ALEXITHYMIA, GRIEF RESPONSES, AND ADDICTION SEVERITY IN INPATIENTS WITH ALCOHOL AND PSYCHOACTIVE SUBSTANCE USE DISORDERS: A CROSS-SECTIONAL STUDY

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ABSTRACT

This cross-sectional study examined the associations among alexithymia, grief responses, and addiction severity in individuals receiving inpatient treatment for alcohol and psychoactive substance use disorders. A total of 161 participants who met the inclusion criteria completed the Toronto Alexithymia Scale (TAS-20), the Grief Scale, and the Addiction Profile Index (API). Group differences were examined using independent-samples t tests and one-way analyses of variance, associations among variables were assessed using Pearson correlations, and explanatory patterns were evaluated with multiple linear regression analyses. As a secondary exploratory step, a bootstrap-based cross-sectional indirect-effect analysis with 5,000 resamples was used to examine whether grief responses statistically accounted for part of the association between alexithymia and addiction severity. The findings indicated that addiction severity differed more consistently by marital status and substance type than by other sociodemographic characteristics. Addiction severity showed a moderate positive association with grief and a weak positive association with alexithymia, whereas grief and alexithymia were positively associated with one another. In the primary regression model, grief remained significantly associated with addiction severity, whereas alexithymia was no longer a significant independent correlate when both variables were entered simultaneously. In the adjusted model, this pattern remained stable after available demographic and clinical covariates were entered. Overall, the findings suggest that grief responses may be more strongly related to addiction severity than alexithymia in this inpatient sample and may account for part of their cross-sectional association. However, the results should be interpreted cautiously given the cross-sectional design, reliance on self-report measures, limited explanatory scope of the model, single-site sampling, and the conceptual and clinical heterogeneity of the sample.

Keywords: alexithymia; grief responses; addiction severity; substance use disorder; emotional regulation; cross-sectional study

Introduction

Alexithymia refers to a pattern of emotional functioning characterised by difficulties identifying and describing feelings, limited imaginative activity, and a tendency toward externally oriented thinking (Sifneos, 1973; Taylor & Bagby, 2005). Over time, the construct has come to be understood as a clinically relevant dimension of emotional processing associated with broader difficulties in affect awareness and regulation (Bagby et al., 2020; Taylor & Bagby, 2005). Individuals with elevated alexithymia often struggle to interpret internal emotional states, differentiate emotions from bodily arousal, and

communicate affective experiences effectively. These difficulties may increase vulnerability to maladaptive coping responses when distress intensifies.

Such difficulties are particularly relevant in the context of substance use disorders. Addiction is widely understood not only as a condition involving compulsive substance seeking and use, but also as a disorder shaped by interacting neurobiological, psychological, and social processes (American Psychiatric Association [APA], 2013; Koob & Schulkin, 2019). Evidence further indicates that people with substance use disorders frequently experience marked difficulties in emotion regulation (Stellern et al., 2023). From this perspective, substance use may function, at least in part, as an attempt to modulate poorly understood, poorly tolerated, or insufficiently verbalised emotional states. This broader framework has increased interest in alexithymia as one clinically relevant correlate of addiction-related severity.

Previous research supports such an association, although the magnitude and interpretation of the relationship require caution. Reviews and empirical studies have suggested that alexithymia is common in alcohol- and substance-related disorders and may be associated with craving, emotional dysregulation, and poorer clinical functioning (Thorberg et al., 2009; Thorberg et al., 2011). More recent work has emphasised that alexithymia is relevant not because it operates as a single explanatory cause, but because it may contribute to broader problems in emotion regulation, avoidance, and maladaptive coping (Preece et al., 2022). Likewise, meta-analytic evidence suggests that the association between alexithymia and psychoactive substance use is statistically significant but generally modest (Kun et al., 2023). Thus, alexithymia may be meaningfully related to addiction severity without being sufficient on its own to explain the complexity of addictive behaviour.

