope in unhealthy ways (Lassri et al., 2022).

#### **PSYCHOLOGICAL INTERSECTIONS**

Depersonalization is a mechanism that is complementary to the link between CSA and psychotic-like experiences, which includes dissociative symptoms and disorders (O'Neill et al., 2021). It is apparent that DDD and CSA are linked to similar mental disorders, but it should also be emphasized the high prevalence of these mental illnesses within this niche. The authors of a study done in 2020 aimed to observe the prevalence of CSA in women around the world who also had mental illnesses (Pan et al., 2020). Through these examinations, it was found that the CSA rate of the clinical sample with mental illness (which was 32%) was almost twice the CSA rate of the general group (which was 17%) (Pan et al., 2020). This study also found that the CSA rate of the clinical sample with no mental illness (12%) was lower than the general sample listed above (Pan et al., 2020).

Pathological is described as an individual who does a specific action extremely or unacceptably (Collins Dictionary, 2007), so pathological dissociation is extreme or unacceptable dissociation strategies, and it is best predicted by sexual and physical abuse (Tschoeke et al., 2021). This could support different types of maltreatment leading to different psychopathological symptoms in adulthood (Tschoeke et al., 2021). Peritraumatic dissociation is used to describe a complex array of trauma reactions, including depersonalization, derealization, emotional numbness, etc. (Hollands et al., 2018). This phenomenon is known as a variable that indicates a heightened risk for PTSD, along with a history of previous trauma (Shin, 2022). Furthermore, research shows how DDD is, in its nature, a psychological response to trauma that enables a traumatized individual to escape reality (Walker, 2023). This could mean that DDD was once a short-term coping mechanism (dissociative symptoms) that eventually became a clutch and an instant response to the individual's self and their environment (Walker, 2023). This is shown through the direct correlation between CSA and DDD found in the studies. However, dissociation techniques are arguably not healthy coping mechanisms and could show that an individual is struggling with a larger problem altogether.

#### **BIOLOGICAL INTERSECTIONS**

Children who are traumatized are expected to attend school and engage in learning, comprehending, and socializing; however, it is common for these students to lose focus and struggle with being in an arousal or anxiety state (Walker, 2023). Furthermore, they commonly struggle to process the information presented to them in these settings. Because of this, traumatized children can be more prone to learning difficulties, shorter attention spans, speech/language impediments, and struggle in social settings. They can also display externalizing/internalizing behaviors, peer victimization, impacted communication, and trouble with reality.

In victims who suffer from DDD, information related to the incoming interoceptive signals is suppressed (Saini et al., 2022). Interoception, or the sense of one's own self, plays a large role in emotion regulation, motivation, social ability, motivation, decision-making, attachment, and self-monitoring of arousal, hunger, and pain (Saini et al., 2022). Thus, it is given a crucial role in various aspects of one's mental and physical health, and its disruption has been linked to several psychiatric disorders, one of which is depersonalization (Saini et al., 2022). If, therefore, an individual is suffering from DDD, not only their mental health is suffering, but their physical health is as well because of their lack of interoception and their low functioning DMN, which in turn can cause psychiatric disorders, such as DDD and PTSD (Lanius et al., 2020; Saini et al., 2022). As the brain structure is affected similarly by CSA and dissociation, these biological and neurological difficulties that cause psychological difficulties could further manifest in these individuals' social interactions (Walker, 2023).

#### SOCIAL INTERSECTIONS

Researchers (Briere et al., 2020) found that CSA victims are more likely to report sexual assault in adolescence and adulthood. Further findings from this study show that CSA is the strongest precursor to revictimization (Briere et al., 2020). Another study shows that greater severity of dissociation during sex was linked to greater sexual dysfunction and higher compulsive sexual behavior disorder, or CSBD (Meydan & Godbout, 2023). This study also found that intrusiveness and pleasing one's partner during sex moderated the association between CSA and sexual function (Meydan & Godbout, 2023). Intrusiveness during sex and sex-related guilt/shame moderated the association between CSA and CSBD within the study as well (Meydan & Godbout, 2023). The study's purpose was to show the possible contributions of traumatic sexuality symptoms to sexual difficulties among CSA survivors (Meydan et al., 2023). The neurological/cognitive, social, biological, and psychological intersections seen thus far give a comprehensive understanding of DDD, CSA, and D-PTSD's impacts on an individual.

