KMAN PUBLISHING INSTITUTE
Journal Website

Article history:
Received 17 October 2024
Revised 20 December 2024
Accepted 26 December 2024
Published online 30 December 2024

Journal of Assessment and Research in Applied Counseling

In Press

E-ISSN: 3041-8518

The Mediating Role of Cognitive Processes in the Relationship Between Peer Victimization and Dysregulated Behaviors in Individuals With Bipolar Disorder

Akram. Zarei Goonyani[1], Ahmad. Mansouri[2*], Qasem. Ahi[1], Seyed Abdolmajid. Bahreinian[1], Fahime. Saied[3]

[1] Department of Psychology, Birjand Branch, Islamic Azad University, Birjand, Iran
[2] Department of Psychology, Neyshabur Branch, Islamic Azad University, Neyshabur, Iran
[3] Department of Psychiatry, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran

*** Corresponding author email address**: mansoury_am@yahoo.com

Article Info

Article type:
Original Research

How to cite this article:
Zarei Goonyani, A., Mansouri, A., Ahi, Q., Bahreinian, S. A., & Saied, F. (IN PRESS). The Mediating Role of Cognitive Processes in the Relationship Between Peer Victimization and Dysregulated Behaviors in Individuals With Bipolar Disorder. *Journal of Assessment and Research in Applied Counseling.*
http://dx.doi.org/10.61838/kman.jarac.7.x.x

ABSTRACT

Objective: The primary objective of this study was to examine the mediating role of cognitive processes in the relationship between peer victimization and dysregulated behaviors in individuals with bipolar disorder.

Methods and Materials: This descriptive, correlational study included all individuals with bipolar disorder hospitalized at Razi Psychiatric Hospital in 2023-2024. From this population, 200 individuals were selected using convenience sampling. Data collection tools included the Binge Eating Severity Scale, the Deliberate and Conscious Self-Harm Inventory, the Alcohol Use Disorders Identification Test, the Multidimensional Peer Victimization Scale, the Cognitive Abilities Questionnaire, the Difficulties in Emotion Regulation Scale–Short Form, the Acceptance and Action Questionnaire, and the Levels of Self-Criticism Scale. Data analysis was conducted using SPSS and LISREL software, along with Pearson correlation methods and structural equation modeling (SEM).

Results: The study's findings indicated that cognitive processes (cognitive ability, self-criticism, experiential avoidance, and difficulties in emotion regulation) play a mediating role in the relationship between peer victimization and dysregulated behaviors (alcohol consumption, binge eating, and self-harm) in individuals with bipolar disorder (CFI = 0.97, NNFI = 0.97, IFI = 0.97, GFI = 0.94, RMSEA = 0.056).

Conclusion: Based on the results of this study, individuals with bipolar disorder who experience peer victimization engage in dysregulated behaviors mediated by cognitive processes. Therefore, clinical interventions targeting cognitive processes may play a significant role in preventing dysregulated behaviors in this group.

Keywords: *Bipolar disorder, dysregulated behavior, cognitive processes, peer victimization.*

1. Introduction

Bipolar disorder is characterized by recurrent episodes of depression and mania or hypomania. The typical age of onset is between 15 and 25 years, with depression being the most common initial presentation (Nierenberg et al., 2023). Individuals with bipolar disorder are also at increased risk for behavioral dysregulation, physical health issues, obesity, cardiovascular problems, premature mortality, and alcohol use disorders (Fornaro et al., 2022), which are often influenced by daily lifestyle choices (Kapczinski et al., 2017). Dysregulated behaviors, defined by difficulties in inhibiting harmful actions (e.g., alcohol consumption, nonsuicidal self-injury, and binge eating), may stem from impairments in cognitive emotion regulation (Favieri et al., 2021; Garke et al., 2021). These behaviors can significantly disrupt social, physical, and occupational functioning and exacerbate the clinical course of bipolar disorder (Sharma & McClellan, 2021).

Although targeted interventions have been developed for a range of dysregulated behaviors, treatment outcomes often lack long-term effectiveness, with relapse rates exceeding 50% across various disorders. Moreover, individuals with one type of dysregulated behavior often report engaging in others (e.g., alcohol consumption and gambling) or transitioning to a different behavior after ceasing the first (e.g., overeating after quitting smoking) (Wupperman et al., 2015). Identifying factors and variables associated with dysregulated behaviors is essential for advancing intervention strategies and reducing symptoms and relapse in bipolar disorder. This necessitates implementing refined research designs that explore the correlations between environmental and psychological factors and dysregulated behaviors in individuals with bipolar disorder.

Peer victimization is one of several factors that may be associated with dysregulated behaviors. Peer victimization, a common early-life stressor, has been consistently linked to numerous negative mental health outcomes (Tretyak et al., 2022). Peer victimization, or bullying, is a childhood experience involving repeated aggressive behaviors or intentional harm by peers characterized by a power imbalance (Menesini & Salmivalli, 2017).

Although increasing research has focused on bullying as a traumatic event (Acosta et al., 2020), limited studies have examined the association between bullying and behavioral dysregulation in individuals with bipolar disorder. Research on a specific sample of adults with bipolar disorder revealed that victims of bullying exhibited significantly higher rates of suicidal behaviors and psychotic symptoms compared to non-victims (Manoli et al., 2023). Previous studies have also consistently demonstrated that exposure to bullying is a significant risk factor for increased alcohol and substance use (Tretyak et al., 2022), nonsuicidal self-injury (Gu et al., 2023), and binge eating (Rosen et al., 2023).

Despite these findings, as predicted by developmental psychopathology models (Cicchetti & Rogosch, 1996), the impact of such experiences may be mediated and/or moderated by several environmental and psychological factors (Vaillancourt & Palamarchuk, 2021). Adult difficulties and disorders are associated with the severity or intensity of childhood bullying, with more frequent, severe, or chronic bullying leading to worse outcomes in adulthood (Wolke & Lereya, 2015). Accordingly, further research is needed to identify mediating factors to understand how peer victimization affects psychological outcomes in adulthood.