Another clinically important construct in this context is grief. Grief encompasses emotional, cognitive, and behavioural responses to significant loss, including sadness, longing, emptiness, helplessness, and difficulties in adaptation. Although many grief responses fall within the range of normative human adjustment, some individuals experience persistent and impairing grief-related distress. In such cases, grief may become more difficult to process and may interact with pre-existing vulnerabilities in emotional functioning. Existing evidence suggests that grief-related difficulties may also be relevant in substance use settings. A systematic review by Parisi et al. (2019) reported a positive relationship between complicated grief and substance misuse, while Caparrós and Masferrer (2021) showed that grief complications and maladaptive coping may be intertwined in individuals with substance use disorders. Accordingly, grief responses may be considered a clinically relevant correlate of addiction severity rather than a clearly established causal determinant.

Alexithymia and grief responses may also be connected at both conceptual and empirical levels. Individuals who have difficulty identifying and expressing emotions may also have more difficulty processing the affective complexity of loss. Grief often requires the recognition, toleration, and integration of painful internal states; when these capacities are reduced, grief-related distress may be experienced as more confusing, prolonged, or overwhelming. This suggests that emotional awareness deficits may be relevant not only to general distress, but also to the way loss-related experiences are processed and expressed. Empirically, Nakao et al. (2005) reported that higher alexithymia was associated with stronger grief reactions in bereaved women, further supporting a possible link between emotional awareness deficits and bereavement-related distress.

Although alexithymia, grief responses, and addiction-related outcomes have each been examined in prior research, they have less often been considered together within the same

inpatient clinical sample. The present study contributes exploratory evidence from a Turkish inpatient detoxification setting by examining the cross-sectional associations among alexithymia, grief responses, and addiction severity within a single analytic framework. In this sense, the study is intended to extend the literature descriptively and clinically, rather than to propose a definitive causal mechanism.

Accordingly, the present study investigated the relationships among alexithymia, grief responses, and addiction severity in individuals receiving inpatient treatment for alcohol and psychoactive substance use disorders. In addition to examining whether these variables differed across selected sociodemographic characteristics, the study explored whether grief responses were associated with addiction severity and whether they statistically accounted for part of the cross-sectional association between alexithymia and addiction severity. The study was framed as an exploratory cross-sectional association study rather than a test of a temporal mediational mechanism.

Methods

Research Design

This study employed a quantitative, cross-sectional, correlational design to examine the associations among alexithymia, grief responses, and addiction severity in individuals receiving inpatient treatment for alcohol and psychoactive substance use disorders. The study was designed to identify patterns of association and variation across selected sociodemographic characteristics within a single time frame rather than to test causal or temporal pathways.

Participants

The research was conducted between January and June 2024 at the Adult Detoxification Unit of Bakırköy Prof. Dr Mazhar Osman Training and Research Hospital for Mental Health and Neurological Disorders. The sample consisted of inpatients diagnosed with alcohol or substance use disorder according to DSM-5 criteria, who also met the study's inclusion criteria. The sample size was determined using G*Power 3.1.10. For a medium effect size ($f^2 = 0.25$), the minimum required sample was calculated as 159 participants. A total of 175 individuals were initially reached; after removing incomplete or invalid data, 161 participants were included in the final analyses.

Inclusion Criteria

Participants were eligible for inclusion if they met the following conditions: (a) being over 18 years of age and providing informed consent; (b) having a diagnosis of Alcohol/Substance Use Disorder confirmed by a specialist physician; (c) possessing sufficient cognitive capacity to comprehend and answer the study questions; and (d) not being in an acute intoxication or withdrawal phase.

Exclusion Criteria

The following individuals were excluded from the study: those without active substance or alcohol use who were hospitalised solely for relapse prevention; those admitted only for the adjustment or maintenance of an existing treatment plan; and individuals diagnosed with psychotic disorders or intellectual disability. In addition, following consultations between the research team and the clinical treatment team, participants were included only after confirming that they did not meet any of the exclusion criteria.

Data Collection Instruments

Sociodemographic Information Form: The sociodemographic information form used in the study was developed by the researchers to systematically assess participants' basic characteristics and life histories. The form includes questions on age, gender, educational level, marital status, number of siblings, parental or sibling loss, and the type of substance to which the individual is dependent.

Grief Scale: The Grief Scale was developed by Balcı Çelik (2006) to evaluate the level of responses individuals exhibit during the grief process. The scale consists of 35 items rated on a five-point Likert scale, and assesses four dimensions: physical, cognitive, behavioural, and emotional reactions. The scale demonstrates high reliability, with a Cronbach's alpha coefficient of .96. Total scores range from 35 to 175.

