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RESEARCH ARTICLE

The Role of Emotion Dysregulation in Problematic Alcohol Use and Coping with Problems

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Introduction: Emotional factors are often specified as playing an important role in the context of problematic alcohol use and alcohol addiction.
Aims: This study focused on examining the relationship between difficulties in emotion regulation, perceived personal problems, and problematic alcohol use.
Methods: 374 participants from the general population in Slovenia and Croatia (34.8% men, 65.2% women) with an average age of 44.28 years (range: 26 to 74 years) completed the Alcohol Use Disorders Identification Test (AUDIT), Individual Problems and Strengths Scale (IPS) and Difficulties in Emotion Regulation Scale – Short Form (DERS-SF).
Results: A higher level of problematic alcohol use positively correlated with difficulties in emotion regulation and the assessment of individual problems ($p \leq .010$). Multiple linear regression analysis demonstrated that higher AUDIT scores were positively associated with two dimensions of difficulties in emotion regulation: impulse control difficulties ($\beta = 0.22$, $p = .008$) and lack of emotional awareness ($\beta = 0.15$, $p = .010$). Difficulties in emotion regulation completely mediated the effect of individual problems on problematic alcohol use (indirect effect: 0.18, CI [–.06, –.31]; $p < .001$): higher levels of individual problems contribute to higher levels of problematic alcohol use through the effect of difficulties in emotion regulation.
Conclusions: The findings indicate the vulnerability of individuals with difficulties in emotion regulation to problematic alcohol use. Difficulties in emotion regulation are an important factor to consider for understanding the development, maintenance, and treatment of alcoholism and problematic alcohol use.

Keywords: emotion regulation, alcoholism, stress, problem-solving, addiction

Introduction

Alcohol is the most common and most widely abused drug in our sociocultural environment and, as such, represents a major public health and social problem. According to the World Health Organisation's (WHO, 2018) estimate, the average global alcohol consumption stands at 6.2 liters of pure alcohol per person per year. Although socially acceptable in many settings, the harmful use of alcohol is a significant issue, with 2.3 billion people worldwide consuming alcoholic beverages. WHO (2024) reports that alcohol consumption is responsible for 7.1%

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and 2.2% of the global burden of disease for men and women, respectively. It contributes to three million deaths annually as well as disabilities and health issues for millions of people. Harmful use of alcohol is responsible for 5.1% of the global burden of disease.

The consequences of harmful alcohol use are multifaceted. They affect the individual (e.g., feeling unwell, health deterioration, problems in relationships and at work, traffic and other accidents), their family (e.g., worsened relationships or violence, mental health problems in children and other loved ones), the wider environment (problems in the workplace, conflict in relationships, misunderstandings, crime) and society (poorer population health, premature deaths, loss of income due to reduced efficiency, increased costs of medical examinations and treatments, costs of police work) (Simonič & Osewska, 2023; Solis et al., 2012; VanGeest et al., 2017).

The use of various psychotropic substances (alcohol, drugs, and medicines) can range from unproblematic social use to abuse and addiction (Straussner, 2004). There is no clear definition available for distinguishing between "use" and "abuse". Each use remains problematic in its own way, as it involves the consumption of an often toxic and psychoactive substance with potentially addictive properties. Substance abuse means the continuous use of substances regardless of whether the individual experiences social, psychological, or physical problems as a result (Ashenberg Straussner, 2011). Repeated harmful use of substances, including alcohol, often leads to an addiction syndrome, which is characterized by specific behavioral, cognitive, and psychological symptoms: a strong need for the substance, difficulties in controlling its use, continued use of the substance despite harmful effects, prioritizing the substance over other commitments and activities, increased tolerance (more and more of the substance for the same effect) and sometimes withdrawal symptoms (WHO, 2007).

Excessive and problematic alcohol use and alcoholism are complex phenomena, and a combination of several factors, differing from individual to individual, contributes to their development. The causes that contribute to problem drinking, alcoholism and its continuance are manifold and include a combination of genetic, biological, psychological, social and environmental factors interacting with each other (Jerebic & Jerebic, 2012). Psychological factors which contribute to the development of alcoholism include certain psychological issues such as anxiety, depression, acute and chronic stress, low self-esteem and problems with managing emotions (Kushner et al., 2000; Schick et al., 2020). Individuals often turn to alcohol as a way to cope with stress, anxiety, depression and other emotional problems.

Excessive consumption of alcohol can temporarily alleviate heavy feelings of stress but can lead to addiction in the long term (Boden & Fergusson, 2011; Hussong et al., 2011; Sinha, 2001). In the context of general processes of coping with stress, the use of substances can be understood as an emotion-focused strategy that is more aimed at reducing emotional distress than at changing stress-causing factors in the environment (Aldwin & Yancura, 2004). It also remains possible that individuals with less effective strategies for coping with stress are more likely to abuse substances to cope with negative emotions (Sudraba et al., 2015). Individuals having low self-esteem or problems with self-regulation (impulse and behavior control) may be more inclined to drink alcohol excessively to improve their mood or to avoid negative feelings (Sher & Rutledge, 2007). Individuals who feel lonely and isolated or have difficulty establishing healthy interpersonal relationships may seek psychological relief from the intoxication achieved by drinking alcohol (Hasking et al., 2011; Moos & Moos, 2006).

