



Comparing Ruminative and Distracting Responses and Emotion Regulation Difficulties in Early Community Adolescents With and Without Self-Harm

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Objectives: This study aimed to compare the demographic characteristics, responses to negative emotions, and difficulties in emotion regulation between self-harming adolescents and control individuals aged 12–14 years from the community.

Methods: Data were collected from adolescents in Chungcheong Province, South Korea, between September 2021 and November 2022. Demographic characteristics and responses to the Depressed Mood Questionnaire and Difficulties in Emotion Regulation Scale-16 (DERS-16) were compared between the self-harm and control groups.

Results: The self-harm group exhibited a higher prevalence of child abuse (odds ratio [OR]=4.787, 95% confidence interval [CI]=1.591–14.409, $p=0.005$) and school bullying victimization (OR=4.495, 95% CI=2.353–8.588, $p<0.001$) than those in the control group. The self-harm group displayed higher levels of rumination ($t=7.88$, $p<0.001$) and reduced distraction responses (reverse score $t=2.25$, $p=0.025$) than those of the control group. Additionally, the self-harm group scored higher on all subscales and the total DERS-16 score ($t=7.61$, $p<0.001$).

Conclusion: Interventions for self-harming adolescents should address child abuse and bullying victimization. Prevention programs for self-harming adolescents should focus on reducing rumination responses, increasing distractive responses, and addressing difficulties in emotion regulation using dialectical behavior therapy-skill training.

Keywords: Deliberate self-harm; Adolescents; Rumination; Distraction; Emotion regulation.

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INTRODUCTION

Self-harm can be classified into suicidal attempts (SAs) and non-suicidal self-injury (NSSI), depending on the presence of suicidal intent [1]. Recent studies have focused on the similarities and differences between SA and NSSI. However, some studies have used the broader category of self-harm because of the challenge of accurately determining whether the self-harm included an intent to die [1,2]. Meanwhile, in the Europe and Australia, a more comprehensive term, deliberate self-harm (DSH), has been used for acts of self-harm that result in non-lethal outcomes, regardless of suicidal intent. There is no statistically significant difference in the lifetime prevalence rates between the NSSI and DSH groups [3].

All animals, including humans, seek to avoid pain and in-

jury. Why do some people choose self-harm to escape negative emotions? Selby et al. [4] explained this phenomenon using the Emotional Cascade Model (ECM). Individuals who engage in self-harm have significantly higher levels of rumination than of those who do not engage in self-harm [4,5], and the interrelationship between negative emotions and rumination has been reported through several experimental studies [5-7]. According to the ECM, rumination exacerbates negative emotions by repeatedly focusing on negative events or triggers that induce those emotions. These negative emotions further increase rumination, thereby operating in a repetitive positive feedback loop, ultimately increasing the likelihood of experiencing a highly aversive state known as an emotional cascade [4,5,8]. In such situations, typical adaptive regulation strategies such as cognitive reappraisal or distraction methods such as walking are not effective. Instead, self-harm occurs as a means of shifting the focus to intense physical sensations [4,5].

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Adolescence is a period characterized by emotional turbulence compared to other age groups, where negative emotions can be strongly felt and emotion regulation can be challenging [9]. According to the 2022 Youth Health Behavior Survey, the “perceived stress rate” was reported to be 41.3%, and that in the past 12 months, 28.7% of youth felt sad or hopeless to the point of stopping their usual activities and 14.3% of youth faced suicidal thoughts [10]. When adolescents become overwhelmed by severe emotions such as intense anxiety, depression, guilt, self-hatred, or anger [9], they may attempt to alleviate psychological distress by inflicting physical harm on their own bodies [4,5,11]. Many adolescents who engage in self-harm find it difficult to verbally express their emotions, leading to severe emotional difficulties [11], and these intense emotions and instability increase the frequency of self-harm even without rumination [5]. In particular, adverse childhood experiences such as child abuse [12] and school bullying [13] can lead to problems with attachment or relationships, resulting in emotional regulation problems and ultimately leading to self-harm [12].

