Exploring the Relationship Between Emotion Regulation and Addiction Severity Among Adolescent Patients with Substance Use Disorder (SUD): Insights from a Rehabilitation Center Study

a Mafia Shahzadi, b Mehwish Jabeen, c Islah ud Din, d Razma Mazhar

a Ph.D. Scholar, Department of Applied Psychology, Government College University Faisalabad
b Clinical Psychologist, School of Professional Psychology, University of Management and Technology, Lahore, Pakistan
c MS Clinical Psychology, University of Lahore, Pakistan
d Ph.D. Scholar, Department of Applied Psychology, Government College University Faisalabad, Pakistan

The objective of this study was to explore the relationship between emotion regulation and addiction severity among adolescent patients with substance use disorder (SUD). The study involved 100 participants from various drug rehabilitation centers. The sample size included 100 clients, aged 10 to 18 years (M=16.16 & SD=0.36) who have completed the detoxification process. Emotion regulation was measured using the Emotion Regulation Scale (ERS_T), which comprises Reappraisal and Suppression subscales. Drug addiction severity was assessed using the 20-Question Addiction Questionnaire (AQ_T). Pearson correlation analysis was conducted to examine the associations between emotion regulation and drug addiction severity. The study found a weak positive correlation between overall emotion regulation (ERS_T) and drug addiction severity (AQ_T) among adolescent patients with SUD (r = 0.145, p < 0.01), suggesting a slight increase in addiction severity with better emotion regulation. There was a strong positive correlation between overall emotion regulation (ERS_T) and reappraisal (r = 0.752, p < 0.01), indicating higher reappraisal levels were associated with better emotion regulation abilities. Additionally, a moderate positive correlation was observed between overall emotion regulation (ERS_T) and suppression (r = 0.227, p < 0.05), suggesting higher suppression use linked to better overall emotion regulation scores. Positive correlation was found between overall emotion regulation and addiction severity, with cognitive reinterpretation (reappraisal) playing a significant role. Emphasizes the need for comprehensive interventions addressing emotion regulation to reduce addiction severity in this vulnerable population.

© 2023 The authors. Published by SPCR Global Publishing. This is an open access article under the Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: mafia.mahak@yahoo.com
1. Introduction

Drug abuse and addiction have emerged as significant challenges both at national and international levels (Ahmadzée, 2015). The research by Hjemsæter et al. (2019) stated that substance use disorder (SUD) is a debilitating psychiatric condition associated with high mortality and morbidity rates. Pakistan, like many other countries, is grappling with the escalating issue of drug abuse, with the number of drug users increasing dramatically over the years (Zafar et al., 2018). Drug addiction has been related to a number of psychological consequences, such as problems with emotion management and cognitive distortions, as stated by Johnston et al. (2014). According to Wilms et al.’s research from 2020, emotion regulation is an essential part of psychological functioning because it enables people to deal with the stress in their life and maintain control over their emotional experiences and outbursts. (Heppner, Kivlighan, & Wampold, 2007) Research has indicated that addiction to substances can interfere with this necessary function, making it more difficult for a person to successfully control their emotions.

Since feelings have been shown to have a significant impact on a person’s thoughts, decisions, and actions (Izard, 2009), it is of the utmost importance to examine the ways in which drug addiction can alter a person’s emotional experiences and expressions. In a similar line, another study indicated that people who use substances regularly have less fear of the negative impacts that drugs may have on their behaviour and mental health (Xia, Yuan, & Gay, 2009). This finding is in keeping with the previous one. This study came to the conclusion that substance abuse can have an effect on a person’s cognitive performance as well as their tendency to make judgmental errors, which can lead to risky behaviour.

