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Cognitive Style and its Role in Recovery in Patients with Substance Use Disorder

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Abstract

The present study explores the association between cognitive style and psychological recovery among individuals with Substance Use Disorder (SUD). A total of 205 adults undergoing rehabilitation in northern India participated. Cognitive style was assessed using the Cognitive Style Questionnaire–Short Form (CSQ–SF; Meins et al., 2012), while recovery was measured through the Recovery Assessment Scale (RAS; Corrigan et al., 1999). Results revealed a significant negative correlation between maladaptive cognitive style and psychological recovery ($r = –.41$, $p < .001$). Regression analysis indicated that cognitive style significantly predicted recovery ($\beta = –.38$, $p < .001$), accounting for 14% of the variance ($R^2 = .14$). Participants with more adaptive cognitive styles reported greater confidence, hope, and goal orientation during recovery. These findings support cognitive–behavioral theories of addiction and suggest that cognitive restructuring interventions may enhance recovery outcomes in SUD rehabilitation settings.

Keywords: cognitive style, recovery, substance use disorder, attributional style, rehabilitation

Introduction

Substance Use Disorder (SUD) remains a global health concern, contributing substantially to disability, morbidity, and psychosocial burden (World Health Organization, 2023). In India, the National Survey on Extent and Pattern of Substance Use (Ministry of Social Justice and Empowerment, 2019) reported that nearly 16 million individuals require professional help for substance dependence. Despite increased access to treatment, relapse and poor recovery outcomes persist, highlighting the need to understand psychological factors that facilitate sustained recovery.

Within the cognitive–behavioral framework, addiction is viewed as a disorder of learning and cognition (Beck et al., 1993). Cognitive factors, such as maladaptive thinking patterns and attributional biases, shape emotional responses, coping strategies, and readiness for behavioral change. The Cognitive Style concept, derived from Attributional Style Theory (Seligman et al., 1979), explains how individuals habitually interpret events along internality, stability, and

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globality dimensions. Those with maladaptive cognitive styles tend to attribute negative outcomes to internal, stable, and global causes, which fosters helplessness and low self-efficacy (Alloy et al., 2006). Conversely, individuals with adaptive cognitive styles make external, unstable, and specific attributions, viewing setbacks as manageable and temporary.

The process of recovery in SUD extends beyond abstinence, encompassing psychological empowerment, hope, and a renewed sense of purpose (Anthony, 1993; Corrigan et al., 1999). The Recovery Assessment Scale (RAS) conceptualizes recovery as multidimensional, reflecting confidence, willingness to seek help, goal orientation, reliance on others, and symptom management. Prior studies indicate that optimism, self-efficacy, and cognitive restructuring are positively associated with recovery outcomes (Laudet, 2007; Greenfield et al., 2015). However, limited research in the Indian context has examined how cognitive style — as a stable attributional pattern — relates to subjective recovery.

From the Cognitive Theory of Addiction (Beck et al., 1993), dysfunctional cognitions perpetuate substance use and hinder emotional growth. Cognitive restructuring in therapy aims to modify these maladaptive attributions. Therefore, investigating cognitive style as a determinant of recovery can strengthen evidence-based approaches to rehabilitation. The present study aims to explore this relationship empirically.

Objectives

1. To examine the relationship between cognitive style and psychological recovery in individuals with Substance Use Disorder.
2. To determine whether cognitive style significantly predicts recovery outcomes.

Hypotheses

1. Cognitive style will significantly correlate with recovery in patients with Substance Use Disorder.
2. Cognitive style will significantly predict recovery scores.

Method

Research Design

A quantitative, correlational, cross-sectional design was employed to assess the relationship between cognitive style and recovery among patients diagnosed with SUD.

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Participants

The sample comprised 205 adults (178 males, 27 females) aged 19–48 years (M = 32.74, SD = 6.31) undergoing inpatient rehabilitation at de-addiction centers across Delhi NCR. Participants were recruited using purposive sampling.

Inclusion criteria included (a) formal diagnosis of SUD per ICD-10 criteria, (b) at least 4 weeks in treatment, and (c) proficiency in English or Hindi.

Exclusion criteria included severe psychiatric comorbidities, neurocognitive impairment, or unwillingness to participate.

All participants provided informed consent, and the study received ethical approval from the institutional ethics committee.

Tools

Cognitive Style Questionnaire–Short Form (CSQ–SF; Meins et al., 2012)

The CSQ–SF assesses attributional style through 24 hypothetical scenarios (12 positive, 12 negative). Participants rate causes along internality, stability, and globality dimensions on a 5-point Likert scale.

Higher total scores indicate a more maladaptive cognitive style. The measure has demonstrated strong internal consistency (α = .88) and validity across clinical populations. In this study, Cronbach's α = .86.

Recovery Assessment Scale (RAS; Corrigan et al., 1999)

The RAS is a 24-item self-report scale measuring five recovery domains: personal confidence and hope, willingness to ask for help, goal and success orientation, reliance on others, and symptom management.
Items are rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), with higher scores indicating greater subjective recovery.

Internal consistency in the present sample was high (α = .93).