As adolescents repeatedly engage in NSSI for various reasons, they may become accustomed to the fear and pain associated with self-harm. Combined with the characteristics of adolescence, this can lead to a decrease in the fear of suicide. Consequently, NSSI may serve as a “gateway” to SA [14,15]. The “gateway theory” views NSSI and SA as concepts along a continuum in a quantitative dimension. The facts that the onset age of NSSI is typically 12–14 years [9], while suicide attempts generally begin around the age of 16 [14], most adolescents who engage in NSSI also exhibit suicide attempts, and NSSI is considered a strong predictor of future suicide attempts in adolescents with depressive disorders can be seen as indirect evidences of the gateway theory [14]. Therefore, implementing effective interventions for self-harm prevention is necessary during the 12–14-year age range, when NSSI begins, to prevent suicide among adolescents.

Although self-harm may be considered a maladaptive coping mechanism among adolescents, it is still considered an effective strategy. Consequently, demanding that they give up impetuously may result in their refusal to undergo treatment. Therefore, it is crucial to approach and understand adolescents appropriately who engage in self-harm [9]. This study aimed to compare the demographic characteristics, response styles to negative emotions, and difficulties in emotion regulation among adolescents aged 12–14 years and those who engage in self-harm. Based on these results, we expect to enhance the understanding of adolescents who self-harm and utilize the findings as preliminary data for implementing prevention and treatment programs for self-harm.

METHODS

Study participants

The participants in this study were recruited while developing and validating the effectiveness of a child and adolescent self-harm prevention program at Gongju National Hospital from September 2021 to November 2022 [16] and disseminating it to local communities. Through a family newsletter, both the students and parents provided written consent for voluntary participation, with the provision of information related to statistics and research. Relevant survey data were anonymously obtained using nicknames. The survey questionnaire included basic demographic information and scales measuring response styles to depression and difficulties with emotion regulation. This study was approved by the Institutional Review Board (IRB) in 2023 (IRB approval no. Gongju National Hospital-2023-04). The project team removed personal information that could identify participants, and serial numbers were assigned to create secondary data. Data were then transferred to the principal investigator. The initial dataset included 724 adolescents aged 11–15 years from the Chungcheong region. However, 77 cases with no response or insincere responses were excluded. Furthermore, to analyze only adolescents aged 12–14 years, the age group corresponding to the onset of self-harm, seven individuals aged 11 years and 34 individuals aged 15 years were excluded, and a total of 606 individuals were included in the final analysis.

Measurements

The data for this study were collected as secondary data from a project aimed at validating the effectiveness of a self-harm prevention program. To increase the response rate of the survey for students, information such as age, sex, economic status, academic grades, experience of abuse, self-harm, school bullying, and Internet usage time were collected through simple yes, no, or multiple-choice questions.

The Responses to Depressed Mood Questionnaire

Nolen-Hoeksema proposed and developed “Response Style theory,” suggesting that internally focused ruminative responses are prolong and intensify a depressive episode and, on the other hand, distractive responses shorten and diminish depressive episode [17]. Jin-young Kim further developed and validated Nolen-Hoeksema’s Response Style Questionnaire (RSQ) in South Korea to create the Responses to Depressed Mood Questionnaire (RDQ) [18]. The RDQ is a self-report questionnaire on a 5-point Likert scale [18]. This study used subscales of ruminative (12 items) and distractive (8 items) responses. When experiencing feelings of depression, ruminative responses involve repeatedly focusing on the feelings

themselves. Lower scores indicate more effective coping with depression. In contrast, distractive responses involve diverting attention from depressive feelings to enjoyable and neutral external activities. Higher scores indicate more effective coping with depression. Therefore, the scores of the distractive response were reverse scored, interpreting lower overall scores as more effective in coping with depression. During the development of the domestic scale, each subscale's reliability (Cronbach's α) was 0.86 for the ruminative response and 0.80 for the distractive response [18]. In this study, the reliability (Cronbach's α) was 0.86, indicating high reliability, which was determined to be suitable for the empirical analysis.