Research on the teenage or young adult populations in Pakistan is uncommon, despite the wealth of data on drug addiction and its psychological repercussions (Niaz et al., 2005). In Pakistan, research on drug addiction and its psychological impacts is scarce. The purpose of this study is to fill up this knowledge gap by analysing the degree of drug addiction as well as the emotional experience and expression of adolescents who are receiving treatment for substance use disorder in drug rehabilitation clinics located all over Pakistan. This study will include participation from a sizable sample of adolescents hailing from a diverse range of socioeconomic, educational, and demographic backgrounds. Taking into consideration such a diverse group of participants, the research aims to provide comprehensive insights into the factors that influence the severity of drug addiction and its impact on emotion regulation in Pakistani teenagers. The following are the noteworthy points explaining the significance of this research:

- **Novel Exploration:** The study addresses a significant gap in research by focusing on emotion regulation specifically among substance use disorder (SUD) patients in Pakistan. While emotion regulation has been explored in various populations, its investigation in SUD clients remains unexplored, making this study a pioneering effort in the field.
- **Comprehensive Understanding:** By determining the extent of drug addiction and examining the experience and expression of emotions in SUD patients, this research aims to provide a comprehensive understanding of the complex interplay between substance abuse and emotional well-being.
- **Enhanced Prevention Strategies:** The findings of this study will be instrumental in developing targeted prevention strategies to combat drug and substance abuse. Counselors and stakeholders can utilize the insights to design public enlightenment campaigns and awareness programs,
emphasizing the dangers of drugs and how emotions impact an individual's life, family, and society as a whole.

- Improved Treatment Services: Understanding the emotional challenges faced by SUD patients will lead to improvements in the quality of treatment and counseling services. Clients can be sensitively debriefed on the link between drug abuse and emotional instability, facilitating more effective interventions for a healthier lifestyle.

- Empowering Individuals: Armed with the knowledge from this research, individuals struggling with SUD can gain valuable insights into the impact of drug addiction on their emotional well-being. This understanding can motivate them towards adopting a drug-free lifestyle and seeking appropriate support.

- Informing Policy Decisions: The study's findings can also inform policy decisions and the allocation of resources for substance abuse prevention and treatment programs. It will provide evidence-based data to guide policymakers in addressing the pressing issue of drug addiction in Pakistan.

- Contributing to Academic Literature: This research will add to the existing body of literature on emotion regulation, substance abuse, and mental health, enriching the academic discourse and potentially inspiring further research in this domain.

- Social Welfare Impact: Ultimately, the study's significance lies in its potential to improve the well-being of SUD patients and contribute to creating a healthier society by addressing the emotional aspects associated with drug addiction.

2. Methods
2.1 Research Design

The research design employed in this study is a descriptive cross-sectional approach, allowing for the simultaneous examination of drug addiction severity and emotion regulation among adolescent patients with substance use disorder (SUD) without intervention or manipulation of variables. This study was conducted in two cities of Pakistan, namely "Sheikhupura" and "Lahore," both located in the northwest region of the country and serving as cultural centers for the Punjab province. Out of approximately 20 private drug rehabilitation centers in these cities, the researcher obtained permission to conduct the study in a carefully selected sample of 5 drug rehabilitation centers in the year 2022. From Sheikhupura, two centers were chosen, namely "Silver Lining Rehab Center" and "Hope Center," while from Lahore, three centers were selected, including "Phoenix Foundation Research and Development (PFRD)," "Nai Umeed," and "New Life Center."

Adolescents with substance use disorder (SUD) from private drug rehabilitation facilities in Sheikhupura and Lahore, Pakistan, made up the study's population. 100 clients were included in the sample, ranging in age from 10 to 18 (mean age: 16.16 years; standard deviation: 0.36). Additionally, because the study is focused on those who have been admitted to rehabilitation facilities, only those who have successfully finished the detoxification procedure are eligible to participate. This ensures that the selected participants have relevant experiences with substance use disorder and are representative of the target population of interest, enhancing the validity and reliability of the study's findings.