Toronto Alexithymia Scale (TAS-20): The Toronto Alexithymia Scale (TAS-20) was originally developed by Taylor et al. (1985) to assess alexithymic characteristics. Initially comprising 26 items, the instrument was refined to 20 items following analyses conducted by Bagby et al. (1994). The Turkish adaptation was completed by Güleç et al. (2009). The TAS-20 consists of three subscales: Externally Oriented Thinking, Difficulty Identifying Feelings, and Difficulty Describing Feelings. It is a five-point Likert-type scale with response options ranging from "Never (1)" to "Always (5)". Total scores are derived from the sum of item scores, with items 4, 5, 10, 18, and 19 reverse-coded. Scores of 51 and below indicate non-alexithymia, scores between 52 and 60 indicate moderate alexithymia, and scores of 61 and above indicate high alexithymia. The scale's reliability analysis in the present sample yielded a Cronbach's alpha coefficient of .77.

Addiction Profile Index (API): The Addiction Profile Index (API) was developed by Ögel et al. (2015) to assess the severity of addiction. The measure comprises 23 items and includes five subscales: substance use frequency, diagnosis, effects on daily life, craving, and motivation. Each item is rated on a three-point Likert scale (0–2). Scores are calculated using a specific formula outlined in the administration manual, resulting in a total score ranging from 0 to 10; higher scores indicate more severe addiction. According to the developers, scores below 1.6 indicate low severity, scores between 1.6 and 4.6 indicate moderate severity, and scores above 4.6 indicate high addiction severity. The API demonstrates high internal consistency, with a reported Cronbach's alpha of .90 for the short form.

Data Analysis

Data were analysed using IBM SPSS Statistics 26.0, with additional robustness analyses conducted in R. Descriptive statistics (frequencies, percentages, means, and standard deviations) were first calculated for the demographic and clinical characteristics of the sample. Prior to the main analyses, TAS-20 items were scored according to the instrument's specifications, including reverse-coding of the relevant items (4, 5, 10, 18, and 19). Internal consistency coefficients (Cronbach's α) were .809 for the Addiction Profile Index, .848 for the Grief Scale, and .766 for the TAS-20. Skewness and kurtosis values indicated that the main continuous variables approximated normal distributions, supporting the use of parametric tests (Tabachnick & Fidell, 2013). Accordingly, independent-samples t tests and one-way analyses of variance (ANOVA) were used for group comparisons, and Pearson correlation coefficients were calculated to examine associations among the study variables. To investigate the cross-sectional associations of grief and alexithymia with addiction severity, multiple linear regression analyses were performed. An adjusted model additionally included sex, age group, education, marital status, number of siblings, parental loss, sibling loss, and substance type as covariates, and

robust HC3 standard errors were used in this model. A subgroup sensitivity analysis by substance type was also conducted. Finally, a bootstrap-based indirect-effect analysis with 5,000 resamples and 95% confidence intervals was performed as a secondary exploratory step; given the cross-sectional design, this analysis was interpreted as an indirect association pattern rather than evidence of causal mediation. Statistical significance was set at $p < 0.5$.

Results

Descriptive Findings

The majority of the participants were male (85.7%), within the 26–45 age range (69.6%), and had completed primary education (55.9%). The rate of parental loss was 27.3%, while sibling loss was reported by 19.8% of the sample. Of the participants, 72.7% were dependent on psychoactive substances and 27.3% on alcohol. Addiction severity was identified as "high" in 94.4% of the participants. The demographic distribution of the sample is presented in Table 1.

