



The mediating effect of self-criticism on college students' emotion dysregulation and intention to self-harm

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Abstract: College students are in a period of instability, which may be stressful and put them at risk of developing the intention to self-harm. This study examines the effect of self-criticism as a mediator in the association between emotion dysregulation and the intention to self-harm. Quantitative research was conducted on 354 students aged 18-23 years, using the disproportionate cluster random sampling technique. The instruments used were an intention to self-harm scale, self-criticism scale, and emotion dysregulation scale. The results from the mediation analysis conducted using the PROCESS program of Hayes shows that self-criticism significantly mediates the association between emotion dysregulation and students' intention to self-harm ($ab = .39$, $BootSE = .05$, 95% $BootCI [0.29 \text{ to } .48]$). Nevertheless, the results also suggest that even after accounting for the mediating effect of self-criticism, emotion dysregulation still positively impacts students' intention to self-harm ($c' = .14$, $p = .017$). The implications of the findings provide insights for college students and all the parties involved with them regarding the mechanisms behind the intention to self-harm.

Keywords: college students; emotion dysregulation; intention to self-harm; self-criticism

Abstrak: Mahasiswa berada dalam periode ketidakstabilan, yang berpotensi menimbulkan stres dan menempatkan mereka dalam risiko mengembangkan intensi menyakiti diri. Penelitian ini bertujuan untuk meneliti pengaruh *self-criticism* sebagai mediator dalam hubungan antara disregulasi emosi dan intensi menyakiti diri mahasiswa. Penelitian dengan metode kuantitatif dilakukan kepada 354 mahasiswa berusia 18-23 tahun, menggunakan teknik pengambilan sampel *disproportionate cluster random*. Instrumen yang digunakan adalah skala intensi menyakiti diri, skala *self-criticism*, dan skala disregulasi emosi. Hasil dari analisis mediasi menggunakan program PROCESS milik Hayes menunjukkan bahwa *self-criticism* secara signifikan memediasi hubungan antara disregulasi emosi dan intensi menyakiti diri ($ab = 0,39$, $BootSE = 0,05$, 95% $BootCI [0,29 \text{ to } 0,48]$). Hasil juga menemukan bahwa disregulasi emosi masih berpengaruh positif terhadap intensi menyakiti diri meski tanpa pengaruh *self-criticism* ($c' = 0,14$, $p = 0,017$). Implikasi dari temuan ini memberikan wawasan bagi mahasiswa dan pihak terkait dengan mereka mengenai mekanisme yang terjadi di balik intensi menyakiti diri.

Kata Kunci: mahasiswa; disregulasi emosi; intensi menyakiti diri; *self-criticism*

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Introduction

Students are generally in the transition period from adolescence to early adulthood. At this time, they are faced with various choices that can determine their future lives, such as choosing a career, committing to a more serious romantic relationship with their partner, and completing college (Arnett, 2018). Therefore, students tend to explore the available opportunities to make decisions that they feel are the most profitable for themselves in the future. However, the exploration made by students can bring about changes in their daily lives, placing them in situations that are full of instability, which can be a source of stress. If the stress felt by students is too great and they feel unable to manage it both cognitively and emotionally, then there is a possibility that they will engage in risky behaviors such as drinking alcohol, substance abuse, and even harming themselves (Menon et al., 2018).

Initially, self-harm behavior was thought to only occur in individuals diagnosed with psychological conditions, such as borderline personality disorder, post-traumatic stress disorder, and other severe mental disorders (Walsh, 2012). However, the behavior is nowadays found in many young people, such as adolescents and college students. This is evidenced by recent studies showing that acts of self-harm have been found in samples of youth communities such as schoolchildren and college students (Baetens et al., 2021; Wester et al., 2018).