Efforts to identify mechanisms linking peer victimization to psychopathological outcomes have primarily focused on cognitive-emotional processes (Dodge et al., 1990). Cognitive processes are critical factors in cognitive models of psychopathology, indicating that behavioral, emotional, and cognitive symptoms arise when maladaptive beliefs and cognitions are shaped by life events (Corry et al., 2017). Svirko and Hawton (2007) proposed a model suggesting that precursors such as trauma and psychopathological processes (e.g., self-criticism and emotion regulation difficulties) may contribute to the development of nonsuicidal self-injury and binge eating (Svirko & Hawton, 2007).

Self-criticism involves harsh self-scrutiny, excessively critical evaluation of one's actions, an inability to feel satisfied with personal achievements, constant worry about mistakes, and negative reactions to failure, often manifesting as self-punishment and self-directed hostility (Loew et al., 2020). Victims of peer victimization tend to excessively blame themselves (Nariswari & Muttaqin, 2023). Furthermore, frequent self-criticism has been associated with higher alcohol consumption (Richardson et al., 2020) and greater tendencies toward self-harming behaviors (Nagy et al., 2021). Self-criticism is also significantly correlated with binge eating symptoms (Palmeira et al., 2017).

Emotion regulation refers to actions taken (consciously or unconsciously) to influence one's emotional experiences (Gross & Jazaieri, 2014). Limited research has examined the effects of bullying victimization on emotion regulation. However, like other early adversities, peer victimization may evoke strong emotional responses that require regulation and potentially disrupt the development of

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

effective emotion regulation skills over time (Labella et al., 2024; Walker, 2023). Peer victimization triggers intense negative emotions, potentially impairing individuals' ability to manage emotional reactions effectively. Impaired emotion regulation may lead to depressive episodes, suicidal ideation, and self-harming behaviors (Anvari & Mansouri, 2023; de la Fuente et al., 2024; Gu et al., 2023; Shamsabadi et al., 2023). Higher scores in emotion regulation difficulties are linked to increased alcohol use disorder, specifically impulsivity control issues and emotional awareness deficits (Simonič et al., 2024). Additionally, research indicates that emotional clarity deficits and a lack of access to emotion regulation strategies in response to intense negative emotions are strongly associated with binge eating (Howells et al., 2024).

Based on Rosen et al.'s (2007) schema model, repeated victimization experiences can develop and solidify a victim schema, influencing cognitive, emotional, and behavioral capacities. This schema impacts cognitive abilities, contributing to difficulties in various areas (Rosen et al., 2007). While lower cognitive abilities are associated with reduced alcohol consumption, frequent alcohol use in this group correlates strongly with adverse health outcomes (Degerud et al., 2018). Cognitive abilities significantly influence eating behavior by moderating hedonic food intake drives (Iceta et al., 2021). Research also demonstrates that low cognitive abilities are associated with an increased risk of transitioning from neutral states to self-harming behaviors (Iveson et al., 2024).

Experiential avoidance is another critical factor to consider in the relationship between peer victimization and negative outcomes in adulthood. Experiential avoidance is defined as an unwillingness to remain in contact with distressing inner experiences, accompanied by efforts to control or avoid them (Hayes-Skelton & Eustis, 2020). Existing literature suggests that coping strategies may mediate the effects of bullying experiences on later health outcomes, with bullying potentially perpetuating maladaptive responses related to avoidant coping and emotion regulation deficits. Empirical studies have shown that bullying is associated with increased avoidant coping over time (Yang et al., 2024). Experiential avoidance, considered a maladaptive emotion regulation strategy, involves attempts to escape intense negative distress, ultimately engaging in behaviors such as alcohol consumption (Darabos et al., 2023), nonsuicidal self-injury (Brausch & Woods, 2019), and binge eating (Peschel et al., 2023).

Given that these relationships have been explored primarily in general populations and rarely in clinical groups, similar findings might be anticipated in individuals with bipolar disorder.

In summary, the role of peer victimization in the etiology of psychological problems cannot be overlooked, particularly in individuals with bipolar disorder. However, a review of the literature suggests limited attention to its mediating factors. Accordingly, using structural equation modeling, this study focuses on the mediating role of cognitive processes (emotion regulation, experiential avoidance, and self-criticism) in the relationship between peer victimization and dysregulated behaviors in individuals with bipolar disorder. Understanding these mechanisms is likely to have significant clinical implications and may contribute to designing more effective therapeutic interventions to reduce dysregulated behaviors in individuals with bipolar disorder, thereby alleviating its associated societal burden.

2. Methods and Materials

2.1. Study Design and Participants

This foundational, descriptive, correlational study utilized structural equation modeling (SEM) for analysis. The study population comprised all individuals with bipolar disorder hospitalized at Razi Psychiatric Hospital in Tehran between December 2023 and August 2024. From this population, 200 participants were selected using convenience sampling. The minimum sample size required for SEM is 200 participants (Meyers et al., 2016).

After obtaining an introduction letter from the Research Vice-Chancellor of the Islamic Azad University, Birjand Branch, and coordinating with the authorities at Razi Psychiatric Hospital, hospitalized individuals in various departments were screened based on psychiatrist referrals, medical records, and psychologist interviews. Participants were included if they met the study's inclusion criteria and provided informed consent.

Inclusion criteria included providing informed consent, being at least 20 years old, having at least a middle school education, and meeting the diagnostic criteria for bipolar disorder based on a clinical interview aligned with the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2022). Exclusion criteria included unwillingness to participate and incomplete questionnaires (missing responses to at least 5% of the items in any questionnaire).

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

2.2. Measures

2.2.1. Peer Victimization

This 16-item scale, developed by Mynard and Joseph (2000), assesses four dimensions of peer victimization: physical victimization, verbal victimization, social manipulation, and attacks on possessions. Items are rated on a three-point Likert scale ranging from 0 ("Not at all") to 3 ("More than once"), with total scores ranging from 0 to 32. Higher scores indicate greater experiences of peer victimization. Cronbach's alpha for internal consistency for physical victimization, verbal victimization, social manipulation, and attacks on possessions was reported as 0.85, 0.75, 0.77, and 0.73, respectively (Mynard & Joseph, 2000). The Persian version demonstrated an internal consistency of 0.88 and significant concurrent validity with bullying (r = 0.53), school absenteeism (r = 0.18), academic motivation (r = 0.15), and academic achievement (r = −0.17) (Akbari Balootbangan & Talepasand, 2015). In this study, Cronbach's alpha was 0.82.

