Can self-compassion help students cope with eegret? A mediation analysis on mental health

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Abstract. Regret is a common emotional experience that is frequently linked to worse mental health. However, individuals vary in how they cope with regret, and self-compassion may serve as a protective factor. The purpose of this study was to investigate whether self-compassion mediates the association between mental health and regret. We hypothesized that lower self-compassion, which is linked to worse mental health, would be predicted by higher levels of regret. Standardized self-report measures of regret, self-compassion, and mental health were completed by 216 university students. According to mediator analysis, regret was significantly linked to self-compassion (p=0,0317), self-compassion significantly linked to mental health (p=0,000). Direct effect of mental regret and mental health also significantly linked (p=0,0186). Total effect size (p=0,0016) indicated that before self-compassion included, the linked between regret and mental health was stronger. Although there is a statistically significant indirect effect of 0.1432, the bootstrapping results with a 95% confidence interval (0.0156–0.2779) include the value zero. This means that the mediating effect of self-compassion is not significant. Overall, these findings suggest that interventions aimed at enhancing self-compassion may help students cope more adaptively with regret and protect their mental health.

1 Introduction

Mental health is an important aspect in supporting student academic success. In 2021, there was an increase of 4.1% from the previous year, even though the number of students has remained stable at 8 million since 2019. Then in 2024, the number of undergraduate students in Indonesia will be 8.21 million [1]. Along with this increase, various studies report that more students are experiencing mental health problems such as stress, burnout, and depression [2]. This condition can significantly impact academic performance, disrupt concentration, and reduce learning ability. One emotion closely linked to students' mental health is regret. Regret is a reflective emotion that arises when someone realizes that their past decisions or actions have led to undesirable consequences [3]. In academic context, regret can arise from various decisions, such as choosing a major, learning strategies, or participating in certain activities. Academic regret has the potential to reduce motivation,

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increase anxiety, and impact students' psychological well-being [4]. The phenomenon of regret in academic settings has become an increasingly important issue in the field of educational psychology and mental health. Global data indicate that many students and graduates experience regret regarding their choice of study or academic major. In the United States, about 35% of college graduates reported that they would choose a different major if given the chance. Similarly, a survey in the United Kingdom revealed that 40% of students regretted their decision about what and where they studied. Although commonly experienced, regret is relatively understudied compared to other negative emotions like anxiety or depression, despite its significant implications for the development of coping strategies and students' mental health.

Preliminary study showed that students feel regret in a number of areas related to their education, social interactions, family and personal relationships, and personal growth. Many of them regret not trying their dream university, choosing the wrong major, being lazy and procrastinating, and following their parents' or teachers' decisions when it comes to their education, all of which ultimately result in the loss of important opportunities. Choosing the wrong friends, losing close friends because of disagreements or miscommunications, being too reclusive to socialize well, and not keeping up communication and trust with others are all examples of social relationship regrets. Regarding interpersonal and familial relationships, many people regret not being more affectionate or close to their parents, engaging in emotionally draining relationships, avoid spent time with deceased parents or relatives to conceal significant issues from family members. The main causes of regret in terms of personal and self-development, on the other hand, are a fear of trying new things, uncertainty, a lack of confidence, delaying chances to develop skills, ignoring one's health and pets, and a lack of courage to take chances for one's goals. Together, these answers show that past regrets are typically the result of decisions that are not in line with one's actual self, a lack of bravery to take chances, and a failure to pay enough attention to the relationships and opportunities that are truly significant in life. Moreover, a cross-sectional study in Jordan found that medical students' career regret increased with the number of study years, mainly due to high stress, academic workload, and emotional pressure, which significantly impacted their quality of life [5]. In the Indonesian context, a study found that students who experienced a mismatch between their chosen major and personal interests reported higher levels of academic stress and lower psychological well-being. This evidence highlights that regret can become a risk factor for students' mental health, although research in Indonesia on this topic remains scarce. Most existing studies focus more on stress, academic satisfaction, or learning motivation, rather than examining the direct relationship between regret and mental health [6]. These findings suggest that regret is not merely a temporary emotional reaction but a psychological experience that can negatively affect students' mental health.

