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Perspective

Combatting comorbidity: the promise of schema therapy in substance use disorder treatment

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Abstract
This paper explores the bidirectional relationship between trauma and Substance Use Disorders (SUDs), emphasising the need for integrated treatment approaches. Trauma exposure, often associated with various psychological disorders, contributes to the high comorbidity observed in SUDs. Early childhood trauma, in particular, is linked to vulnerability in developing SUDs later in life. In response to the challenges of treating SUDs, this paper outlines emerging evidence for schema therapy as a transdiagnostic intervention. Schema therapy, an extension of cognitive behavioural therapy, targets maladaptive schemas and core beliefs by integrating cognitive, behavioural, and experiential techniques. Schema therapy recognises the role of unmet core emotional needs in the development of early maladaptive schemas, offering a holistic approach to address entrenched psychological patterns. Empirical evidence suggests a significant association between early maladaptive schemas and SUDs, highlighting the potential of schema therapy in addressing substance use. Despite limited research, studies demonstrate promising outcomes, including reductions in SUD severity and symptoms of comorbid conditions. Clinical implications include the integration of trauma screening in SUD assessments, adopting a holistic approach to treatment, and exploring schema therapy as a viable intervention through rigorous research methodologies. Ultimately, this paper highlights that the integration of schema therapy into substance use treatment programs holds promise in revolutionising the approach to SUDs, providing a nuanced and effective therapeutic intervention for individuals seeking lasting recovery and improved quality of life.

Keywords Schema therapy · Schema modes · Comorbidity · Substance use disorders · Addiction

1 Introduction

Substance Use Disorders (SUDs) represent a pervasive and alarming public health issue that affects individuals, families, and communities worldwide. The prevalence of SUDs is staggering, with millions of people across the globe grappling with the challenges of addiction. It is estimated that 3.3% of Australians (647,900 people) aged 16–85 years have a 12-month SUD [1], and over 20.3 million people are experiencing a SUD in the US [2].

Concerningly, SUDs are also notoriously challenging to treat due to their multifaceted nature and the complex interplay of biological, psychological, and environmental factors. Indeed, Fleury et al. [3] meta-analysis of 8855 studies demonstrated that only 35% to 54% of individuals with SUDs achieve remission long term. Aside from the impact of the

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brain's adaption to the presence of a substance (i.e., tolerance and dependence), comorbidity may be the most significant reason complicating treatment. SUDs are commonly comorbid with a number of mental health issues such as mood disorders, anxiety disorders, and eating disorders [4–6], as well as disorders that onset in childhood such as attention-deficit/hyperactivity disorder, oppositional defiance disorder, and conduct disorder [7]. Kingston et al. [8] systematic review of 18 studies found that prevalence estimates of current mental health disorders in substance use treatment clients varied from 47 to 100%.

SUDs also frequently co-occur with trauma, creating a complex interplay that significantly impacts the lives of affected individuals. There are specific diagnostic understandings of trauma (e.g., DSM-5-TR; ICD-11), which require specific types of adverse events for diagnosis of trauma-related disorders, but across the literature a wide range of events have been linked to the experience of trauma [9]. The relationship between trauma and substance use tends to be bidirectional, with trauma increasing the risk of developing SUDs, and substance use often exacerbating the impact of traumatic experiences [10, 11]. Individuals that have experienced early childhood trauma appear to be particularly vulnerable to developing SUDs later in life, with this relationship well documented in the extant literature [12–14]. For instance, Santo et al. [15] conducted a systematic review and meta-analysis that demonstrated significant associations between sexual abuse, physical abuse and neglect, and opioid use disorder.

Exposure to trauma is also associated with many psychological disorders [16], which further complicates the psychopathological picture of, and potentially accounts for, the high comorbidity in SUDs. Trauma exposure is embedded in the diagnosis of Post-Traumatic Stress Disorder (PTSD; DSM-5-TR), but also strongly associated with mood disorders [17], anxiety disorders [18], personality disorders [19], obsessive compulsive spectrum disorders [20], and eating disorders [21]. Given this, there is a strong push for integrated treatment approaches which provide holistic care for comorbid conditions in substance use treatment [22].

2 Schema therapy

The prevalence of comorbidity in SUDs underscores the necessity for transdiagnostic interventions capable of comprehensively addressing concurrent conditions [23]. Schema therapy is one such transdiagnostic approach that offers integrated treatment for comorbidity. Schema therapy, an extension of cognitive behavioural therapy, focuses on identifying and restructuring maladaptive schemas and core beliefs [24]. By integrating cognitive, behavioural, and experiential techniques, schema therapy provides a holistic approach to addressing entrenched psychological patterns. Schema therapy aims to recognise and manage negative schemas through fostering emotional regulation and healthier coping mechanisms [24]. Notably, within the framework of schema therapy, unmet core emotional needs which often occur in the context of adverse childhood experiences are understood to contribute to the formation of early maladaptive schemas [25]. These schemas, which are conceptualised as longstanding patterns and traits, often develop as adaptive responses to trauma, continue to influence an individual's thoughts, emotions, and behaviours in an unhelpful way, long after the traumatic event has occurred [26]. Coping responses to schemas are formulated as so-called schema modes, referring to emotional, cognitive, and behavioural states; most modern schema therapy approaches conceptualise presenting symptoms based on people's schema modes [25]. Notably, the central agent of change for schema therapy involves the use of experiential and emotion-oriented techniques to stimulate affect and deliver corrective experiences as well as its unique utilisation of the therapeutic relationship [24, 26]. Schema therapy has been found to be effective for treating mood disorders [27], anxiety disorders [28], personality disorders [29], obsessive compulsive spectrum disorders [30], and eating disorders [31], and can be delivered in individual or group formats [32–34].