The prevalence of self-harm behavior has been found to peak in early adults aged 18-24 years (Gandhi et al., 2018), with about 20% of cases found in college students (Wester et al., 2018). A survey conducted by YouGov Omnibus in 2019 in Indonesia found that around 36% of respondents had harmed themselves, especially those in the 18-24 year age group, representing a ratio of two out of five people (Ho, 2019). A preliminary study conducted by researchers in

November 2020 on 102 college students in Indonesia found that 59% of respondents had had thoughts of self-harm, and that 33% had actually harmed themselves at least once in their lifetime. Furthermore, all respondents who had self-harmed reported previously having thoughts of taking such action. This preliminary study illustrates that before self-harming behavior occurs, there are individual thoughts of such action, so it can be assumed that thoughts of self-harm can predict the behavior. This is supported by the results of research showing that there is a relationship between thoughts of self-harm and individual involvement with such behavior on the same day (Turner et al., 2019).

Self-harm thoughts can be an impetus for individuals to take such action or be understood in terms of self-harm intentions. This intention is an indication of individuals' readiness or tendency to perform such behavior (Fishbein & Ajzen, 2010). Self-harm is a deliberate attempt to damage skin tissue or harm the body without any intention to end one's life (Nock, 2010); such intentions can be defined as an indication of an individual's readiness for the possibility of self-harm. One study showed that increased prior propensity to engage in self-harm behavior could be predicted by an increase in self-harm intentions (Caton, 2018). Although it is known that self-harm is a behavior intended to harm the body, there are still many individuals who have the intention to carry out this behavior and then carry out the behavior. Therefore, understanding the mechanisms that work behind the reasons some individuals have self-harm intentions is important for further study.

Previous studies have argued that emotional dysregulation is a variable that is likely to influence a person's increased intention to engage in self-harm behavior (Wolff et al., 2019). This is a maladaptive way of responding to perceived emotions, including lack of awareness and understanding of emotions; lack of acceptance of

emotions; the inability to engage in goal-directed behavior and control impulsive behavior when experiencing negative emotions; and the inability to access regulatory strategies flexibly appropriate to modulate the intensity and/or duration of the emotion (Gratz & Roemer, 2004). It is important to note that it is not the experience of the individual's negative emotions that leads to emotional dysregulation, but rather the interpretation of such emotions, which then gives rise to the individual's feeling of being unable to cope with their current emotional turmoil (Rolston & Lloyd-Richardson, 2017).

Students who experience stressful experiences have the potential to generate negative emotions. Attempts to eliminate these instead of accepting them will increase emotional dysregulation. Those with high emotional dysregulation tend to look for quick, even if maladaptive, ways to regulate their emotions, such as self-harm (Chapman et al., 2006; Rolston & Lloyd-Richardson, 2017). Such individuals are associated with high self-harm intentions because such action is believed to eliminate negative emotions quickly. It is also assumed that taking such action can indicate the location of emotional pain (Muehlenkamp et al., 2019). Therefore, self-harm can be a regulatory strategy that is believed will benefit individuals, thereby strengthening their intention to engage in the behavior.

Emotional dysregulation is generally viewed as a condition associated with an individual's involvement in self-injurious behavior (Zelkowitz et al., 2016). However, the conclusion reached by Hooley and Franklin (2018) was that the central role played by emotional dysregulation in explaining the mechanisms behind some people's self-harm still needs to be investigated further. The diversity in the findings regarding the relationship between emotional dysregulation and the emergence of self-harm has led researchers to assume that other variables may facilitate the

relationship between the two variables. This opinion is supported by previous research that has suggested that emotional dysregulation can play a significant role in predicting the emergence of self-harm when studied in conjunction with other risk factors (Fox et al., 2015). One variable that is believed to predict an individual's intention to harm themselves is negative cognition, such as self-criticism (Megawati et al., 2019). This is based on previous research, which has found that cognitive processes may mediate the relationship between emotional dysregulation and self-harm intentions (Hasking et al., 2017). Previous research has also found evidence that emotional dysregulation has a significant relationship with students' self-criticism (Wahyuni et al., 2021).