Individuals who are prone to negative affectivity (e.g., negative emotions, neuroticism, negative moods, and poor coping strategies) use alcohol more often to cope with their negative moods more easily (Sinha, 2022). They do so to overcome fears, shame, anxiety, and other negative, less tolerable or painful emotions. Individuals thus "self-medicate" with alcohol to reduce discomfort, distress, and especially anxiety, as binge drinking in particular can have anxiolytic and antidepressant effects (Fetzner et al., 2011; Simon et al., 2023). Alcohol also offers a short-term solution to the fear of intimacy, insecurity in relationships and conflicts that the individual cannot resolve alone (Gostečnik et al., 2010). The stupor caused by the consumption of alcohol can thus be understood as a mechanism when a person is unable to face their emotions and, rather than becoming aware of them, understanding them and accepting them, fears or rejects them and thus avoids them instead.

In theories of drinking and alcohol problems, emotional factors are often specified as playing an important or even key role. Many researchers emphasize that emotions and their appropriate regulation are central to human life (Philippot & Feldman, 2004). This is also connected to the problem of drinking and, even more broadly, to the entire phenomenon of substance use. While it is true that not all alcohol use lies exclusively based on emotional motives, the desire to regulate both positive and negative emotions remains an important motivation for its use. In addition to promoting positive emotions, people often use alcohol to overcome negative emotions (Kober

2014; Sher & Gerkin, 2007). Alcohol is thus considered one of the psychoactive substances that can be used to regulate emotions; therefore, drinking alcohol to alleviate one's emotional state can be perceived as an emotion regulation strategy (Ashton et al., 2017; Berking et al., 2011; Dragan, 2015; Jakubczyk et al., 2018; Kelly & Bardo, 2016; Petit et al., 2015; Sayette, 2017).

Emotion regulation is a complex construct for which no single widely accepted and recognised definition or consensus exists regarding its main characteristics (Thompson et al., 2008). In general, it refers to internal processes that allow an individual to maintain emotions to a degree that is still bearable for them (Dermody et al., 2013). Gross (1998) defines this concept as the internal and external processes by which individuals influence what emotions they have, when they have them, and how they experience and express them. Gratz and Roemer (2004) provide a conceptualisation of the fundamental aspects of emotion regulation, which includes: a) awareness and understanding of emotions, b) acceptance of emotions, c) the ability to control impulsive behavior and behave in accordance with desired goals when negative emotions are expected, and d) the ability to use emotion regulation strategies appropriate to the situation flexibly to form emotional responses. According to this multidimensional model, emotion dysregulation – i.e., difficulties in emotion regulation – is associated with the lack of one or more of these abilities.

Emotion dysregulation can be defined as poor awareness, understanding, and acceptance of one's own emotions as well as problems in controlling impulsive behavior and acting in accordance with personal goals when upset (Gratz & Roemer, 2004). The concept of emotion dysregulation forms the basis of many models of psychopathology, as it assumes that individuals with poor emotion regulation skills employ more inappropriate behaviors to regulate their unpleasant emotions (escape or silence them), thereby creating a risk for many other disorders (Tice et al., 2001). Difficulties in emotion regulation therefore contribute to inappropriate coping strategies for stress-related emotions, resulting in unsuccessful self-regulation and impulse control (Tice & Bratslavsky, 2000). It is also more likely that individuals who experience increased emotional stress will attempt to avoid it through activities that promise immediate pleasure (e.g., consuming alcohol and other substances) (Tice et al., 2001). Research confirms that difficulties in emotion regulation are broadly related not only to symptoms of emotional disorders but also to problematic alcohol use and alcohol-related consequences (Berking et al., 2011; Dvorak et al., 2014). Problematic alcohol use serves as an effective but inappropriate emotion regulation strategy, especially in individuals prone to emotion dysregulation (Horvath et al., 2020).

Considering that problematic alcohol use often appears as a regulator of perceived stress and distress and that this is related to emotion dysregulation, in our research, we therefore examined the relationship between perceived individual problems, difficulties in emotion regulation and problematic alcohol use. We were interested in the role of emotion dysregulation in the context of perceived individual problems and problematic alcohol use. We used a multidimensional measure of emotion regulation to investigate the various influences of this construct.

Methods

Participants and Data Collection

374 participants took part in the research. The average age of the participants stood at 44.28 years (*SD* = 11.87; min = 26, max = 74). Sociodemographic characteristics of participants are presented in Table 1.