Table 1. Demographic Characteristics of Individuals with Substance Use Disorder

Variable	Groups	f	%
Gender	Female	23	14.3
	Male	138	85.7
Age	18–25	21	13.0
	26–45	112	69.6
	45–65	28	17.4
Educational Level	Primary/Secondary education	90	55.9
	High school	56	34.8
	University	15	9.3
Marital Status	Single	79	49.1
	Married	68	42.2
	Divorced/Separated	14	8.7
Number of Siblings	Only child	24	14.9
	2–4 siblings	92	57.1

	5 or more siblings	45	28.0
Parental Loss	Yes	44	27.3
	No	117	72.7
Sibling Loss	Yes	31	19.8
	No	130	80.2
Type of Substance Used	Psychoactive substance	117	72.7
	Alcohol	44	27.3
Addiction Severity	Low	0	0
	Moderate	9	5.6
	High	152	94.4
Alexithymia Level	No alexithymia	72	44.7
	Moderate	50	31.1
	High	39	24.2
Total		161	100

Descriptive Statistics of the Scales

Descriptive statistics for the scales used in the study are presented in Table 2. The TAS-20 total score showed acceptable internal consistency in the present sample (α = .77). The mean alexithymia score was 53.87 (SD = 11.98), the mean grief score was 100.75 (SD = 22.84), and the mean addiction severity score was 6.85 (SD = 1.45).

Table 2. Descriptive Statistics of the Scales

Scales	Min	Max	Mean	SD	N Items	Cronbach's α
API	2.49	10.00	6.85	1.45	23	.81
Grief Scale	37.00	159.00	100.75	22.84	35	.85
TAS-20	21.00	91.00	53.87	11.98	20	.77

Exploratory Group Comparisons

Exploratory group comparisons were conducted for selected sociodemographic and clinical variables using independent-samples *t* tests and one-way analyses of variance. The most consistent differences were observed for addiction severity rather than for grief or alexithymia. In particular, addiction severity varied more clearly by marital status and substance type, whereas other group differences were weaker and were therefore treated as secondary findings. For this reason, detailed group-comparison tables are not presented, and these findings are reported narratively.

Relationships Between the Variables

Pearson correlation analysis was conducted to examine the relationships between addiction severity, grief level, and alexithymia. As shown in Table 3, addiction severity was positively associated with grief, $r = .417$, $p < .001$, and weakly but significantly associated with alexithymia, $r = .194$, $p = .014$. Grief and alexithymia were also positively associated, $r = .365$, $p < .001$. Overall, grief showed the strongest bivariate association with addiction severity in the present sample.

Table 3. Pearson Correlation Coefficients Among the Variables

Scale	Addiction Profile Index[1]	Grief Scale[2]	Toronto Alexithymia Scale[3]
Addiction Profile Index[1]	*r* = 1		
Grief Scale[2]	*r* = .417***	*r* = 1	
	p = .000		
TAS-20[3]	*r* = .194*	*r* = .365***	*r* = 1
	p = .014	*p* = .000	

Note. *$p < .05$. ***$p < .001$.

Primary Regression Models

A series of regression analyses was conducted to examine the joint contribution of alexithymia and grief to addiction severity (Table 4). Alexithymia was positively associated with grief, $B = 0.697$, $p < .001$, explaining 13.3% of the variance in grief scores. Alexithymia was also positively associated with addiction severity when entered alone, $B = 0.023$, $p = .014$, although the explained variance was small ($R^2 = .038$). When alexithymia and grief were entered simultaneously, grief remained significantly associated with addiction severity, $B = 0.025$, $p < .001$, whereas alexithymia was no longer significant, $B = 0.006$, $p = .540$. This model explained 17.6% of the variance in addiction severity (adjusted $R^2 = .166$). In cross-sectional terms, this pattern suggests that grief accounted for a substantial portion of the statistical association between alexithymia and addiction severity; however, because all variables were measured concurrently, this finding should not be interpreted as evidence of temporal or causal mediation.

Table 4. Primary Regression Models Examining the Cross-Sectional Associations Among Alexithymia, Grief, and Addiction Severity

Model	Predictor	B	SE	t	p	R^2	Adj. R^2
Model 1	TAS-20 → Grief	0.697	0.141	4.95	<.001	.133	.128
Model 2	TAS-20 → Severity	0.023	0.009	2.49	.014	.038	.031
Model 3	TAS-20	0.006	0.009	0.61	.540	.176	.166
	Grief	0.025	0.005	5.16	<.001	.176	.166

Note. Model 3 is interpreted as a cross-sectional association model, not as evidence of temporal or causal mediation.