Self-criticism is a way of thinking that can be identified as self-evaluation involving negative thoughts or judgments of oneself (Rose & Rimes, 2018). It can be interpreted as a self-evaluation in the form of an individual's attack to themselves because of inadequacy, dislike, or self-hatred (Gilbert et al., 2004). They can use self-criticism to motivate themselves to work better and not be lazy (Gilbert et al., 2004). When self-criticism is used as a consistent and persistent thinking style, people may harm themselves due to dislike and even hatred of parts of their character. This dislike will easily lead individuals to develop the urge to punish themselves because they are judged to have failed to meet the standards they set. This opinion is supported by previous research, which has revealed that students with high self-criticism have a high achievement orientation and tend to punish themselves if they fail to achieve this (Tarmizi et al., 2019). One of these self-punishments can be in the form of self-harm, as illustrated by the increase in students' intentions to hurt themselves. Previous studies have revealed that self-harm provides cognitive reinforcement for individuals with the urge to punish themselves (Hooley & Franklin, 2018).

Based on the discussion above, it can be seen that the phenomenon of self-harm is a crucial issue to be considered in the context of students' mental health. Research on the area has begun to be developed in Indonesia, but few studies have discussed cognitive involvement in explaining the relationship between emotional dysregulation and self-harm intentions. Specifically, no studies were found that use self-criticism as a mediating variable in this relationship. Therefore, this study aims to determine the effect of self-criticism as a mediator in the relationship between emotional dysregulation and self-harm intentions in college students. It hypothesizes that the relationship is mediated by student self-criticism.

Methods

The research was conducted quantitatively by distributing an online survey via Google Forms to 354 students at a university in Indonesia (79% female, $m_{\text{age}} = 20.31$, $SD = 1.45$). The respondents were chosen using the disproportionate cluster random sampling technique, which was conducted by randomizing 12 faculties of which six faculties were used. Subsequently, the researchers determined the number of respondents from each faculty, namely 59 students aged 18-23 years. The selection of the age range of the students was made with consideration of the fact that they were those who started college after finishing high school, known as traditional students (Arnett, 2013). Before collecting the data, the participants were asked to fill out an informed consent form before being presented with the measuring instruments used in the study. Therefore, the respondents all expressed their willingness to participate voluntarily.

The measuring instruments were three psychological scales measuring self-harm intentions, self-criticism, and emotional dysregulation. The researchers compiled the three scales, then assessed them for content validity

using Aiken's V method with the help of five expert assessors. The Aiken's V analysis revealed that all the items on each scale had satisfactory validity, with values ranging from .80 to 1. The measuring instruments were then tested to establish which items could be used for the data collection by observing the item discrimination power test results. Furthermore, trials were conducted to ascertain the reliability values of the three scales in terms of Cronbach's alpha.

Intention to Self-harm Scale

This scale was compiled by the researchers based on the dimensions of intention of Fishbein and Ajzen (2010), namely subjective possibility, combined with other forms of self-harm according to Nock (2010), namely cutting the skin, scratching the skin until it bleeds, burning the skin, inserting objects into the skin (such as needles), hitting oneself, banging one's head, pulling one's hair, taking drugs without following the directions for use, and drinking alcohol. The scale consisted of nine items with seven alternative responses, ranging from 1 (very unlikely) to 7 (very likely). Some examples of statements on the scale were "I will try to hurt myself by cutting my skin" and "I intend to hurt myself by hitting myself." The item discriminatory index ranged from .60 to .90. and the scale had a good reliability value of $\alpha = .90$.

Self-criticism Scale

The researcher compiled this scale based on Gilbert et al.'s (2004) forms of self-criticism, namely inadequate self and hated self. The scale consisted of 29 items, 19 favorable and ten unfavorable, with four alternative responses, from strongly agree (SS) to strongly disagree (STS). Some examples of statements on this scale were "I consider myself stupid"; "I find it hard to find the positive side of myself"; and "I hate myself." The item discrimination index of the scale was in the range of .42 - .89. The scale can also be said to be reliable, with a value of $\alpha = .97$.

Emotional Dysregulation Scale

The researcher prepared this scale based on the dimensions of emotional dysregulation of Gratz and Roemer (2004), namely non-acceptance, goals, impulse, awareness, strategies, and clarity. The scale comprised 26 items, with 21 favorable and five unfavorable ones, with four alternative responses, from strongly agree (SS) to strongly disagree (STS). Some examples of statements on this scale were "I have trouble finding ways to deal with my sadness"; "I get annoyed with myself when I am sad"; and "I am confused about how I feel." The item discrimination index of the scale ranged from .35 to .82 and it also had a good reliability score of $\alpha = .92$.