The research employed a cross-sectional method using a mediation model. The sample population consisted of the general population of Slovenia and Croatia. The inclusion criteria required that the participants be 25 years old or older (we assumed that by the age of 25 individuals have completed the period of adolescence when emotional maturity is also formed and a more stable pattern of emotion regulation has been established) and able to give consent. The research questionnaire was prepared in electronic form via www.1ka, an open source application for online surveys. An invitation to participate in the research with a link to the questionnaire was sent to various addresses and public forums. The ethics of the research were approved by the Medical Ethics Commission of the Republic of Slovenia (No. 0120-7/2021/5) and the management of the clinic for the treatment of alcoholism in Croatia (No. 251-29-11-21-01-7). The survey was conducted from June 2021 to May 2022. Participation in the survey by completing the questionnaire remained voluntary and no formal exclusion criteria existed except for an individual's lack of capacity to give consent or inability to answer the questions. The sampling method in both countries was convenience sampling.

Table 1. Sociodemographic Characteristics of Participants

Baseline characteristic		*n*	%
Gender	Female	244	65.2
	Male	130	34.8
Age	25–30 years old	47	12.7
	31–40 years old	111	29.6
	41–50 years old	110	29.4
	51–60 years old	61	16.4
	61–70 years old	36	9.5
	71+ years old	9	2.4
Employment status	Student	26	7.0
	Unemployed	42	11.3
	Employed	237	63.4
	Retired	53	14.1
	Other (e.g., sick leave, etc.)	16	4.2
Marital status	Single	78	21.1
	Married	164	43.8
	In an intimate relationship (unmarried)	92	24.6
	Divorced	24	6.3
	Widowed	9	2.4
	Did not specify	7	1.8
Problematic alcohol use (AUDIT)	Hazardous and harmful alcohol use	99	26.5
	No hazardous and harmful alcohol use	275	73.5

Note. *n* = number of participants; % = proportion of participants; AUDIT = The Alcohol Use Disorders Identification Test.

Measures

The first part of the research questionnaire collected data on demographic characteristics via questions concerning participants' gender, age, employment status and marital status. This was followed by three psychological questionnaires (AUDIT, IPS, and DERS-SF).

Alcohol Use Disorders Identification Test (AUDIT)

We employed the Alcohol Use Disorders Identification Test (Saunders et al., 1993) to screen for hazardous and harmful alcohol use and to identify current drinking problems (e.g., harmful alcohol use, alcohol abuse, and alcohol addiction). In addition to the general dimension of problematic alcohol use, the test measures three aspects of alcohol abuse: hazardous alcohol use (amount and frequency), symptoms of alcohol addiction (tolerance, ability to control), and problems related to alcohol use. The test consists of 10 questions. Questions 1–8 are evaluated on a 5-point scale and questions 9 and 10 on a 3-point scale. The maximum possible score is 40. Higher scores indicate a greater likelihood of hazardous and harmful alcohol use. A score of 8 or more indicates hazardous or harmful alcohol use as well as the possibility of alcohol addiction (Saunders et al., 1993). Cronbach's α of the AUDIT subscales ranged from .84 to .92 (Cronbach's total score α = .95) and indicated good reliability.

Individual Problems and Strengths Scale (IPS)

The Individual Problems and Strengths Scale is an element of the Systemic Therapy Inventory of Change (STIC) instrument (Pinsof et al., 2009). Researchers employ it to assess an individual's weaknesses and strengths. It contains 22 items divided into areas which assess the state of the subject's weak and strong areas: expression of negative affect (depression, anxiety), lack of inhibition regarding strong impulses (disinhibition), life function-

ing, open expression, (in)flexibility and resilience, self-misunderstanding, substance abuse and self-acceptance. Participants evaluate individual items on a 5-point Likert-type scale (from 1 = not at all/not at all true to 5 = all the time/very true). In our research, we included only the dimension of individual problems, which consists of the following dimensions: expression of negative effects, lack of inhibition regarding strong impulses, (in)flexibility/resilience, misunderstanding of oneself and substance abuse. The higher the results, the more difficulties and problems individuals experience. Cronbach's α of the Individual Problems subscale with 11 items was .68.

Difficulties in Emotion Regulation Scale – Short Form (DERS-SF)

The short form of the Difficulties in Emotion Regulation Scale with 18 items was used to assess different aspects of emotion dysregulation or inappropriate emotion regulation (Kaufman et al., 2016). The original version (Gratz & Roemer, 2004) consists of 36 items. In the shortened version (DERS-SF) (Kaufman et al., 2016), 18 items assess emotional responses in six areas: 1. Non-acceptance of emotional responses, 2. Difficulties engaging in goal-directed behavior, 3. Impulse control difficulties, 4. Lack of emotional awareness, 5. Limited access to emotion regulation strategies, and 6. Lack of emotional clarity. Participants evaluate individual items on a 5-point Likert-type scale (from 1 = almost never to 5 = almost always). A higher score indicates a stronger presence of difficulties in emotion regulation. Cronbach's α of the DERS-SF subscales ranged from .74 to .88 (Cronbach's total score α = .83) and indicated acceptable reliability.