Adjusted and Sensitivity Analyses

An adjusted model was estimated to test whether the main pattern remained after accounting for the available demographic and clinical covariates, including sex, age group, education, marital status, number of siblings, parental loss, sibling loss, and substance type (Table 5). Grief remained significantly associated with addiction severity, $B = 0.023$, $p < .001$, whereas alexithymia was no longer a significant independent correlate, $B = 0.016$, $p = .090$. Married participants had significantly lower addiction severity than single participants, $B = -0.830$, $p = .001$. Sensitivity analyses by substance type showed that the association between grief and addiction severity was more evident in the psychoactive substance subgroup than in the alcohol subgroup.

Table 5. Adjusted and Sensitivity Models for Addiction Severity

Analysis	Predictor	B	SE	p	Adj. R^2
Adjusted model	Grief	0.023	0.005	<.001	.289
	Alexithymia	0.016	0.009	.090	.289
	Married vs. single	–0.830	0.235	.001	.289
Psychoactive substance subgroup	Grief	0.029	0.006	<.001	.206
	Alexithymia	0.004	0.011	.725	.206
Alcohol subgroup	Grief	0.007	0.009	.458	.064
	Alexithymia	0.026	0.017	.139	.064

Note. The adjusted model included sex, age group, education, marital status, number of siblings, parental loss, sibling loss, and substance type. Robust HC3 standard errors were used in the adjusted model.

Discussion

The present study examined the associations among alexithymia, grief responses, and addiction severity in a clinically severe inpatient sample, using a continuous addiction severity indicator alongside both unadjusted and covariate-adjusted regression models. Three findings were especially notable. First, grief showed the strongest and most consistent association with addiction severity. Second, alexithymia displayed only a weak bivariate association with addiction severity and did not remain independently significant once grief was entered into the same model. Third, the association between grief and addiction severity remained robust after adjustment for the available demographic and clinical covariates. Taken together, these findings suggest that grief-related distress may occupy a more central place than alexithymia in the cross-sectional emotional profile associated with addiction severity in this sample.

The bivariate findings are broadly consistent with the literature linking emotional dysregulation to substance-related problems, while also indicating that not all emotional constructs carry the same empirical weight in a given sample. Alexithymia has long been associated with difficulty identifying and describing internal states and with maladaptive attempts to manage distress through avoidant or externalizing strategies (Taylor & Bagby, 2005; Preece et al., 2022). Prior work has also shown that alexithymia is common in substance-using populations and is related to craving and poorer functioning, although effect sizes are often modest (Thorberg et al., 2009; Thorberg et al., 2011; Kun et al., 2023). The present results fit this pattern. Alexithymia was related to addiction severity at the bivariate level, but the association was small and diminished once grief was taken into account.

By contrast, grief responses showed a clearer and more stable relationship with addiction severity. This result is compatible with the view that loss-related distress may be particularly relevant in substance use settings, especially when bereavement reactions become difficult to regulate and are linked to maladaptive coping (Caparrós & Masferrer, 2021). In practical terms, the findings suggest that grief may capture a more proximal form of emotional burden in this sample than the broader trait-like construct of alexithymia. This does not imply that alexithymia is unimportant. Rather, it suggests that grief responses may better reflect the immediate emotional strain associated with addiction severity in this inpatient context.

The regression findings support this interpretation. Alexithymia significantly predicted grief, and it also showed a weak relationship with addiction severity when examined alone. However, once grief and alexithymia were modelled together, grief remained significant whereas alexithymia did not. In cross-sectional terms, this pattern suggests that grief accounted for a substantial portion of the statistical association between alexithymia and addiction severity. Even so, the results should not be framed as demonstrating mediation in the temporal or causal sense. Because all variables were measured at the same time, alternative explanations remain plausible, including reverse or reciprocal relationships, overlapping emotional content across self-report measures, and the influence of unmeasured third variables such as depressive symptoms, trauma-related distress, anxiety, or duration of substance use.

The adjusted model further strengthened the conclusion that grief is the more robust correlate in this dataset. After controlling for the available demographic and clinical variables, grief remained significantly associated with addiction severity, whereas alexithymia did not. Married participants also showed lower addiction severity than single participants, which is broadly consistent with the idea that relational stability may coincide

with lower clinical burden. In addition, the subgroup analyses indicated that the grief–severity association was more visible among participants with psychoactive substance use disorders than among those with alcohol use disorders.