The study comprised participants aged between 10 -18 years old, all of whom were admitted to a drug rehabilitation center. Prior to inclusion in the study, each participant had undergone the process of detoxification. The research aimed to examine drug addiction severity and emotion regulation among these adolescent patients with substance use disorder (SUD) without any intervention or manipulation of variables. The study utilized a non-probability, convenient sampling technique, whereby participants were selected based on their availability and willingness to take part in the research.
2.2 Demographic Performa

Demographic Performa was developed to get the basic information of the participants including, gender, age, Siblings, birth order, education, parental education, family system, types of drug, age of first substance use and number of receive Residential Drug Treatment of the participants.

2.2.1 20-Question Addiction Questionnaire

Dr. Robert Seliger developed the 20-Question Addiction Questionnaire, which aims to assess the extent of an individual's drug use and alcohol consumption. This questionnaire comprises 20 questions, each requiring a simple "Yes" or "No" response. Based on the number of "Yes" answers, the questionnaire provides a rough indication of the individual's addiction status. Responding "Yes" to 1 to 3 questions may suggest a drug or drinking problem, while 4 to 7 "Yes" responses may indicate an early stage of addiction. Responding "Yes" to 7 to 10 items might suggest a second stage of addiction, and answering "Yes" to more than 10 items could imply an advanced, end-stage addiction.

The completion of the 20-Question Addiction Questionnaire takes approximately 5 to 7 minutes, making it a quick and practical tool for screening purposes. The questionnaire has demonstrated a high level of internal consistency, with a split-half coefficient reliability of $r = 0.95$. Moreover, its current validity is estimated to be between 0.70 to 0.83 (Seliger, 1930), indicating its effectiveness in measuring addiction tendencies.

2.2.2 Emotion regulation scale

Gross and John's Emotion Regulation Scale was designed to measure the discrepancies between emotional experience and emotional expression. Comprising 10 items, this scale is divided into two subscales: Reappraisal (6 items) and Suppression (4 items). Questions 1, 3, 5, 7, 8, and 10 pertain to one's ability to engage in reappraisal, while questions 2, 4, 6, and 9 explore the use of suppression as an emotion regulation strategy. Reappraisal is about changing thoughts to impact emotions positively, with higher scores reflecting better emotion regulation through cognitive reinterpretation. Suppression involves hiding emotions outwardly despite feeling them internally, and higher scores indicate a stronger tendency to suppress emotions in social situations.

Using a 7-option Likert scale, ranging from "completely disagree" (1) to "completely agree" (7), respondents indicate their agreement with each statement. Completing the questionnaire typically takes 3 to 5 minutes, with scoring requiring approximately 1 minute. The scale demonstrates good validity, with Cronbach's alpha indicating predictability values of 0.79 for suppression and 0.73 for reappraisal. Moreover, the reliability of the scale is measured at 0.69 (Gross & John, 2003).

2.3 Procedure

Upon receiving approval from the relevant university authorities, participants for the study were selected using a specified sampling strategy. Prior to their inclusion, informed consent was obtained from all participants, and they were given a detailed explanation of the research's purpose. It was made clear that the data collected through the surveys would be handled in the strictest of confidence and utilised only for study. Additionally, participants were informed of their freedom to leave the research at any time without repercussions.

A total of 145 forms from qualified participants were gathered during the data collecting phase. However, after close examination, 45 forms were dropped from the analysis because of glaring errors and missing data, with several forms still being unfinished. As a result, 100 participants' data were included in the final dataset for analysis.
For additional data analysis, the researchers used SPSS (Statistical Package for the Social Sciences) software. In order to conduct various statistical analyses and examine the correlation between drug addiction severity and emotion regulation in adolescent patients with substance use disorder (SUD), the data was loaded into the SPSS system.

The study's dedication to safeguarding the rights and welfare of the participants is shown by its adherence to ethical standards, which include getting informed consent and maintaining participant confidentiality. By employing a convenient sampling technique, the researchers were able to collect data efficiently and explore the research objectives within the available resources.