Data analysis began with descriptive analysis; bivariate correlation analysis determined the correlation value between the variables. Hypothesis testing was conducted using a simple mediation analysis through Hayes' PROCESS v.4.0 program in SPSS 25. The program is able to simplify calculations without performing regression analyses individually for each path (Hayes, 2022). The study used a bootstrap of 5000 samples and a 95% confidence interval (CI) to estimate the indirect effect of the mediation model.

Results

The analysis findings from the 354 samples, starting with the descriptive analysis of the research data, can be seen in Table 1. It was found that the average score for self-harm was 22.93; for self-criticism, 73.38; and for emotional dysregulation, 65.88.

Before the mediation hypothesis test, a bivariate correlation test was conducted to determine the correlation between the variables. The test was performed using Pearson's product-moment, as shown in Table 2. The correlation results show that emotional dysregulation was positively related to self-criticism, $r = .71, p < .001$.

This result indicates that the higher the emotional dysregulation, the higher the student's self-criticism. Emotional dysregulation also had a significant positive relationship with self-harm intentions, $r = .52, p < .001$. This relationship shows that the greater the emotional dysregulation, the greater the intention to hurt oneself, and vice versa. Furthermore, self-criticism had a significant positive relationship with self-harm intentions, $r = .64, p < .001$, which shows that higher self-criticism is associated with higher self-harm intentions.

Mediation analysis was performed using PROCESS v.4.0 to answer the research hypothesis. This shows three types of influence from the independent variable to the dependent variable: total, indirect, and direct. The mediation analysis results are shown by including a standardized estimated coefficient value.

The total effect, denoted by the symbol c , is the sum of the direct effect (line c') and the indirect effect (line ab) of the emotional dysregulation variable, as shown in Figure 1. It was found that emotional dysregulation significantly affected the overall increase in students' self-harm intentions, $c = .52, p < .001$. In other words, emotional dysregulation positively predicts students' self-harm intentions.

The indirect effect is the product of path a and path b . If the lower level (LL) and upper level (UL) confidence intervals do not contain a value of 0, it can be concluded that the indirect effect of variable X on Y through M is significant. The indirect effect analysis showed that emotional dysregulation significantly affected self-harm intentions mediated by self-criticism, $ab = .39, 95\% \text{ bootCI } (.29 \text{ to } .48)$. Emotion regulation significantly positively affected self-criticism ($a = .71, p < .001$), and self-criticism significantly positively affected students' self-harm intentions ($b = .54, p < .001$). However, the analysis results also show that emotional dysregulation still had a significant

positive direct effect on self-harm intentions, $c' = .14$, $p = .017$. This analysis supports the research hypothesis that students with high emotional dysregulation are more likely to have high self-harm intentions because they tend to criticize

themselves, so they feel they deserve to be punished. However, high emotional dysregulation still affects students' high self-harm intentions even without self-criticism.

Table 1
Results of the Descriptive Analysis of the Research Data

Variable	Min	Max	Mean	SD
Intention to self-harm	9	57	22.93	12.72
Self-criticism	34	111	73.38	15.31
Emotional dysregulation	28	103	65.58	12.71

Table 2
Correlation between Variables

Variable	1	2	3
1. Intention to self-harm	1		
2. Self-criticism	.64**	1	
3. Emotional dysregulation	.52**	.71**	1