These subgroup differences are important in light of previous concerns about diagnostic heterogeneity. Substance use disorders share common features but also differ in course, social context, and emotional correlates (APA, 2013). The stronger grief–severity association in the psychoactive substance subgroup suggests that combined analyses can obscure meaningful variation. Accordingly, future work should avoid assuming that emotional pathways operate uniformly across different forms of addiction and should test subgroup-specific models more systematically.

A weaker exploratory finding concerned sibling loss and alexithymia. Although this pattern should be interpreted cautiously, it may suggest that the relational context of loss is relevant to emotional processing difficulties in some clinical cases (Fletcher et al., 2013; Fletcher et al., 2018; Walker, 1993).

The present study also has methodological implications. The present data illustrate how careful attention to measurement quality can meaningfully affect analytic outcomes. The TAS-20 reliability coefficient obtained in the present sample ($\alpha = .77$) reflects acceptable internal consistency and supports the validity of the scale scores used in the analyses. More broadly, the findings underscore how technical precision in scale administration and scoring is essential for producing trustworthy estimates of the relationships among emotional constructs.

A conceptually important limitation of the present study is the degree of construct overlap between alexithymia and grief responses. Both constructs involve difficulties in emotional awareness, processing, and expression, and their observed correlation ($r = .365$) may partly reflect shared item content and self-descriptive variance rather than entirely distinct underlying constructs. From a discriminant validity standpoint, this raises the question of whether the Grief Scale and TAS-20 are measuring sufficiently independent constructs to support separate roles in the association model. While both instruments have demonstrated adequate factorial validity in prior psychometric research, their joint use in a purely self-report design increases the risk of inflated associations attributable to common method variance. Future studies should assess these constructs using measures with greater methodological independence — for example, by complementing self-report alexithymia with observer-rated or performance-based indices — to establish discriminant validity more rigorously.

Overall, the present findings support a more restrained and clinically grounded interpretation of the data. Rather than suggesting that grief is a definitive mechanism linking alexithymia to addiction severity, the study indicates that grief responses, alexithymia, and addiction severity cluster together in a clinically meaningful way, with grief emerging as the most robust correlate of severity. This reframing is more consistent with the magnitude of the observed effects, the limitations of the design, and contemporary cautions regarding causal interpretation in cross-sectional research.

The present discussion has emphasised grief as the stronger cross-sectional correlate of addiction severity, but several alternative explanations for this pattern deserve explicit consideration. First, reverse causality cannot be ruled out: individuals with higher addiction severity may experience more disrupted social relationships, greater interpersonal loss, and more chronic stress, all of which could elevate grief responses rather than being caused by them. Second, the observed pattern may reflect the influence of a shared third variable — such as depression, general negative affect, or cumulative

exposure to adverse life events — that independently elevates both grief responses and addiction severity. Third, the partial attenuation of alexithymia in the simultaneous regression model may reflect statistical suppression or multicollinearity between alexithymia and grief rather than a substantive indirect process: because the two constructs share meaningful conceptual and self-report variance, the reduction in alexithymia's coefficient when grief is entered may be partly artifactual. A definitive test of any directional model would require longitudinal data, ideally with multiple time points and multi-method assessment, and the present cross-sectional design is not equipped to adjudicate among these competing interpretations.

It is also important to acknowledge that the present study tested only one configuration of the association structure: alexithymia as an antecedent of grief, with both constructs as correlates of addiction severity. Alternative orderings are plausible. Addiction severity itself could plausibly predict grief responses — for example, through the social losses and interpersonal disruptions that accompany severe substance use — and grief responses could in turn amplify emotional dysregulation and reinforce alexithymia-like avoidance of emotional experience. It is equally plausible that alexithymia functions not as a distal correlate but as a moderator of the grief–addiction relationship, such that the association between grief and addiction severity is stronger among individuals with greater difficulties in identifying and expressing emotions. These alternative models were not formally tested in the present study, and future research employing longitudinal designs and adequately powered samples should systematically compare competing structural configurations before strong theoretical conclusions are drawn.