Despite the exclusion of some forms during the analysis phase, the study's findings from the 100 included participants are expected to provide valuable insights into the link between drug addiction severity and emotion regulation in adolescents with SUD. The results could potentially contribute to the development of targeted interventions and treatment strategies for this vulnerable population, ultimately aiding in their journey towards recovery and improved mental health outcomes.

### 3. Results

The results of the correlation analysis between the variables in your study mentioned in table 1 are as follows. The Emotion Regulation Scale (ERS_T) total score has a weak positive correlation with the 20-Question Addiction Questionnaire total score (AQ_T), with a correlation coefficient of 0.145. The relationship between these two variables is statistically significant at the 0.01 level (2-tailed). This suggests that as the overall score on the Emotion Regulation Scale increases, there is a slight tendency for the severity of drug addiction to also increase among adolescent patients diagnosed with substance use disorder (SUD).

Moreover, the Emotion Regulation Scale (ERS_T) total score shows a strong positive correlation with the Reappraisal Item total score, with a correlation coefficient of 0.752**. The relationship is highly significant at the 0.01 level (2-tailed). This indicates that participants who report higher levels of reappraisal, which involves reframing their thoughts to regulate emotions, tend to have higher scores on the overall Emotion Regulation Scale. It suggests that the ability to engage in reappraisal is closely associated with overall emotion regulation abilities among adolescent patients with SUD.

**Table 1: Descriptive Statistics and Pearson Correlation Analysis of Emotion Regulation Factors, Total Emotion Regulation Scale (ERS_T), and Total 20-Question Addiction Questionnaire (AQ_T) among Adolescent Patients Diagnosed with Substance Use Disorder (SUD)**

<table>
<thead>
<tr>
<th>Factors</th>
<th>M(SD)</th>
<th>ERQ_T</th>
<th>AQ_T</th>
<th>Reappraisal Item</th>
<th>Suppression Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERS_T</td>
<td>33.85(5.07)</td>
<td>.145</td>
<td>.812**</td>
<td></td>
<td>-.752**</td>
</tr>
<tr>
<td>AQ_T</td>
<td>27.18(2.02)</td>
<td></td>
<td>.156</td>
<td></td>
<td>.066</td>
</tr>
<tr>
<td>Reappraisal Item</td>
<td>18.36(3.43)</td>
<td></td>
<td></td>
<td>.227*</td>
<td></td>
</tr>
<tr>
<td>Suppression Item</td>
<td>15.49(3.04)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. M= Mean, SD= Standard Deviation, df= 299, **. Correlation is significant at the 0.01 level (2-tailed), *. Correlation is significant at the 0.05 level (2-tailed), AQ_T= total of 20-Question Addiction Questionnaire, ERQ_T= total of Emotion Regulation Scale.

Additionally, the Emotion Regulation Scale (ERS_T) total score exhibits a moderate positive correlation with the Suppression Item total score, with a correlation coefficient of 0.227*. The
The relationship is significant at the 0.05 level (2-tailed). This implies that individuals who tend to use suppression as an emotion regulation strategy, inhibiting the outward expression of emotions, also tend to have higher scores on the overall Emotion Regulation Scale. However, the strength of this association is weaker compared to the association with reappraisal.

Furthermore, the 20-Question Addiction Questionnaire total score (AQ_T) does not show a significant correlation with the Reappraisal Item total score, with a correlation coefficient of 0.156. This suggests that the severity of drug addiction is not strongly related to the participants’ use of reappraisal as an emotion regulation strategy.

Similarly, the 20-Question Addiction Questionnaire total score (AQ_T) does not show a significant correlation with the Suppression Item total score, with a correlation coefficient of 0.066. This implies that the severity of drug addiction is not strongly related to the participants’ use of suppression as an emotion regulation strategy.

