

Summary

Significance of emotion regulation in alcohol use disorder

1. Introduction

Impaired emotion regulation is considered a common feature of many psychopathological conditions, including alcohol use disorder (AUD). Emotion regulation is defined as a process through which individuals influence which emotions they have, when they experience them, and how these emotions are perceived and expressed. This construct also refers to awareness and understanding of one's own emotions, acceptance of emotional states, control over emotion-driven behaviors, goal-directed behavior, and the use of appropriate strategies to regulate emotions. Numerous studies have shown that difficulties in emotion regulation may contribute to alcohol use as a means of reducing or eliminating negative emotional states, or as a way to enhance or intensify positive experiences. The literature also suggests that emotional dysregulation contributes to the development and maintenance of alcohol use disorders, exacerbates the negative consequences of alcohol consumption, and increases the risk of relapse. Individuals with AUD have been found to use adaptive emotion regulation strategies less frequently, while relying more heavily on maladaptive ones. Although emotion regulation is recognized as a significant risk factor in the development and course of AUD, profound understanding of this complex construct and its relationships with other risk factors for the development of AUD remain limited.

Recent findings confirm that low distress tolerance is a transdiagnostic feature of disorders characterized by high levels of emotional dysregulation and impaired behavioral control, including problematic substance use. Distress tolerance is defined as the ability to tolerate aversive emotional states. Low distress tolerance has been shown to contribute to drinking alcohol to cope with problems or depressive symptoms. It is also considered a risk factor for negative alcohol-related outcomes and alcohol-related problems in non-clinical populations. However, there is a limited body of research focusing on distress tolerance in individuals with alcohol use disorder. Lower levels of distress tolerance are believed to be associated with poorer emotion regulation and greater reliance on maladaptive strategies, thereby increasing the risk of problematic drinking. However, studies to date have not directly empirically tested this association in the AUD group. Specifically, there is a lack of studies that explore the relationship between emotion regulation difficulties and behavioral markers of distress tolerance in AUD groups.

Recent reports have also shown a relationship between impaired ability to generate mental imagery and mental disorders, including substance use disorders. Mental imagery is defined as perceptual experience based on memory in the absence of an external stimulus. Mental imagery is believed to support emotion regulation by activating internally generated representations that compete with the representation of the external emotion-eliciting stimulus. Imagining future positive events can increase motivation, effort, and goal-directed behavior. While individuals with AUD appear to have no difficulty generating alcohol-related mental imagery, indirect evidence suggests that their ability to produce non-alcohol-related mental images may be impaired. To the best of our knowledge, no studies have directly investigated the relationship between mental imagery and emotion regulation in AUD populations.

The view that impaired emotion regulation is associated with greater severity of depressive symptoms is well established in the literature. Growing evidence indicates that more severe depressive symptoms are linked to lower ability to generate positive future imagery and greater ability to generate negative future imagery.

Despite these indirect relationships between constructs, few studies have examined the links between mental imagery, emotion regulation, depressive symptoms, and alcohol use in individuals with AUD. A significant number of research on emotion regulation and alcohol use has been conducted in healthy individuals, or in clinical populations with diagnoses other than alcohol use disorder. Many studies also focused on individuals exhibiting problematic drinking without meeting the full criteria for AUD. Given the high prevalence and clinical relevance of emotion regulation difficulties in individuals with AUD, expanding knowledge in this area is essential to address existing research gaps. Assessing the relationships between emotion regulation, distress tolerance, positive mental imagery, and depressive symptoms in individuals diagnosed with AUD may also have potential clinical implications.

2. Objective

The general purpose of this dissertation was to analyze the relationships between emotion regulation and distress tolerance, positive mental imagery, and depressive symptoms in individuals diagnosed with alcohol use disorder (AUD).

The following specific aims were defined:

1. To compare emotion regulation ability, distress tolerance, and positive mental imagery between individuals with alcohol use disorder and healthy individuals.
2. To assess the relationship between emotion regulation and distress tolerance in individuals with alcohol use disorder.

3. To evaluate the associations between emotion regulation, depressive symptoms, and positive mental imagery in individuals with AUD.