The predominantly male composition of the sample also warrants caution in interpretation. Recent meta-analytic evidence suggests that gender differences in alexithymia are generally small and culturally moderated rather than uniform across settings. At the same time, broader literature on men's mental health indicates that masculine norms may discourage emotional disclosure and professional help-seeking, which may be especially relevant in addiction treatment contexts. Accordingly, the present findings should not be assumed to generalize straightforwardly across gender, and future studies should test whether the associations observed here are replicated in more gender-balanced samples (Gough & Novikova, 2020; Mendia et al., 2024).

The findings should also be interpreted in relation to the Turkish sociocultural context. Research from Turkey indicates that intentions to seek professional psychological help are shaped by help-seeking attitudes, stigma, and gendered norms, and review-level evidence suggests that men in Turkey tend to report more negative attitudes toward psychological help-seeking than women. In addition, stigma toward mental illness remains a relevant issue in Turkish clinical and community contexts. For this reason, the emotional expression and help-seeking patterns observed in this inpatient sample may be influenced not only by addiction severity itself, but also by the wider social meanings attached to distress, disclosure, and treatment in Turkey. This context does not invalidate the present findings, but it does suggest caution in assuming direct comparability with samples drawn from different cultural settings (Kantar & Yalçın, 2023; Seyfi et al., 2013; Utz et al., 2019).

Limitations

Several limitations should be considered when interpreting these findings. First, the study is based on a cross-sectional design. As a result, the temporal ordering of alexithymia, grief responses, and addiction severity cannot be established, and no causal inferences can be

drawn. Any indirect-effect pattern observed in the analyses should therefore be understood as statistical rather than temporal or mechanistic.

Second, all variables were measured using self-report instruments. This increases the risk of shared method variance and may have inflated the associations among constructs that share emotional and subjective content. The overlap between grief-related distress and alexithymia, in particular, should be interpreted with caution in the absence of clinician-rated or multi-method data. Alexithymia is especially susceptible to self-report bias, since individuals with high alexithymia may have limited introspective access to the very internal states that self-report items ask them to describe. Observer-rated instruments such as the Toronto Structured Interview for Alexithymia (TSIA; Bagby et al., 2005) would provide a valuable complement to self-report data in future studies. Similarly, future research may benefit from using instruments specifically designed to assess prolonged grief disorder, such as the PG-13 (Prigerson et al., 2009), to distinguish normative grief responses from more persistent and clinically significant grief-related distress.

Third, the operationalisation of the grief construct warrants consideration. The Grief Scale used in this study assesses general grief responses across physical, cognitive, behavioural, and emotional dimensions, but does not distinguish between normative grief reactions, prolonged grief disorder, and trauma-related distress. This lack of differentiation may have obscured meaningful variation in how loss-related experiences relate to alexithymia and addiction severity. Normative and complicated grief are known to differ in duration, intensity, and clinical implications, and future studies should employ instruments designed to assess prolonged or complicated grief specifically — such as the Prolonged Grief Disorder scale (PG-13) — to allow more precise conclusions about which aspects of grief-related experience are most strongly associated with substance use outcomes.

Fourth, the distributional properties of the outcome variable present a notable constraint. In the present sample, 94.4% of participants were classified as having high addiction severity, reflecting a pronounced ceiling effect in the categorical classification. Although the primary analyses used the continuous API score rather than the categorical severity rating, the restricted range of this variable may have attenuated observed correlations and reduced the sensitivity of the regression models. Future studies should prioritise samples with greater variability in addiction severity — such as outpatient or community samples — or employ alternative measurement approaches that are less prone to distributional ceiling effects in clinically severe populations.

Fifth, the explanatory power of the primary regression model was modest, and the sample, while meeting the minimum threshold for detecting medium effect sizes ($f^2 \geq 0.25$), was not adequately powered to detect small effects reliably ($f^2 < 0.10$). Given that the bivariate association between alexithymia and addiction severity was small ($r = .194$), the statistical power available for this estimate was limited, and replication in larger samples is needed before conclusions about the magnitude of these associations can be treated as definitive. Beyond power considerations, important determinants of addiction severity were not captured in the present dataset. Clinically relevant confounders including depression, anxiety, post-traumatic stress symptoms, trauma history, and duration of substance use are each known to be associated with alexithymia, grief-related distress, and addiction severity, yet none were available for analysis. Their omission means that the associations observed here may partly reflect the influence of unmeasured third variables, and future research should incorporate standardised assessments of these variables at clinical intake.