The Difficulties in Emotion Regulation Scale-16

In this study, the Difficulties in Emotion Regulation Scale-16 (DERS-16), developed by Gratz and Roemer [19] and later condensed into 16 items by Bjureberg et al. [20], was used to measure adolescents' levels of emotion regulation difficulties. The Difficulties in Emotion Regulation Scale Korean version (DERS-K) has the advantage of being standardized in South Korea [21]. However, because of the total number of items (36 items), it was deemed that early adolescents might find it tedious; therefore, the shortened version, DERS-16, was used in this study, while the translation was based on the items from DERS-K. The DERS-16 consists of five subscales: 1) non-acceptance of negative emotions (three items), 2) inability to engage in goal-directed behavior when distressed (three items), 3) difficulties controlling impulsive behavior when distressed (three items), 4) limited access to emotion regulation strategies (five items), and 5) lack of emotional clarity (two items). Participants responded using a 5-point Likert scale, with higher scores indicating greater difficulty in emotion regulation. The Cronbach's α for DERS-16 was 0.92, indicating high reliability [20]. Although DERS-16 has not been standardized in South Korea, the reliability (Cronbach's α) in this study was high at 0.93. The correlation coefficients between the items and total scores ranged from 0.633 to 0.774 ($p < 0.001$), indicating good internal consistency and validity.

In this study, confirmatory factor analysis of the DERS-16 resulted in the following subscales: 1) non-acceptance of negative emotions (five items), 2) inability to engage in goal-directed behavior when distressed (three items), 3) difficulties controlling impulsive behavior when distressed (three items), 4) limited access to emotion regulation strategies (two items), and 5) lack of emotional clarity (two items). This difference was due to the reclassification of items in the 4) limited access to emotion regulation strategies subscale, "When I'm angry or upset, I start feeling very bad about myself" and "When I'm angry or upset, I feel overwhelmed by my emotions" into the 1) non-acceptance of negative emotions subscale, compared

to the DERS-16 by Bjureberg et al. [20].

Data analysis

Participants' sex, age, socioeconomic status, academic performance, Internet usage time, and experiences of bullying, child abuse, and self-harm were analyzed using descriptive statistics. To compare the relationship between self-harm experience and sex, experience of school violence, and experience of child abuse, Pearson's chi-squared test (χ^2) was used. Age, socioeconomic status, academic grades, and Internet usage time were analyzed as ordinal variables to determine whether they showed trends according to the presence or absence of self-harm experiences using the likelihood ratio test. The variables showing associations with self-harm from the above analysis were used as independent variables for multinomial logistic regression.

Differences in response styles to depressed mood and scores of emotion regulation difficulties between the self-harm and non-self-harm groups were assessed using independent sample t-tests. The statistical significance level was set at a two-tailed $p < 0.05$, and all analyses were conducted using IBM SPSS Advanced Statistics 24.0 (IBM Corp., Armonk, NY, USA).

RESULTS

General characteristics of study participants

The study participants comprised 275 male (45.4%) and 331 female (54.6%) students, with an average age of 12.82 (± 0.64) years. Based on the age distribution, 188 participants (31.0%) were 12 years old, 341 (56.3%) were 13 years old, and 77 (12.7%) were 14 years old. Regarding the participants' economic status, 100 (16.5%) were from "high," 487 (80.4%) from "middle," and 19 (3.1%) from "low" income groups. Regarding academic performance, 81 participants (13.4%) were in the top tier, 218 (36.0%) in the upper-middle tier, 192 (31.7%) in the middle tier, 94 (15.5%) in the lower-middle tier, and 21 (3.5%) in the lower tier. A total of 184 (30.4%) students reported using the Internet for 2 hours or less daily. A total of 199 (32.8%) participants reported using the Internet for more than 2 hours but less than or equal to 4 hours daily. Additionally, 223 students (36.8%) reported using the Internet for more than 4 hours daily. The experience of being a victim of bullying, including both victims and bully victims, was reported by 63 students (10.4%), while 16 students (2.6%) reported experiencing child abuse (Table 1).