#### THE BIOPSYCHOSOCIAL MODEL

The biopsychosocial model expands the biomedical model, which focuses on biological factors. It extends to connect to the psychological and social factors. This model poses the notion that biological, psychological, and social factors affect the individual's health. Following this model, each subcategory of the intersections for PTSD, DDD, and CSA listed above naturally intersects with one another.

The role of biological factors includes the genetic processes and materials we inherit from our parents and the function/structure of the individual's physiology. The role of psychological factors is the behavior/mental processes that are the focus of psychology-cognition, emotion, and motivation. Finally, the role of social factors is how an individual affects others and how others affect the individual in the interactions that one carries out (Sarafino & Smith, 2022).

This model would then pose the argument that if an individual is traumatized, they are now suffering psychologically, biologically, and socially. DDD, PTSD, and CSA all negatively impact an individual biopsychosocially. Since traumatized people can get stuck (Van der Kolk, 2014), the trauma survivor's energy is now exasperated on suppressing the inner chaos they are enduring (Walker, 2023). They are attempting to maintain control over the unchangeable physiological reactions within their being, which can result in a wide range of physical symptoms, including fibromyalgia, chronic fatigue, and others (Van der Kolk, 2014). Research explains that this very reason is why it is of utmost importance to treat the entire organism in trauma treatment: the mind, the body, and the brain (Van der Kolk, 2014).

Additionally, it is explained that since trauma affects the entire human organism, when someone suffers from PTSD, their body will continue to defend against a threat that belongs to the past (Van der Kolk, 2014). Thus, healing from PTSD could be an impossible feat due to continued stress (Sarafino & Smith, 2022). DDD is like PTSD, which is a disorder precipitated by significant stressors and is a coping mechanism to them. One of these stressors is CSA (American Psychological Association, 2022). Healing from DDD could also be an impossible feat due to stress

# THE LAW OF PARSIMONY

The question may be raised as to why the intersections of all these disorders are important. This is similar to the metaphor of the difference between a headache, a cold, and a migraine. They are all separate things but have very similar symptoms and behaviors. In this review, it is desired to challenge the current framework of understanding these disorders: where their *separations* lie and, instead, to see where their *connections* lie. What connects DDD to PTSD, and what connects them to CSA? Furthermore, research should be conducted to understand DDD's connections with CSA further and its potential causational effects.

Dr. Palmer (2022) uses the law of parsimony in his text "Brain Energy" to explain the connections between many different issues in an individual and microbiome disorders. While this review has nothing to do with the gut microbiome, the same principle that Dr. Palmer used to support his argument will be used in this review: that the intersections in his research are more than just intersections; they are symbolic, and they should be studied on how they can be *implemented* in treatment improvements, and not just observed as intersections. Dr. Palmer questions the reader by asking if it is possible that an individual has a sore throat, a runny nose, and clogged sinuses, and these symptoms not be related to one another. While they may be unrelated, he explains that it is doubtful (Palmer, 2022). This is like the migraine, headache, and cold analogy. Palmer poses the question, "Why do they all simultaneously exist?" It is possible that they are not related, but it is more likely that the migraine, headache, and cold are related to the same root cause.

It is important to note that the topic of Dr. Palmer's (2022) work is not on DDD, but his use of the law of parsimony for his theory is transferrable to synthesizing this literature. The law of Parsimony is often held to understand that the simplest and most unifying explanation for a subject of controversy is the most likely to be correct (Palmer, 2022). Palmer then describes that a unifying theory that could connect all the evidence plausibly and logically for an argument, whatever the argument may be, is most likely to be correct. Arguably, these similarities in behaviors, biopsychosocial effects of CSA, DDD, and PTSD, and the intersections within them are too similar for there to be no causation of DDD from CSA. If one uses Palmer's argument with the law of parsimony, the clearest, concise, logical, and plausible answer regarding this research is that CSA can cause DDD and that DDD could further be researched as trauma causation (Palmer, 2022).