3 Evidence for schema therapy for substance use disorders

3.1 Schema Modes and Early Maladaptive Schemas in Substance Use Disorders

Since Ball [35] first proposed the relevance of early maladaptive schemas to individuals with SUDs, there has been a gradual emergence of promising empirical evidence demonstrating schema profiles and amplified maladaptive modes for people with SUDs. For instance, Brotchie et al. [36] found that men and women with opioid use disorder scored higher on 11 of 15 early maladaptive schemas (utilising an earlier conceptualisation of Young's schemas) compared to a non-clinical comparison group. Similarly, Roper et al. [37] found that individuals with alcohol use disorder exhibited

higher scores on 14 out of 15 early maladaptive schemas. Over the past decade, analogous results have been reported for individuals with SUDs [38–41], and many have documented schema profiles in samples of people misusing alcohol [42, 43], cocaine [44], and opioids [45], and heterogeneous samples of SUDs [38, 46–50]. Further, specific early maladaptive schemas have been shown to associate with behaviours relating to SUDs. Recently, Sakulsriprasert et al. [51] conducted a systematic review and meta-analysis ($n = 12,577$) showing that the schema domains of 'disconnection and rejection', 'impaired limits', and 'impaired autonomy' were closely associated with SUDs.

3.2 Schema Therapy for Substance Use Disorders

Research assessing the impact of schema therapy programs is in its early stages, with limited available evidence. This is partly due to (i) the historical high rates of exclusion of individuals with SUDs from clinical trials, and (ii) the absence of a consistent measure of substance use as a secondary outcome when they are included. Despite this, several studies have reported encouraging results. In their seminal study, Ball and Young [52] reported a case series of three individuals with comorbid personality and SUDs (alcohol, benzodiazepines, and heroin, respectively) who engaged with a 24-week dual focus schema therapy program. All three cases showed some initial improvement, however only one out of the three achieved a maintained reduction of substance use over the course of treatment. Some years later, Ball et al. [53] compared the effectiveness of schema therapy to manualised individual drug counselling for individuals with SUDs and personality disorders. They found that individual drug counselling was more effective in reducing psychiatric symptoms. However, in response to Ball's [53] study, Lee and Arntz [54] highlighted several significant methodological issues including drop-out rates of over 50% in both groups, and resultant issues with treatment fidelity and dosage in the schema therapy group. Importantly these early studies strongly highlight the need for high quality and high fidelity studies of schema therapy in this population to properly ascertain the efficacy of this intervention.

More recently, Tapia et al. [55] found that schema therapy combined with Eye Movement Desensitisation and Reprocessing significantly reduced addiction severity and symptoms of PTSD and depression in a sample of 15 women. Similarly, Oraki [56] found that in a small sample ($n = 20$) of men with heroin dependence, 10-week group schema therapy significantly reduced symptoms of depression and relapse rates. Boog et al. [57] examined the effectiveness of schema therapy for 20 men and women with borderline personality disorder and alcohol use disorder. They found that 3 months after cessation of schema therapy 13 out of 19 participants achieved remission from borderline personality disorder. Furthermore, their frequency of alcohol use days and heavy alcohol use days significantly decreased.

In addition to the encouraging outcomes of these studies, schema therapy also returns the benefit of relatively low dropout rates, which is a common problem particularly in substance using populations. Gülüm's [58] systematic review of eight schema therapy studies reported an average dropout rate of 23% for people with personality disorders, compared to 30% in-person SUD treatment [59]. By addressing multiple comorbid issues in a single treatment episode, schema therapy also provides a unique opportunity to more comprehensively meet the treatment needs of patients, and therefore sustain treatment engagement.

4 Clinical implications and recommendations

First, it is recommended that comorbidity and specifically trauma screening should be integrated into the assessment phase of all people seeking treatment for SUDs. Second, clinicians should adopt a holistic approach to treating SUDs, including addressing co-morbid mental health conditions such as depression and PTSD which likely act to increase vulnerability and precipitate and perpetuate substance use [10, 11]. This is in line with a recent increase in understanding of the benefits of applying trauma focussed treatment for disorders other than PTSD throughout the literature [60]. Third, given the reported schema profiles and modes in people with SUDs and promising initial studies [55–57], schema therapy should be further examined as a viable treatment for SUDs through randomised control trials, using larger and more diverse samples. Finally, researchers should prioritise the inclusion of SUD measures as a secondary outcome and be cautious about excluding individuals with SUDs in future trials evaluating schema therapy. This provides a useful mechanism to explore this presenting issue across a diverse range of trials.

5 Conclusion

The integration of schema therapy as a transdiagnostic treatment model into substance use treatment programs holds immense promise in revolutionising the approach to SUDs. By addressing the core beliefs and maladaptive schemas fuelling addiction, schema therapy offers a nuanced and effective therapeutic intervention, which validates the multi-faceted struggles of those seeking treatment. Presently the empirical evidence limited, and large-scale randomised controlled trials need to be undertaken to examine effectiveness of schema therapy for SUDs and comorbidity. However, if evidence supporting its efficacy continues to mount, it will become imperative for clinicians and researchers to embrace schema therapy as a cornerstone of treatment for SUDs. By doing so, we could elevate the standard of care, providing individuals struggling with SUDs a path towards lasting recovery and improved quality of life.

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Declarations

Competing interests The authors declare no competing interests.

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