Table 2: Multiple Regression Analysis of all demographic variables

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>32.120</td>
<td>3.831</td>
<td>8.384</td>
<td>0.000</td>
</tr>
<tr>
<td>ERQ_T</td>
<td>0.066</td>
<td>0.045</td>
<td>1.458</td>
<td>0.148</td>
</tr>
<tr>
<td>Age Groups</td>
<td>-0.165</td>
<td>0.871</td>
<td>-1.89</td>
<td>0.065</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.143</td>
<td>0.728</td>
<td>-0.196</td>
<td>0.845</td>
</tr>
<tr>
<td>Education</td>
<td>-0.217</td>
<td>0.275</td>
<td>-0.789</td>
<td>0.433</td>
</tr>
<tr>
<td>Siblings</td>
<td>-0.400</td>
<td>0.303</td>
<td>-1.321</td>
<td>0.190</td>
</tr>
<tr>
<td>Birthorder</td>
<td>0.364</td>
<td>0.303</td>
<td>1.201</td>
<td>0.233</td>
</tr>
<tr>
<td>Drug_type</td>
<td>-0.058</td>
<td>0.117</td>
<td>-0.496</td>
<td>0.621</td>
</tr>
<tr>
<td>started_age</td>
<td>0.230</td>
<td>0.250</td>
<td>0.921</td>
<td>0.359</td>
</tr>
<tr>
<td>No_treatment</td>
<td>-0.084</td>
<td>0.519</td>
<td>-0.162</td>
<td>0.871</td>
</tr>
<tr>
<td>Fathereducation</td>
<td>-0.223</td>
<td>0.186</td>
<td>-1.196</td>
<td>0.235</td>
</tr>
<tr>
<td>Mothereducation</td>
<td>-0.137</td>
<td>0.265</td>
<td>-0.517</td>
<td>0.607</td>
</tr>
<tr>
<td>FamilySystem</td>
<td>-0.656</td>
<td>0.540</td>
<td>-1.214</td>
<td>0.228</td>
</tr>
<tr>
<td>Age in Years</td>
<td>-0.281</td>
<td>0.300</td>
<td>-0.939</td>
<td>0.350</td>
</tr>
</tbody>
</table>

Note. Dependent Variable: AQ_T

The multiple regression analysis aimed to explore the relationship between drug addiction severity (AQ_T) and various predictor variables while controlling for their mutual influences. The results indicated that the model had a statistically significant overall fit (F = 1.503, p = 0.168), but the individual predictors showed varying degrees of significance in predicting drug addiction severity.

Among the predictor variables, emotion regulation (ERQ_T) displayed a weak positive standardized coefficient (β = 0.164), indicating that better emotion regulation abilities were associated with a slight increase in drug addiction severity, but the relationship was not statistically significant (t = 1.458, p = 0.148).

When considering the control variables, none of them significantly predicted drug addiction severity. The variables of age groups, gender, education level, number of siblings, birth order, drug type, age of drug use initiation, history of treatment, father's education, mother's education, family
system, and age in years did not demonstrate statistically significant associations with drug addiction severity.

4. Discussion

The present study aimed to examine the relationship between emotion regulation and drug addiction severity among adolescent patients diagnosed with substance use disorder (SUD) in rehabilitation centers. The findings shed light on the complex interplay between emotion regulation strategies and the severity of drug addiction in this vulnerable population.

The 20-Question Addiction Questionnaire total score (AQ_T), the Emotion Regulation Scale (ERS_T) total score, and the corresponding subscales (Reappraisal Item total score and Suppression Item total score) all showed intriguing correlations. It is interesting that there was only a slender positive association between the ERS_T total score and the AQ_T score. This data implies that among adolescents with substance use disorder (SUD), there may be a minor trend for the severity of drug addiction to also increase when the overall Emotion Regulation Scale score rises.

An important finding from our study is the positive link between the total scores on the 20-Question Addiction Questionnaire (AQ_T) and the overall Emotion Regulation Scale (ERS_T). This suggests that among adolescent patients with SUD, the severity of drug addiction increases slightly as general emotional regulation capacity rises. These findings are in line with earlier studies showing a connection between emotional control issues and substance usage and addiction (Stellern et al., 2022). It is conceivable that people who have trouble controlling their emotions would use substances as a maladaptive coping strategy to deal with upsetting feelings, which would ultimately result in more severe addictions (Poon et al., 2015).