Statistical Analysis

We calculated the results using the IBM SPSS 25 software package. The internal consistency of all scales used was calculated using Cronbach's α coefficient. The data distribution was evaluated both descriptively with the measure of symmetry (skewness) and "tailedness" (kurtosis) as well as with the Shapiro-Wilk statistical test. As the data were not normally distributed, Spearman correlations were calculated between individual problems, emotion dysregulation and alcohol misuse. Multiple linear regression (enter method) was used to assess the simultaneous effects of several independent variables (emotion dysregulation subscales) on alcohol misuse as a dependent variable. The residuals were normally distributed, ensuring the validity of the analysis. Next, we used a mediation model employing bootstrapping, which makes no assumptions about the sampling distribution of the indirect effect (Hayes, 2013). Using the PROCESS macro, analyses were conducted to determine whether emotion dysregulation mediated the relationship between individual problems and alcohol misuse. A nonparametric bootstrap method of 5,000 samples using a confidence interval of 95% was used to test the indirect effect of individual problems on alcohol misuse through the pathway of emotion dysregulation.

Results

Descriptive statistics

The participants achieved an average score of 8.14 (*SD* = 10.45) on the AUDIT scale's total dimension. A total score of 8 or more on this scale indicates hazardous or harmful alcohol use as well as the possibility of alcohol addiction (Saunders et al., 1993). 73.5% of the participants did not display hazardous and harmful alcohol use, while 26.5% did demonstrate hazardous and harmful alcohol use. Alcohol addiction was also recorded in 16.0% of the participants. The average value on the DERS-SF is 37.26 (*SD* = 12.05) and 32.24 (*SD* = 9.42) on the IPS Individual Problems subscale. Table 2 shows descriptive statistics for the entire sample.

Correlations Between Variables

We examined how the level of problematic alcohol use correlates with difficulties in emotion regulation and the level of perceived individual problems.

Table 3 shows the correlations between problematic alcohol use (by subdimensions and for the total score on the AUDIT questionnaire), difficulties in emotion regulation (by subdimensions and for the total score on the DERS-SF questionnaire) and Individual Problems (IPS subscale). All variables are positively and statistically significantly correlated. There is a tendency that the more difficulties individuals have with emotion regulation

Table 2. Descriptive Statistics on the Scales of Problematic Alcohol Use, Problems in Emotion Regulation, and Individual Problems for the Entire Sample

Measure	Variable	Min	Max	*M*	*SD*	*Sk*	*Kt*
AUDIT	Hazardous use	0	12	3.94	3.50	0.82	–0.46
	Symptoms of addiction	0	12	1.48	3.06	2.13	3.39
	Consequences of drinking	0	16	2.77	4.67	1.57	0.94
	AUDIT – TOTAL	0	39	8.14	10.45	1.53	1.03
DERS-SF	Non-acceptance of emotional responses	3	15	6.31	2.96	1.20	1.02
	Difficulties engaging in goal-directed behavior	3	15	7.48	3.06	0.85	–0.07
	Impulse control difficulties	3	14	5.12	2.31	1.29	1.43
	Lack of emotional awareness	3	15	6.75	2.85	0.44	–0.62
	Limited access to emotion regulation strategies	3	15	6.13	2.63	1.13	1.27
	Lack of emotional clarity	3	15	5.80	2.40	0.92	0.83
	DERS - TOTAL	18	76	37.26	12.05	0.89	0.61
IPS	Individual problems	16	63	32.24	9.42	0.80	0.50

Note. AUDIT = The Alcohol Use Disorders Identification Test; IPS = Individual Problems and Strengths Scale; DERS-SF = Difficulties in Emotion Regulation Scale = Short Form; Min = Minimum; Max = Maximum; *M* = Mean; *SD* = Standard deviation; *Sk* = Skewness; *Kt* = Kurtosis.

Table 3. Correlation Coefficients (Spearman's ρ) Between the Level of Individual Problems, Difficulties in Emotion Regulation, and Problematic Use of Alcohol

		AUDIT			
Measure	Variable	Hazardous use	Symptoms of addiction	Consequences of drinking	AUDIT-total
DERS-SF	Non-acceptance of emotional responses	.17**	.22**	.23**	.19**
	Difficulties engaging in goal-directed behavior	.18**	.23**	.22**	.22**
	Impulse control difficulties	.20**	.30**	.26**	.23**
	Lack of emotional awareness	.24**	.23**	.22**	.23**
	Limited access to emotion regulation strategies	.22**	.26**	.27**	.25**
	Lack of emotional clarity	.17**	.23**	.20**	.17**
	DERS - TOTAL	.24**	.31**	.30**	.26**
IPS	Individual Problems	.20**	.26**	.25**	.23**

Notes. DERS-SF = Difficulties in Emotion Regulation Scale = Short Form; IPS - Individual Problems and Strengths Scale; AUDIT = The Alcohol Use Disorders Identification Test; ** = the results are significant if the *p*-value is below .010.

(regarding the overall dimension and on each of the subdimensions); the more hazardous the way they use alcohol (higher quantity and frequency), the more symptoms of addiction (lower tolerance and less ability to control) they display and the more problems and consequences associated with alcohol use (harmful use of alcohol) they experience. A tendency also exists that the more individuals experience singular/specific problems, the higher their level of problematic alcohol use (more hazardous consumption, more symptoms of addiction, and more consequences of drinking). The correlations are low but statistically significant (ranging between $r = .17^{**}$ and $r = .31^{**}$).