2.2.2. Dysregulated Behaviors

To assess dysregulated behaviors, the following three questionnaires were used:

Binge Eating Severity Scale: This 16-item tool, developed by Gormally et al. (1982), measures behavioral manifestations and emotional/cognitive aspects surrounding binge-eating episodes. Items are rated on a scale from 0 to 3, with total scores ranging from 0 to 48. Scores above 27 indicate severe binge eating. Internal consistency (Cronbach's alpha) was reported as 0.94 pre-treatment and 0.92 post-treatment (Gormally et al., 1982). The Persian version demonstrated concurrent validity, with sensitivity and specificity of 84.6% and 80.8%, respectively, for identifying binge eating disorder. Test-retest reliability was 0.71, and internal consistency was 0.85 (Mootabi et al., 2009). In this study, Cronbach's alpha was 0.87.

Deliberate and Conscious Self-Harm Inventory: This 17-item inventory, developed by Gratz (2001), is scored dichotomously as 1 ("Yes") or 0 ("No"). Cronbach's alpha for internal consistency was reported as 0.82, and test-retest reliability (two to four weeks) was 0.68. The inventory demonstrated acceptable convergent and discriminant validity (e.g., correlations with general self-harm questionnaires: r = 0.35–0.43) (Gratz, 2001). The Persian version had an internal consistency (Cronbach's alpha) of 0.73. Confirmatory factor analysis after excluding items 2, 5, 13, and 14 showed satisfactory fit indices (CFI = 0.90, IFI = 0.91, GFI = 0.91, RMSEA = 0.087) (Shahani & Mansouri, 2023). In this study, Cronbach's alpha was 0.79.

Alcohol Use Disorders Identification Test (AUDIT): This 10-item questionnaire, developed by Saunders et al. (1989) with support from the World Health Organization, evaluates three domains: hazardous drinking patterns, symptoms of dependence, and harmful alcohol use. Items are rated on a five-point scale from 0 ("Never") to 4 ("Almost every day"), with total scores ranging from 0 to 40. Higher scores indicate more significant alcohol-related problems. Cronbach's alpha ranged from 0.81 to 0.93 across different studies. Concurrent validity demonstrated strong correlations between drinking behavior (dependence) and average daily alcohol consumption (r = 0.53) and between hazardous drinking and alcohol-related problems (r = 0.50) (Saunders et al., 1993). The Persian version showed excellent internal consistency (Cronbach's alpha = 0.96) and adequate test-retest reliability (r = 0.64) (Noorbakhsh et al., 2018). In this study, Cronbach's alpha was 0.62.

Childhood Trauma Questionnaire (CTQ): This 28-item questionnaire, developed by Bernstein et al. (2003), assesses five types of childhood maltreatment: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. Items are rated on a five-point Likert scale from 1 ("Never") to 5 ("Always"), with total scores ranging from 25 to 125. Higher scores indicate greater trauma exposure. Cronbach's alpha for subscales ranged from 0.78 to 0.95. Concurrent validity with therapists' ratings of childhood trauma severity ranged from r = 0.59 to r = 0.78 (Bernstein et al., 2003). The Persian version showed test-retest reliability of 0.90 and internal consistency coefficients ranging from 0.60 to 0.86 across subscales (mean = 0.79). It also demonstrated acceptable convergent validity with the General Health Questionnaire (Garrusi & Nakhaee, 2009). In this study, Cronbach's alpha was 0.81.

2.2.3. Cognitive Processes

Cognitive processes were evaluated using the following four questionnaires:

Cognitive Abilities Questionnaire: This 30-item tool was developed by Nejati in 2013 and assesses seven factors: memory, inhibitory control and selective attention, decision-making, planning, sustained attention, social cognition, and cognitive flexibility (Nejati, 2013). Each item is rated on a five-point Likert scale ranging from 1 ("Almost never") to 5 ("Almost always"). The internal consistency of the

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

questionnaire, as measured by Cronbach's alpha, was reported at 0.834. Subscale reliabilities for memory, inhibitory control and selective attention, decision-making, planning, sustained attention, social cognition, and cognitive flexibility were 0.755, 0.626, 0.612, 0.578, 0.534, 0.438, and 0.455, respectively. Concurrent validity, as assessed through correlations with academic grade averages and questionnaire subscales, ranged from 0.180 to 0.325 (Nejati, 2013). In the present study, Cronbach's alpha was 0.84.

Difficulties in Emotion Regulation Scale – Short Form (DERS-SF): This 18-item scale was developed by Kaufman et al. in 2016 and includes six subscales: nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity (Kaufman et al., 2016). Items are rated on a five-point Likert scale ranging from 1 ("Almost never") to 5 ("Almost always"). The internal consistency (Cronbach's alpha) for the total scale was reported as 0.70, with subscale reliabilities ranging from 0.78 to 0.91. The six-factor structure of the Persian version was confirmed, demonstrating a Cronbach's alpha of 0.85 (Shamsabadi et al., 2023). In the current study, Cronbach's alpha was 0.75.

Acceptance and Action Questionnaire – Second Edition (AAQ-II): This seven-item questionnaire, developed by Bond et al. in 2011, measures acceptance, experiential avoidance, and psychological inflexibility (Bond et al., 2011). Items are scored on a seven-point Likert scale from 1 ("Never") to 7 ("Always"), resulting in total scores ranging from 7 to 49. Higher scores indicate greater psychological inflexibility and experiential avoidance. Internal consistency (Cronbach's alpha) was reported as 0.84, and test-retest reliability (over three to 12 months) was reported as 0.81 and 0.79, respectively. Differential validity was also acceptable (r = 0.97) (Bond et al., 2011). The Persian version demonstrated excellent internal consistency (Cronbach's alpha = 0.85). Split-half reliabilities for the first and second halves and the correlation between the halves were reported as 0.82, 0.71, and 0.60, respectively. Confirmatory factor analysis indicated good fit indices (CFI = 0.98, NFI = 0.98, NNFI = 0.97, IFI = 0.98, RFI = 0.96, GFI = 0.98, RMSEA = 0.078) (Mansouri et al., 2018). In the present study, Cronbach's alpha was 0.77.