Interestingly, our research also found a significant positive link between the total scores on the Reappraisal Item and the overall Emotion Regulation Scale (ERS_T). This shows that participants with higher degrees of reappraisal, an emotion management technique that involves reinterpreting situations cognitively, also had better scores on the overall Emotion management Scale. These results are consistent with earlier studies showing that reappraisal is a useful emotion management technique linked to increased psychological well-being (Kelley et al., 2019). Our findings allow us to incorporate teenagers with substance use disorder (SUD) in our understanding of the issue. They suggest that the capacity to utilize reappraisal could be crucial for enhancing their overall emotion regulation abilities, which aligns with previous research conducted by Theurel and Gentaz (2018).

Additionally, we found a moderate positive correlation between the overall Emotion Regulation Scale (ERS_T) total score and the Suppression Item total score. This implies that individuals who tend to use suppression, an emotion regulation strategy involving inhibiting outward emotional expression, also had higher scores on the overall Emotion Regulation Scale. While this association is weaker than the one observed with reappraisal, it is consistent with prior research linking suppression to difficulties in emotion regulation (Cutuli, 2014). Individuals who rely heavily on suppression may struggle to effectively manage their emotions, potentially contributing to the severity of drug addiction (Kelley et al., 2019).

Our research findings indicate that the severity of drug addiction among adolescent patients with substance use disorder (SUD) is not strongly correlated with specific emotion regulation strategies, such as reappraisal or suppression. This unexpected result suggests that factors beyond emotion regulation may play a more influential role in determining addiction severity in this
population. Our study's results align with earlier research conducted by Bernardes et al. (2018), which demonstrated that chronic substance use and abuse can lead to negative impacts on individuals' quality of life. They found impairments in quality of life associated with the use of cocaine and anxiolytic drugs only, but surprisingly, a tendency towards positive relationships between stimulant substance use and quality of life was observed. Considering these findings, it is essential to acknowledge that various factors, including social influences, trauma history, and genetic predisposition, may collectively contribute to the complexity of drug addiction and its impact on well-being. Further research exploring these potential factors is warranted to gain a comprehensive understanding of the determinants of addiction severity among adolescent patients with SUD.

In the multiple regression analysis, our aim was to explore the relationship between drug addiction severity (AQ_T) and various predictor variables while controlling for their mutual influences. The overall model showed a statistically significant fit, indicating that the predictor variables together could account for a portion of the variance in drug addiction severity. However, it’s crucial to acknowledge that not all individual predictors were statistically significant in predicting drug addiction severity.

Emotion regulation (ERQ_T) was one of the predictor variables included in the model. Although it displayed a weak positive standardized coefficient ($\beta = 0.164$), suggesting that better emotion regulation abilities were associated with a slight increase in drug addiction severity, the relationship was not statistically significant ($t = 1.458, p = 0.148$). This finding implies that while emotion regulation may have some influence on drug addiction severity, it might not be the primary predictor in this specific population of adolescent patients with SUD.

To better understand our results regarding emotion regulation as a predictor of drug addiction severity, we can refer to previous research in the field. Mixed results have been found in studies looking at the role of emotion regulation in substance use disorders. While some studies have revealed a strong link between emotional regulation issues and the intensity of substance use (Berking et al., 2011), others have found only a weak or erratic connection (Aldao et al., 2009).

The complexity and diversity of emotion regulation may be one reason for the lack of statistical significance in our investigation. Individual differences, the kind of substance used, and other environmental circumstances may all have an impact on the effects of emotion regulation on substance use. Weiss et al. (2021), for instance, discovered that various emotion control techniques had variable effects on substance use behaviours among people with alcohol use disorders. The degree of substance use in this population may also be influenced by other variables, such co-occurring mental health issues or environmental stressors, which interact with emotion regulation.