Regret can have a negative impact on an individual's psychological well-being, but self-compassion act as an important protective factor. Self-compassion is defined as the ability to treat oneself with kindness, understand that mistakes are part of human experience, and face negative emotions with balanced awareness. Previous research by Neff shows that self-compassion can reduce rumination, decrease stress and depression, and improve mental health [6]. Several studies consistently demonstrate that self-compassion is negatively associated with depression, anxiety, and stress, while positively linked to psychological well-being. A meta-analysis by MacBeth and Gumley [7] confirmed that self-compassion serves as a buffer against psychopathology. Similarly, Ferrari et al. [8] provided evidence from randomized controlled trials (RCTs) showing that interventions designed to cultivate self-compassion significantly improved mental health outcomes. However, most of these studies have not specifically examined the role of self-compassion in the context of students' academic regret. This suggests that self-compassion has the potential to serve as an adaptive mechanism capable of mitigating the negative effects of regret on students' mental health.

However, studies on the relationship between regret, self-compassion, and mental health are limited, especially in Indonesia. Research that specifically explores the mediating role of self-compassion in the relationship between regret and mental health among students at various universities, particularly in the Surabaya, has not been widely conducted. This research gap is important to address, given that students are a group vulnerable to psychological stress due to academic and social demands.

Therefore, this study aims to examine the relationship between regret and mental health among university students, as well as to investigate mediating role of self-compassion in this relationship. This study have several hypothesis consists of: H1 = the higher level of regret, the lower level of self-compassion, and this ultimately results in poorer mental health. Conversely, H2 = self-compassion is predicted to act as a mediator of regret, with high levels of self-compassion are likely to have better mental health.

2 Method

2.1 Participants

In this study, participants were recruited using convenience sampling method to maximize representativeness by targeting students from different academic years at Universitas Negeri Surabaya. Initially, the recruitment procedure was planned as random sampling, but since invitations were distributed through online groups and class representatives, the method used is more accurately described as convenience sampling with voluntary participation**.** Inclusion criteria were: (1) active undergraduate students enrolled during the data collection period, (2) willingness to participate from the beginning to the end of the study, and (3) completion of all questionnaires. Before participant recruitment was conducted, the researcher calculated the sample size requirement using G*Power. Based on calculations with a target power of 0.80 and an effect size of 0.30, a minimum of 150 participants required. However, to enhance the external validity of the study and anticipate potential dropouts, the researchers targeted a minimum of 200 students.

2.2 Research Instrument

The research instruments used in this study were carefully selected structured questionnaires, both online and offline, to ensure the reliability and validity of the data. There were three scales used and one sociodemographic questionnaire, consists of the Self-Compassion Scale by Neff (2003), adapted and translated in Indonesia by [9] consists of 26 items. There are several subscales, Self-Compassion Subscale, Self-Judging Subscale, Universal Humanity Subscale, Isolation Subscale, Consciousness Subscale, and

Overidentification subscale. Scores for each subscale are calculated by calculating the mean responses to the items for each subscale. To calculate the total self-compassion score, score the negative subscale items (self-judgment, isolation, and overidentification) in reverse (e.g., 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1), then calculate the total mean for the six subscales.

The Student Mental Health Scale was developed based on three dimensions, peace with oneself, social interaction function, and basic and advanced psychological needs. The instrument consisted of 25 items and the internal consistency reliability of the scale of Cronbach's alpha value 0.925. A Likert scale was employed as the response format, which consisted of four options: Strongly Disagree, Disagree, Agree and Strongly Agree.

The Regret and Disappointment Scale that has composition of 7 items, assesses the two dimensions of a negative emotional experience, by measuring the *intensity* of the affective reaction and then categorizing the *type* of emotion experienced based on the cognitive

antecedents of regret and disappointment. The scale translated by researcher with 3 expert judgment.

Lastly, there is sociodemographic informations details such as age, gender, program of study, what they are regret most in life as well as how they handle the regret. The questionnaires were distributed to students from various study program and across different years, ensuring that the collected data could comprehensively represent the mental health status, levels of regret, and levels of self-compassion among students.