Levels of Self-Criticism Scale (LOSC): This 22-item scale, developed by Thompson and Zuroff in 2004, measures two levels of self-criticism: internalized self-criticism and comparative self-criticism (Thompson & Zuroff, 2004). Each item is rated on a seven-point Likert scale from 1 ("Never") to 7 ("Always"), with total scores ranging from 22 to 154. Cronbach's alpha was reported as 0.84 for internalized self-criticism and 0.78 for comparative self-criticism. Concurrent validity demonstrated a moderate correlation between the two subscales (r = 0.44) (Thompson & Zuroff, 2004). The Persian version demonstrated internal consistency reliabilities (Cronbach's alpha) of 0.87 for internalized self-criticism, 0.55 for comparative self-criticism, and 0.83 for the total scale. Concurrent validity analyses showed positive and significant relationships between self-criticism subscales and subscales of the Interpersonal Problems Questionnaire (Mousavi & Ghorbani, 2007). In the current study, Cronbach's alpha was 0.62.

2.3. Data analysis

Data were analyzed using structural equation modeling (SEM) with SPSS version 26 and LISREL version 8.8.

3. Findings and Results

The sample consisted of 152 men (76%) and 48 women (24%). Among the participants, 134 were single (67%), 44 were married (22%), and 22 were divorced (11%). Regarding educational attainment, 24 participants had elementary education (12%), 80 had completed middle school (40%), 66 had a high school diploma (33%), 16 held an associate degree (8%), 8 had a bachelor's degree (4%), and 6 had a master's degree (3%). A total of 128 participants (64%) had no history of suicide attempts, while 72 participants (36%) reported at least one prior suicide attempt. The mean age of participants was 36.73 years, and the mean duration of bipolar disorder was 7.47 years. Descriptive statistics and correlation coefficients among the study variables are presented in Table 1.

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

Table 1

Descriptive Statistics and Correlation Coefficients Among Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Physical victimization	-											
2. Verbal victimization	*0.54	-										
3. Social manipulation	*0.52	**0.61	-									
4. Attacks on possessions	*0.49	**0.58	*0.46	-								
5. Peer victimization	**0.78	**0.85	**0.80	**0.78	-							
6. Cognitive abilities	*0.20	**0.29	*0.23	*0.27	**0.31	-						
7. Self-criticism	0.03	*-0.09	0.04	0.12	0.05	**0.48	-					
8. Experiential avoidance	0.08	*0.19	0.12	*0.20	*0.18	**0.61	**0.38	-				
9. Emotion regulation	0.13	*0.19	0.06	*0.20	*0.18	**0.58	**0.41	**0.59	-			
10. Alcohol consumption	*0.22	*0.22	*0.27	*0.24	**0.30	0.09	0.12	0.06	0.12	-		
11. Nonsuicidal self-injury	*0.22	**0.31	*0.21	**0.31	**0.33	**0.50	**0.33	**0.28	**0.31	*0.27	-	
12. Binge eating	*0.16	*0.16	0.10	*0.22	*0.20	*0.20	*0.16	0.12	*0.21	*0.25	**0.46	-
Mean	4.18	3.60	3.96	3.65	15.40	83.46	89.80	28.12	42.92	9.63	3.20	3.76
SD	1.97	2.15	2.08	2.12	6.74	16.39	19.10	8.71	10.46	5.68	3.10	4.10
Skewness	0.27	0.48	0.24	0.37	0.58	-0.45	-0.37	0.34	-0.35	0.58	1.49	1.91
Kurtosis	-0.84	-0.48	-0.76	-0.74	0.01	1.35	1.65	-0.10	-0.24	0.61	2.56	4.66

** p<0.01, *p<0.05

The results in Table 1 indicate that skewness and kurtosis indices are within acceptable ranges (±3 for skewness and ±10 for kurtosis). Peer victimization, cognitive processes, and dysregulated behaviors were significantly correlated (p < 0.05). However, no significant relationship was found between cognitive processes and alcohol consumption (p > 0.05). The results of structural equation modeling (SEM) are shown in the following:

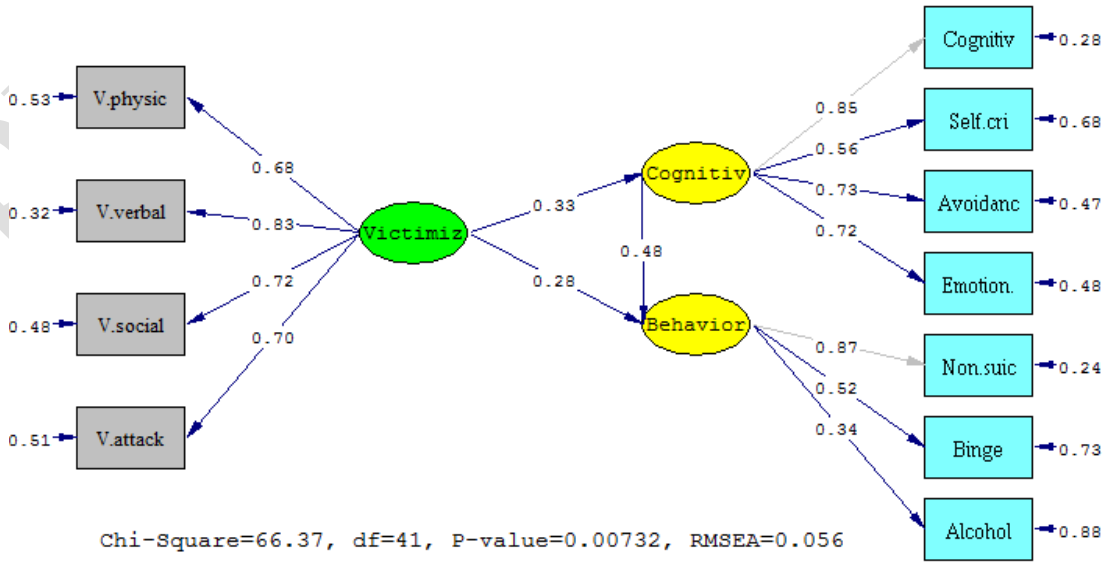
Table 2

Direct and Indirect Effects in the Revised Model

Effect	Predictor Variable	Outcome Variable	β	T	p
Direct	Peer victimization	Cognitive processes	0.33	3.95	<0.05
	Peer victimization	Dysregulated behaviors	0.28	3.39	<0.05
	Cognitive processes	Dysregulated behaviors	0.48	5.63	<0.05
Indirect	Peer victimization	Dysregulated behaviors via cognitive processes	0.16	3.37	<0.05

Figure 1

Final Model of the Study



JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

Figure 1 and Table 2 indicate that the direct effects of peer victimization on cognitive processes ($p < 0.05$, $\beta = 0.33$, $t = 3.95$) and dysregulated behaviors ($p < 0.05$, $\beta = 0.28$, $t = 3.39$) are significant. The direct effect of cognitive processes on dysregulated behaviors is also significant ($p < 0.05$, $\beta = 0.48$, $t = 5.63$). The indirect effect of peer victimization on dysregulated behaviors via cognitive processes is significant ($p < 0.05$, $\beta = 0.16$, $t = 3.37$).