Multiple Linear Regression

We were interested in how much of the variance in problematic alcohol use can be explained by individual dimensions of difficulties in emotion regulation, so we conducted a multiple linear regression analysis. Preliminary analyses have shown that all assumptions are correct. The results are presented in Table 4. A significant equation

Table 4. Regression Coefficients for DERS Subscales

Independent variable	B	SE B	β	*t*	*p*	R^2
Non-acceptance of emotional responses	.11	.30	.03	0.37	.713	0.14
Difficulties engaging in goal-directed behavior	.02	.28	.01	0.08	.935	
Impulse control difficulties	.98	.37	.22	2.66	.008	
Lack of emotional awareness	.56	.22	.15	2.58	.010	
Limited access to emotion regulation strategies	.12	.39	.03	0.32	.749	
Lack of emotional clarity	.32	-.33	.07	0.96	.336	

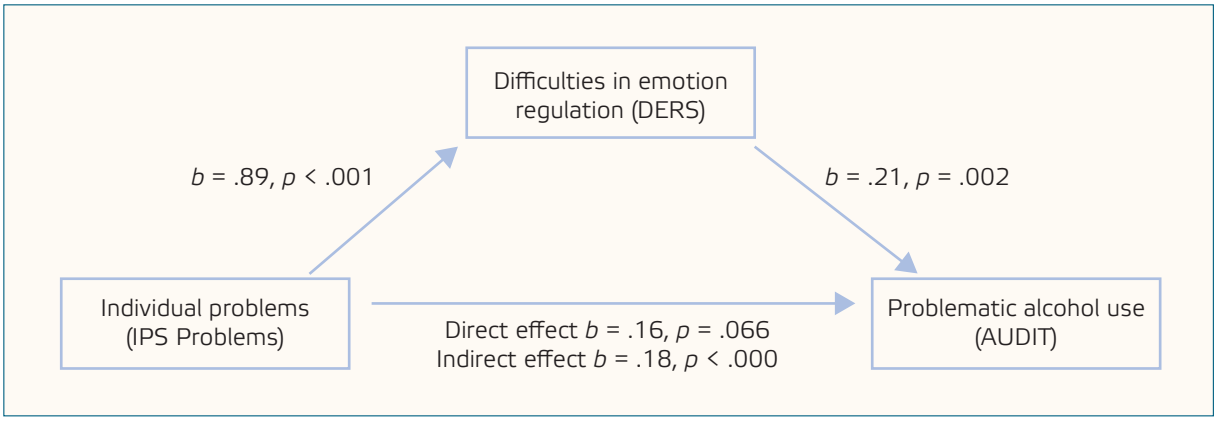
Notes. B = beta value; SE B = standard error for the unstandardized beta; β = standardized beta; *t* = coefficient of the independent variable; *p* = statistical significance; R^2 = coefficient of determination.

was found with the explained total variance of 14%. Impulse control difficulties and lack of emotional awareness indicate significant positive associations with problematic alcohol use.

Mediation Analyses

To examine the relationship between the DERS and the IPS Individual Problems subscale as well as their prediction of scores on the AUDIT, a mediation analysis was performed. From the results shown in Figure 1, we can see that individual problems explain difficulties in emotion regulation, while difficulties in emotion regulation also significantly explain problematic alcohol use. The results show that individual problems bear no direct effect on problematic alcohol use, b = .16, BCa CI [–.01, .32] in the presence of a mediator, while the indirect effect was statistically significant and positive, b = .18, BCa CI [.06, .31]. Accordingly, higher levels of individual problems do not directly contribute to higher levels of problematic alcohol use. The results indicate that difficulties in emotion regulation fully mediate the relationship between individual problems and problematic alcohol use. Higher levels of individual problems were significantly associated with higher levels of problematic alcohol use via emotion dysregulation.

Figure 1. Results of Testing the Model With Difficulties in Emotion Regulation as a Mediator in the Relationship Between Individual Problems and Problematic Alcohol Use



Discussion

This study analyzed the relationship between perceived individual problems, difficulties in emotion regulation, and problematic alcohol use. The main objective was to investigate the role of emotion dysregulation in problematic alcohol use, which may serve as a strategy for regulating individual problems and distress.

The correlation analysis revealed that a higher level of individual problems and difficulties in emotion regulation is correlated with a higher level of problematic alcohol use. Individuals who experience more difficulties in

all dimensions of emotion regulation show more hazardous alcohol use (higher quantity and frequency), more symptoms of addiction (lower tolerance and lower ability to control), and more alcohol-related problems and consequences (harmful use of alcohol). Similarly, higher scores on individual problems correlate with higher levels of problematic drinking.