3. Materials and Methods

In this study, the experimental group consisted of patients of 24-hour therapeutic unit who met the criteria for the diagnosis of alcohol dependence provided by the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10): F10.2. The control group consisted of individuals in whom the diagnosis of AUD and other mental disorders was excluded (healthy adults). A total of 227 patients with a diagnosis of AUD and 80 healthy adults were recruited for the study. Owing to the subsequent inclusion of the prospective imagery assessment task in the set of research instruments, a smaller sample — comprising 136 individuals diagnosed with AUD — was included in the study examining the associations between emotion regulation and mental imagery.

The following questionnaires were used to assess the study variables:

[1] Difficulties in Emotion Regulation Scale DERS (to measure emotional dysregulation).

[2] Ischemic Pain Tolerance Test IPT (a behavioral task to assess distress tolerance). In this procedure, a blood pressure cuff was placed on the participant's nondominant arm and inflated to 200 mm Hg. Participants then performed hand grip exercises until the pain became intolerable, but not in excess of 5 minutes. Distress tolerance was operationally defined as the number of seconds to pain tolerance after beginning the handgrip exercise.

[3] Prospective Imagery Task PIT (to assess the vividness and emotionality of positive mental imagery). In this task individuals were asked to form a mental image of 10 positive future scenarios (e.g., “You will do well in your course”) and rate the image’s vividness (PIT_v_p score) and emotional intensity (PIT_e_p score) on a 5-point Likert scale.

[4] Flexible Emotion Regulation Scale FlexER (to evaluate flexibility in emotion regulation).

[5] Beck Depression Inventory BDI (to assess depressive symptoms).

[6] Toronto Alexithymia Scale TAS-20 (to assess the severity of alexithymia- difficulties in identifying and naming one's own emotional states).

4. Results

As a result of the conducted analyses, it was found that in the test of ischemic pain tolerance utilizing a sphygmomanometer cuff, individuals diagnosed with AUD exhibited significantly poorer distress tolerance compared to the control group. Furthermore, a significant correlation was observed between greater emotional dysregulation and lower (behaviorally measured)

distress tolerance among individuals with AUD, as well as a positive correlation between emotional dysregulation and higher levels of alexithymia and depressive symptoms in this group. In a subsequent study, it was observed that emotional dysregulation was significantly higher in individuals with AUD, whereas emotion regulation flexibility was significantly lower in this group compared to healthy individuals. Furthermore, participants with AUD reported significantly lower vividness of positive mental imagery compared to healthy individuals, while their emotional intensity of positive mental imagery was significantly higher. Within the AUD group, greater vividness of positive mental imagery was associated with significantly better emotion regulation (lower emotional dysregulation and greater flexibility of emotion regulation). Additionally, higher emotional intensity of positive mental imagery was associated with greater emotion regulation flexibility and lower severity of depressive symptoms in the AUD group. Among healthy participants, greater vividness of positive mental imagery was also associated with greater flexibility of emotion regulation; however, in contrast to the AUD group, emotional intensity of mental imagery showed a negative correlation with flexibility of emotion regulation. Statistical analyses confirmed that AUD status was a significant moderator of the relationship between emotion regulation flexibility and the emotional intensity of positive mental imagery. Further analyses indicated that in the AUD group, lower severity of depressive symptoms was associated with better positive mental imagery. This relationship was not observed in the healthy control group.

5. Conclusions

1. Individuals diagnosed with alcohol use disorder demonstrate significantly poorer emotion regulation, lower distress tolerance and reduced vividness of positive mental imagery compared to healthy controls.
2. In the alcohol use disorder group, lower distress tolerance is significantly associated with greater difficulties in emotion regulation.
3. In individuals with alcohol use disorder, more vivid positive mental imagery is significantly associated with lower severity of depressive symptoms and better emotion regulation.

Additional conclusion:

1. AUD status is a significant moderator of the relationship between emotion regulation flexibility and the emotional intensity of positive mental imagery (greater emotional intensity of positive mental images is associated with higher emotion regulation flexibility in individuals with alcohol use disorder and with lower emotion regulation flexibility in healthy individuals).