The direct effects of difficulty in emotion regulation ($\beta = 0.46$, $t = 6.89$, $p < .05$) and cognitive biases ($\beta = 0.27$, $t = 4.01$, $p < .05$) on negative symptoms of schizophrenia are significant. Additionally, the indirect effects of physical-sexual experiences ($\beta = 0.11$, $t = 2.30$, $p < .05$), natural disasters ($\beta = 0.19$, $t = 3.36$, $p < .05$), and crimes ($\beta = 0.19$, $t = 3.52$, $p < .05$) on negative symptoms of schizophrenia are significant.

Table 3

Model Fit Indices

Index	RSMEA	CFI	NFI	NNFI	IFI	RFI	GFI
Fit Criterion	≤0.08	≥0.90	≥0.90	≥0.90	≥0.90	≥0.90	≥0.90
Value	0.056	0.97	0.94	0.97	0.97	0.92	0.94

Model fit indices, including chi-square, comparative fit index (CFI), normed fit index (NFI), non-normed fit index (NNFI), incremental fit index (IFI), relative fit index (RFI), goodness of fit index (GFI), and root mean square error of approximation (RMSEA), showed satisfactory values ($\chi^2 = 66.37$, $p = 0.00732$, RMSEA = 0.056, CFI = 0.97, NFI = 0.94, NNFI = 0.97, IFI = 0.97, RFI = 0.92, GFI = 0.94). According to Meyers et al. (2016), fit indices above 0.90 and RMSEA below 0.08 indicate good model fit (Table 3).

4. Discussion and Conclusion

The primary objective of the present study was to examine the mediating role of cognitive processes in the relationship between peer victimization and dysregulated behaviors in individuals with bipolar disorder. Consistent with prior research, the findings demonstrated significant relationships between peer victimization and cognitive processes (Labella et al., 2024; Nariswari & Muttaqin, 2023; Yang et al., 2024), peer victimization and dysregulated behaviors (Manoli et al., 2023; Tretyak et al., 2022), and cognitive processes and dysregulated behaviors (Anvari & Mansouri, 2023; Iveson et al., 2024; Peschel et al., 2023; Richardson et al., 2020; Shamsabadi et al., 2023).

According to existing literature, individuals who experience peer victimization tend to exhibit higher levels of self-criticism (Nariswari & Muttaqin, 2023). Peer victimization may also evoke strong emotional responses and disrupt the development of emotion regulation skills (Walker, 2023). Experiential avoidance (Hayes-Skelton & Eustis, 2020) and impairments in cognitive abilities (Rosen et al., 2007) have also been identified as psychological consequences of peer victimization. Impaired cognitive processes are significant predictors of self-harm behaviors (Brausch & Woods, 2019; Iveson et al., 2024; Nagy et al., 2021; Shamsabadi et al., 2023), alcohol consumption (Darabos et al., 2023; Richardson et al., 2020; Simonič et al., 2024), and binge eating (Howells et al., 2024; Iceta et al., 2021; Palmeira et al., 2017; Peschel et al., 2023).

Another finding of this study revealed that cognitive processes mediate the relationship between peer victimization and dysregulated behaviors in individuals with bipolar disorder. Although no previous research has specifically examined this mediating relationship in clinical populations, some studies in non-clinical populations suggest that emotion regulation mediates the relationship between cyberbullying and both nonsuicidal self-injury and suicidal behaviors (Anvari & Mansouri, 2023). Additionally, coping strategies, particularly experiential avoidance, have been shown to mediate the effects of bullying on health outcomes (Yang et al., 2024). According to Svirko and Hawton (2007), antecedents such as trauma and psychopathological processes (e.g., self-criticism and emotion regulation difficulties) may contribute to the development of nonsuicidal self-injury and binge eating (Svirko & Hawton, 2007).

The findings can be interpreted as follows: adults with bipolar disorder may face greater risks of peer victimization due to their impaired social skills, difficulties in forming and maintaining close relationships, challenges in regulating emotions, and deficits in recognizing emotional expressions in facial cues and speech (Manoli et al., 2023; Rosen et al., 2023). Negative peer experiences can disrupt emotional development. Adults with bipolar disorder who experience peer victimization report intense negative emotions, such as anger, sadness, humiliation, and high levels of emotional

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

arousal and reactivity, along with emotion regulation difficulties, compared to normative populations (Labella et al., 2024).

Peer victimization may also impact neurobiological systems associated with emotional reactivity and regulation at neural and psychophysiological levels (Walker, 2023). Research has linked peer victimization to later emotion regulation difficulties, measured by a combination of emotional awareness, rumination, and behavioral expressions of anger and sadness (de la Fuente et al., 2024; Gu et al., 2023). Peer victimization elicits strong negative emotions and can impair individuals' ability to manage emotional responses effectively (de la Fuente et al., 2024).

Based on the cognitive-emotional model, individuals who react intensely to negative emotions and struggle to regulate them may engage in dysregulated behaviors such as nonsuicidal self-injury (Anvari & Mansouri, 2023; Shamsabadi et al., 2023), alcohol consumption (Simonič et al., 2024), and binge eating (Howells et al., 2024) as strategies to cope with these emotions.