## GAPS IN RESEARCH

While research included indicates that CSA can lead to DDD, significant gaps in research must be thoroughly observed. First, the correlation between DDD and CSA must be explored by understanding its confounds (Mraz, 2023). Secondly, the results of a study showed its implications for the classification of DDD in psychiatric nosology (Merritt Millman et al., 2022). Finally, the relationships of maltreatment to DDD and PTSD in adolescence show a different outcome than the causation of CSA to DDD (Choi et al., 2019; King et al., 2020). These inconsistencies can pave the way for future research to fill these gaps with knowledge on the topics to help individuals who suffer from them.

## **CONFOUNDS**

Mraz (2023) shows that resiliency factors, including emotional reactivity and a sense of relatedness and mastery, predicted dissociation in individuals. It also shows in trauma-related predictors of dissociation in maltreatment that the type of maltreatment was not a risk or protective factor for any model within the study. Instead, age emerged as the leading predictor for individuals who suffer from dissociation. Mraz's (2023) research also shows that a highly emotionally reactive, maltreated child is more likely to cope by non-suicidal self-injury rather than dissociation. It also suggested that potential numbing with passive influence could be a coping technique (Mraz, 2023). Furthermore, this study shows that the child's reaction to the environment around them and their trauma is more likely to develop dissociative symptoms and DDD rather than the act of the maltreatment itself (Mraz, 2023). This research poses the argument of whether the traumatic event or the individual reaction to it is what causes DDD. Further research should be explored on this topic.

#### NOSOLOGY OF DDD

Another study shows no difference in the suggestibility of DDD patients to healthy control groups in a responsiveness assessment (Merritt Millman et al., 2022). These results have implications regarding the etiology and treatment of DDD (Merritt Millman et al., 2022). It also gives implications to DDD's classification as a dissociative disorder within psychiatric nosology (Merritt Millman et al., 2022). However, the study also shows lower levels of mindfulness, imagery vividness, greater anxiety, and a distinction from other disorders in DDD patients (Merritt Millman et al., 2022). This study helped to distinguish the gaps within these classifications further.

#### **RELATIONSHIPS OF MALTREATMENT**

Research on the relationships between maltreatment, posttraumatic symptomatology, and dissociative subtypes among adolescents found that all PTSD-affected adolescents, including and excluding the dissociative subtype, experienced overall more traumatizing/maltreatment events than those without PTSD (Choi et al., 2019). It was also found that no specific type of maltreatment was linked with the increased odds of PTSD, including or excluding the dissociative subtype (Choi et al., 2019). However, another study measured the childhood maltreatment type and severity of DDD predictors in women seeking treatment for PTSD (King et al., 2020). Self-report surveys of the PTSD Checklist for the DSM-5, the Dissociative Subtype of PTSD Scale, and the Childhood Trauma Questionnaire showed that childhood maltreatment severity and type (particularly emotional and physical abuse) are associated with the dissociative symptoms within D-PTSD (King et al., 2020). The works of this study call for the etiological contributions of D-PTSD (King et al., 2020). The discrepancies between these two journals suggest the need for more research on how there came to be different results.

## DISCUSSION

The disorders included in the *DSM-5-TR* have tedious listings of precursors, of which DDD has CSA listed (American Psychiatric Association, 2022). Nosology listed within the *DSM-5-TR* improves the reader's understanding of behaviors/ developments that an individual who suffers from DDD conveys (American Psychiatric Association,

2022). The nosology also acknowledges the plausibility of reckless behaviors acted by these individuals in different stages of life and how this can later develop on an abnormal scale. Furthermore, separate literature based on the topic of reckless behavior found similar findings (including thrillseeking or high-risk behaviors, illicit drug use, self-harm, and offense to the justice system) as a coping mechanism between the different disorders (American Psychological Association, 2022; Walker, 2023).