Comparison of characteristics of participants by self-harm experience

Sixty-one participants (10.1%) reported having experienced

Table 1. Comparison of demographic characteristics by self-harm history

Variable	Total (n=606)	Self-harm		p
		Yes	No	
Sex				0.648*
Male	275 (45.4)	26 (9.5)	249 (90.5)	
Female	331 (54.6)	35 (10.6)	296 (89.4)	
Age				0.305†
12 yr	188 (31.0)	25 (13.3)	163 (86.7)	
13 yr	341 (56.3)	27 (7.9)	314 (92.1)	
14 yr	77 (12.7)	9 (11.7)	68 (88.3)	
Economic status				0.314†
High	100 (16.5)	9 (9.0)	91 (91.0)	
Middle	487 (80.4)	48 (9.9)	439 (90.1)	
Low	19 (3.1)	4 (21.1)	15 (78.9)	
Academic performance				0.013†
High	81 (13.4)	5 (6.2)	76 (93.8)	
Upper middle	218 (36.0)	19 (8.7)	199 (91.3)	
Middle	192 (31.7)	19 (9.9)	173 (90.1)	
Lower middle	94 (15.5)	13 (13.8)	81 (86.2)	
Low	21 (3.5)	5 (23.8)	16 (76.2)	
Low academic performance				0.027*
Yes	115 (19.0)	18 (15.7)	97 (84.3)	
No	491 (81.0)	43 (8.8)	448 (91.2)	
Daily time spent on Internet				0.612†
≤ 2 hours	184 (30.4)	16 (8.7)	168 (91.3)	
2–4 hours	199 (32.8)	22 (11.1)	177 (88.9)	
> 4 hours	223 (36.8)	23 (10.3)	200 (89.7)	
Bullying victim				<0.001*
Yes	63 (10.4)	19 (31.1)	44 (69.8)	
No	543 (89.6)	42 (7.7)	501 (92.3)	
Child abuse history				<0.001*
Yes	16 (2.6)	7 (43.8)	9 (56.3)	
No	590 (97.4)	54 (9.2)	536 (90.8)	

Values are presented as number (%). *chi-square test; †likelihood ratio test for trend

self-harm. There were no differences in self-harm experiences according to sex. As age increased, economic status worsened, Internet usage time increased, and participants did not tend to report experiencing self-harm more frequently. Experiences of child abuse and being a victim of bullying were positively associated with a higher likelihood of experiencing self-harm ($p < 0.001$). As academic grades declined, the frequency of self-harm experiences increased ($p = 0.013$), and lower grades (low and low-middle) were associated with a higher reporting of self-harm experiences ($p = 0.027$) (Table 1). We conducted a multinomial logistic regression analysis with variables known to be associated with self-harm, such as sex, experience of child abuse, experience of being a victim of bullying, and lower grades, which were identified through chi-square tests as independent variables (Table 2). Sex (fe-

male) and academic grade (low or medium-low) were not associated with self-harm. Participants who had experienced child abuse were 4.787 times more likely to report experiences of self-harm than those who had not (95% confidence interval [CI]: 1.591–14.409, $p = 0.005$). Participants who had been victims of bullying were 4.495 times more likely to report experiences of self-harm than those who had not (95% CI: 2.353–8.588, $p < 0.001$).

The difference in responses to depressed mood and difficulties in emotion regulation by self-harm experience

The overall mean score for the response to depressed mood was significantly higher in the self-harm group than in the control group ($t = 7.87$, $p < 0.001$). The mean score for rumina-

tive response, a subscale of responses to depressed mood, was significantly higher in the self-harming group than in the control group ($t=7.59$, $p<0.001$). Additionally, the mean score for the distractive response, when reverse scored, was significantly higher in the self-harming group than in the control group ($t=2.35$, $p=0.019$) (Table 3).

The overall mean score regarding the difficulties in emotion regulation was significantly higher in the self-harming group than in the control group ($t=7.32$, $p<0.001$). The mean scores of the subscales, including non-acceptance of negative emotions ($t=6.10$, $p<0.001$), inability to engage in goal-directed behavior when distressed ($t=5.53$, $p<0.001$), difficulty in controlling impulsive behavior when distressed ($t=3.76$, $p<0.001$), limited access to emotion regulation strategies ($t=6.90$, $p<0.001$), and lack of emotional clarity ($t=5.45$, $p<0.001$), were significantly higher in the self-harm group than in the control group (Table 3).