2.3 Data Analysis Techniques

Data analysis was conducted with "Hayes' PROCESS Macro for SPSS (Model 4 mediation) which designed to analize effect of self-compassion in mediating between regret and mental health among university students. Before conducting the mediation analysis, descriptive analyses were carried out, including the calculation of means, standard deviations, and correlation coefficients for each variable to explore their basic characteristics and interrelations. To ensure the robustness of the findings, statistical assumption tests were also performed. Normality was assessed through skewness and kurtosis values, as well as visual inspection of histograms and Q-Q plots. These diagnostic checks confirmed that the data met the necessary assumptions for mediation analysis. The subsequent PROCESS analysis then estimated the indirect effect of regret on mental health through self-compassion.

3 Result

Table 1. Table of Mediator Analysis

Analysis of Variable	Number of Analysis (n=216)		Description
	Coefficient	Significant	
(a) Regret to Self-Compassion	0.3384	0.0317 (p<0,05)	Regret has a significant positive effect on self-compassion.
(b) Self-compassion to Mental Health	0.4233	0.000 (p<0,05)	Self-compassion has a significant positive effect on mental health.
(c') Regret to Mental Health (direct)	0.2478	0.0186 (p<0,05)	The direct effect of regret on mental health is reduced after self-compassion is introduced.
(c) Regret to Mental Health (total effect)	0.3910	0.0016 (p<0,05)	Significant total effect before self-compassion was included
(a*b) Indirect effects	0.1432		The indirect role of regret on mental health through self-compassion
Bootstrapping Analysis (95% CI)	0.0156-0.2779		CI includes zero, so the mediation effect is not significant.

Based on the results of the analysis with 216 respondents, it was found that regret had a significant effect on self-compassion with a coefficient of 0.3384 and a p-value of 0.0317 ($p<0.05$). Furthermore, self-compassion was found to have a positive and significant effect on mental health with a coefficient of 0.4233 and $p=0.000$ ($p<0.05$). In direct testing, regret also had an effect on mental health with a coefficient of 0.2478 and $p=0.0186$ ($p<0.05$). The total effect analysis showed a coefficient value of 0.3910 and $p=0.0016$ ($p<0.05$), indicating that before including the mediator, the effect of regret on mental health was stronger.

Although there is a statistically significant indirect effect of 0.1432, the bootstrapping results with a 95% confidence interval (0.0156–0.2779) include the value zero. This means that the mediating effect of self-compassion is not significant**.**

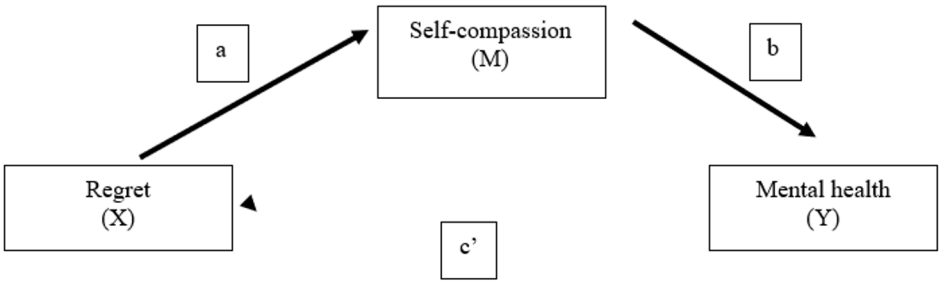

Fig. 1. Figure of Regression Analysis with Mediator

Further explanation of the relationship between variables can be seen in the mediator analysis results figure. In this model, regret acts as an independent variable, self-compassion as a mediator, and mental health as a dependent variable. The direct path from regret to self-compassion shows a significant positive relationship. Furthermore, the path from self-compassion to mental health shows a strong and significant positive effect. However, when viewed from the path of regret to mental health, the initially significant direct effect decreased after self-compassion was included as a mediator.

4 Discussion

Based on the results of the analysis, it was found that the variable of regret has a significant influence on self-compassion. This shows that the higher the level of regret, the lowest tendency to self-compassion. This means that individuals who are able to reflect on past regrets can learn to treat themselves with more compassion, so that regret can actually serve as a trigger for positive self-development. Zhang et al. [10] found that individuals with higher levels of trait self-compassion tended to report greater personal growth based on experiences of regret, compared to those with lower self-compassion. Furthermore, in an experimental study, participants who were instructed to deal with regret from a self-compassion perspective showed higher levels of acceptance, self-forgiveness, and self-improvement. Self-compassion can transform regret into a catalyst for growth rather than a crippling burden.