The prevalent acknowledgment of reckless behaviors being associated with DDD and PTSD pushed the need to dive into where these behaviors came from, which led to the discussion on the many overlaps within DDD, CSA, and PTSD. The review focuses on literature that displays these neurological, psychological, biological, and social overlaps. Neurologically, it was found throughout the literature that structures of various brain regions change in individuals with CSA (Walker, 2023). Interestingly, research also showed that this pattern is found within victims of DDD (Shin, 2022). Cognitively, the processes in the brain are different for an individual traumatized by CSA, which is similarly found in those with PTSD and DDD in contrast to an individual unaffected by CSA, DDD, or PTSD (Walker, 2023).

Psychologically, the emotions of individuals who experience CSA could include psychoticlike experiences (O'Neill et al., 2021), a higher risk of mental illness (Pan et al., 2020), feeling out of body/out of touch with reality (American Psychiatric Association, 2022), higher risk of using dissociative symptoms to cope (Walker, 2022), and higher risk of pathological dissociation (Tschoeke et al., 2021). Biologically, research revealed correlations between dissociative symptoms and CSA, as well as a link between sexual dysfunction (and other sexual issues) and CSA, DDD, and PTSD (Gerwirtz-Meydan & Godbout, 2023). Furthermore, there is a higher likelihood of individuals who have suffered from CSA to experience revictimization (Briere et al., 2020). Socially, it was shown that children who suffered from CSA also struggled in the classroom, some of which are significantly close to those expressed within DDD (Walker, 2023).

The research shows that not only are there close parallels between CSA, DDD, and PTSD, but

there are overlaps within the neurological, biological, cognitive, social, and psychological impacts of these disorders. These overlaps show the importance of viewing CSA, DDD, and PTSD in a biopsychosocial lens. The book *Biopsychosocial Interactions* provides the background of the biopsychosocial model regarding stress and health within the human body, and *The Body Keeps the Score* highlights the specific importance of this model by trauma in an individual. Moreover, this literature highlights the importance of viewing trauma as an impact on the whole person.

The law of parsimony is used to drive all this literature to the main point of the review: to push the need for extensive empirical research on the possibility of CSA causing DDD. The law of parsimony specifically exists to search for the most *unifying* and *simple* explanation for the subject in the likelihood that this is the *most correct* (Palmer, 2022). Since there are so many similarities in the research observed, it is seemingly redundant to continue ignoring this possibility and plausibility. This law should be applied to this topic because of the number of overlaps within these current separately viewed field topics.

#### RECOMMENDATIONS

The various works included in this manuscript show the extent of similarities in biopsychosocial symptomatology and behaviors within individuals who experience CSA, DDD, and PTSD and how the law of parsimony can be applied to push the need for further empirical research on these intersections. Furthermore, the literature on intersections in the biopsychosocial impacts of trauma within CSA, PTSD, and DDD shows the need for empirical research to be taken a step further and deeper within this field. The urge for more extensive studies also lies in the vast discovery of how one is affected by DDD at the biopsychosocial level.

The need for urgency in this field is highlighted. The reckless behaviors of individuals who experience CSA, DDD, and PTSD can be harmful to themselves and others (American Psychiatric Association, 2022). Further empirical studies proving this causation could also aid in finding solutions to the delayed learning development of CSA victims in the school environment and finding ways to ease dissociative symptoms in children. New research could observe treatment-based experimental designs for children with DDD for the best solution and integrate these practices within the school system in hopes of helping children at the biopsychosocial level. These possible empirical findings can help not only the functioning of these individuals in society but also their emotional well-being and reduced risk for re-victimization. Additionally, research shows the negative impacts that an individual can experience if symptomatology of CSA, DDD, and PTSD remains untreated in adulthood (Van der Kolk, 2013). Empirical research must be sought so that treatments and preventative actions can be created for individuals who suffer from DDD.

#### CONCLUSION

It is important to note the inconsistencies/confounds, the nosology of DDD, and the implications in the relationships of maltreatment found thus far in the literature provided. These gaps found in research should not be viewed as discouraging but as possible future research topics to further grasp DDD. Ultimately, changing how researchers view this unpaved road will change the outcome. If work on DDD, PTSD, and CSA continues to be done with a focus on how they are different, one can easily miss exposing where the connections are and how they came to be. This can leave many individuals stuck on a boulevard of a foggy and broken reality, unsure of how they got there and how to leave. The perspective should be shifted to finding the root causes of these disorders and where their connections lie to help individuals get off this boulevard of broken realities.