DISCUSSION

This study compared demographic characteristics, response styles to depression (negative emotion), and difficulties in emotion regulation through self-harm experiences among early adolescents aged 12–14 years in communities. The participants in this study were sixth graders in elementary school and middle school first- and second-graders residing in cit-

ies in the Chungcheong region. When statistically compared with big data from the 2022 Youth Health Behavior Survey [9], the economic status and school grades of the 12- and 14-year-olds in this study sample were representative. However, the 13-year-olds in this study, who made up 56.3%, reported better economic status compared to the big data ($p=0.007$), and they reported more frequently in the middle range for school grades than in the upper or lower range ($p<0.001$).

Globally, the prevalence of adolescent self-harm was reported in a wide range from 4.1% to 42%. However, there was no statistically significant difference between the NSSI group at 18% and the DSH group at 16.1% [3]. The prevalence rates of self-harm varied depending on the method of assessment. When using a single item (a yes/no binary response), the prevalence was approximately 12%. However, when employing multiple items or behavior checklists related to self-harm, the prevalence rates were 23.6% for the NSSI group and 31.4% for the DSH group [3]. Furthermore, in a recent meta-analysis of suicide-related behaviors in children under 13 years old, SAs were reported at 2.6% and NSSIs were reported at 6.2%, which were lower than those in adolescence [22]. In this study, a self-harm experience was reported in 10.1%, which is lower than that observed in foreign countries [3]. This could be because this study evaluated self-harm experiences using a single item and included a relatively high proportion of children aged 12 years or younger, accounting for 31% of the participants. However, according to the 2018 Emotional and Behavioral Characteristics Assessment in South Korea, 7.9% of all middle school-going students reported self-harm experiences [23]. In a large-scale study on the prevalence of mental disorders in 2017 in South Korea, NSSI was reported at 5.8% [24]. Thus, the prevalence of self-harm in communities in South Korea tended to be lower, as in this study, compared to foreign countries [3].

A study reported that individuals who had experienced

Table 2. Odds ratio from ordered multiple logistic regression models predicting self-harm by various factors

Variable	OR (95% CI)	p
Sex, female	1.035 (0.561–1.714)	0.905
Low academic performance	1.638 (0.869–3.089)	0.127
Child abuse history	4.787 (1.591–14.409)	0.005
Bullying victim	4.495 (2.353–8.588)	<0.001

CI, confidence interval; OR, odds ratio

Table 3. Comparison of variables between self-harm group and non self-harm group

Variables	Self-harm		t	p
	Yes	No		
Responses to depressed mood	3.25±0.62	2.62±0.58	7.87	<0.001***
Ruminant response	3.46±0.85	2.56±0.88	7.59	<0.001***
Distractive response	2.93±0.74	2.72±0.66	2.35	0.019*
Difficulties in emotion regulation	2.86±0.76	2.13±0.74	7.32	<0.001***
Non-acceptance of negative emotions	2.82±1.03	1.99±0.83	6.10	<0.001***
Inability to engage in goal-directed behaviors when distressed	3.25±0.89	2.52±0.99	5.53	<0.001***
Difficulties controlling impulsive behaviors when distressed	2.55±1.03	2.07±0.93	3.76	<0.001***
Limited access to emotion regulation strategies perceived as effective	2.76±0.87	2.00±0.81	6.90	<0.001***
Lack of emotional clarity	2.98±1.10	2.18±0.95	5.45	<0.001***