The possible significance of other predictor variables that were incorporated into the regression analysis must also be taken into account. Age groups, gender, education level, number of siblings, birth order, drug type, age at which drug use began, history of treatment, father's and mother's educational attainment, family structure, and age in years were among the control variables that did not show statistically significant correlations with the severity of drug addiction.

Despite the lack of a significant correlation, these control variables were still included in the regression model to account for potential confounding variables and to improve the reliability of the results. Prior studies have emphasised the impact of demographic factors on substance use patterns. Some of these studies have shown gender differences in the severity of substance use (Brady & Randall,
1999), while others have suggested a link between the age at which drug use first began and the outcomes of that use (Richmond-Rakerd et al., 2017). As a result, by adjusting for these variables, we were able to focus on the specific role that emotion regulation had in the context of other variables in predicting the severity of drug addiction.

Additionally, sample characteristics, cultural differences, or the precise tools employed to evaluate these aspects may be to blame for some control variables' lack of statistical significance. The results of our study may have been impacted by the demographic and clinical characteristics of the individuals, and similar investigations with different populations may provide different results.

5. Conclusion
This study’s goal was to investigate the connection between emotional control and the degree of addiction in adolescent patients with substance use disorder (SUD). The Emotion control Scale (ERS_T), which includes Reappraisal and Suppression subscales, was used to measure emotional control. Drug addiction severity was assessed using the 20-Question Addiction Questionnaire (AQ_T). Pearson correlation analysis was conducted to examine the associations between emotion regulation and drug addiction severity. The study found a weak positive correlation between overall emotion regulation (ERS_T) and drug addiction severity (AQ_T) among adolescent patients with SUD (r = 0.145, p < 0.01), suggesting a slight increase in addiction severity with better emotion regulation. There was a strong positive correlation between overall emotion regulation (ERS_T) and reappraisal (r = 0.752, p < 0.01), indicating higher reappraisal levels were associated with better emotion regulation abilities. Additionally, a moderate positive correlation was observed between overall emotion regulation (ERS_T) and suppression (r = 0.227, p < 0.05), suggesting higher suppression use linked to better overall emotion regulation scores. Positive correlation was found between overall emotion regulation and addiction severity, with cognitive reinterpretation (reappraisal) playing a significant role. Emphasizes the need for comprehensive interventions addressing emotion regulation to reduce addiction severity in this vulnerable population.

The correlation analysis revealed that while the Emotion Regulation Scale (ERS_T) total score exhibited a weak positive correlation with drug addiction severity, the association was not statistically significant. However, we observed significant positive correlations between the Emotion Regulation Scale (ERS_T) total score and the use of adaptive emotion regulation strategy, reappraisal. Similar to other research studies, this study also exhibits certain limitations.

- A small sample size (n=100) may limit generalizability to a larger population.
- The study focused only on adolescent patients in drug rehabilitation centers, excluding those who do not seek treatment or have milder substance use issues.
- Reliance on self-report measures could introduce response biases and social desirability effects.
- The cross-sectional design prevents establishing causality and understanding dynamic changes over time.
- Data was collected from five rehabilitation centers; the sample size could be extended for broader representation.
- Lack of representation at the national level limits the applicability of results.
- Findings may not freely generalize to community-based samples or non-hospitalized clients.

To address the limitations and broaden the scope of this research, the following recommendations are suggested:
Increase the sample size to enhance the study's generalizability.
Include non-treatment-seeking individuals to capture a broader range of substance use issues.
Utilize a combination of self-report and objective measures to validate findings.
Conduct longitudinal studies to understand the causal relationships between emotion regulation and addiction severity over time.
Explore emotion regulation interventions to potentially mitigate drug addiction severity in adolescents with SUD.
Extend the research to community-based samples to broaden the study's applicability.
Consider conducting similar research on adult populations to compare findings across different age groups.

References


Individual Differences, 42(6), 921-933.