# References

- Aafjes-van Doorn, A., Kamsteeg, C., & Silbershatz, G. (2019). Cognitive mediators of the relationship between adverse childhood experiences and adult psychopathology: A systematic review. *Development and Psychopathology*, 32(3), 1017–1029. https://doi.org/10.1017/s0954579419001317
- American Psychiatric Association. (2022). Diagnostic and statistical manual of mental disorders. *American Psychiatric Publishing*.
- Armour, C., Greene, T., Contractor, A., Weiss, N., Dixon-Gordon, K., & Ross, J. (2020). Posttraumatic stress disorder symptoms and reckless behaviors: A network analysis approach. *Journal* of *Traumatic Stress*, 33(1), 29–40. https://doi.org/10.1002/ jts.22487
- Bradley, A., Karatzias, T., & Coyle, E. (2018). Derealization and self-harm strategies are used to regulate disgust, fear, and sadness in adult survivors of childhood sexual abuse. *Clinical Psychology & Psychotherapy*, 26(1), 94–104. https://doi. org/10.1002/cpp.2333
- Briere, J., Runtz, M., Rassart, C. A., Rodd, K., & Godbout, N. (2020). Sexual assault trauma: Does prior childhood maltreatment increase the risk and exacerbate the outcome? *Child Abuse & amp; Neglect, 103, 104421. https://doi.org/10.1016/j.* chiabu.2020.104421
- Choi, K., Ford, J., Briggs, C., Munro-Kramer, M., Graham-Bermann, S., & Seng, J. (2019). Relationships between maltreatment, posttraumatic symptomatology, and the dissociative subtype of PTSD among adolescents, *Journal of Trauma* & *Dissociation*, 20(2), 212–227. https://doi.org10.1080/152997 32.2019.1572043
- Diagnostic and statistical manual of mental disorders. (2022). American Psychiatric Association. *American Psychiatric Publishing.*
- Gewirtz-Meydan, A. (2020). The relationship between child sexual abuse, self-concept and psychopathology: The moderating role of social support and perceived parental quality. *Children and Youth Services Review*, *113*, 104938. https://doi. org/10.1016/j.childyouth.2020.104938
- Gewirtz-Meydan, A., & Godbout, N. (2023). Between pleasure, guilt, and dissociation: How trauma unfolds in the sexuality of childhood sexual abuse survivors. *Child Abuse & amp; Neglect*, *141*, 106195. https://doi.org/10.1016/j.chiabu.2023.106195
- Kapoor, S. (2023). How to cope with depersonalization and derealization. *Mayo Clinic*, https://mcpress.mayoclinic.org/ mental-health/how-to-cope-with-depersonalization-andderealization/#:~:text=Depersonalizationderealization%20disorder%20refers%20to%20an%20altered%20perception%20 or,school%20or%20work%2C%20relationships%2C%20

and%20your%20daily%20activities.