Individuals who engage in dysregulated behaviors (particularly nonsuicidal self-injury) often report doing so to punish themselves or express self-loathing. This behavior serves as a specific coping strategy for dealing with negative emotions such as shame. Self-punishment through dysregulated behaviors (e.g., nonsuicidal self-injury, alcohol consumption, and binge eating) may represent a unique emotion regulation strategy to alleviate negative emotions and cognitions, such as self-criticism (Loew et al., 2020). Self-criticism, characterized by shame, self-consciousness, and humiliation, is associated with dysregulated behaviors (Svirko & Hawton, 2007). Individuals with a history of self-harm tend to exhibit higher levels of self-criticism compared to those who have never self-harmed (Corry et al., 2017). Previous studies suggest that self-criticism may increase the tendency for self-punishment (Loew et al., 2020). Thus, engaging in dysregulated behaviors may serve as a specific form of self-punishment, helping individuals cope with self-critical thoughts. This highlights the mediating role of self-criticism in the relationship between peer victimization and dysregulated behaviors. Peer victimization may lead individuals with bipolar disorder to develop negative self-perceptions, blame themselves, and engage in dysregulated behaviors such as alcohol consumption, nonsuicidal self-injury, and binge eating.

5. Limitations and Suggestions

Overall, these findings suggest that cognitive processes (cognitive abilities, self-criticism, experiential avoidance, and emotion regulation difficulties) influenced by peer victimization collectively increase the risk of dysregulated behaviors (alcohol consumption, binge eating, and nonsuicidal self-injury) in individuals with bipolar disorder. The current study supports the role of cognitive processes in mediating the relationship between peer victimization and dysregulated behaviors. Clinical interventions targeting cognitive processes may play a crucial role in preventing dysregulated behaviors in this population.

This study has several limitations. First, it employed a cross-sectional, descriptive, correlational design, which limits causal interpretations. Future research could use longitudinal designs to provide more precise information about causal relationships. Second, data collection relied on self-report measures, which may introduce response bias and distortion. Employing alternative methods, such as interviews or experimental tasks, could yield more accurate data. Finally, the study sample was limited to individuals with bipolar disorder hospitalized in Razi Psychiatric Hospital in Tehran, which may restrict the generalizability of findings. Replicating the study in other populations and cities could provide more comprehensive insights.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Ethical considerations included obtaining informed consent, maintaining confidentiality, and ensuring no harm to participants. Additionally, the study was approved by the Biomedical Research Ethics Committee of Birjand University of Medical Sciences under ethics code IR.IAU.BIRJAND.REC.1402.002.

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contributed in this article. This article is derived from the doctoral dissertation of the first author at the Islamic Azad University, Birjand Branch. The second author served as the supervisor and corresponding author, the third author was the co-supervisor, and the third and fourth authors acted as advisors in the research process.as fin

References

Acosta, J. R., Librenza-Garcia, D., Watts, D., Francisco, A. P., Zortea, F., Raffa, B., & Passos, I. C. (2020). Bullying and psychotic symptoms in youth with bipolar disorder. *Journal of affective disorders*, *265*, 603-610. https://doi.org/10.1016/j.jad.2019.11.101

Akbari Balootbangan, A., & Talepasand, S. (2015). The psychometric characteristics of the victimization questionnaire in primary schools in Semnan. *Pajoohandeh Journal*, *20*(3), 163-170. http://pajoohande.sbmu.ac.ir/article-1-2024-fa.html

Anvari, S. M., & Mansouri, A. (2023). The Relationship between Cyberbullying Victimization and Non-Suicidal Self-Injury and Suicide Behaviors in Adolescents: The Mediating Role of Emotion Regulation. *Clinical Psychology and Personality*, *21*(2), 129-138. https://doi.org/10.22070/cpap.2023.17691.1358

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., & Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child abuse & neglect*, *27*(2), 169-190. https://doi.org/10.1016/S0145-2134(02)00541-0

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., & Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior therapy*, *42*(4), 676-688. https://doi.org/10.1016/j.beth.2011.03.007

Brausch, A. M., & Woods, S. E. (2019). Emotion regulation deficits and nonsuicidal self-injury prospectively predict suicide ideation in adolescents. *Suicide and Life-Threatening Behavior*, *49*(3), 868-880. https://doi.org/10.1111/sltb.12478

Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, *8*(4), 597-600. https://doi.org/10.1017/S0954579400007318

Corry, J., Green, M., Roberts, G., Fullerton, J. M., Schofield, P. R., & Mitchell, P. B. (2017). Does perfectionism in bipolar disorder pedigrees mediate associations between anxiety/stress and mood symptoms? *International Journal of Bipolar Disorders*, *5*(1), 1-11. https://doi.org/10.1186/s40345-017-0102-8

Darabos, K., Mazza, M. C., Somers, J., Song, A. V., & Hoyt, M. A. (2023). Peer victimization and relationships to approach and avoidance coping to health and health behaviors. *Behavioral Medicine*, *49*(1), 15-28. https://doi.org/10.1080/08964289.2021.1946468

de la Fuente, D., Könen, T., In-Albon, T., Schemer, L., & Karbach, J. (2024). The Interplay of Emotion Regulation, Depressive Symptoms, and Age Under a COVID-19 Lockdown: Capturing Emotion Regulation Variability, Effort, and Success. *Journal of Affective Disorders Reports*, 100812. https://doi.org/10.1016/j.jadr.2024.100812

Degerud, E., Ystrom, E., Tambs, K., Ariansen, I., Mørland, J., Magnus, P., & Næss, Ø. (2018). The interplay between cognitive ability, alcohol consumption, and health characteristics. *Psychological medicine*, *48*(12), 2011-2022. https://doi.org/10.1017/S0033291717003543

Dodge, K. A., Bates, J. E., & Pettit, G. S. (1990). Mechanisms in the cycle of violence. *Science*, *250*(4988), 1678-1683. https://doi.org/10.1126/science.2270481

Favieri, F., Marini, A., & Casagrande, M. (2021). Emotional regulation and overeating behaviors in children and adolescents: a systematic review. *Behavioral Sciences*, *11*(1), 11. https://doi.org/10.3390/bs11010011

Fornaro, M., Carvalho, A. F., De Prisco, M., Mondin, A. M., Billeci, M., Selby, P., & de Bartolomeis, A. (2022). The prevalence, odds, predictors, and management of tobacco use disorder or nicotine dependence among people with severe mental illness: Systematic review and meta-analysis. *Neuroscience & Biobehavioral Reviews*, *132*, 289-303. https://doi.org/10.1016/j.neubiorev.2021.11.039