Values are presented as mean ± standard deviation. * $p<0.05$; *** $p<0.001$

child abuse were 1.79–3.41 times more likely to attempt suicide compared to those who had not. This association is particularly reported to be higher in studies conducted in communities, with younger participants, or those using lower-quality research methods [25]. This study, like previous research [12], found that individuals who had experienced child abuse were more likely to have experienced self-harm (odds ratio [OR] 4.787; $p=0.005$). However, only 16 participants (2.6%) reported experiencing child abuse, suggesting limitations in the interpretation of the results. Furthermore, this study found that the experience of being a victim of bullying was significantly associated with an increased likelihood of self-harm (OR 4.495; $p<0.001$). Many studies have consistently reported an association between experiences of bullying victimization and increased rates of self-harm and SAs [17,26–28]. In the present study, there was no direct relationship between self-harm and being a perpetrator of bullying. However, recent meta-analyses have shown that not only victims of school bullying (OR 2.34), but also perpetrators (OR 1.81) were associated with DSH; especially, victims of cyberbullying (OR 3.55) had higher associations [27]. This study showed a trend where adolescents who had lower academic achievement reported more self-harm experiences. This aligns with findings from the Youth Health Behavior Survey, which indicated that adolescents with lower academic performance had higher rates of suicidal ideation [9]. However, the association between low academic performance and self-harm experiences was not significant when controlling for other variables ($p=0.127$). In a large-scale study in the UK, it was suggested that a decline in academic achievement from elementary to middle school may predict self-harm [29]. However, caution was suggested when interpreting the results; [30] thus, there are few reliable studies on this topic.

In previous studies, sex has been identified as a strong predictor of NSSI and SAs [9,13]. According to the Korean Youth Risk Behavior Web-based Survey, the SA rate among 12–14-year-olds was reported to be 4% for all female students and 2.2% for all male students [9]. However, recent meta-analyses have indicated that among children under the age of 13 years, males have higher lifetime prevalence rates of SAs and NSSI [22]. In this study, there was no statistically significant difference in self-harm by sex. This could be due to the inclusion of participants under 12 years of age, who accounted for 31% of the sample size. However, it is also possible that female participants with self-harm experiences were excluded or that their reports were missing, which could limit the representativeness of the study population. Economic status was not associated with self-harm. Previous studies have shown that socioeconomic status is an important risk factor for adolescent suicide. However, in relation to NSSI, consistent results have

not been reported [13]. All studies investigating Internet addiction have found associations with self-harm or suicidal behavior; however, the direction of causality remains unclear [31]. In this study, no association was found between Internet usage duration and self-harm experiences.

The self-harm group used rumination more frequently and less frequently used the distraction coping strategies compared with the control group in response to depressive mood (negative emotions). “Rumination” refers to continuously and passively focusing on negative thoughts, comparing negative emotions, their causes, and the current situation with high standards that have not been achieved [4,18]. Many studies have confirmed that rumination is a strong predictor of self-harm [6,7,32]. Rumination is associated with suicidal ideation, but its relationship with suicide attempts has not been studied longitudinally [33]. “Distraction” refers to diverting attention from negative emotions to external pleasant or neutral activities, a more adaptive way of coping with distress [34]. Therefore, adaptive distraction can reduce the risk of suicidal ideation in young adolescents [8] and may be a buffer against self-harm behaviors [32,34].

In this study, the self-harm group experienced greater difficulty in emotion regulation than the control group. There is ample evidence showing the relationship between emotional regulation difficulties and adolescent suicide and self-harm [28,35]. The concept of emotion regulation, which forms the basis of the DERS used in this study, emphasizes the functionality of emotions and focuses on adaptive ways of responding to emotional distress: 1) awareness, understanding, and acceptance of emotion; 2) ability to control behaviors when experiencing negative emotions; 3) flexible use of situationally appropriate strategies to modulate the intensity and/or duration of emotional responses rather than eliminating emotions entirely; and 4) willingness to experience negative emotions as part of pursuing meaningful activities in life [20].

Compared with the control group, the self-harm group exhibited difficulties in all subscale items of the emotion regulation difficulties scale, such as non-acceptance of negative emotions, lack of emotional clarity, inability to engage in goal-directed behavior when distressed, difficulties controlling impulsive behavior when distressed, and limited access to emotion regulation strategies. Recent studies that have conducted long-term follow-ups from childhood to adolescence suggest that difficulties with social cognition (cognitive processes underlying social interaction such as perception, interpretation, and generation of responses to other people’s behaviors and mental states) and mentalization in early life may represent clear mediating pathways leading from emotional regulation disorders to self-harm [28]. Therefore, interventions aimed at enhancing social cognition and mentalization could be ef-

fective in reducing self-harm behaviors [28].