Procedure

Participants were approached through treatment centers after obtaining institutional permissions. The study purpose was explained, and confidentiality assured. After consent, participants completed the CSQ–SF and RAS individually in quiet consultation rooms under researcher supervision.

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Debriefing was provided, and referrals were offered for any emotional discomfort. Data were coded, entered into SPSS version 25, and analyzed.

Data Analysis

Descriptive statistics (mean, SD, skewness, kurtosis) were computed.

Pearson's correlation examined the relationship between cognitive style and recovery. Simple linear regression tested the predictive value of cognitive style on recovery. Significance was set at $p < .05$.

All analyses adhered to parametric assumptions.

Results

Descriptive Statistics and Reliability

Table 1

Descriptive Statistics and Internal Consistency for Study Variables (N = 205)

Variable	M	SD	Skewness	Kurtosis	Cronbach's α
Cognitive Style (CSQ–SF)	72.46	11.88	–0.42	–0.38	.86
Recovery (RAS)	82.31	12.95	0.12	–0.45	.93

Correlations

Table 2

Pearson Correlation between Cognitive Style and Recovery (N = 205)

Variables	1	2
1. Cognitive Style (CSQ–SF)	—	
2. Recovery (RAS)	–.41***	—

Note. ***p* < .001.

Interpretation: As maladaptive cognitive style increases, psychological recovery decreases significantly.

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Simple Linear Regression

Table 3

Simple Linear Regression Predicting Recovery from Cognitive Style (N = 205)

Predictor	B	SE B	β	t	p
Constant	120.14	4.21	—	28.54	<.001
Cognitive Style	–0.52	0.09	–.38	–5.80	<.001

Interpretation: Cognitive style significantly predicted recovery, explaining 14% of its variance. Higher maladaptive cognitive style scores predicted lower recovery.

Group Comparison: Adaptive vs. Maladaptive Cognitive Styles

Participants were categorized into *adaptive* (below median CSQ–SF) and *maladaptive* (above median CSQ–SF) cognitive style groups.

Table 4

Independent Samples t-Test Comparing Recovery between Adaptive and Maladaptive Cognitive Style Groups (N = 205)

Group	n	M	SD	t(203)	p	Cohen's d
Adaptive Cognitive Style	104	86.72	11.23	4.34	<.001	0.61
Maladaptive Cognitive Style	101	77.84	13.56			

Interpretation: Participants with adaptive cognitive styles reported significantly higher recovery than those with maladaptive styles. The effect size (Cohen's d = 0.61) indicates a moderate-to-large difference.

Summary of Findings

Cognitive style was significantly negatively correlated with recovery ($r = –.41$, $p < .001$) and Cognitive style significantly predicted recovery ($\beta = –.38$, $p < .001$), explaining 14% of the variance. Participants with adaptive cognitive styles showed higher recovery scores (M = 86.72) than those with maladaptive cognitive styles (M = 77.84).

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Together, these findings confirm that cognitive patterns are integral determinants of psychological recovery among individuals undergoing treatment for Substance Use Disorder.

Discussion

The present study examined the role of cognitive style in recovery among individuals with Substance Use Disorder. The findings supported both hypotheses — cognitive style was significantly associated with recovery and predicted subjective recovery scores. The negative relationship ($r = –.41$) indicates that maladaptive attributional tendencies hinder psychological recovery, whereas adaptive cognitive styles promote positive recovery experiences.

These results are consistent with Attributional Style Theory (Seligman et al., 1979), which posits that pessimistic attributions (internal, stable, global) lead to learned helplessness, whereas optimistic attributions foster resilience and goal-directed behavior. In the addiction context, maladaptive cognitive styles may manifest as self-blame and fatalism ("I will always fail to stay sober"), impeding treatment engagement and hope (Beck et al., 1993). Conversely, adaptive cognitive appraisals enable individuals to view relapse as a challenge rather than a failure, aligning with the Recovery Model (Anthony, 1993) emphasizing empowerment and personal agency.

The regression model accounted for 14% of variance in recovery, a meaningful proportion for psychosocial research, consistent with previous findings that cognitive factors contribute moderately but significantly to recovery outcomes (Greenfield et al., 2015; Ilgen et al., 2005). This supports the Cognitive-Behavioral framework, suggesting that modifying maladaptive cognitions may enhance psychological recovery and reduce relapse.

Clinical Implications

- **Cognitive assessment**: Incorporating cognitive style screening in rehabilitation can help identify individuals prone to maladaptive thinking.
- **Therapeutic intervention**: Cognitive restructuring and attributional retraining may strengthen recovery orientation.
- **Motivational enhancement**: Adaptive cognitive reframing may enhance self-efficacy and motivation, sustaining abstinence.

Limitations and Future Directions

The cross-sectional design restricts causal inference; longitudinal studies could examine cognitive style's role in long-term recovery. The predominantly male, urban sample limits generalizability. Self-report tools may be influenced by social desirability. Future work could integrate qualitative interviews to explore lived experiences of cognitive recovery.

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Conclusion

This study reinforces the cognitive basis of recovery in addiction. Cognitive style significantly influences how individuals perceive and sustain change, shaping psychological recovery outcomes. Integrating cognitive style assessment and modification into therapy may improve treatment retention and subjective well-being among persons recovering from Substance Use Disorder.

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