Furthermore, self-compassion has been proven to have a significant positive effect on mental health. This finding confirms the important role of self-compassion as a protective factor in improving mental health . Individuals with higher levels of self-compassion tend to be better able to cope with psychological pressure, reduce stress, and build better mental well-being. Thus, self-compassion can be seen as an adaptive mechanism that strengthens mental health. Cowand et al. [11] reported that higher levels of self-compassion correlate with higher positive affect, lower negative affect, lower stress, and fewer symptoms of anxiety and depression, proving its role as an adaptive emotion regulation strategy. Self-compassion improves both facets of mental health including higher psychological well-being and lower levels of psychopathology [12]. In direct analysis, regret also affects mental health. However, when self-compassion is included as a mediating variable, this direct effect decreases. This indicates that self-compassion contributes to bridging the relationship between regret and mental health. Total effect analysis indicates that before including the mediator, the effect of regret on mental health is stronger. While self-compassion contributes to weakening the

direct effect of regret on mental health, this mediating role is not yet statistically strong enough to be considered significant. This finding suggests that there may be other factors beyond self-compassion that play a more significant role in explaining how regret affects an individual's mental health. Wong et al. [13] in a longitudinal study found that psychological flexibility mediates the relationship between self-criticism and mental health, along with self-compassion. This shows that other factors such as mental adaptability are also very important in determining mental health outcomes, so once again, self-compassion alone is not enough.

Additional qualitative analysis shows that the way individuals process regret varies, but it can be grouped into certain patterns. Most respondents try to accept the fact that poor decisions are part of life and use them as lessons to avoid repeating mistakes in the future. Some of them also engage in self-introspection and reflection, trying to understand the reasons behind their decisions and find positive meaning in the experience. Others express regret through direct emotions, such as crying, getting angry at themselves, or isolating themselves to calm their minds, before eventually trying to move on. Some individuals process regret by seeking external support, whether from family, friends, or counsellors/psychologists, to validate their feelings. Additionally, many turn to spiritual aspects, praying, surrendering, and believing that everything that happens is part of God's greater plan. Regret is common and can interfere with physical and emotional well-being. However, through practices such as self-forgiveness and focusing on the positive, individuals can change the way they view past choices and move forward in a healthier way [14,15].

This study has some suggestions, for academic setting, universities should offer workshops or psychoeducation programs focused on self-compassion and emotional regulation to help students manage regret and psychological stress. Campus counselors may consider integrating self-compassion techniques into counseling sessions, particularly for students prone to ruminative regret. Longitudinal and mixed-method studies are encouraged to explore the long-term psychological processes associated with regret and recovery.

5 Conclusion

The findings of this study indicate that regret significantly influences self-compassion, suggesting that individuals who can reflect on past regrets tend to cultivate greater self-kindness and acceptance. This aligns with prior research showing that self-compassion transforms regret into a catalyst for personal growth rather than a debilitating burden. Furthermore, self-compassion demonstrated a positive effect on mental health, functioning as a protective factor that enhances resilience, reduces stress, and improves overall well-being. Individuals with higher self-compassion reported lower symptoms of anxiety and depression and greater psychological stability. However, when self-compassion was tested as a mediating factor, its role in linking regret and mental health was not statistically strong enough to be considered significant, indicating that additional factors, such as psychological flexibility, may also play a critical role. Qualitative findings further reveal that people cope with regret in diverse ways, including acceptance, reflection, emotional release, seeking social support, and spiritual practices. These coping strategies highlight that while regret can be distressing, it also holds the growth potential when accompanied by adaptive mechanisms such as self-compassion and positive reframing. Further research and discussions surrounding this theory have explored its nuances, including the role of self-esteem in regret regulation and the distinction between self-reproach and learning from regret.

6 Implication

The implication of this study highlights the importance of understanding how individuals process regret as a foundation for improving mental health interventions and psychoeducation programs. The findings suggest that future research could further explore coping mechanisms for regret in diverse populations and cultural contexts, as well as examine their long-term effects on resilience and psychological well-being. In practical terms, this study implies the need for policy initiatives that integrate emotional regulation and self-reflection skills into educational and community-based programs, enabling individuals to transform regret into constructive personal growth.

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