- King, C. D., Hill, S. B., Wolff, J. D., Bigony, C. E., Winternitz, S., Ressler, K. J., Kaufman, M. L., & Lebois, L. A. M. (2020). Childhood maltreatment type and severity predict depersonalization and derealization in treatment-seeking women with posttraumatic stress disorder. *Psychiatry Research.* https:// www.ncbi.nlm.nih.gov/pmc/articles/PMC8217993/
- Krause-Utz, A., Frost, R., Winter, D., & Elzinga, B. M. (2017). Dissociation and alterations in brain function and structure: implications for borderline personality disorder. *Current psychiatry reports*, *19*(6). https://doi.org/10.1007/s11920-017-0757-y
- Lassri, D., Bregman-Hai, N., Soffer-Dudek, N., & Shahar, G. (2022). The interplay between childhood sexual abuse, selfconcept clarity, and dissociation: A resilience-based perspective. *Journal of Interpersonal Violence*, *38*(3-4), 2313–2336. https://doi.org/10.1177/08862605221101182
- Lebois, M., Harnett, G., van Rooij, H., Ely, D., Jovanovic, T., Bruce,
  E., House, L., Ravichandran, C., Dumornay, M., Finegold, E.,
  Hill, B., Merker, B., Phillips, A., Beaudoin, L., An, X., Neylan,
  C., Clifford, D., Linnstaedt, D., Germine, T., & Ressler, J.
  (2022). Persistent dissociation and its neural correlates in
  predicting outcomes after trauma exposure. *American Journal*of *Psychiatry*, 179(9), 661–672. https://doi.org/10.1176/appi.
  ajp.21090911
- Millman, M., Hunter, M., David, S., Orgs, G., & Terhune, B. (2022). Assessing responsiveness to direct verbal suggestions in depersonalization-derealization disorder. *Psychiatry Research*, 315, 114730. https://doi.org/10.1016/j.psychres.2022.114730
- Modrowski, A., Mendez, L., & Kerig, P. (2021). Associations among trauma exposure, posttraumatic dissociation, reckless/selfdestructive behavior, and adolescent offending. *Journal of Trauma & amp; Dissociation, 22*(5), 487–501. https://doi.org/10 .1080/15299732.2020.186965
- Mraz, L. (2023). Identifying trauma related predictors of dissociation in maltreated youth (Publication No. 30247700) [Master's thesis, University of Nevada, Las Vegas]. ProQuest One Academic.
- Murphy J. (2023). Depersonalization/derealization disorder and neural correlates of trauma-related pathology: A critical review. *Innovations in Clinical Neuroscience*, 20(1-3), 53–59. https://pubmed.ncbi.nlm.nih.gov/37122581/
- O'Neill, T., Maguire, A., & Shevlin, M. (2021). Sexual trauma in childhood and adulthood as predictors of psychotic-like experiences: The mediating role of dissociation. *Child Abuse Review*, 30(5), 431–443. https://doi.org/10.1002/car.2705
- Palmer, C. M. (2022). Brain energy: A revolutionary breakthrough in understanding mental health—and improving treatment for

anxiety, depression, OCD, PTSD, and more (1st ed., Vol. 1). BenBella Books, Inc.

- Pan, Y., Lin, X., Liu, J., Zhang, S., Zeng, X., Chen, F., & Wu, J. (2020). Prevalence of childhood sexual abuse among women using the childhood trauma questionnaire: A Worldwide Meta-analysis. *Trauma Violence Abuse*, 22(5). https://doi. org/10.1177/1524838020912867
- Lanius. R., Braeden, T., McKinnon, M. (2020). The sense of self in the aftermath of trauma: lessons from the default mode network in posttraumatic stress disorder. *European Journal of Psychotraumatology*, *11* (1). https://doi.org/10.1080/20008198 .2020.1807703
- Sarafino, E. P., & Smith, T. W. (2022). *Health psychology: Biopsychosocial Interactions*. John Wiley & Sons.
- Saini, F., Ponzo, S., Silvestrin, F., Fotopoulou, A., & David, A. S. (2022). Depersonalization disorder as a systematic downregulation of interoceptive signals. *Scientific Reports*, 12(1). https:// doi.org/10.1038/s41598-022-22277-
- Shin, L. M. (2022). Looking through a fog: What persistent derealization can teach us about PTSD. *American Journal* of *Psychiatry*, 179(9), 599–600. https://doi.org/10.1176/appi. ajp.20220573
- Tschoeke, S., Bichescu-Burian, D., Steinert, T., & Flammer, E. (2021). History of childhood trauma and association with borderline and dissociative features. *Journal of Nervous & Comp. Mental Disease*, 209(2), 137–143. https://doi.org/10.1097/ nmd.000000000001270
- Van Der Kolk, B. (2014). The Body Keeps the Score: Brain, Mind, and Body in the Transformation of Trauma. Penguin Books.
- Walker, D. J. (2023). Child sexual abuse with dissociation in the African American community (Publication No. 30570105).
   [Doctoral thesis, California School of Professional Psychology, Los Angeles]. ProQuest One Academic.