The correlation between difficulties with emotion regulation and perceived individual problems with alcohol was also researched in other studies, which returned similar results (Dvorak et al., 2014; Tripp & McDevitt-Murphy, 2015). All of them confirm the correlation between these three constructs. It is important to note that these findings are correlational and do not necessarily imply causation (however, according to the results of the regression analysis, a relationship appears to exist in a particular direction, with emotion dysregulation contributing to problematic alcohol use). It has been found that there is a correlation between variables, but it remains unclear whether one variable influences the other or whether a third variable influences both. Despite this, the findings provide insights in at least two directions. On the one hand, these results suggest that perceived individual problems and difficulties in emotion regulation may be the result of problematic alcohol use, as the individual's functionality is reduced. Substance abuse can have a range of negative consequences for individuals and increases the stress associated with the abuse itself (VanGeest et al., 2017). Chronic use of substances triggers changes in the brain, where there are centers or circuits related to stress and emotions as well as their regulation (Murphy et al., 2012). As such, it lowers an individual's ability to regulate perceived stress and negative moods (Thorberg & Lyvers, 2006). These are important dimensions that need to be taken into account when understanding the etiology and treatment of alcoholism (Stellern et al., 2023).

On the other hand, problematic alcohol use may be the result of perceived individual problems and difficulties in emotion regulation. Individuals having more personal problems and thus experiencing higher levels of stress and negative affectivity may seek different strategies for dealing with these challenges. Some of these strategies can be less than functional. The main purpose of stress coping strategies in the face of perceived problems is to regulate unpleasant emotions. It is more likely that individuals who feel increased emotional stress will try to escape it through activities that promise immediate pleasure (Tice et al., 2001), which is made possible by consuming various substances, including alcohol; this is a dysfunctional strategy for coping with stress (Corbin et al., 2013).

In general, research has shown that negative mood and negative affectivity are reliably associated with higher levels of problematic alcohol use (Dora et al., 2023; Martens et al., 2008). While it remains true that not all alcohol use is based exclusively on emotional motives, the desire to regulate both positive and negative emotions serves as an important motivation for its use. In addition to promoting positive emotions, alcohol is often used to regulate negative emotions. Alcohol is thus considered one of the psychoactive substances that can be used to regulate emotions and drinking alcohol to influence the emotional state can be understood as an emotion regulation strategy (Dragan, 2015). Problematic alcohol use may serve as an effective, but inappropriate, emotion regulation strategy, particularly for those prone to emotion dysregulation (Horvath et al., 2020).

To examine whether emotion dysregulation can contribute to problematic alcohol use, we used multiple linear regression analysis to test the magnitude and direction of the effect of the independent variable (difficulties with emotion regulation) on the dependent variable (problematic alcohol use). The results indicate that all dimensions of difficulties with emotion regulation explain 14% of problematic alcohol use. Difficulties with emotion regulation can contribute to problematic alcohol use to some extent. Among the individual dimensions of difficulties with emotion regulation, two explain a higher level of problematic alcohol use: *impulse control difficulties* and *lack of emotional awareness*. Other dimensions of difficulties with emotion regulation did not appear to be predictors of problematic alcohol use in our research.

Adequate emotion regulation is composed of the appropriate abilities to be aware of, understand, and accept emotions, the ability to control impulsive behaviors and behave to achieve set goals when psychological stress increases as well as the ability to use situationally appropriate emotion regulation strategies flexibly to achieve desirable emotional responses (Gratz & Roemer, 2004). If any of these dimensions is missing or is affected, the person has difficulties with emotion regulation and is more likely to resort to problematic alcohol use, which will also serve as an emotion regulation strategy.

Impulse control refers to an individual's ability to inhibit or manage undesirable impulses, tendencies or behavior and to use reason and judgment in decision-making. Difficulties with impulse control manifest in impulsive behavior that is reckless as it is based on a sense of urgency, lack of premeditation, lack of perseverance, and sensation seeking (Karyadi & King, 2011). Individuals with impulse control problems have difficulty maintaining control over impulsive behavior when experiencing negative emotions (Gratz & Roemer, 2004). The more prob-

lems individuals have in this domain, the higher the level of problematic alcohol use. Alcohol use can represent a mode of impulsive behavior where the individual feels the need to react to perceived negative emotional states while failing to establish a coherent and deliberate response to perceived distress (Verdejo-García et al., 2008). These individuals may start drinking recklessly to relieve negative and unpleasant emotions and then continue to drink excessively as a way of self-medicating, which can also lead to alcohol addiction (Karyadi & King, 2011). It makes sense to consider interventions which would simultaneously aim at reducing negative emotions and enable the development of the individual's abilities to inhibit and manage impulses and improve self-control (Shin et al., 2012).