** $p < .001$

Figure 1
Self-Criticism Mediation Model

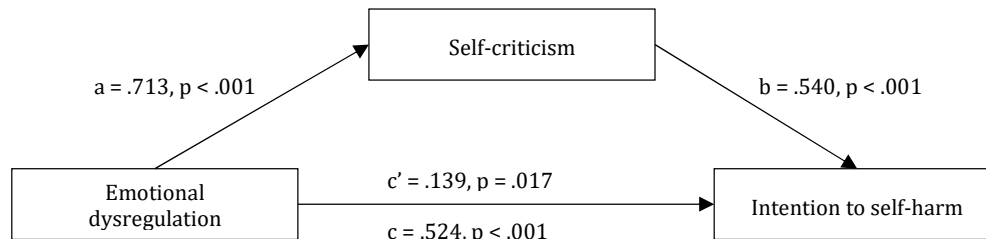


Table 3
Indirect Effects of Emotional Dysregulation on Intentions to Self Harm

Indirect effect	Estimate	BootSE	95% BootCI	
			LL	UL
Self-criticism	.385	.049	.293	.484

Discussion

This study aims to determine the effect of self-criticism as a mediator in the relationship between emotional dysregulation and student self-harm intentions. The results of the data analysis support the proposed hypothesis, namely that there is a significant relationship between emotional dysregulation and students' self-harm intentions mediated by self-criticism. High emotional dysregulation can influence the intention of students to harm themselves because self-criticism is a thinking style that tends to make individuals judge themselves and consider themselves worthy of punishment. Before this study, researchers had not found any evidence that specifically addresses the mediating effect of self-criticism in the relationship between emotional dysregulation and self-harm intentions.

When experiencing an unpleasant emotional experience, students who tend to be rigid in their ability to regulate emotions could increase their intention to harm themselves to avoid or modulate emotional responses due to the influence of negative self-evaluation in the form of self-criticism. This is in line with previous findings, that individuals with high emotional dysregulation will also experience high self-criticism (Wahyuni et al., 2021). Furthermore, thoughts involving self-criticism can perpetuate an individual's negative emotional experience, leading to self-harm (McEvoy et al., 2017).

An explanation of the effect of self-criticism in significantly mediating the relationship between emotional dysregulation and self-harm intentions can be made by discussing the effect of emotional dysregulation on self-criticism, then that of self-criticism on students' self-harm intentions. The findings in this study demonstrate that emotional dysregulation significantly positively predicts students' self-criticism. This shows that students with high emotional dysregulation will have an increased tendency to criticize themselves.

High emotional dysregulation can be characterized by difficulty in accepting, understanding, and controlling behavior when experiencing negative emotions (Gratz & Roemer, 2004). Students in this situation may, when faced with emotional experiences that trigger negative emotions, think that they cannot do anything to overcome the emotional turmoil they feel. This can lead to increased student self-criticism marked by self-evaluation, which tends to make individuals judge their abilities and condition. This is supported by findings in previous studies that suggest that self-criticism can be part of an emotion regulation strategy known to be maladaptive (Aldao & Nolen-Hoeksema, 2012). Furthermore, another study found that students with high emotional dysregulation had the potential to experience an increase in self-criticism (Wahyuni et al., 2021).

The next step in explaining the effect of mediation is to observe the results of the effect of self-criticism on students' self-harm intentions. It was found to influence such intentions significantly and positively. The study findings also demonstrate that the thinking style of individuals who tend to criticize themselves can be a predictor of increased student self-harm intentions. Self-criticism includes negative thoughts that contain an individual's judgment of themselves (Rose & Rimes, 2018). Students with high self-criticism tend to focus on the negative rather than the positive. Furthermore, self-criticism can make students vulnerable to feeling inferior (Gilbert et al., 2004). This condition makes them feel uncomfortable due to self-criticism which implies they are not capable. This makes students feel frustrated and annoyed with themselves instead of accepting the negative emotions that first appear, leading to the urge to punish themselves. Such punishment can take the form of self-harm. This contention is supported by previous research which has revealed that high self-criticism

indicates that students have high standards and tend to punish themselves if they fail to achieve these standards; for example, by harming themselves (Hooley & Fox, 2019; Tarmizi et al., 2019).