The most effective treatment modalities for adolescent self-harm include dialectical behavior therapy (DBT), mentalization-based therapy (MBT), and cognitive-behavioral therapy (CBT) [1]. Dialectical behavior therapy-skill training (DBT-ST), including mindfulness, emotion regulation, distress tolerance, and effective interpersonal relationships, can be effective in reducing self-harm and suicide [36]. The core mechanism of mindfulness therapy, decentering, involves perceiving situations from a distant “dispassionate observer” state instead of viewing the situation from self-immersed perspective [37]. This helps to alleviate the direct relationship between NSSI and rumination, thereby influencing the Emotional Cascade Mode. It may also reduce the vulnerability of adolescents with moderate to severe NSSI to the transition from rumination to suicidal thoughts and potential suicidal behaviors [37], potentially stopping the gateway from self-harm to suicide. Considering that the self-harming adolescents in this study showed a higher tendency for rumination, difficulty with distraction, and difficulties with emotion regulation than the control group, DBT-ST may be helpful. However, further research is required to elucidate the underlying mechanisms.

This study had several limitations. First, it assessed the experience of self-harm with a single-item question of yes or no and did not distinguish between NSSI and SAs, which might have led to confusion in the terminology. Second, this study used secondary data from existing mental health programs and did not collect various sociodemographic variables that could influence self-harm; thus, caution is required when interpreting the study results. Third, this study did not use scientific scales for child abuse or school violence victimization; therefore, the interpretation of the results requires caution. The detailed DERS-16 did not match that used in the original research, requiring caution in interpretation, and future standardization in the context of South Korea is necessary. Fourth, the participants in this study were current students, excluding those who were not attending school regularly or had dropped out, which limits the generalizability of the findings because individuals with experiences of self-harm, child abuse, or school violence might not have been included in the study. Fifth, the survey in this study relied on self-reported questionnaires, which might have led to underreporting of negative events such as self-harm, child abuse, and school violence. Nonetheless, this study is valuable as it is one of the few in South Korea that investigated rumination, distraction styles, and emotional regulation difficulties among 12–14-year-old adolescents who engaged in self-harm and compared them with a control group.

CONCLUSION

In this study, the 12–14-year-old adolescents who experienced self-harm had more experiences of child abuse and bullying than those in the control group. Additionally, as academic achievement decreased, the frequency of self-harming experiences increased. Adolescents who engaged in self-harm seemed to have a higher tendency to ruminate and had more difficulty using distraction techniques than the control group. Compared with the control group, they also experienced challenges in regulating their emotions, including an inability to accept negative emotions, lack of emotional clarity, inability to engage in goal-directed behavior when distressed, difficulties in controlling impulsive behavior when distressed, and limited access to emotion regulation strategies. Therefore, interventions addressing the experiences of child abuse and a victim of bullying among self-harming adolescents are necessary. The inclusion of mindfulness and emotional regulation skills in therapy and prevention programs would be beneficial.

Availability of Data and Material

The datasets generated or analyzed during the study are available from the corresponding author on reasonable request.

Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

Author Contributions

Conceptualization: all authors. Data curation: Cheolgyu Shin, Je Jung Lee. Formal analysis: Cheolgyu Shin, Je Jung Lee. Funding acquisition: Jonggook Lee, Je Jung Lee. Investigation: Cheolgyu Shin, Je Jung Lee, Yeontaek Oh. Methodology: Je Jung Lee, Yeontaek Oh. Project administration: Jonggook Lee, Je Jung Lee, Yeontaek Oh, Keun Oh, Heeyoung Seo. Supervision: Je Jung Lee, Jonggook Lee, Seungwon Chung, Keun Oh, Heeyoung Seo. Visualization: Je Jung Lee. Writing—original draft: Yeontaek Oh, Je Jung Lee. Writing—review & editing: Je Jung Lee, Yeontaek Oh, Seungwon Chung, Jonggook Lee.

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