Garke, M. Å., Isacsson, N. H., Sörman, K., Bjureberg, J., Hellner, C., Gratz, K. L., & Jayaram-Lindström, N. (2021). Emotion dysregulation across levels of substance use. *Psychiatry research*, *296*, 113662. https://doi.org/10.1016/j.psychres.2020.113662

Garrusi, B., & Nakhaee, N. (2009). Validity and reliability of a Persian version of the Childhood Trauma Questionnaire. *Psychological Reports*, *104*(2), 509-516. https://doi.org/10.2466/PR0.104.2.509-5

Gormally, J. I. M., Black, S., Daston, S., & Rardin, D. (1982). The assessment of binge eating severity among obese persons. *Addictive behaviors*, *7*(1), 47-55. https://doi.org/10.1016/0306-4603(82)90024-7

Gross, J. J., & Jazaieri, H. (2014). Emotion, emotion regulation, and psychopathology: An affective science perspective. *Clinical Psychological Science*, *2*(4), 387-401. https://doi.org/10.1177/2167702614536164

Gu, H., Fang, L., & Yang, C. (2023). Peer victimization and adolescent non-suicidal self-injury: The mediating role of alienation and moderating role of mindfulness. *Journal of interpersonal violence*, *38*(3-4), 3864-3882. https://doi.org/10.1177/08862605221109903

Hayes-Skelton, S. A., & Eustis, E. H. (2020). Experiential avoidance. In S. M. Blakey (Ed.), *Clinical Handbook of Fear and Anxiety: Maintenance Processes and Treatment Mechanisms*. American Psychological Association. https://psycnet.apa.org/record/2019-52029-007

Howells, R. L., Dunn, L. C., & Carter, J. C. (2024). The relationship between difficulties in the regulation of positive and negative emotions and binge-eating symptoms in young adults. *Eating behaviors*, *52*, 101839. https://doi.org/10.1016/j.eatbeh.2023.101839

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

Iceta, S., Rodrigue, C., Legendre, M., Daoust, J., Flaudias, V., Michaud, A., & Bégin, C. (2021). Cognitive function in binge eating disorder and food addiction: A systematic review and three-level meta-analysis. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *111*, 110400. https://doi.org/10.1016/j.pnpbp.2021.110400

Iveson, M. H., Ball, E. L., Whalley, H. C., Deary, I. J., Cox, S. R., Batty, G. D., & McIntosh, A. M. (2024). Childhood cognitive ability and self-harm and suicide in later life. *SSM-Population Health*, *25*, 101592. https://doi.org/10.1159/000524947

Kapczinski, N. S., Mwangi, B., Cassidy, R. M., Librenza-Garcia, D., Bermudez, M. B., Kauer-Sant'anna, M., & Passos, I. C. (2017). Neuroprogression and illness trajectories in bipolar disorder. *Expert Review of Neurotherapeutics*, *17*(3), 277-285. https://doi.org/10.1080/14737175.2017.1240615

Kaufman, E. A., Xia, M., Fosco, G., Yaptangco, M., Skidmore, C. R., & Crowell, S. E. (2016). The Difficulties in Emotion Regulation Scale Short Form (DERS-SF): Validation and replication in adolescent and adult samples. *Journal of psychopathology and behavioral assessment*, *38*, 443-455. https://doi.org/10.1007/s10862-015-9529-3

Labella, M. H., Klein, N. D., Yeboah, G., Bailey, C., Doane, A. N., Kaminer, D., & Cross-Cultural Addictions Study, T. (2024). Childhood bullying victimization, emotion regulation, rumination, distress tolerance, and depressive symptoms: A cross-national examination among young adults in seven countries. *Aggressive Behavior*, *50*(1), e22111. https://doi.org/10.1002/ab.22111

Loew, C. A., Schauenburg, H., & Dinger, U. (2020). Self-criticism and psychotherapy outcome: A systematic review and meta-analysis. *Clinical psychology review*, *75*, 101808. https://doi.org/10.1016/j.cpr.2019.101808

Manoli, A., Wright, L. C., Shakoor, S., Fisher, H. L., & Hosang, G. M. (2023). The association between childhood bullying victimisation and childhood maltreatment with the clinical expression of bipolar disorder. *Journal of psychiatric research*, *158*, 226-230. https://doi.org/10.1016/j.jpsychires.2022.12.039

Mansouri, A., Khodayari Fard, M., Besharat, M., & Gholamali Lavasani, M. (2018). Moderating and mediating role of spiritual coping and cognitive emotion regulation strategies in the relationship between transdiagnostic factors and symptoms of generalized anxiety disorder: Developing a conceptual model. *Journal of Research in Behavioural Sciences*, *16*(2), 130-142. https://doi.org/10.52547/rbs.16.2.130

Menesini, E., & Salmivalli, C. (2017). Bullying in schools: the state of knowledge and effective interventions. *Psychology, Health & Medicine*, *22*(sup1), 240-253. https://doi.org/10.1080/13548506.2017.1279740

Mootabi, F., Moloodi, R., Dezhkam, M., & Omidvar, N. (2009). Standardization of the binge eating scale among Iranian obese population. *Iranian Journal of Psychiatry*, *4*(4), 143-146. https://doi.org/https://ijps.tums.ac.ir/index.php/ijps/article/view/517

Mousavi, A. S., & Ghorbani, N. (2007). Self-knowledge, self-criticism, and psychological health. *Journal of Psychological Studies*, *2*(3), 75-91. https://doi.org/10.22051/psy.2006.1688

Mynard, H., & Joseph, S. (2000). Development of the multidimensional peer-victimization scale. *Aggressive Behavior*, *26*(2), 169-178. https://doi.org/10.1002/(SICI)1098-2337(2000)26:2<169::AID-AB3>3.0.CO;2-A

Nagy, L. M., Shanahan, M. L., & Baer, R. A. (2021). An experimental investigation of the effects of self-criticism and self-compassion on implicit associations with non-suicidal self-injury. *Behaviour Research and Therapy*, *139*, 103819. https://doi.org/10.1016/j.brat.2021.103819

Nariswari, A. A., & Muttaqin, D. (2023). Relational Aggression Victimization and Depression: Testing Self-Compassion and Self-Criticism as Moderator and Mediator. *Humaniora*, *14*(1), 59-68. https://doi.org/10.21512/humaniora.v14i1.8318