Self-criticism makes students develop self-mechanisms based on feelings of inadequacy and dislike because of standards that are difficult to meet (Gilbert et al., 2004). When an unpleasant emotional experience occurs or is remembered, individuals use self-criticism to evaluate what they did when the event occurred. However, these evaluations tend to be self-judgmental or even self-directed attacks resulting from the inability to respond well. As a result, if such criticism is made continuously, it can make students dislike themselves. Such self-disgust leads to the view that they deserve to be punished. If previous self-punishment was intended to make someone work better, but did not show results in line with expectations, there is a possibility that this will lead to a form of self-destructive punishment such as self-harm. This is supported by previous research, which has shown that the thoughts of individuals who criticize themselves and believe they deserve punishment can predict self-harm thoughts and future behavior (Lear et al., 2019). Therefore, self-criticism can predict increased student self-harm intentions, indicating individual readiness to do so. This finding is in line with previous research that has found that self-criticism is a predictor variable that significantly affects an individual's urge to self-harm (Megawati et al., 2019).

The results of other analyses in this study show that emotional dysregulation has a significant positive effect on students' self-harm intentions. In other words, the relationship between emotional dysregulation and self-harm intentions remains significant, even without the influence of self-criticism as a mediating variable in the relationship. The significant relationship

between emotional dysregulation and self-harm intentions is in agreement with previous studies on self-harm behavior (Ewing et al., 2019; Wolff et al., 2019; You et al., 2018). Emotional dysregulation occurs when individuals cannot manage their reactions or responses to the emotions that arise, predominantly negative ones, in an adaptive way. Furthermore, emotional dysregulation causes students to engage in impulsive behavior to relieve or channel their emotions and can make their social relationships problematic due to misplaced responses to their emotional experiences. Too much continuous control by students over their reactions when experiencing unpleasant emotions (e.g., by suppressing emotions as a manifestation of emotional dysregulation) can lead to feelings of emptiness and numbness. It is very likely that when the emotions experienced are so intense, students then intend to engage in maladaptive behavior that gives instant results, such as harming themselves in order to channel their emotions or to be able to feel the pain again.

Students are generally in a period of development full of change and instability, so they have the potential to experience disturbing pressures. These can lead to the emergence of negative emotions. This makes some of those who have limited ability to regulate their emotions or experience emotional dysregulation try to find quick ways to escape from the emotional spike they feel. One such way is offered by self-harm. This is supported by previous research, which has found that individuals tend to self-harm to relieve emotional stress or avoid the emotional turmoil they feel and find relief (Chapman et al., 2006; Rolston & Lloyd-Richardson, 2017). Therefore, an increase in emotional dysregulation can lead to an increase in students' intention to self-harm.

Based on the discussion above, it can be seen that this study provides evidence that self-criticism significantly mediates the relationship

between emotional dysregulation and student self-harm intentions. Students' difficulties in regulating their emotions will affect the increase in self-criticism because they consider they are unable to do things right. This leads to the emergence of self-punishment, as reflected in the increased intention of students to self-harm. In other words, emotional dysregulation, described as a rigid way of dealing with perceived emotions, increases students' tendency to criticize themselves. Those with high self-criticism feel that they deserve to be punished, which leads to an increase in self-harm. The results of this study are new findings that are expected to explain why some students intend to harm themselves.

This research is not free from limitations, for example, the use of one mediating variable to explain the phenomenon of individual intentions to self-harm. The cognitive processes that explain why individuals choose to take such action are complex and are generally not influenced by a single factor. Further research could consider other cognitive processes in explaining the phenomenon of self-harm as a strategy for regulating emotions, such as one's assessment of

expected outcomes (outcome expectancies) and self-efficacy (Hasking et al., 2017), to help understand more deeply the reasons why individuals intend to self-harm. Nevertheless, this study contributes to the development of psychological literature, particularly in understanding the mechanism of the emergence of self-harm intentions to regulate emotions due to criticism made by individuals against themselves.

Conclusion

This study proves that students with high emotional dysregulation are more likely to have self-harm intentions because they tend to criticize themselves. However, those with high emotional dysregulation still have high self-harm intentions even without self-criticism.

The study findings could help provide insights for students and all parties responsible for them regarding the mechanisms involved in self-harm intentions. Future research could consider examining other cognitive processes such as outcome expectancies and self-efficacy to explain why individuals have self-harm intentions.[]

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