Emotional awareness refers to the tendency to attend to and acknowledge emotions (Gratz & Roemer, 2004). It is a matter of conscious attention to and reflection on the emotional experiences that the individual also experiences on a physical level (Ghafaryan Shirazi et al., 2023). Attention and reflection make it possible to obtain information that is important for further emotional response, as they help a person to conclude what an emotional experience means to them, what they need in this situation, and how to act further. Emotional awareness therefore allows an individual to do something with the emotional information (Lane & Smith, 2021). Problems with emotional awareness are often characterized by the term alexithymia, which refers to problems with recognising and describing emotions. This also includes difficulties in differentiating feelings from physical sensations during emotional arousal (Silani et al., 2008), which often leads to confusion. This is reflected in difficulties with managing emotions (increased emotional reactivity or with calming down when experiencing intense feelings, which affects mental well-being) (Mennin et al., 2007). Solving problems is made more difficult, as a lack of emotional awareness can hinder identification of an appropriate solution and decision-making (Gratz & Roemer, 2004). As emotional confusion therefore increases, further perpetuated by a lack of emotional awareness, alcohol use is more likely to be used as a way to cope with emotions and internal discomfort (Sinha, 2001; Sudraba et al., 2015). When dealing with alcoholism, it is therefore important to emphasize the importance of developing emotional awareness. With interventions that are focused on the awareness and recognition of emotions, it makes sense to teach individuals how to recognise important and useful information when experiencing emotions, in order to achieve adequate responses in certain situations.

Given that problematic alcohol use often occurs in connection with perceived stress, we were interested in whether perceived individual problems, in which the individual also experiences negative emotions, have an impact on problematic alcohol use. Here we found that no direct influence manifests, which means that it is not self-evident that individuals who experience problems also resort to alcohol as a way of regulating perceived stress and negative effects. When we included difficulties with emotion regulation in this model, difficulties with emotion regulation proved to act as a mediator in the relationship between perceived individual problems and problematic alcohol use. Difficulties with emotion regulation therefore partly explain the connection between individual problems and problematic alcohol use. Individuals with more problems may have more difficulty regulating their emotions, which leads to difficulties in dealing with stressful and problematic aspects of life. Stress associated with poor emotion regulation can be reflected in problematic alcohol use. In this case, it remains possible that alcohol, in the absence of other appropriate emotion regulation strategies, can serve as a way of regulating stress and negative affectivity in the face of perceived problems.

These findings provide valuable insights for future research and intervention strategies, challenging common assumptions that perceived individual problems and stress alone lead to problematic alcohol use. The relationship between stress, negative emotions, and alcohol consumption is complex and requires a consideration of multiple factors. Therefore, it is important to understand and address alcohol misuse holistically. Furthermore, identifying difficulties with emotion regulation as a mediator in the relationship between individual problems and problematic alcohol use provides a clearer understanding of the underlying mechanisms. This indicates that developing skills to regulate emotions could be an effective approach for preventing or addressing problematic alcohol use among individuals experiencing various stressors or negative emotions.

These findings also suggest potential avenues for developing interventions. Interventions aimed at improving emotion regulation skills may assist individuals in coping with stress and negative emotions, thereby reducing the likelihood of resorting to alcohol as a maladaptive coping mechanism. Furthermore, these findings highlight the necessity of personalized interventions that take into account individual differences in emotion regulation and address the specific needs of those who are struggling with emotional difficulties and alcohol use. Overall, these findings suggest that there is potential for more nuanced and effective approaches to addressing problematic alcohol use, particularly within the context of perceived individual problems and difficulties with regulating emotions.

Similar conclusions were also reached by Paulus et al. (2016), where negative affectivity did not show a direct impact on alcohol-related outcomes, but was significantly associated with problematic alcohol use and dependence symptoms through emotion dysregulation. Thus, problematic alcohol use may not be a direct result of negative mood, but rather a result of the poor regulation of negative mood. This indicates the vulnerability of individuals having more difficulties with emotion regulation to develop problematic alcohol use and addiction in the face of perceived difficulties. Interventions which promote adequate emotion regulation are thus an important preventive and curative element in the context of problematic alcohol use. Therapeutic approaches for managing emotion dysregulation in the context of problematic alcohol use should involve a comprehensive and integrated strategy. Cognitive behavioral therapy (CBT) and dialectical behavior therapy (DBT) are both effective in targeting maladaptive thoughts and behaviors associated with emotional distress and alcohol misuse and enhancing emotion regulation skills to reduce reliance on alcohol for coping. Mindfulness-based interventions, such as mindfulness-based relapse prevention (MBRP), promote awareness and a non-judgmental acceptance of emotions. Motivational interviewing (MI) helps individuals to explore and resolve ambivalence about change. Family therapy addresses systemic issues, involving support networks in the recovery process. It is important to tailor interventions to individual needs to ensure a holistic approach fostering sustained recovery and emotional well-being.

Strengths and Limitations

Even though the results of this study contribute to understanding the role of emotion regulation difficulties in problematic alcohol use, we think it important to highlight some of its limitations. We based this study on a cross-sectional design, which is useful for obtaining initial information on the relationships between risk factors. However, cross-sectional studies cannot prove a causal relationship between a risk factor and an outcome, as they do not follow participants over time. Additional research, such as cohort (longitudinal) studies or experimental studies, is often needed to establish the causality and dynamics of risk factor-outcome relationships. However, the study offers valuable insights into the relationship among individual problems, difficulties with emotion regulation and problematic alcohol use. While causation cannot be established, identifying significant associations can guide further research and generate hypotheses for future studies.