Sixth, the sample was drawn from a single inpatient detoxification unit and was predominantly male. This limits the generalisability of the findings to other treatment

settings, community samples, women, and more socio-demographically diverse populations. In addition, alcohol and psychoactive substance use disorders were combined in the primary analyses, although the subgroup findings suggest that this heterogeneity matters empirically. Future studies should recruit larger, more diverse samples and should test subgroup-specific models rather than assuming that emotional pathways operate uniformly across different forms of addiction.

Finally, the current study focused on cross-sectional severity rather than longer-term outcomes such as relapse, treatment retention, or post-discharge adjustment. Consequently, the clinical implications of the findings should remain preliminary until they are tested in longitudinal and multi-method research designs.

Conclusion

This study examined the cross-sectional relationships among alexithymia, grief responses, and addiction severity in a sample of inpatients receiving treatment for alcohol and psychoactive substance use disorders. Grief emerged as the most robust correlate of addiction severity. Alexithymia retained only a weak bivariate association with addiction severity and did not remain independently significant after grief was entered into the model.

The findings therefore support a more conservative and cautious interpretation of the data. Rather than indicating a definitive mediating mechanism, the data suggest that grief responses account for a substantial portion of the statistical association between alexithymia and addiction severity in this sample. This pattern is meaningful at the descriptive and clinical-assessment level, but it should not be interpreted as evidence of causal mediation.

In substantive terms, the study highlights the importance of taking grief-related distress seriously in addiction settings, particularly in clinically severe inpatient populations. At the same time, the modest amount of explained variance and the heterogeneity across substance types indicate that grief should be viewed as one important correlate among many, not as a single explanatory key. More rigorous longitudinal studies, with better covariate coverage and subgroup-specific models, are needed before stronger theoretical or treatment implications can be justified.

Future Implications

The present findings suggest that grief responses may deserve greater attention in future addiction research, particularly in clinically severe inpatient samples. In the current study, grief showed a stronger cross-sectional association with addiction severity than alexithymia, indicating that loss-related distress may be a relevant correlate of addiction severity in some treatment contexts. However, because the data were cross-sectional, these findings should not be interpreted as evidence of a causal process or a basis for strong intervention claims.

For future research, longitudinal studies are needed to clarify the temporal relationships among alexithymia, grief responses, and addiction severity. It would also be important to examine these associations while accounting for clinically relevant variables such as depression, anxiety, trauma history, PTSD symptoms, duration of substance use, and social support. Studies using more diagnostically homogeneous samples may help determine

whether the observed pattern is specific to certain substance use profiles or reflects a broader emotional vulnerability.

From a measurement standpoint, future studies should actively address the reliance on self-report instruments by incorporating multi-method assessment designs. Observer-rated instruments such as the Toronto Structured Interview for Alexithymia (TSIA) or clinician-administered measures of alexithymia offer a valuable complement to self-report data and would reduce the risk of shared method variance inflating associations among emotionally laden constructs. Similarly, the use of instruments specifically designed to assess prolonged or complicated grief — rather than general grief responses — would allow more precise examination of which dimensions of bereavement are most clinically relevant in substance use settings. Combining self-report measures with clinician-rated or performance-based indices would yield more robust estimates of the relationships examined in the present study and allow stronger conclusions about discriminant validity.

From a clinical perspective, the findings support careful assessment of grief-related distress as part of a broader psychosocial evaluation in addiction treatment settings, while more rigorous evidence is needed before recommending grief-focused modifications to standard addiction treatment programmes.

Statements and Declarations

Consent for publication. Not applicable.

Consent to participate. Written informed consent was obtained from the participants.

Conflict of interest statement. The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval statement. All participants in the study were presented with an informed consent form for voluntary participation, and the data were collected anonymously. Prior to the implementation of the survey, ethics committee approval was obtained from the XXX Social and Human Sciences Ethics Committee (Decision No: 2024/06). The research was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki.

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Data availability statement. The datasets generated and/or analysed during the current study are not publicly available due to the inclusion of sensitive human participant information but are available from the corresponding author on reasonable request.

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