Nejati, V. (2013). Cognitive abilities questionnaire: Development and evaluation of psychometric properties. *Advances in Cognitive Science*, *15*(2), 11-19. http://icssjournal.ir/article-1-289-fa.html

Nierenberg, A. A., Agustini, B., Köhler-Forsberg, O., Cusin, C., Katz, D., Sylvia, L. G., & Berk, M. (2023). Diagnosis and treatment of bipolar disorder: a review. *JAMA*, *330*(14), 1370-1380. https://doi.org/10.1001/jama.2023.18588

Noorbakhsh, S., Shams, J., Faghihimohamadi, M., Zahiroddin, H., Hallgren, M., & Kallmen, H. (2018). Psychometric properties of the Alcohol Use Disorders Identification Test (AUDIT) and prevalence of alcohol use among Iranian psychiatric outpatients. *Substance Abuse Treatment, Prevention, and Policy*, *13*, 1-8. https://doi.org/10.1186/s13011-018-0141-x

Palmeira, L., Pinto-Gouveia, J., Cunha, M., & Carvalho, S. (2017). Finding the link between internalized weight-stigma and binge eating behaviors in Portuguese adult women with overweight and obesity: The mediator role of self-criticism and self-reassurance. *Eating behaviors*, *26*, 50-54. https://doi.org/10.1016/j.eatbeh.2017.01.006

Peschel, S. K., Fürtjes, S., Voss, C., Sigrist, C., Berwanger, J., Ollmann, T. M., & Beesdo-Baum, K. (2023). Temporal associations between experiential avoidance and disordered eating behaviors in adolescents and young adults: findings from an epidemiological cohort study with ecological momentary assessment. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, *28*(1), 58. https://doi.org/10.1007/s40519-023-01584-x

Richardson, C. M., Hoene, T. H., & Rigatti, H. L. (2020). Self-critical perfectionism and daily drinking to cope with negative emotional experiences among college students. *Personality and individual differences*, *156*, 109773. https://doi.org/10.1016/j.paid.2019.109773

Rosen, L. H., Scott, S., & Paulman, B. E. (2023). Peer victimization and eating behaviors in college students: the mediating role of perceived stress. *Journal of Aggression, Conflict and Peace Research*, *15*(4), 260-273. https://doi.org/10.1108/JACPR-05-2022-0719

Rosen, P. J., Milich, R., & Harris, M. J. (2007). Victims of their own cognitions: Implicit social cognitions, emotional distress, and peer victimization. *Journal of Applied Developmental Psychology*, *28*(3), 211-226. https://doi.org/10.1016/j.appdev.2007.02.001

Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*, *88*(6), 791-804. https://doi.org/10.1111/j.1360-0443.1993.tb02093.x

Shahani, S., & Mansouri, A. (2023). The mediating role of cognitive emotion regulation in the relationship between borderline personality traits and non-suicidal self-injury in students. *Clinical Psychology and Personality*, *21*(1), 33-42. https://doi.org/10.22070/cpap.2023.17094.1302

Shamsabadi, A., Ahi, Q., Bahreinian, S. A., Mansouri, A., & Shahabizadeh, F. (2023). The Mediating Role of Difficulties in Emotion Regulation and Personality Organization in the Relationship between Object Relations and Non-suicidal Self-injury. *Rooyesh-e-Ravanshenasi Journal (RRJ)*, *12*(6), 151-162. http://frooyesh.ir/article-1-4498-fa.html

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518

Sharma, A., & McClellan, J. (2021). Emotional and behavioral dysregulation in severe mental illness. *Child and Adolescent Psychiatric Clinics*, *30*(2), 415-429. https://doi.org/10.1016/j.chc.2020.10.010

Simonič, B., Poljak Lukek, S., Valenta, T., Jerebic, D., Jerebic, S., Rijavec Klobučar, N., & Pate, T. (2024). The Role of Emotion Dysregulation in Problematic Alcohol Use and Coping with Problems. *European Journal of Mental Health*, *19*, 1-15. https://doi.org/10.5708/EJMH.19.2024.0018

Svirko, E., & Hawton, K. (2007). Self-injurious behavior and eating disorders: The extent and nature of the association. *Suicide and Life-Threatening Behavior*, *37*(4), 409-421. https://doi.org/10.1521/suli.2007.37.4.409

Thompson, R., & Zuroff, D. C. (2004). The Levels of Self-Criticism Scale: Comparative self-criticism and internalized self-criticism. *Personality and individual differences*, *36*(2), 419-430. https://doi.org/10.1016/S0191-8869(03)00106-5

Tretyak, V., Huffman, A., & Lippard, E. T. (2022). Peer victimization and associated alcohol and substance use: prospective pathways for negative outcomes. *Pharmacology Biochemistry and Behavior*, *218*, 173409. https://doi.org/10.1016/j.pbb.2022.173409

Vaillancourt, T., & Palamarchuk, I. S. (2021). Neurobiological factors of bullying victimization. In P. K. Smith & J. O. Norman (Eds.), *The Wiley Blackwell handbook of bullying: A comprehensive and international review of research and intervention* (pp. 399-414). Wiley Blackwell. https://doi.org/10.1002/9781118482650.ch22

Walker, K. A. (2023). *Examining Adolescent Peer Victimization, Emotion Regulation, and Mental Health Using Path Analysis* The University of Memphis]. https://digitalcommons.memphis.edu/etd/3069

Wolke, D., & Lereya, S. T. (2015). Long-term effects of bullying. *Archives of Disease in Childhood*, *100*(9), 879-885. https://doi.org/10.1136/archdischild-2014-306667

Wupperman, P., Cohen, M. G., Haller, D. L., Flom, P., Litt, L. C., & Rounsaville, B. J. (2015). Mindfulness and modification therapy for behavioral dysregulation: A comparison trial focused on substance use and aggression. *Journal of Clinical Psychology*, *71*(10), 964-978. https://doi.org/10.1002/jclp.22213

Yang, J. Y., McDonald, K. L., & Seo, S. (2024). Coping strategies in response to peer victimization: Comparing adolescents in the United States and Korea. *Journal of Research on Adolescence*, *34*(1), 159-172. https://doi.org/10.1111/jora.12906

JARAC Assessment and Research in Applied Counseling
E-ISSN: 3041-8518