The research was conducted on a sample of participants from the general population, but the sample was not representative, so the results cannot be generalized to the entire population. In addition, a smaller proportion of men appeared in the research sample, which may affect the results, as some research confirms that differences exist between men and women in the level of problematic alcohol use as well as in emotion regulation. Furthermore, the level of hazardous and harmful alcohol use in the sample stood rather low, so it would make sense to include more participants with hazardous and harmful alcohol use, which could give even clearer results regarding the correlation between difficulties with emotion regulation and problematic alcohol use.

The dimension of individual problems represents a general assessment of an individual's perceived problems but not an assessment of the perceived stress associated with it. Nevertheless, we can conclude based on other research (Pinsof et al., 2009) that its level increases with these dimensions. It would make more sense to assess perceived stress and other symptoms such as depression, anxiety, etc. and to check the predictive value of these dimensions on problematic alcohol use. It would also be important to consider other circumstances such as the possible presence of other substance uses or psychiatric disorders, which were not included in our study. Substance abuse and psychiatric disorders can interact with individual problems, emotion dysregulation, and problematic alcohol use, which may impact the results. For example, this complex interplay of biological, cognitive and social factors creates a cycle in which substance abuse exacerbates psychiatric symptoms and untreated mental health problems hinder efforts to manage alcohol use.

Although the instruments included in the research are often used in this field of research and their validity is well documented, it should be noted that these are self-report instruments. Since self-report instruments focus on how the individual evaluates their characteristics or conditions, it remains important to bear in mind that the answers are subjective and may be subject to some biases. Among these biases is also the desire of individuals to present themselves in the best light, which can affect their answers. The research is cross-sectional and the data were obtained at a specific point in time. This must be taken into account when interpreting the results and deriving practical implications, since here, it is not possible to draw complete conclusions about the nature of the relationship between difficulties with emotion regulation and the problematic use of alcohol.

Conclusion, Implications, and Future Directions

Despite the limitations of this study, which has a cross-sectional design and does not allow for the establishment of a causal relationship between risk factors and outcomes, the results provide valuable insights into the relationship between individual problems, difficulties with emotional regulation, and problematic alcohol use. These findings are significant for future research, as they point to the importance of studying difficulties with emotion regulation for understanding the development, maintenance, and treatment of various disorders, including alcohol addiction and problematic alcohol use. The correlation between perceived problems, negative affectivity, and alcohol use is complex, thus creating a need to assess direct and indirect factors influencing this correlation. The importance of an individual's response to emotional distress is increasingly highlighted. The strategies one uses to regulate one's emotions affect the way one experiences and copes with distress. Based on our results, it can be assumed, at least in part, that people with difficulties regulating psychological distress are more likely to use substances to relieve said distress. Further longitudinal studies are needed, however, to monitor the relationship between these variables at different points in time and in different settings while simultaneously taking other factors into account. The results suggest the importance of emotional dysregulation in problematic alcohol use and point to the importance of research in this area, including qualitative studies. Investigating other external factors that might influence the association between the variables would also be worthwhile. It is important to recognise that there may be a third variable which explains the association between the observed variables. Longitudinal studies which follow variables over time may support causal inferences better and include other factors than those in cross-sectional studies. A cross-sectional study can serve as a starting point for further research, but should never be the sole underlying evidence for a causal relationship.

Persons who have difficulties with emotion regulation are more vulnerable to problematic alcohol use and alcohol-related disorders. In the future, it would make sense for further research to focus even more specifically on which groups or individuals have an increased risk of emotional problems and the occurrence of problematic alcohol use, which aspects of emotion regulation problems are important and which interventions are the most effective in overcoming these problems. It is also important to consider the various areas where emotion (dys) regulation plays an important role. Emotion dysregulation can be understood as a risk factor for problematic alcohol use, as a factor which maintains problematic alcohol use, as a consequence or symptom of problematic alcohol use, as a treatment target and as a mechanism of change. Emotion regulation can become a goal of prevention and a treatment pathway that leads to change.

Reflection is also necessary on the etiology of emotion dysregulation and, as a result, its negative impact on an individual's quality of life. The causes of emotion dysregulation are often intertwined, as it can result from a combination of several factors. In addition to genetic and biological/neurological factors (Phillips et al., 2003), developmental-relational factors may also contribute to emotion dysregulation, such as unsatisfied basic needs in early childhood, lack of emotional support, attunement and empathy from parents, traumatic experiences and chronic stress (Schore, 2001, 2003; Siegel, 2012; Rothschild, 2017). Thus, various interventions aimed at promoting emotion regulation skills (awareness, clarity, understanding of emotions, acceptance of emotions and appropriate response to them) can indirectly contribute to the prevention and reduction of problematic alcohol use. Here, cognitive, behavioral and experiential techniques as well as the mindfulness-based method make sense, as does a deeper psychotherapeutic treatment, which enables an in-depth addressing and processing of the deeper psychodynamics on which dysfunctional emotion regulation is based.

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Author contribution

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Declaration of interest statement
The authors declare no conflict of interest.

Ethical statement
This manuscript is the authors' original work.
All participants engaged in the research voluntarily and anonymously.
Their data are stored in coded materials and databases without personal data.
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Data Availability Statement
Datasets presented in this article are available from the corresponding author upon reasonable request.

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